

iCamp

innovative, inclusive, interactive & intercultural
learning campus

D4.2: First Trial Evaluation Report

Deliverable Number:	D4.2
Contractual Date of Delivery:	May / 2007
Actual Date of Delivery:	July / 2007
Work Package(s) Contributing:	WP4
Nature of the Deliverable:	Report
Status:	Final
Security (Distribution Level):	Public
Editor(s):	Effie LC. Law & Anh Vu Nguyen-Ngoc, ULE
Project start: 1. Oct. 2005	Duration: 36 months STREP / IST

The iCamp Consortium consists of:

Centre for Social Innovation (CSI)	Coordinator	Austria
Jožef Stefan Institute (JSI)	Contractor	Slovenia
University of Leicester (ULE)	Contractor	United Kingdom
Universidad Politécnica de Madrid (UPM)	Contractor	Spain
Vienna University of Economics and Business Administration (VUE)	Contractor	Austria
University of Science and Technology (AGH)	Contractor	Poland
Kaunas University of Technology (KTU)	Contractor	Lithuania
Işık University (ISIK)	Contractor	Turkey
Tallinn University (TLU)	Contractor	Estonia
Tomas Bata University in Zlín (TBU)	Contractor	Czech Republic

Amendment History

Version	Date	Editor(s)	Modification
0.8	27.03.2007	Effie LC Law Anh Vu Nguyen-Ngoc	
1.0	31.03.2007	Effie LC Law Anh Vu Nguyen-Ngoc	
2.0	31.05.2007	Effie LC Law Anh Vu Nguyen-Ngoc	

Contributors

Name	Institution
Selahattin Kuru (facilitator)	Işık University (ISIK), Turkey
Maria Nawojczyk (facilitator)	University of Science and Technology (AGH), Poland
Katrin Niglas (facilitator)	Tallinn University (TLU), Estonia
Egle Butkeviciene (facilitator)	Kaunas University of Technology (KTU), Lithuania
Karolina Grodecka (peer reviewer)	University of Science and Technology (AGH), Poland
Airina Volungeviciene (peer reviewer)	Kaunas University of Technology (KTU), Lithuania
Claudia Magdalena Fabian	Centre of Social Innovation (CSI), Austria

List of Acronyms

Acronym	Description
CCC	Cross-Cultural Collaboration
CSCL	Computer-Supported Collaborative Learning
OLE	Online Learning Environment
SDL	Self-Directed Learning
SNA	Social Network Analysis
SNW	Social Networking

Table of Contents

Executive summary	7
1. Overview of iCamp Validation Trials	9
2. iCamp Generic Evaluation Frameworks.....	10
2.1. Theoretical Backdrops	10
2.2. Three Areas of Pedagogical Challenges and Three Competencies.....	10
3. Trial Structure and Activities	13
3.1. Pre-Trial Preparation Phase.....	13
3.1.1. Group Composition.....	13
3.1.2. Task Features.....	14
3.1.3. Communication Media.....	15
3.1.4. Local Site Coordinators	15
3.2. In-Trial Collaboration Phase.....	16
3.3. Post-Trial Reflection Phase.....	18
4. Evaluation Instruments	19
4.1. Surveys	19
4.2. Communication Diaries	20
4.3. Other instruments.....	21
5. Results	23
5.1. Student Data	23
5.1.1. Surveys	23
5.1.2. Social Networking.....	27
5.1.3. Content Analysis of Blogs and Emails.....	33
5.1.4. Instant Chat	36
5.1.5. Flashmeeting.....	38
5.1.6. Online Student Interviews.....	40
5.2. Facilitator Data.....	43
5.2.1. Survey	43
5.2.2. Content Analysis of Facilitatorspace.....	44
5.2.3. Facilitators' Reflections.....	46
6. Discussions	49
6.1. Theoretical	49
6.1.1. Cross-Cultural Collaboration (CCC)	49
6.1.2. Self Directed Learning (SDL).....	49
6.1.3. Social Networking (SNW)	50
6.2. Methodological	51

6.2.1.	Inter-rater agreement.....	51
6.2.2.	Validity of task performance	51
6.3.	Technical.....	52
6.3.1.	Automatic data capturing.....	52
6.3.2.	Usability and training of tool use.....	52
6.4.	Organisational	53
6.4.1.	Selection of students	53
6.4.2.	Assessment of students	53
7.	Concluding Remark	54
8.	References.....	55
A.	Appendix: Pedagogical Activities Chart (by WP1).....	57
B.	Appendix: Student First Survey.....	58
C.	Appendix: Student Second Survey	64
D.	Appendix: Facilitator Survey.....	68
E.	Appendix: Communication Diary.....	72
F.	Appendix: Questionnaire Assess. Scheme (by the Facilitator)	74
G.	Appendix: Modified France Henri’s Coding Scheme	77

Executive summary

The iCamp project is pedagogy- as well as validation-driven. The rise of social software poses the challenges to the design and evaluation of pedagogically sound online learning environments. iCamp addresses these challenges by the integration of three pedagogical concepts – **cross-cultural collaboration, self-directed learning and social networking** – with the aim to advance participants' competencies and by mixed-method approaches to evaluating the complex situations. Three validation trials of different scales and foci have been planned for the project's lifetime.

The first validation trial (a.k.a. Trial-1) was conducted from October 2006 to Feb 2007. Four European Higher Education Institutions from Estonia, Lithuania, Poland and Turkey were involved. There were four types of actors, including four facilitators, three local site coordinators, thirty-six students majored in social sciences or computing/engineering, and the iCamp research team. The students organised themselves into four- or five-member groups. Each group was to co-create a questionnaire with different tools, including blogs (WordPress), emails, shared web-based workspace (Google Docs & Spreadsheet), IP telephony (Skype), instant chat (MSN messenger), and videoconferencing system (Flashmeeting).

Several instruments were developed to collect specific data, including web-based student and facilitator surveys, Communication Diary, and student assessment scheme. Besides, two of the eight student groups were selected as target groups whose communication archives (i.e. emails, blogs, MSN chats and video recordings of Flashmeeting) were made accessible to the iCamp research team. In addition, semi-structured online interviews with five students from the two target groups and a face-to-face focus group session with the three facilitators were conducted. These multi-source and multi-perspective data were meticulously analysed. Content analysis with a coding scheme derived from Henri France (1992) and Social Network Analysis (SNA) techniques were applied to the contents of blogs and emails. The former enabled us to identify the quality of student interaction in terms of types of participatory activities (i.e. coordination, task-oriented, social or technical) and interactivity (direct or indirect), whereas the latter enabled us to visualize with sociograms the evolution of a group's social structures over time. Besides, conversation analysis based on Gerry Stahl (2005) was applied to the contents of real-time chat logs, videoconference recordings and interviews. The quality of the questionnaire was expert- and peer-reviewed to provide an indicator of task performance.

The **iCamp Trial-1** can well exemplify the complexity of cross-cultural CSCL. As corroborated by the interviews with the students and the facilitators, the iCamp setting enabled the participants to gain unprecedented experiences of online collaboration and to advance critical competencies, viz. interacting in heterogeneous groups, deploying technology effectively, and acting autonomously (i.e. self-directed learning). This is beneficial for their future work, given the ever-increasing importance of cross-cultural technology-enhanced learning. Interestingly, except language, no cross-cultural factor was observed or perceived to have any visible impact on the interactions among the students. Trial-1 was exploratory with the primary aim of understanding the activities in the iCamp online collaborative learning environment. The empirical data allowed us to reflect on certain issues. Theoretically, self-directed learning (SDL) seems the trickiest among the three pedagogical challenges. Some

students were unprepared, unmotivated or they lacked relevant knowledge/experience to engage in SDL. Some facilitators found it hard to strike the **right balance between “letting go” and “jumping in”**. Methodologically, the validity of the student assessment scores as an indicator of task performance was dubious, given the factors influencing the scoring. Technically, providing students with a so-called central access point (instead of shifting between tools) such as a “mashup” interface and automating data capture are deemed desirable. Organizationally, the student assessment issue should have been explicitly and clearly addressed well in advance of the actual implementation of the trial.

Some implications for the design of online learning environment (OLE) can be drawn. Note that no prescriptive guidelines can be formulated, however, several issues are worthy of serious considerations:

- Careful selection of right student participants to minimize the risk of demotivating the group morale by uncommitted or busy members;
- Equal access to the selected tools;
- Systematic training of tool uses to attain certain threshold;
- Cautious task selection for a heterogeneous group to reduce bias for students with particular backgrounds; involving students in task selection to enhance the sense of ownership;
- Moderately structured setting with precise instructions, thereby enabling students to prepare themselves better and fostering their motivation;
- Inter-cultural but intra-disciplinary - this point is controversial. While mutual stimulation can be promoted in a group with different academic backgrounds, the knowledge gap should not be too large to be bridged lest it would lead to communication breakdowns and frustration;
- Economical issues - whether the resources (time, effort) consumed can be justified by the gains acquired (experiences, competencies) for establishing a complex OLE (i.e. cost-effectiveness) remains an empirical question to address in our future work.

