

# ANALYSIS OF CROSS-CULTURAL ONLINE COLLABORATIVE FACILITATION

Effie Lai-Chong Law<sup>\*#</sup>, Anh Vu Nguyen-Ngoc <sup>\*</sup>

University of Leicester <sup>\*/ETH Zürich<sup>#</sup></sup>

Leicester, LE1 7RH, United Kingdom <sup>\*/Institut TIK, Zürich, Switzerland<sup>#</sup></sup>

{elaw/anhvu}@mcs.le.ac.uk <sup>\*/law@tik.ee.ethz.ch</sup>

## ABSTRACT

Online facilitation in a cross-cultural collaborative context is increasingly prevalent, but limited research has been conducted on the related issues, two of which are examined in this paper with reference to the empirical data of an exploratory user trial involving multinational facilitators, students and researchers. Results of our meticulous content analysis of online forum messages and videoconference protocols indicate that interpersonal relationships seem not necessary for realizing the task of online collaborative facilitation by a group of facilitators with salient group identity and fixed-term collaboration. The duration of the collaboration and the availability of social cues cannot consistently explain the group's heavy task-orientation. Sociograms illustrate the patterns of facilitator-student interactions. No consistent findings indicate that active facilitation could yield significantly higher students' performances.

## KEYWORDS

Online facilitation, cross-cultural collaboration, social network analysis, interpersonal relationship, group behaviour

## 1. INTRODUCTION

Facilitation, with the aim to make an action or a process easier and to help bring about desirable outcomes, is an integral part of as well as a critical success factor for most computer-supported collaborative learning (CSCL) settings. In the recent decade a cluster of similar terms, such as e-facilitator (Howell-Richardson & Preston, 2005), e-moderator (Salmon, 2000), e-tutor and e-mentor, have emerged and been used interchangeably to refer to a person who enables or “guides on a side” online group interactions and communications. There exist a number of research studies and practical training courses on online facilitation (e.g., Anderson, 2004; Berge, 1995; Collison et al., 2000; Hoostein, 2001), which mostly address how *one* facilitator interacts with a group of learners in a single cultural context. Rarely have these previous studies looked into how a group of online, culturally heterogeneous facilitators interact among themselves and what impact of such interactions can have on the facilitators and on the learners. On the other hand, there is an ever increasing trend of cross-cultural CSCL which requires teachers with different academic and cultural backgrounds to orchestrate their experience and expertise and to crisscross cultural boundaries adeptly to facilitate online learning activities. Furthermore, there seems no standardized facilitation approach, which varies with the nature of people, tasks and technologies and involves managing complex tripartite relationships among these three elements. Roughly speaking, there are two major facilitation approaches: A *proactive* facilitator is to set the context for the group, install group norms and manage the group progress (Friedman, 1982), whereas a *reactive* facilitator is to launch an intervention strategy when problems arise. No consistent findings indicate which facilitation approach is most effective. Nor are there any consensual methods to gauge the effectiveness of online facilitation. The facilitating style interacts intricately with the type/purpose of an online group. Given the foregoing observations, we are motivated to develop better understanding of *how* facilitators interact in a complex multi-national collaborative setting, which is exemplified by the project iCamp (<http://www.icamp-project.org/>), and *whether* facilitating style plays a role in influencing learners' performance in this setting.

iCamp launches an intercultural CSCL environment called “iCamp Space”, which is empowered by extensive uses of social software. Pedagogically it is grounded in the social-constructivist theories. Technologically it is built upon a selected set of prevailing technology-enhanced learning tools by rendering them interoperable. The Space is validated through trials involving different Higher Education Institutions

(HEI) in Europe. The first validation trial (Trial-1), of which some results are reported in this paper, is mainly exploratory. As a kind of sustained *intervention* being embedded in a more or less three-month regular curriculum in an HEI, the iCamp trials are messy settings prone to complications. Note that in the iCamp context the intervention is *not* the traditional, formal approach of experimental psychology where neat manipulation of variables is required. Instead, the intervention is the access to networked communications and interactions as well as the support enabling the effective use of such an access.