1. *Overview of iCamp Validation Trials*

The iCamp project is pedagogy- and validation-driven with the overarching goal of identifying improvement suggestions to refine pedagogical models and technological requirements for successful online cross-cultural collaborative learning. Pedagogically iCamp is grounded in the social-constructivist theories (D1.1). Technologically it is built upon a selected set of prevailing technology-enhanced learning tools by rendering them interoperable. iCamp online learning environment denotes intercultural and interactive computer-supported collaborative learning (CSCL) empowered by extensive uses of social software. Its validation is realized through three trials, which have different foci and scales and involve different Higher Education Institutions in Europe. The research methodology embraced by iCamp is akin to the **design-based research**, which, with the deployment of mixed methods, aims to meet dual goals of refining locally educational practice or intervention and developing more globally usable knowledge for the field. Whereas the first validation trial (Trial-1, Oct 06 – Feb 07) is mainly exploratory, the second (April – June, 07; Oct 07 – Dec 08) and third validation trial (April – June 08) will be formative and summative, respectively. The experiences to be gained during the intensive validation phases are to be documented in the form of best practice guidelines as an integral part of the iCamp Trials Evaluation Reports (D4.2, D4.3 and D4.4). The design of the iCamp OLE is ameliorated according to the outcomes of the validation trials.

Furthermore, iCamp addresses the main challenge of the Bologna process, which is harmonising European higher education and establishing the EHEA (European Higher Education Area). iCamp contributes to this challenge by establishing a sustainable learning community network in the Enlarged Europe and by fostering cross-border cooperation among the educational community. Engaging partners from the EHEA in the iCamp validation trials is the initial step for such extensible collaborations. Besides, the best practice guidelines to be derived from the three trials can serve as an additional means for the sustainable implementation of the concepts and frameworks being developed during the course of the project, and, consequently, enable other researchers and practitioners to reuse as well as augment these resources.

In this report, we initially present a synopsis of **iCamp generic evaluation framework (D4.1)**, which is essentially applicable to all the three trials, with emphasis varying with the design of individual trials (Section 2). Next, we describe the structure and activities of the first trial (Section 3), and then specific evaluation instruments we have developed and deployed for data capturing and analysis (Section 4). Results are reported next (Section 5). Discussions along the four dimensions – theoretical, methodological, technical and organizational – are presented (Section 6). Finally, we draw some implications for the future validation trials (Section 7).

2. *iCamp Generic Evaluation Frameworks*

2.1. *Theoretical Backdrops*

In the context of iCamp 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. iCamp espouses the **design-based research (DbR)** approach that attempts to bridge educational theory, design and practice (Educational Psychologist, 2004). The DbR uses **mixed methods** (Frechtling & Sharp, 1997) by blending qualitative approaches with quantitative ones to analyse outcomes of an intervention (i.e. provision of the CSCL environment of iCamp, integrating different roles, methods and tools) and to refine the intervention. In particular, the DbR typically triangulates multi-perspective data from different sources to link intended and unintended outcomes to processes of enactment. This triangulation can not only enhance the validity and reliability of empirical findings but also deepen insights into phenomena of interest.

Each of the three iCamp validations trials, as a kind of sustained intervention being embedded **in a three-month regular curriculum in an HEI**, are messy settings prone to complications. A complex intervention as such can involve tens of designers, theorists, evaluators, facilitators and students who aim to experience or improve the innovative practice. In these situations, it is extremely difficult to decipher or disambiguate causality; influencing factors are so intertwined that it is impractical to isolate or study them. Hence, mixed-method evaluations and repetition of analyses across cycles of enactment are indispensable.

2.2. *Three Areas of Pedagogical Challenges and Three Competencies*

The iCamp project team has three areas of pedagogical challenges, namely

- cross-cultural collaboration (CCC),
- self-directed learning (SDL) and
- social networking (SNW),

which entail different analytic and empirical evaluation approaches. CCC is the focus of Trial-1, though SDL and SNW are investigated as well. We aim to evaluate **two aspects of the collaborative process**: quality of interaction and task performance (Table 1).

For SDL, we look into how students make use of learning contracts (NB: to be implemented in the second trial) and self-assess their SDL competencies. For SNW, we analyse the social network development of the groups (for details, see D4.1).

Aspects	Rationale and Metrics	Data Analysis
Quality of Interaction	It comprises three factors: <ul style="list-style-type: none"> • <i>Social</i> - How well individual group members are collaborating in terms of mutual respect, responsiveness, politeness, friendliness, etc. • <i>Cognitive</i> - How well the group performs the task in terms of mutual stimulation, ease of drawing consensus; effective use of time; etc; • <i>Affective</i> - How satisfied or frustrated the group members feel during the task. 	Content analysis of blogs and emails Conversation analysis of online chats and video-conference Questionnaire for measuring cross-cultural interaction
Task Performance	The extent to which the jointly created artefact meets the quality criteria such as scope coverage, innovativeness, presentation, etc.	Review of the artefact by experts Peer assessment

Table 1: An evaluation scheme for cross-cultural collaboration

The extent to which students can benefit from the online collaborative learning environment designed for Trial-1 depends much on their existing competencies, which in turn are shaped by their participation in the related learning activities. Three major categories of key competencies, which are interrelated, have been identified (Rychen & Salganik, 2003) to be relevant, including:

- **Category 1: Use tools interactively, including language and technology**

The ability to choose appropriate ICT tools and use them interactively and effectively to accomplish specific tasks and the ability to communicate fluently.

- **Category 2: Interact in heterogeneous groups**

Collaborations entail skills in communicating ideas to others, listening to ideas of others, turn taking, negotiating divergence, interpreting emotions, managing conflict, making decision, and sensitivity to cultural differences.

- **Category 3: Act autonomously**

SDL competence is to understand the differences between teacher-directed and self-directed learning, to work collaboratively with others, and to select strategies skilfully and with initiative.

In summary, iCamp evaluation framework is an analytic framework based on four types of data:

Relational data address the evolution of social networks (i.e. the linkages between group members; the social structure of groups) and their associated factors;

Attributional data address the development of individual competencies and their associated factors;

Indexical data address quality ratings of artefacts as well as of domain-specific knowledge gain;

Ideational data address meanings and motives of actions in group activities will be studied.

3. Trial Structure and Activities

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 Feb 2007.

Four types of key actors were involved:

Facilitators: four faculty members, who were responsible to teach a course on research methods at the respective institutions, scaffolded their students to accomplish the given collaborative task of the trial;

Local Site Coordinators: three researchers, who were employees of the respective institution, involved in the iCamp project and well-informed about pedagogical and technical requirements of the trial, provided constant support to the facilitators (NB: in the Turkish site, the facilitator played the dual role).

Students: 36 undergraduates and postgraduates majored in Social Sciences or Software Engineering.

iCamp research team: Coordinating and monitoring the progress of the trial, negotiating strategies and resolutions with other actors to deal with emerging needs and problems, and providing technical and pedagogical support to them.

3.1. 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. This process of social grounding (Clark & Brennan, 1991) is deemed indispensable. Six months prior to the official launch of the trial, the four facilitators, who had hardly known each other beforehand, started to collaborate; several videoconferences have been held to identify the scope of collaboration, teaching/guidance approaches, group formation strategies, scheduling, etc. Apart from online discussion, the facilitators were provided a Web-based communication platform to exchange ideas and documents offline. Three key conditions for effective collaborative learning have been identified: **group composition, task features, and communication media** (Dillenbourg & Schneider, 1995). In our pre-trial preparation phase, we addressed these issues.

3.1.1. Group Composition

Identities of student participants in the four trials sites were not known till early October. To facilitate social grounding and thus group formation, two procedures were involved:

First, a videoconference linking the four trial sites was held; each participant (facilitators and students) took turn to make a brief online self-introduction (Figure 1).

Second, each student was required to set up a personal blog to introduce themselves, thereby enabling the students to identify potential collaborative partners.

To maximize cultural heterogeneity, some constraints were imposed that each group should consist of members originating from the four different trial sites and that not more than two from the same site should be included in a group, for instance, a group of 5 could be composed of one Estonian, one Polish, one Lithuanian and two Turkish students. Otherwise, the students were free to join any group. Presumably such a self-regulated process could heighten the students' motivation to work with the partners of whom they had good impression. This strategy proved workable as seven groups (Group1 – Group7) with 4 or 5 members were formed. The last group – Group 8, however, could only be formed with the intervention of the facilitators, because the students were relatively passive. Each facilitator then supervised two groups. Apart from culture, the groups had interesting mix of gender, prior knowledge, English language competence, and IT skills. Such heterogeneity is considered indispensable for triggering stimulating interactions among group members, but within the boundaries of mutual interest and intelligibility (Dillenbourg et al., 1996). This assumption is consistent with the social-constructivist theories that interacting with abler others can be an effective means to enhance one's problem-solving skills.

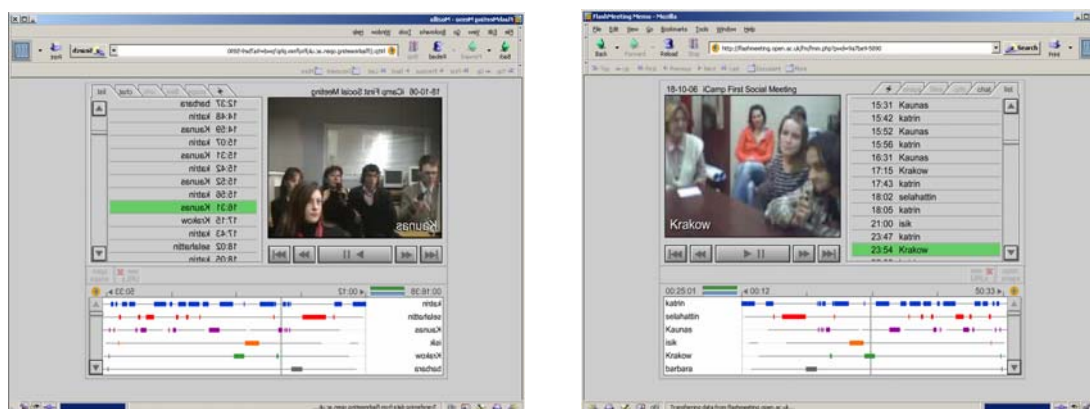


Figure 1: Introductory warm-up videoconference: Two of the four groups (Lithuania and Poland)

3.1.2. Task Features

The collaborative task to be accomplished was the development of a questionnaire (i.e. artefact) with reference to key concepts “**cross-cultural comparisons**” and “**e-learning**”.