## **2. RELATED LITERATURE**

### **2.1 Interpersonal Relationships in Online Collaboration**

Interpersonal relationships are deemed essential for bootstrapping as well as sustaining scientific research collaborations, be they computer-mediated or face-to-face or blended (e.g., Kraut et al., 1988; Kreijus et al., 2003; Walther et al., 1994). Previous research on text-based computer-mediated communication (CMC) identified some negative effect on the productivity of the working group. The lack of nonverbal cues transmitted by vision and audition did not allow a participant to develop individuating impressions of fellow group members, leading to the deindividuation engendered by stereotypes (cf. the SIDE model of Lea & Spears, 1992) and thus the failure to build and maintain interpersonal relationships critical for the collaborative process (Garton & Wellman, 1995). According to social presence theory (Short et al., 1976), communication media can be characterized by their potential to communicate socio-emotional cues that enable a participant to perceive the others as physically salient and present. However, some researchers argue that what is relevant is not communication media per se but how users perceive the media. It is generally agreed that the more communication channels are available, the more likely participants will experience social presence, resulting in the development of social relationships (Kreijus et al., 2003).

Walther (1997) refuted the earlier studies on CMC for failing to take the time effect into account, given that developing an individuating impression entails sufficient socio-emotional cues to be accumulated in the course of time. Walther (1994), based on his social information processing (SIP) theory, showed that CMC users were sensitive to whether or not to expect ongoing interaction with their partners, which in turn shaped their interpersonal interaction. Presumably, anticipated future interaction leads CMC users to increase their social information seeking, disclosure, and positive affect when they initiate their interaction. Other empirical studies (e.g. Hollingshead et al. 1993) corroborate Walther's (1994) finding that CMC interaction is sensitive to temporal influence; assuming one's CMC interaction will be time-limited leads to greater task orientation whereas assuming it will be continuous leads to more socially oriented interaction. Furthermore, if groups perceive that they have restricted time to work together, they simply forego social maintenance behaviours and display a strong tendency to task-related communication, especially when combined with a salient group identity (Walther, 1997). Arguing along the line of temporal effect, Chidambaram (2005) observe how different group parameters have evolved over time and report that group cohesiveness (cf. Walther's [1994] "affiliation motive") in terms of members' exchange of relational information can improve over time.

In summary, time is a significant factor for predicting and explaining online group interaction patterns with communication channels (text, audio and video) enabled by different CMC systems acting as a moderating variable. Upon browsing the existing CSCL/CMC literature, several points are worthy to address: (i) Target groups are mostly (if not only) students, i.e. very few studies have investigated how group of teachers/facilitators interact over time; (ii) Communication media addressed are predominantly asynchronous CMC systems, despite the ever increasing popularity of synchronous CMC; (iii) There seems no calibrated threshold value for categorizing a CMC group as short-term or long-term. For instance, in Walther (1997), the durations of short-term and long-term groups were two-week and four-week, respectively. In contrast, Chidambaram (2005) followed their long-term groups for 15 weeks.

### **2.2 Role of Facilitating Style in Student Performance**

The correlation between tutors' experiences as well as qualifications and the students' performance in traditional education have been found in many studies (e.g. Darling-Hammond, 1999; Foster, 2007). However, to the best of our knowledge, no existing papers examine the impact of facilitating styles on the students' performance in a cross-cultural collaboration learning environment. Such learning context has its

own features that might influence the students' performance, such as the context of learning (online learning mediated by technology, group-mates coming from different backgrounds and cultures, and learning activities facilitated by facilitators who might also come from different cultures), learning methods (different than those used in classrooms), supports (hardware, software and the like), and other matters raised by the cultural differences, time management (different time zones) and concepts of what would be learned. According to (Illinois, 2007), facilitators in the online environment are required to be active and experienced in the subjects to be taught. An online facilitator should also be able to adapt to the lack of physical presence in an online environment by creating a supportive environment where students feel comfortable and where they know that their facilitators are accessible. The facilitators should also be well trained in online learning context. Knowledge of the use of the tools used in facilitating online learning and collaboration activities, the appropriate methods used in communicating with online students and with online colleagues, the ability to control and assess the students' learning and collaboration, and how to effectively prepare for a course in an online environment are just a few of other expectations placed on a facilitator.