The task was selected based on several considerations:

- Developing questionnaire is an integral part of a course on research methods that are commonly offered in the four sites;
- While heuristics for questionnaire developments are available, there is much room for planning and negotiation as questions can be formulated in various ways;

- The two key concepts are of high relevance to the online learning environment in which the students are embedded, thereby enabling them to reflect on their own situation. Given the heterogeneous backgrounds of the students and the objective of promoting self-directed learning, the students were given the leeway to specify the exact scope and theme of their questionnaire.

3.1.3. Communication Media

Collaboration may fail if communication media and tools deployed are inadequate, irrespective of whichever group composition and task features. There exist an abundance of multimedia tools supporting online collaboration and communication.

To avoid overwhelming the participants, a subset of such tools was selected for Trial-1 primarily based on their accessibility and ease of learning. Blog, email and collaborative writing tool are deployed for asynchronous work whereas instant messages and videoconference systems are used for synchronous work. Pre-trial training was delivered to ensure that the facilitators and students, who had not worked with particular instances of tools (e.g. wordpress for blogs, Flashmeeting for videoconferencing) prior to the trials, would feel confident and comfortable to use them.

3.1.4. Local Site Coordinators

In the phase, the local site coordinators played a significant role in resolving a number of issues with the facilitators (Figure 2):

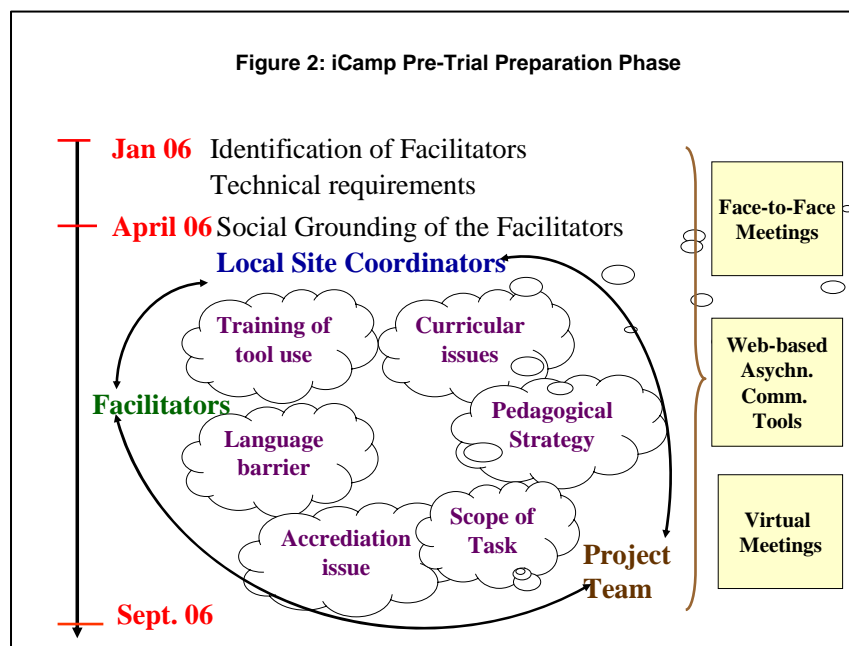
Pedagogical strategies: To enable the facilitators to best manage the cross-cultural online collaborative learning environment, the local site coordinators presented and encouraged the facilitators to refer to sets of pedagogical activities, which were depicted in the form of charts with boxes representing instances of three major types of constructs: strategies (e.g. scaffold), people (e.g. facilitator) and objects (e.g. tool) (Appendix A)

Scope of the task: The facilitators initially disagreed whether the collaborative task assigned to the students should be extended beyond the creation of a questionnaire to the actual implementation of the questionnaire and the analysis of the data thus collected. The consensus reached after rounds of discussion between the facilitators, the local site coordinators and the research team was to keep the scope manageable, especially it would be a novel experience for most of the trial participants, though it might somewhat undermine the motivation of some students who wanted to have the whole course entirely online.

Language barrier: The student participants should possess a reasonable level of English proficiency (NB: none of the trial participants is English native speaker) to communicate with their international counterparts. In some trial sites, this constraint restricted the choice of potential students who could meet other criteria well but not the language one. For instance, in Lithuania, the local site coordinator needed to recruit another group of students, because the original group preferred speaking German to English as a foreign language.

Curricular and accreditation issues: As the trial was embedded in the normal curricula of the respective institutions, some local site coordinators needed to negotiate with the institutional administration for the accreditation issue.

Training of tool uses: As most of the trial participants, including the facilitators and students, had not used the special instances of the communication tools (e.g. wordpress, Flashmeeting) prior to the trial, it was deemed necessary to train them how to deploy these tools. However, individual trial sites had a different training strategy. In addition, the students had heterogeneous backgrounds with different IT knowledge and experience. Consequently, not all the sites reached a relatively equal level of technical know-how and it led to some problems in the beginning phase of collaboration. The learnability of the tools proved high, though.



3.2. In-Trial Collaboration Phase

The collaborative task was marked by four milestones (M):

M1 - Identification of the theme of the questionnaire

M2 - Drafting the questionnaire

M3 – Refining the questionnaire

M4 – Evaluation of the questionnaires.

The 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.

In fact, to foster SDL 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 and local site coordinators held videoconferences on a demand basis to share their observations about the progress of individual groups and to address emerging issues.

They also actively used the Web-based communication platform to exchange ideas. Furthermore, two websites were developed to provide the students with extra help – iCamp Technical Support Blogs (<http://icamp1.distance.ktu.lt/wordpress/>) (Figure 3) and iCamp Pedagogical Support Blogs (<http://pedagogicalsupport.wordpress.com/>) (Figure 4). However, the usages of both blogs by the students were relatively low.

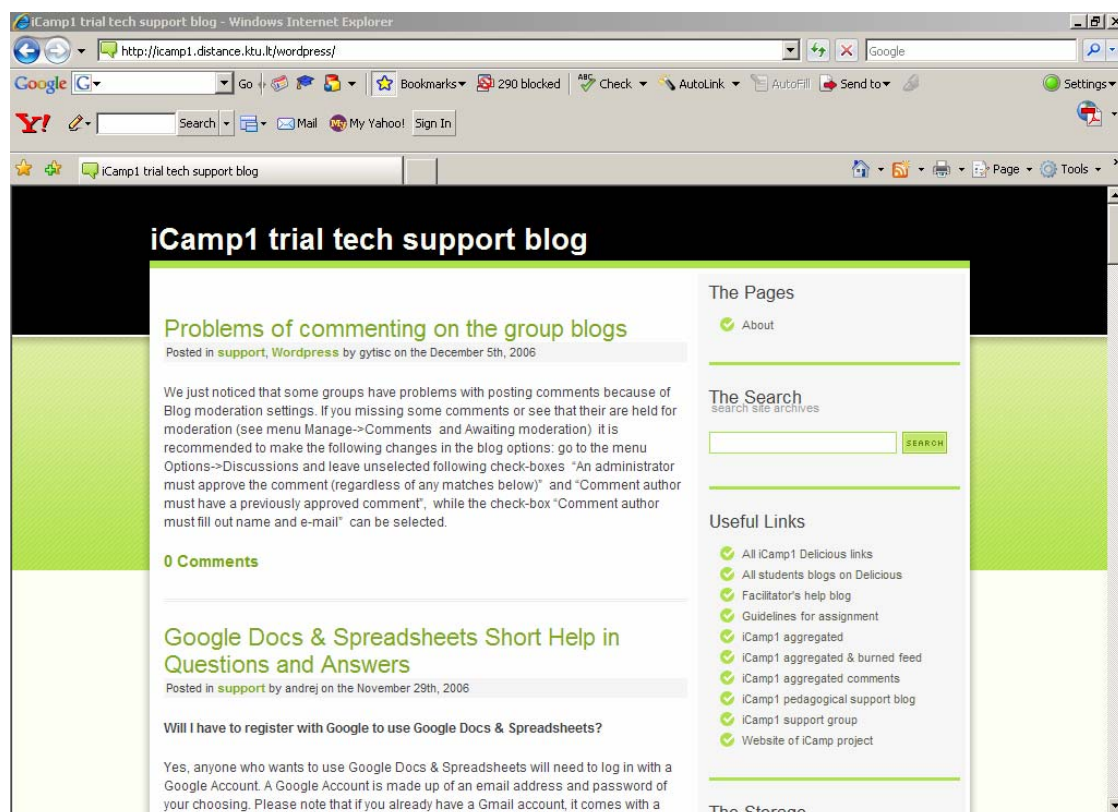


Figure 3: iCamp Trial-1 technical support blog

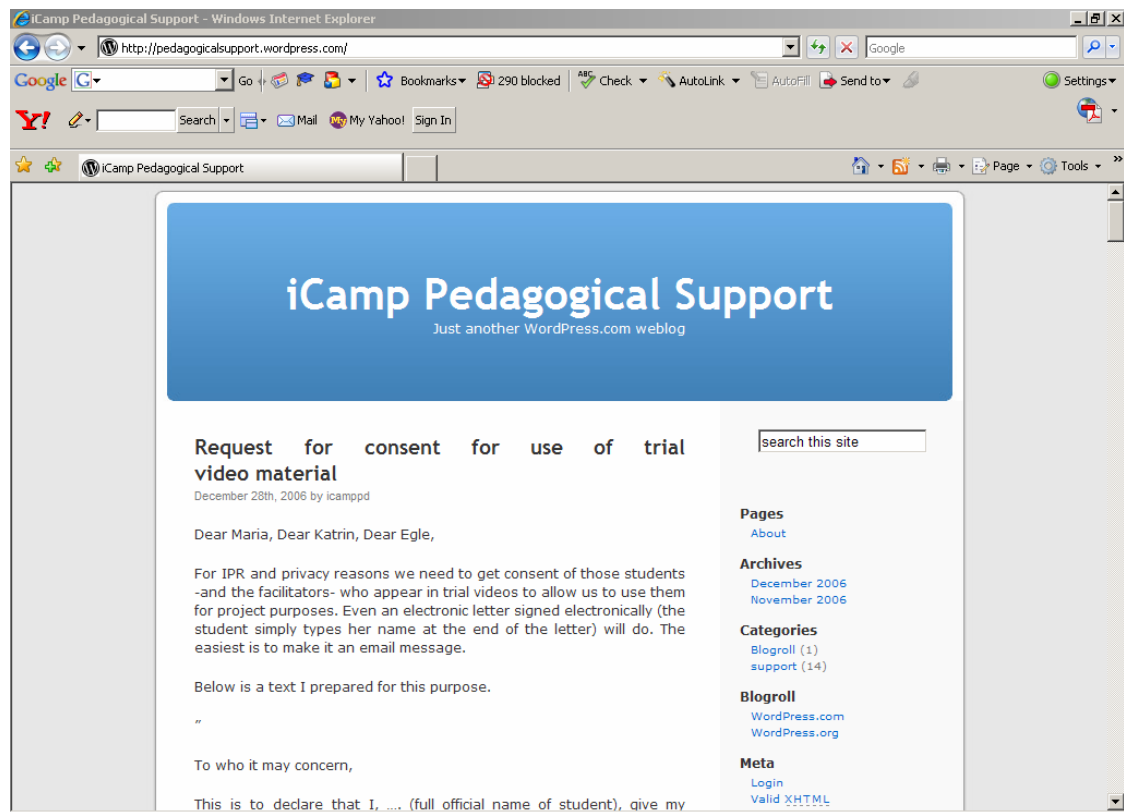


Figure 4: iCamp Pedagogical Support Blog

3.3. *Post-Trial Reflection Phase*

The main objectives of this phase are 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 iCamp research team. Besides, the questionnaires created by the student groups were assessed (see below).

4. Evaluation Instruments

As mentioned earlier, the complexity of the so-called iCamp setting entails mixed-method evaluations of multi-source and multi-perspective data. Hence, for Trial-1 we developed and deployed different evaluation instruments.

4.1. Surveys

To evaluate a learning environment, survey is one of the most popular evaluation instruments. In Trial-1, we administered two different online surveys to the students at the beginning and at the end of the in-trial period. The surveys have been developed as an online survey system on the top of a PHPSurveyor system installed in one of our project servers in Vienna, Austria. The online system allowed easy access to the surveys, thereby encouraging respondents to complete them and enabling iCamp research team to evaluate the responses.

The **first survey** consists of **4 parts (Appendix B)**:

Part One collects **background data of the students**. It contains questions such as name, gender, university, department, major background, the main language used at the student's university, the student's competence in spoken and written English.

Part Two contains questions related to **ICT competencies**. We are interested in knowing the students' previous knowledge in using tools, especially those proposed by the project, such as blog (i.e. wordpress in our case), collaborative writing tool (i.e. Google Docs & Spreadsheets), videoconference (i.e. Flashmeeting) as well as their knowledge in online learning, Learning Management System (LMS), and digital libraries. Specifically, we want to know whether students have Internet connection at home, which is a very significant factor influencing students' participation in an online course, especially their collaboration with international peers.

Part Three focuses on **cross-cultural experience**. We want to know whether the students have experience in attending/teaching an online course, in a course where they have worked in groups, in communicating and collaborating with their peers and tutors, and if they have had any difficulty in attending/teaching such courses.

Part Four addresses **students' expectations**, needs and motivations when participating in the iCamp learning activities. This part also contains some open questions that ask students to express their opinions about an online/distance course, about the "iCamp learning activities" and the like.

Another **survey** has also been **designed for the facilitators (Appendix D)**. Although this survey also contains four parts, it is much shorter and consists of more open-ended questions. Especially in Part Two of this questionnaire, we want to know about the facilitators' experience in cross-collaboration.

Concretely speaking, we want to know if they have ever locally collaborated with their colleagues and/ or their students while working on a task or if they have ever

remotely collaborated with their colleagues and/ or their students from other countries using online communication tools while working on a task in a particular course/class project. The facilitators' survey was also distributed at the beginning of the course.

In the **second students' survey (Appendix C)**, we focused mostly on their perspectives and opinions after they had participated in the iCamp learning activities. This second survey consists of 2 parts.

Part One focuses on the Cross-cultural Collaboration & Technology Acceptance issues.

Part Two contains some open questions which require students to express their opinions on **how their expectations have been fulfilled**, what they like and dislike the most, and how they would do to improve the arrangement of the "iCamp trial".

4.2. Communication Diaries

To monitor the process of online collaborative learning, it is essential to select some high-level variables (or indicators) that can represent states of collaboration among users of a learning community. It is challenging for evaluators to identify, capture and store such indicators. In the setting of Trial-1, the students could basically use different communication tools, and it was extremely difficult, if not impossible, to get all the log data from these tools (e.g. Skype has no recording facility). To deal with the constraint, we developed an instrument known as "**Communication Diary**" (**Appendix E**).

Such a diary allowed the students and evaluators to keep track of the communications with their facilitators as well as peers. However, the students could decide not to use the Diary, though they were much encouraged to do so. The Diary was constructed on a weekly basis. There were essentially four working weeks in Trial-1 (i.e. excluding the post-trial Reflection phase). Accordingly, the Diary was divided into four parts with each of them containing several question blocks. Each block recorded the communication that the students had with one partner (either a student or a facilitator) and consisted of 5 items, which are described as follows:

- To specify with whom this student communicated.
- To specify if this student was the communication sender or receiver or both: A student was considered as a sender of a communication if he/she was the one who initiated that communication. For example, in email modality (this means, if students email to communicate), if a student sent an email to his/her partner, this student was the sender of that communication. As another example, in blog modality, assume that a student posted something on the blog, and another student posted some comments on it, in this case the former was the sender and the latter was the receiver of that communication.

- To specify the frequency of the communication(s), i.e., the student should indicate here how often he/she communicated with his/her partner. There were 3 levels: low, medium, or high.
- To rank the purpose of the communication(s). If the student had several purposes (e.g. he/she communicated several times with the same partner), the most important purpose would be ranked first.
- To rank the modalities the student used for his/her communication(s). If he/she used different modalities to communicate (e.g. email, blog, Flashmeeting), the most often-used modality would be ranked first.

The students should save their responses in their Diaries and then update the responses regularly during the trial. Actually, the Communication Diary allows students to save their diaries in progress. This means that after quitting the diaries, students receive some information generated by the system, which can be used to return to their diaries and continue where they left off.

Although the design of the **Communication Diary** was simple, it served as a useful instrument for researchers to construct the **students' interactions and communications**, thereby enabling the application of Social Network Analysis (SNA) or similar approach to construct the social structure and social relationships among the participants concerned.

4.3. Other instruments

Different tools were accessible to the students to support synchronous and asynchronous communications. The students were provided blogs and encouraged to use them to exchange ideas, but they could also use email. Besides, real-time discussion was enabled by IP telephony (e.g. Skype), videoconference (e.g. Flashmeeting) or instant messaging (e.g. MSN). The groups were also instructed to use a Web-based shared workplace - Google Docs & Spreadsheets - to create, modify and store their questionnaire. By analysing the contents captured by these tools, we were able to know how the group collaboratively resolved their tasks.

Two student groups - **Group2 and Group6** - were selected as **target groups**. They were observed to be relatively more active during the group formation phase (pre-trial phase) and during the first week of the trial. The selection was also based on the consent of the respective facilitators and on the willingness of the group members. The students of the two target groups were required to share their emails with us and to grant us the access right to view the progressive versions of their questionnaire shared in Google Docs & Spreadsheets. We also interviewed some students of the target groups and the facilitators in the post-trial reflection phase to review the process and outcome of the trial.

Furthermore, the students' task performance (Table 1) was measured in terms of the extent to which their questionnaire could meet certain quality criteria. The four facilitators jointly **developed a grading scheme (Appendix F)**:

The questionnaire was rated along three dimensions – the theme (e.g. relevance), design (e.g. accuracy) and implementation (e.g. layout) – with a five-point Likert scale (1 = poor, 5 = excellent). Using this scheme, each facilitator had to grade the questionnaires of all the eight groups (i.e. expert review) and each student had to grade all the questionnaires except the one of his or her own group (i.e. peer review). Additionally, each student was required to evaluate the contribution of his or her team mates to the group work with respect to several aspects: communication, design of the questionnaire, and use of tools.

5. Results

5.1. Student Data

5.1.1. Surveys

Filling in the survey was not compulsory, thereby increasing the validity of the responses which were given out of the respondents' willingness and readiness to share. 27 students out of 36 (75%) have completed the survey.