### 3. TRIAL STRUCTURE & RESEARCH QUESTIONS

Four academic institutions (or trial sites) in Europe, including Turkey, Poland, Estonia and Lithuania, participated in the first validation trial (Trial-1) conducted between Oct. 2006 and Jan 2007. Four types of key actors were involved:

- *Facilitators*: Four faculty members originated from the aforementioned four countries were responsible to teach a course on research methods at the respective institutions and to scaffold their students to accomplish the given collaborative task of the trial. They were three female (social scientists in education/sociology) and one male (scientist in computing engineering).
- *Site Coordinators*: academic staff of the respective institutions, who were well-informed about pedagogical and technical requirements of the trial, provided constant support to the facilitators.
- *Students*: 36 undergraduates and postgraduates majored in social sciences or software engineering.
- *Research team*: coordinating and monitoring the progress of the trial, negotiating resolutions with other actors to deal with emerging needs and problems, and providing technical and pedagogical support.

**Pre-Trial Preparation Phase:** To ensure effective implementation of Trial-1, it was critical that the facilitators could develop their collaborative relationship by negotiating their knowledge and views on the related aspects at the possible earliest time. Six months prior to the official launch of the trial, the four facilitators, who had not known each other beforehand, started to collaborate online; five videoconferences have been held (April to October 2007) to identify the scope of collaboration, teaching/guidance approaches, group formation strategies, and scheduling. The facilitators were also provided a Web-based communication platform or an online forum called "Facilitatorspace" to exchange ideas and documents offline. Eight students groups with 4 or 5 members coming from the four sites were formed. Each facilitator supervised two groups. Apart from culture, these groups had interesting mix of gender, prior knowledge, English language competence, and IT skills. The collaborative task to be accomplished was the development of a questionnaire with reference to two key concepts "cross-cultural comparisons" and "e-learning". Besides, a set of online collaboration and communication tools was selected for Trial-1 primarily based on their accessibility and ease of learning. Blog, email and collaborative writing tool were deployed for asynchronous work whereas instant messages and videoconference systems were used for synchronous work.

**In-Trial Implementation Phase:** In the beginning of this phase, an online survey was administered to the facilitators as well as students to collect data about their motivations, needs and expectations, self-perceived English proficiency and IT skills, previous experiences about online learning/teaching and collaboration, and tool uses. The student groups supposedly worked in a self-directed manner. However, when needs arose, they could seek advice from their local facilitators, whom they met face-to-face on a regular basis, and from their remote (group) facilitator, whom they contacted via online communication tools. To foster self-directed learning competencies in the students, the facilitators tended to practise non-interference in the groups' activities, but they monitored the group's progress and provided solicited help. In this phase, the facilitators had three videoconferences (Nov – Dec 2006) to share their observations about the progress of individual groups and to address the issue of student assessment. Besides, they actively used the Facilitatorspace to exchange ideas.

**Post-Trial Reflection Phase:** The main objectives of this phase were to assess impacts of the trial on the actors involved, to reflect on lessons learnt, and to draw implications for the subsequent trials, especially inputs for technical requirements, trial organization and evaluation approaches. Semi-structured online interviews with the students from selected groups were conducted. There was also a face-to-face focus group session involving the facilitators and the research team. Besides, the questionnaires created by the student groups were assessed. Five months after the closure of Trial-1 (June 2007), we administered a follow-up survey to the facilitators to assess the long-term effect of the trial.