Their **profiles** were: 9 male and 18 female; 9 Turkish, 7 Polish, 6 Lithuanian and 5 Estonian; 17 major in social sciences and 10 major in computer science/engineering. None of the students was English native speaker; 12 students responded that the main language used at their university (probably at the departmental level) was English whereas the others were their respective local languages. The students were asked to self-assess their level of English proficiency and the average was 2.7 (out of 5 the highest).

The **students' self-assessed** familiarity with ICT in general was 3.5 (out of 5). Twenty-five of them had internet connection at home and used it rather often (i.e. between "sometimes a week" and "several times a day, everyday"). 17 of them frequently used communication tools such as chat, forum and audio/videoconference, nine sometimes and one never. The primary purpose of such usage was communicating with friends and relatives. More than half of the students had never used wordpress or Flashmeeting deployed in the trial. Surprisingly, two-third of the students had never used a learning management system (LMS) and one half of the students had never used a digital library. Email was most often used communication tool for 22 of the students (i.e. 81%).

With regard to **collaborative experience** with co-located peers, only three students did not have it. Among those who had collaborative experience, six students had difficulty in working with group-mates such as time management, inactive members and sharing workload. Nevertheless, 22 of them liked working in groups. Interestingly 22 students had never enrolled in any online course prior to the trials. All except one student expressed interest in knowing and collaborating with peers from other countries. When asked to compare an online course with a traditional one, the students addressed different pros and cons (Table 2) that are consistent with general observations in CSCL practice.

PROS	CONS
<p>Social: communicate with people from different cultures</p> <p>Economical: save travelling costs; fast and efficient information sharing; support large class size; transcend time and space constraints; flexible for working people</p> <p>Technical: improve computer skills</p> <p>Psychological: more exciting and fun</p>	<p>Psychosocial: more difficult: work on one's own, lacking direct contact; less efficient discussion</p> <p>Technical: to be constrained by the access to internet connection</p>

Table 2: Students' perception about pros and cons of online courses

When asked whether they knew about the purpose of the “**iCamp learning activities**”, about 28% of the respondents had a vague idea that it was something related to collaboration among students via the Internet. However, the same percentage of students did not have any idea about the purpose. Around 19% of the students expressed that the iCamp's concepts are useful, interesting, good, etc (Table 3).

CATEGORY	PERCENTAGE
Collaboration among international students via the Internet	28.6%
Don't know, no idea, etc.	28.6%
Useful, interesting, good idea, etc.	19%
Learning and using new communication tools	4.8%
Part of a regular course	4.8%
Others	14.2%

Table 3: Distribution of the categories of students' perceived purposes of the iCamp learning activities

In responding to the multiple-choice question **why they wanted to take part in the trials**, “curiosity” was the most frequently selected option (18 students), followed by “make friend” (16 students). The average self-assessed motivation level for getting involved in the trial was high with the value of 3.9 (out of 5). Positive factors for high motivation were self-challenge, national pride, cognitive dissonance (i.e. to justify their participation) and other factors named as PROS in Table 2, whereas negative factors for low motivation were anxiety to interact with foreign students, language barrier, time constraint, and being forced to get involved in the trial as part of the course.

The students were asked to identify their expectations for getting involved in the trials by selecting the given options and the results are displayed in Table 4. Other expectations named by the students included: Acquire skills for developing questionnaire; explore another research topic of interest; improve knowledge about e-learning.

EXPECTATION	PERCENTAGE
Improve your knowledge in using online communication tools	14.97%
Improve your communication skills	14.97%
Improve your English	12.24%
Improve your ability to organize the activities	11.56%
Have more (international) friends	11.56%
Improve your self-confidence in studying	10.20%
Learn in a flexible way (at anytime and from any location)	9.52%
Improve your autonomy in studying	6.80%
Learn in an easier way	6.12%
Easy to obtain a high grade	2.04%

Table 4: Distribution of expectation options

In summary, the students in general were positive about the trial, had relatively high motivation and held reasonable expectations. Nevertheless, about one-third of the students had no idea about the purpose of the collaborative learning activities in which they were supposed to engage. Besides, half of the students lacked the experiences in using specific tools such as blogs and videoconference systems. These undesirable factors may undermine the overall effectiveness of online collaboration.

Only **9 students** filled in the **second online survey**. This may be explained by the fact that this second survey was distributed at the end of December, i.e. after the students had already finished the trial and the Christmas and New Year holidays were approaching. Hence the students did not really have motivations to fill in another survey. Nonetheless, we present in Table 5 and Table 6 below some interesting results concerning things the students liked and things they disliked. Interestingly, learning how to use Internet tools was the student first favourite. Next, they liked the fact that the trial allowed them to make friends with people from different countries.

THINGS the students LIKED	PERCENTAGE
Experience in working online	3.70%
Internet tools	22.22%
Experience in working in groups	7.41%
Communication skills	7.41%
Knowledge in questionnaire, internet, eLearning, etc.	11.11%
People (staff, facilitators, etc.)	11.11%
Attending a big, international project	7.41%
Group-mates, friends	18.52%
Technical support	7.41%
English	3.70%

Table 5: Result of the student second survey – liked items

Some **students** were quite **disappointed because** they did not improve their English as much as they had expected. Some students were not happy as some of their group members lacked motivations and did not contribute to the group activities. The diversity in technical background was also a challenge.

THINGS the students DISLIKED	PERCENTAGE
English	27.78%
Lack of motivation from some group-mates	11.11%
Group organization	16.67%
Diversity in technical backgrounds (study majors, levels, etc.)	11.11%
Flashmeeting problems	11.11%
Others (local technical problems, information confused, information about other groups, etc.)	22.22%

Table 6: Result of the student second survey – disliked items

5.1.2. Social Networking

In this section we focus on the results of analyzing the activities of Group2, though results of Group6 are also presented to illustrate the commonalities and contrasts. **Group2** consisted of 5 students who were designated as *g2.st1*, *g2.st2*, *g2.st3*, *g2.st4*, and *g2.st5*. The facilitator of this group was from Lithuania and designated as *fa3*. The four students of **Group6** were similarly designated as *g6.st1*, *g6.st2*, *g6.st3* and *g6.st4* and its facilitator was from Turkey and designated as *fa2*. The term **participant** refers to either a student or a facilitator or a member of the research team.

Basically, a group should spend the first week to get to know each other and to define the theme for their questionnaire. The second (week2) and the third week (week3) should be dedicated to the development of the questionnaire and the fourth week (week4) should be used for the questionnaire revision. In fact, Group2, like some other groups, extended their work to the fifth and sixth weeks to finalize their questionnaire.

Social Network Analysis (SNA; Scott, 1991) is an approach that focuses on the study of patterns of relationships between actors in communities. We applied the SNA approach to evaluate the social structures as well as communication and interaction patterns of the student groups. Data from the Communication Diaries and from logs of other communication tools (e.g. emails and blogs) were extracted to create matrices, which are suitable for being processed by *R* (<http://www.r-project.org/>) and UCINET SNA package (Borgatti et al. 2002).

Figure 5 displays the sociograms representing the **social structure** of group communications of **Group2** in the first four consecutive weeks of the trial. In the sociograms, nodes represent participants and lines represent the communication between them. Node shapes and colours represent different types of users.

In this case, circles represent students, diamonds represent facilitators, and rectangles represent the research team members. Line size represents the tie strength, and the arrows represent the directions of communications. Quite surprisingly, in the first week, none of the group members contacted the group (remote) facilitator. The student *g2.st4* was the only one who contacted his local Polish facilitator and other Polish students from other groups to ask for more information about the trial.

In week2, **Group2** started to work on the **questionnaire theme** and tried to find out the **methodology**, it seemed that this group got a bit lost and many members of the group contacted their local facilitators (*fa1*, *fa2*, *fa3*). However, in week3, the group worked quite confidently. They interacted with one another without contacting any facilitator. These interaction patterns were shown clearly in Figure 5. In the last week, only *g2.st4* contacted the local facilitator (*fa1*).

To **identify network sub-structures**, i.e. the fully connected students, **cliques are detected**. A clique is defined as a maximal complete sub-graph (Scott, 1991), i.e., it contains a subset of participants, with all of them being adjacent to each other. For Group2, a clique was found in every week (see Figure 5). In other words, this group's members worked quite closely with each other.

Freeman's centrality degree was calculated to measure the **central distribution** of the each member participating in the group communications and interactions. In Table 7a, one can find the Freeman's centrality degree of Group2 in week1. In this week, *g2.st4* was the most active student. This result corresponded to what we have observed from Group2's sociograms.

Week1	OutDegree	InDegree
g2.st4	13.000	13.000
g2.st1	8.000	2.000
g2.st3	4.000	5.000
g2.st5	3.000	6.000
g7.st4	2.000	2.000
g5.st3	2.000	2.000
g4.st4	2.000	2.000
fa1	1.000	1.000
g2.st2	0.000	2.000

Table 7a: Group2 / Freeman's centrality in week1

Week2	OutDegree	InDegree
g2.st4	13.000	13.000
g2.st3	11.000	9.000
g2.st1	10.000	8.000
g2.st5	9.000	9.000
g2.st2	6.000	8.000
fa1	2.000	2.000
fa3	1.000	1.000
fa2	0.000	2.000

Table 7b: Group2 / Freeman's centrality in week2

Week3	OutDegree	InDegree
g2.st5	12.000	7.000
g2.st4	10.000	10.000
g2.st3	10.000	6.000
g2.st1	3.000	7.000
g2.st2	2.000	7.000

Table 7c: Group2 / Freeman's centrality in week3

Week4	OutDegree	InDegree
g2.st4	9.000	9.000
g2.st5	8.000	4.000
g2.st3	5.000	5.000
g2.st1	5.000	5.000
g2.st2	2.000	6.000
fa1	1.000	1.000

Table 7d: Group2 / Freeman's centrality in week4

The network centrality in the first week was not high (64% for both OutDegree and InDegree centralisation). It implied that none of the participants really played the central role in the social network of Group2 during this very first week. Similar results were found in Group6. The network centralisation from the week 2, 3 and 4 also confirms the "distributed nature" of Group2 (Table 8). No one played the central role in the group knowledge distribution and construction. This somewhat aligned with our expectation as one of the goals of the project was to facilitate peer communications. As the facilitator of Group2 adopted the non-intervention strategy, she was not expected to play a central role either.

	Week 2	Week 3	Week 4
OutDegree	35.374%	47.917%	48.000%
InDegree	35.374%	27.083%	48.000%

Table 8: Group2 / network centralisation

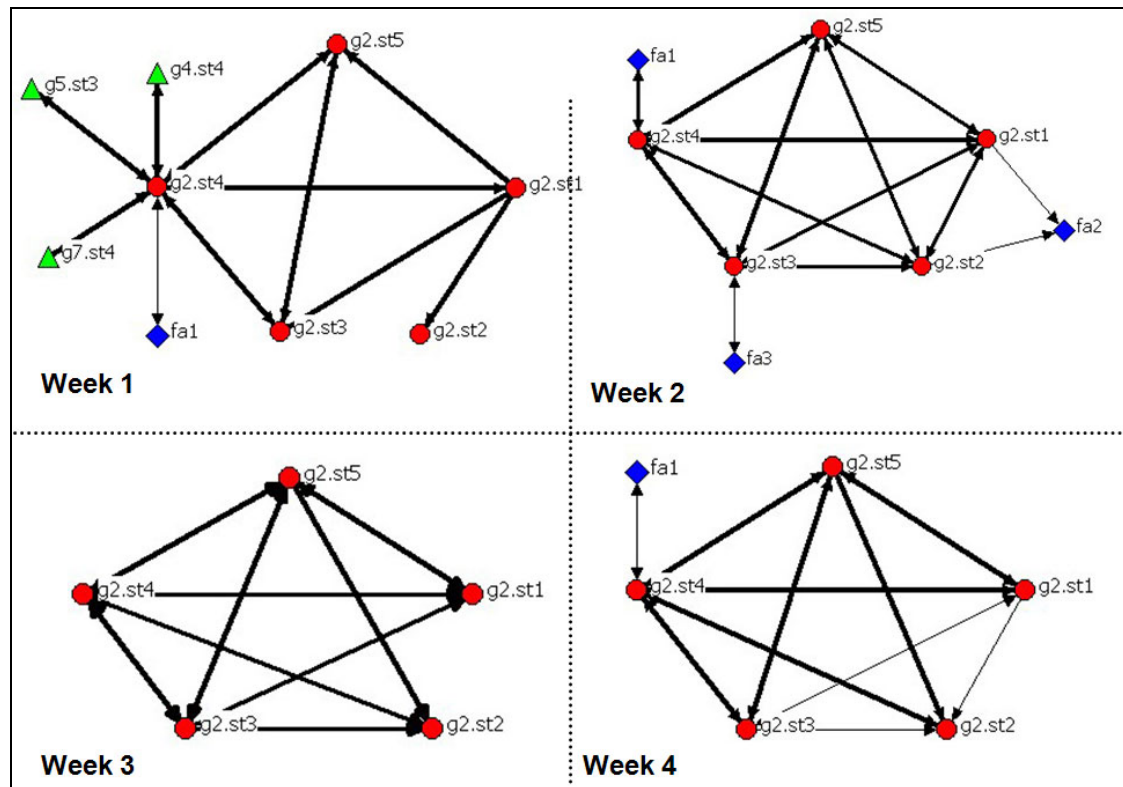


Figure 5: Sociogram of Group2

The same analysis approach has been applied to Group6. For Group6, in the first week, only *g6.st3* contacted the group (remote) facilitator (see Figure 6).

Table 9a, 9b, 9c and 9d illustrate the Freeman’s centrality degree of **Group6** in week1, week2, week3 and week4, respectively.

Week1	OutDegree	InDegree
<i>g6.st3</i>	10.000	8.000
<i>g6.st2</i>	6.000	5.000
<i>g6.st1</i>	4.000	4.000
<i>fa2</i>	3.000	3.000
<i>g6.st4</i>	0.000	3.000

Table 9a: Group6 / Freeman’s centrality in week1

Week2	OutDegree	InDegree
g6.st3	6.000	9.000
g6.st1	6.000	5.000
g6.st2	4.000	4.000
fa1	2.000	0.000
fa2	2.000	0.000
g6.st4	0.000	2.000

Table 9b: Group6 / Freeman's centrality in week2

Week3	OutDegree	InDegree
g6.st3	10.000	8.000
g6.st2	5.000	5.000
g6.st1	5.000	5.000
fa2	2.000	2.000
g6.st4	0.000	2.000

Table 9c: Group6 / Freeman's centrality in week3

Week4	OutDegree	InDegree
g6.st3	9.000	9.000
g6.st2	9.000	9.000
g6.st1	9.000	9.000
ra	3.000	3.000
fa2	3.000	3.000
fa1	2.000	2.000
g6.st4	1.000	1.000

Table 9d: Group6 / Freeman's centrality in week4

The network centrality of this group was not high either (see Table 10)

	Week 1	Week 2	Week 3	Week 4
OutDegree	56.250%	21.333%	58.333%	25.000%
InDegree	35.417%	45.333%	37.500%	25.000%

Table 10: Group6 / Network centralisation

The sociograms in Figure 6 illustrate the social structure of Group6 during the trial. In the first week, only *g6.st3* contacted the group (remote) facilitator.

Similarly to Group2, Group6 worked quite autonomously without any explicit intervention from either the local or group facilitator. The sociograms show that this group worked also closely with each other except *g6.st4*. As *g6.st4* had a full time job, she contributed modestly to the group activities. She just contacted *g6.st3* to keep informed about the group’s progress.

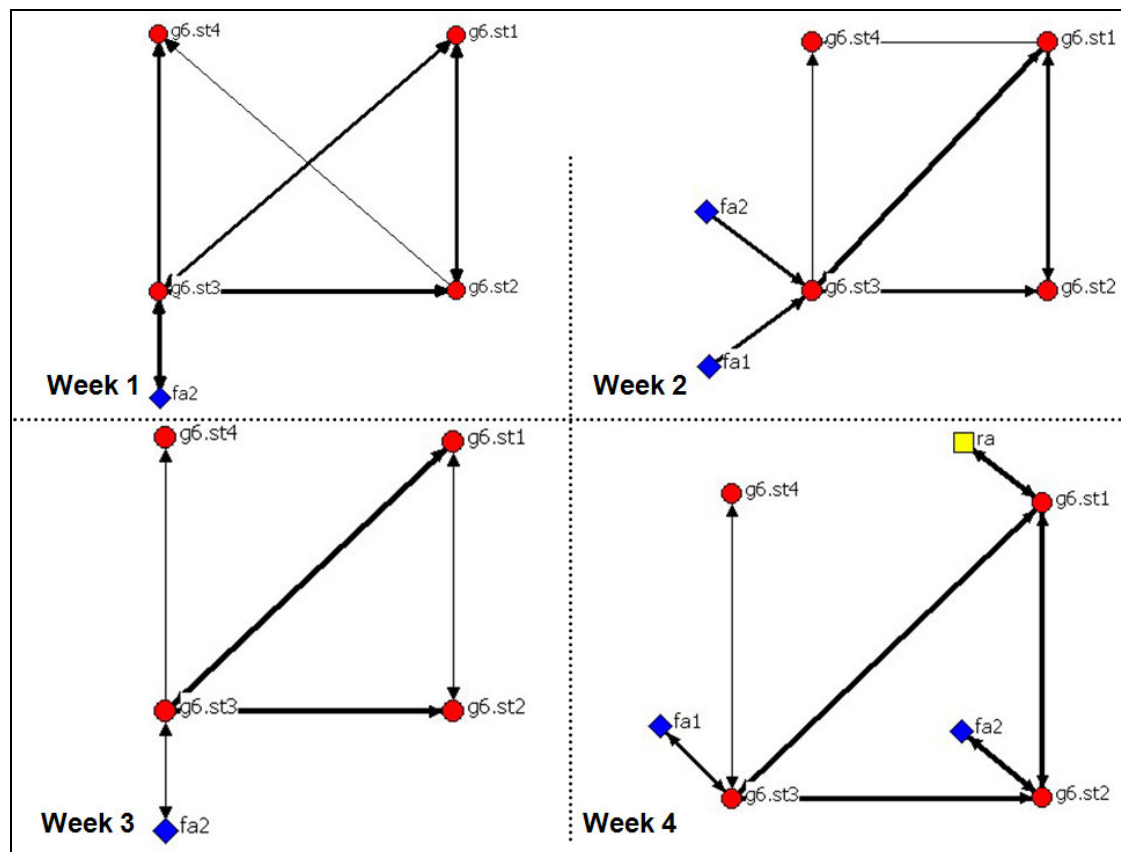


Figure 6: Sociograms of Group6

5.1.3. Content Analysis of Blogs and Emails

For content analysis, we have adapted the framework and analytical model proposed by France Henri (1992), which could provide a useful conceptual lens for understanding different dimensions of the learning process in an online collaborative environment in which the students participated. Specifically, we **modified Henri's model** 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 design of the questionnaire) (Appendix G). We applied it to analyse the contents extracted from blogs and emails to identify the communication and learning patterns of the target groups.