**Research Questions:** Trial-1 was exploratory. Nonetheless, we formulated two post-hoc research questions based on our ongoing observations of the facilitators' behaviours and students' performances:

**R1:** *Which role did social relationship play in realizing the collaborative facilitation in the cross-cultural CSCL setting?*

**R2:** *How did facilitating styles influence the students' performances in the cross-cultural CSCL setting?*

## 4. RESULTS AND DISCUSSIONS

In this section we report our empirical data collected through different instruments, namely two surveys, online form messages, videoconference protocols, and emails exchanged among the facilitators and students, and discuss the results with reference to the two research questions (R1 and R2).

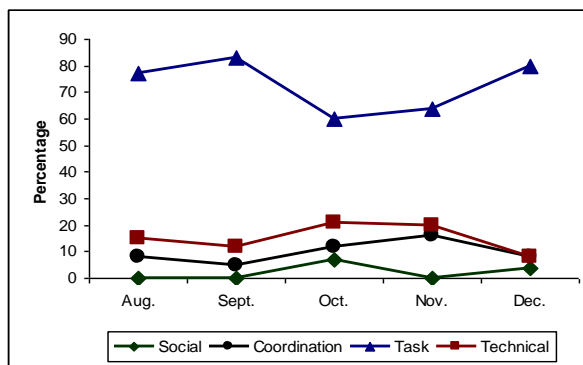
### 4.1 Facilitators' Expectations and Experiences

Results of the first survey administered at the beginning of the trial and the post-trial focus group session between the facilitators and the project team have revealed many interesting facts about the facilitators' backgrounds and experiences. All the facilitators put emphasis on the idea that group-work ability is important and useful for students, and group-work may increase the effectiveness of the learning process. During their courses, they have encouraged students to exchange ideas, to discuss with them and with peers. The discussions between the facilitators and their students have been limited to lectures and related matters. All the facilitators think that Internet is useful to explore another culture. All the facilitators have had experiences in teaching courses in which students working in groups. However, *only one* has taught online courses. Interestingly, none of the facilitators had ever collaborated with other faculty members or students from other countries using online communication tools. None of them had had experiences in using all the tools provided to students in the trial. Concerning their motivations to get involved in the trial, two facilitators believed that iCamp could provide them a good opportunity to acquire new experience in cross-cultural collaboration and the others aimed to learn how to deploy new ICT tools.

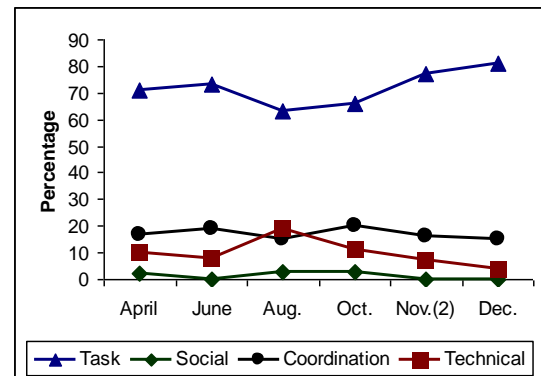
### 4.2 Content Analysis of Facilitatorspace and Flashmeeting (R1)

Facilitatorspace was an instance of Nextspace – a Web-based communication platform - deployed by the facilitators, local site coordinators, and the iCamp project team to discuss anything related to Trial-1. The content in the Facilitatorspace, including all messages posted from 17 August 2006 to 28 December 2006 has been extracted and analysed. During this period, 15 *participants* have posted messages to the Space, amounting to 21729 words. These messages were categorized according to a scheme based on Henri's (1992) model, which we modified by merging the participative and social dimension into "participatory activity" with four values: *coordination* (e.g. negotiating a meeting date), *technical* (e.g. resolving issues about tool uses), *social* (e.g. sharing personal problems), and *task* (e.g. discussing the assessment scheme). The distribution of the messages is illustrated in Fig. 1.