Each student group was required to **set up a "group blog"** that serves as a kind of online forum. However, Group2 seemed not interested in such communication instrument. During the whole trial period, there were only 5 entries in this group's blog. Thus, data from Group2's blog did not really have a significant impact on the content analysis process.

However, for Group6, the blog activities were much higher. There were 45 blog entries, which were further broken into units of analysis: 25% of these blog-units were related to coordination (e.g. negotiating on a meeting day), 17% were task-oriented, 14% were social and the rest were technical.

Figure 7 and Figure 8 illustrate the **blog usage of all the student groups** in terms of the total number of entries in the group blog, the number of days using the group blog, and the distribution of the entries in the four categories (i.e. coordination, task, social and technical).

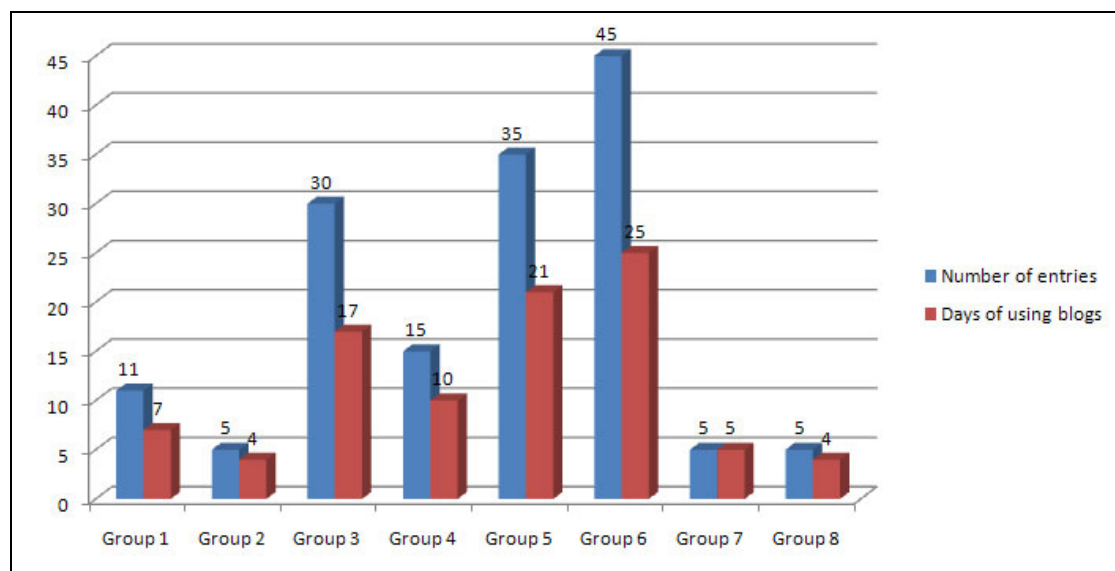


Figure 7: Numbers of entries in the group-blogs and numbers of days using the group-blogs

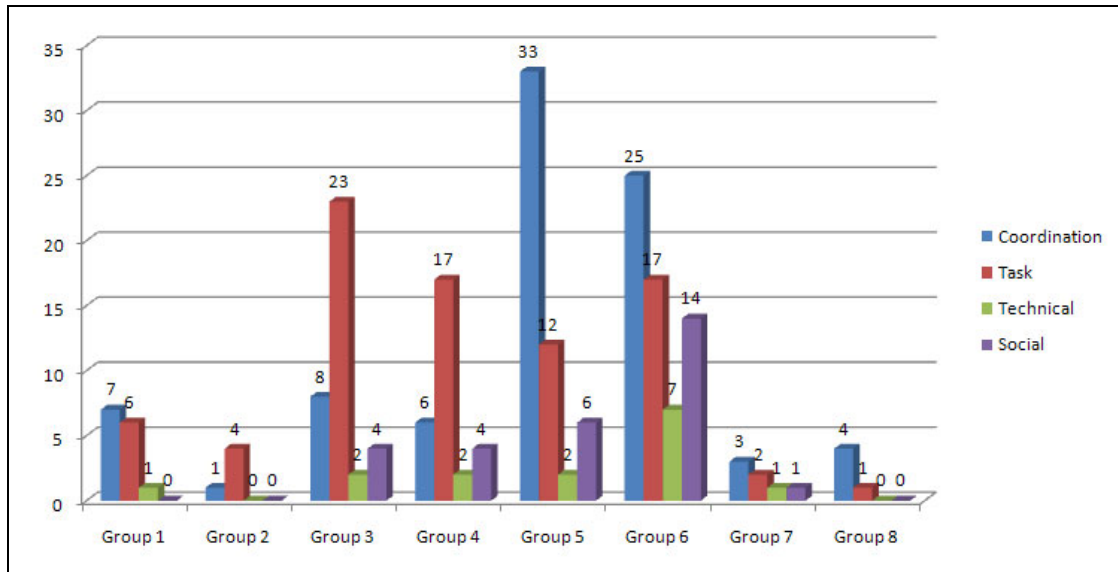


Figure 8: Distribution of blog units into four categories

Group2 used **emails** as the main communication instrument. These emails were segmented into “units of meaning” (or thematic units) with each of them representing a single idea (Henri, 1992). Each unit was assigned sequentially and chronologically a unique identifier (i.e. #1 for the oldest message) and was coded according to the aforementioned coding scheme.

Figure 9 displays the percentage of the emails with respect to the categories of “participatory activity”.

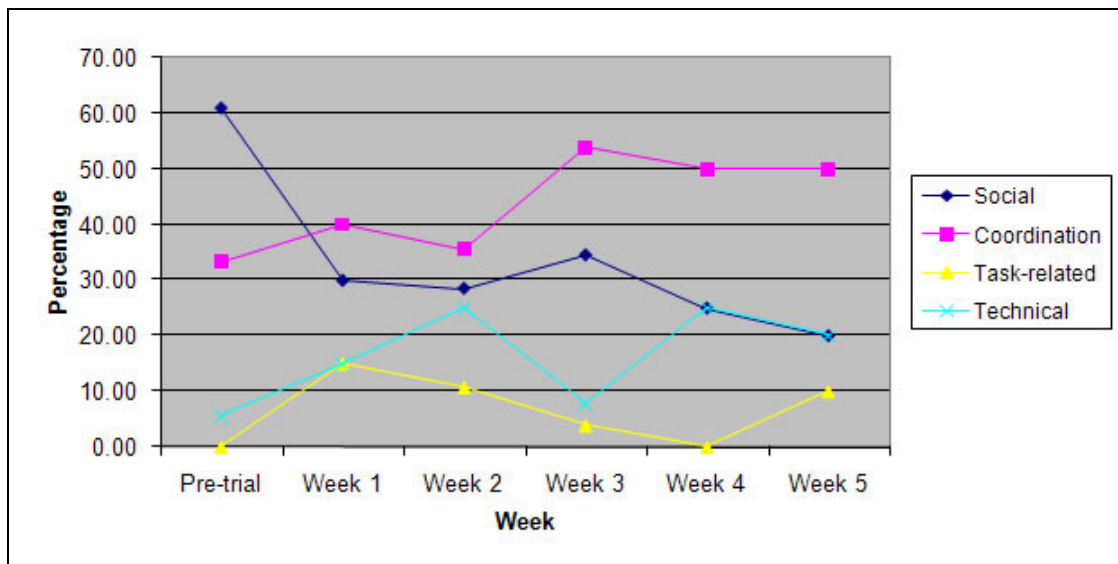


Figure 9: Distribution of Group2 emails in the four categories

The categories of the emails could partially reflect the working pattern of the group. For instance, in the pre-trial phase, the percentage of social messages was very high because during this phase, the students were socializing to form groups.

In week1, they began to talk about their assigned task, thus the number of task-related messages increased. Generally speaking, the low percentage of task-related messages was attributed to the fact that the group did not rely on emails to discuss or resolve their task. Asynchronous tools were used by Group2 as a means for social chat and for organising synchronous meetings in which they collaboratively constructed their questionnaire. Similarly, in Group6, the percentage of task-related email messages was also very low (5%) while the average percentage of coordination message was very high (56%).

Figure 10 shows the connectivity between units of meaning extracted from the emails exchanged by Group2 in the trial. In week1 the units were either independent statements (i.e. disjoint nodes) or loosely linked (e.g. two nodes in a chain).

However, in week2 and week3 a very high number of connected messages could be observed, especially a very long chain of units in week2, which were actually related to how Group2 arranged their first real-time meeting using Microsoft MSN and shared some task-related ideas. In contrast, the number of connected messages exchanged by Group6 was quite low. Most of the messages were independent statements.