Interestingly, the majority of messages were task-related. In August and September – the preparation phase of the collaboration – not a single social-oriented message was posted. In October there was a slight increase in social-oriented messages, where the facilitators expressed mutual appreciations towards the work done or apologized for overlooking some discussion because of their other obligations. These messages, however, were not meant to be personal disclosure that might lend them to develop stronger social relationships. In November the facilitators focused on the issues of the respective sites and left no room for any non-task exchange. In December they concentrated on the design assessment scheme and the social-oriented messages were mainly Christmas greetings



**Fig.1.** Message types of the Facilitatorspace (left)



**Fig.2.** Message types of the videoconference (right)

The findings derived from the analysis of the Facilitatorspace messages were bolstered by the analysis of seven videoconferences where the facilitators discussed various issues. The average duration was 78 minutes and all were moderated by the trial coordinator. Several project team members took part in some of these videoconferences as well. We applied the same modified Henri's (1992) scheme to the four facilitators' utterances (Krippendorff, 2004) but not to the moderator's or other participants'. Similar to what observed in the text-based CMC, we could identify only a few social-oriented utterances in the multimodal CMC channel (video, audio and text). It was somewhat surprising to observe this extremely high task-orientation in this group of facilitator.

The four facilitators constituted a diverse group, given their heterogeneous cultural and disciplinary backgrounds. Presumably in the beginning phase of the trial they would seek social information about each other to ground their subsequent collaboration. Apparently, it was not the case. Instead, they plunged straightaway into task-oriented discussion, both in the context of asynchronous and synchronous CMC. In fact, the availability of these multiple communication channels provides relatively richer socio-emotional cues as opposed to the sole text-based computer conferencing in the previous research. However, the cues thus conveyed are rather implicit and may not be able to foster any social relationship. The facilitators' meagre social information seeking can be attributed to the strong group identity, which tends to mitigate the motivation to know individual personality. The low level of socially-oriented communication may also be explained by the fact that the facilitators did not anticipate any longer-term collaboration, as shown in the first survey. It is corroborated by the result of the follow-up survey that the facilitators have not had any further contact since the closure of the trial five months ago. Noteworthy is that the trial, including the preparation phase, lasted actually more than three months. It could be categorized as a long-term or medium-term group. It thus contradicts Walther's (1997) observation that short-term groups exhibited stronger task-orientation than their long-term counterparts. However, it is inconsistent with Chidambaram's (2005) prediction that the long-term group would demonstrate stronger cohesiveness over time. It is also speculated that the facilitators eschewed social disclosure in the "open" environment of the Facilitatorspace, which was accessible to the project team, for the sake of privacy. In the case of the videoconference, the presence of the moderator (i.e. the trial coordinator from the project team) might render the atmosphere of the meeting more formal than otherwise. Besides, all the facilitators worked under high time pressure and aimed to finish the facilitation tasks, in which they were voluntarily involved, efficiently by leaving out social communication.

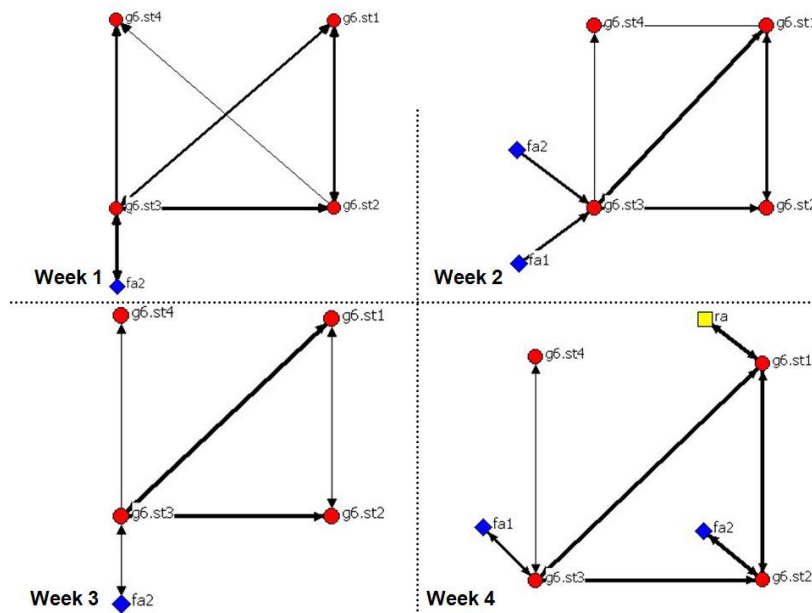
### 4.3 SNA of Facilitator-Student Interactions and Students' Performances (R2)

As none of the facilitators had any previous experience in organizing student collaborative learning over the Internet, the process of planning the intervention was running in parallel with the trial. The facilitators were provided with some general information about the three major pedagogical concepts underpinning the trial, viz. cross-cultural collaboration, self-directed learning, and social networking. Though special emphasis was put on advancing students' self-directed learning competence, there was much leeway for the facilitators to implement their teaching strategy based on their own interpretation of this notion. There was no explicit discussion on such a strategy. However, the facilitators devised and negotiated a common student assessment scheme. Accordingly, the student performance was assessed based on 3 different categories, which were the

communication skills during the trial, the design of the questionnaire, and the use of tools. Each student was assessed by all the fellow students and all the facilitators.

Subsequently, we use sociograms to illustrate the facilitators' activeness in facilitating the students' learning and collaboration processes. Sociograms are an important method of Social Network Analysis (SNA) (Scott, 1991), which is an approach that focuses on the study of patterns of relationships between actors in communities. We applied the SNA method to analyse emails exchanged among the facilitators and student groups to derive the social structures as well as the communication and interaction patterns. Sociograms are calculated and visualized using the UCINET SNA package (Borgatti et al. 2002). The facilitators are designated as *fa1*, *fa2*, *fa3* and *fa4*. Students from Group1 are designated as *g1.st1*, *g1.st2*, *g1.st3* and *g1.st4*, respectively. The same rules are applied to all other student groups. The iCamp research team providing different kinds of support is designated depending on their first name and last name. Basically, a group should spend the first week to get to know each other and to define the theme for their questionnaire. The second and the third week should be dedicated to the development of the questionnaire and the 4th week should be used for the questionnaire revision. In fact, all groups have extended their work to the 5th and 6th weeks to finalise their questionnaire.

The teaching styles of the facilitators during the trial were quite different. Most of them played a rather modest role. They did not really participate in or intervene the students' learning and collaboration processes. For instance, Fig. 3 illustrates the social structure of Group6, in which *fa2* was the assigned facilitator. This facilitator only contacted and was contacted by *g6.st3*. However, Group4 and Group6, which were facilitated by *fa2*, received very good scores. The Group4's average score was 11.4 and Group6's average score was 11.25.

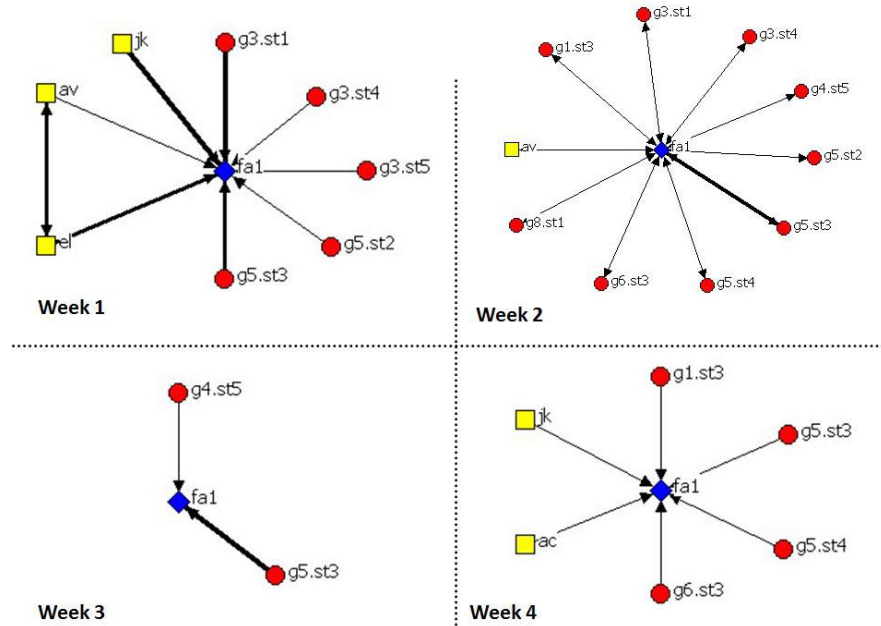


**Fig. 3:** Sociograms of Group6 facilitator-student interactions based on emails exchanged

Only one facilitator *fa1*, who is from Poland, was very active (see Fig. 4). *fa1* was responsible for Group3 and Group5. She actively communicated with her students to review their progresses, their problems in order to intervene in time. Interestingly, even the Polish students, who were not in *fa1*'s groups, also had interactions with her.

In fact, *fa1* contacted or was contacted by 6 out of 9 Polish students. All the Polish students (except *g8.st1*), who contacted or were contacted by *fa1*, received good scores as compared to other students, 3 of them received excellent scores (2 of them received 15 out of 15, another one received 14). However, *g8.st1* received only 1 out of 15, and *fa1*'s groups' scores were not better than other groups'. The Group3's average score was 9.4 and the Group5's was 12.25. The average score over the two groups supervised by *fa1* was 10.825 whereas the other groups' average score was 10.925. We describe this observation as *dilution effect*,

i.e. the lower performances of the other students have masked the higher performances of these Polish students, whose accomplishments were supposedly boosted by their interactions with *fa1*.



**Fig. 4:** Sociograms of Group3 and Group5 interactions with the active facilitator *fa1* based on emails exchanged

Yet, the role of the facilitators in such a cross-cultural online learning environment still provokes controversy. We did not find any significant correlation between the facilitators' activeness and the students' performance. How often the facilitators should intervene and interact with their students, how much freedom or guidance the facilitators should give their students. These questions are just the few that need to be further investigated in similar and different learning settings. During the interviews, the students also expressed that on the hand, more guidelines and instructions could have improved their motivation; on the other hand, they perceived that the group seemed able to make good use of the freedom. In addition, as derived from the analysed data, the students tended to consult their local facilitators for advice, who were teaching the courses being taken by the students at the respective universities and thus more accessible as well as more responsive (e.g. the case of the Polish facilitator and students), rather than the remote facilitators who supervised their groups. This observation leads to the question about the share of supervising responsibility among the facilitators – a task that has not been explicitly or clearly defined in the current trial.

## 5. CONCLUDING REMARKS

Given the exploratory nature of the current trial, the empirical data we have collected cannot allow us to draw any definitive conclusions about the two research questions. Nonetheless, we have identified several critical issues worthy of further research work. First, a fixed-term collaboration, which is even longer than four months, seems not conducive to the development of social relationships among collaborators. In the existing literature the distinction between short-term and long-term collaborative groups in terms of the number of weeks seems arbitrary. Presumably the group duration should be estimated in terms of participants' subjective perception. The challenge lies in calibrating the threshold for defining different temporal groups. Second, whether heavy task-oriented interactions, as opposed to socially-oriented ones, can yield higher quality work (more effective) in a shorter period time (more efficient) remains unclear. Some earlier studies showed that there was no correlation between work productivity and interaction types (Chidambaram, 1996). Presumably it depends much on the nature of the collaborative work to be accomplished. The dimension of social-task-orientation is a continuum and it is intriguing to identify which work entails more or less social elements. Third, facilitating style is somewhat elusive to define. Facilitation is essentially situated practice, coupling intricately with dynamically changing relationships among people, technologies, methods and tasks. In other words, facilitation is inherently inconsistent. In the messy situation like Trial-1, it is difficult to claim



any cause-effect relationship between the variables. Paradoxically, lab-based experimental approaches are deemed inappropriate to examine highly situated activities. Automatic capture of multi-source and multi-perspective data in situ seems technically plausible. However, more important and challenging is to devise reliable methods to analyse and integrate a massive body of data, thereby enabling us to derive a holistic and valid picture of complex human-human and human-machine interactions.

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