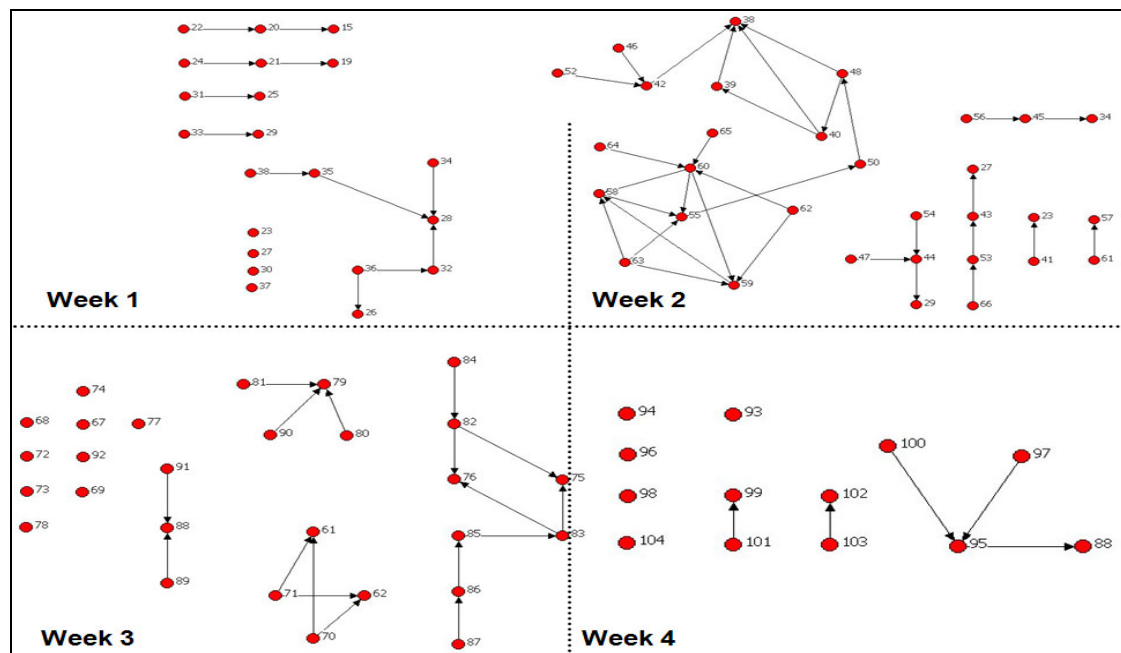


Figure 10: Social structure of Group2 message units

5.1.4. *Instant Chat*

Group2 used MSN chat as the main medium for the collaborative construction of the questionnaire. Analyzing the chat log can somehow reveal the quality of interaction, which manifests along the social, cognitive and affective dimension (Table 1).

Cognitively, different phases of problem-solving could be identified, including brainstorming, drawing consensus, clarifying ideas, and compiling contributions. The log excerpt below illustrates how they brainstormed about the number of questions in the questionnaire (NB: The original text from the chat log is shown; grammatical errors, if any, are not corrected. Students' codes are used to retain their anonymity.)

g2.st5 says: there has to be at least 20

g2.st3 says: 20 questions?

g2.st5 says: so 20 would be good

g2.st1 says: so I think 20 questions are not enough

g2.st1 says: at least 35 or may be 40 questions

During the discussion the students often referred to the authoritative source to enhance the persuasiveness of their argument, for instance:

g2.st5 says: my teacher said this - what have your teachers said?

If they could not reach a consensus, they tended to postpone the final decision so each group member could have more time to revise the ideas proposed by the other members. It can also be seen as a strategy to use the online time effectively. Note that the students tended to show mutual respect, be polite and friendly.

g2.st5 says: I have an idea -everyone makes up questions for those three parts - on their own - we post them on the blog by a certain time (2-3-4 days?) and then we meet to discuss it. What do you think?

g2.st1 says: dear friends I think we can not determine something in this way, because there are some nearly same but not exactly opinions and suggestions, so can we do this on your own and then mail to everyone, about how it was agree or disagree and we can combine 4 questionnaires together and make a new one

While the group preferred the "traditional way of communication", a group member attempted to change the decision by referring to an authoritative source:

g2.st1 says: we all prepare our questionnaire according to our decision

g2.st1 says: then mail to everyone as soon as possible

g2.st5 says: yes, but dont' send it via e-mail - lets use blog- because we are a focus [target] group - they wanted us to use blog

This also means that Group2 tended to use blogs grudgingly. The compilation process was carried out based on what had been mailed to the whole group. All the group members attended a MSN chat session where they selected two questionnaires and merged them together. They examined one question at a time, tried to eliminate the duplicated question, and elaborated the better one. Such a process continued till they scanned all members' questionnaires and reached the final product.

This synchronous communication instrument was also used for social chat. Although the goal of their meeting was to discuss the task, the conversations were occasionally distracted because some members addressed **irrelevant topics**, e.g.:

g2.st1 says: I just think on the dentist's chair, I will die now...

g2.st3 says: my dentist is very nice woman... and I dont affraid...

g2.st1 says: g2.st3 I am jealous of you

g2.st4 says: oh it changes the situation

g2.st1 says: I am so fearful

Besides, we could tell how they were **satisfied with their work**

g2.st2 says: so we are a perfect group...

g2.st5 says: We're doing quite good, too, I think ...

g2.st4 says: We are the best , but not perfest

g2.st4 says: You have done also a masterpiece

In terms of conversation analysis, Group2 applied the **exploratory inquiry** method (Stahl, 2005); the turns were more or less equally shared among the members when the group collectively investigated the problem and constructed the group artefact. In Group2's chat sessions, normally one student proposed a move, and the other students agreed, made the move or challenged it.

Analysis of multi-source data captured by different instruments enabled us to know the problem-solving strategies employed by Group2. This group did not use Flashmeeting because some of them lacked a webcam or microphone, some of them did not get the right instruction, and some were shy of speaking English.

Hence, they resorted to text-based **“traditional” communication instruments** – emails and MSN chats. They only used blog and Google Docs & Spreadsheets

because they intended to comply with the given instruction but they did not see the benefit of using these tools. In fact, **Group2** adopted a mixed approach of **cooperation and collaboration**. After the group had agreed on the skeleton of the questionnaire, each member then created his or her own version offline and then merged all the versions through online discussions.

5.1.5. *Flashmeeting*

Synchronous communications in **Group6** were mediated through Flashmeeting (FM; <http://flashmeeting.open.ac.uk/>), a lightweight videoconference tool. Three FMs were arranged on Wednesdays in week3, week4 and week5 of the trial.

The last FM failed with only one member showing up; it was attributed to the misunderstanding about the time zone difference. In the other two FMs, three of the four members attended and the average duration was 1 hour 25 minutes. The recordings of the two FMs were transcribed and analysed. The following discussion addressed the second FM (week4), which was more interesting when the group had already made some progress in their task and the members had known each other for some time.

In contrast with their communications in blogs and emails, which were primarily for coordination and social purposes, those in **FM** were **highly task-oriented** with less than 5% of the time on non-task related issues such as occasional connectivity breakdowns. The verbal protocols exhibited both **exploratory inquiry** and **expository narrative** (Stahl, 2005).

The cooperation strategy adopted by Group6 was “**divide-and-conquer**”, with each member being responsible to draft one or two sections of the questionnaire. The group then gathered to address the strengths and weaknesses of individual sections. A member was involved in expository narrative when she was elaborating on the section she had created:

g6.st3: So in this section, I want to see what the students have an attitude for social learning and e-learning. If they differ, they can think that e-learning is much better than social learning or social learning is better than e-learning, but in fact they choose e-learning. So I created here 10 questions. What I created is Likert scale. So I make these sentences and these categories: strongly agreed, agreed, undecided, disagreed, strongly disagree. I don't know. Maybe these questions are too much we can move something out and leave them out. The first segment, in fact, is in fact e-learning is more interesting than social learning. The second question is that social learning requires less involvement than e-learning. The third one is: e-learning is mainly an interesting experience in my life. Social learning gives more reliable knowledge. E-learning gives me more prospect. E-learning gives me sense of independence. If I have a chance, I will change from e-learning to social learning. There is no difference between social learning and e-learning. I feel pride if I study by the web. E-learning has disappointed me. Social learning is more practical than e-learning. I don't know. I think that these are good indicators of students' attitudes for e-learning. I also wonder if we can use this part as open questions. But I don't know. What do you think about open questions? It can give more freedom to students to say something about the topic.

When the other members responded with comments and suggestions, they were then engaged in exploratory inquiry. The following excerpt illustrates how the group addressed the issue of close-end versus open-end question.

g6.st3: Okay, so you say that open-ended answers give more freedom. So we have to wonder if open questions in this part are better or not. Or leave these questions I have created and add some open questions? Or choose the best questions that I have created and then add some new open questions? So that's all what I think.

g6.st2: In my mind, they are very good now. I don't think that we can create any open question.

g6.st1: I am not sure whether you could understand me or not. I said open questions are equivalent to close questions. However, I wonder analyzing the results, open-ended questions need more judge. Close-ended questions are easy to analyse. Actually, we should use close-end questions as much as we can. Is it okay or do you still have problem to understand me?

*g6.st1, g6.st2 and g6.st3 were cognitively engaged in discussing the questions. Socially they tended to be **cautious** and **avoided imposing their views** on the others. For instance, oftentimes after **expressing her view** g6.st3 added the remark: "... That's my opinion... I don't know. . What do you think?"*

Besides, they demonstrated **three negotiation strategies** to get their ideas accepted, namely,

- citing the **authoritative** (e.g. "My facilitator said ..."),
- **repeating the opinion** (e.g. "As I said before ...") and
- **inviting an ally** (e.g. "I think we should take out g6.st2's question #7. g6.st1, what do you think?").

Affectively, there were instances of **frustration expressed** by *g6.st2* when her proposed questions were criticized. She thus withdrew from the discussion till she was explicitly invited by *g6.st1*, who was sensitive to *g6.st2*'s silence, to partake the discussion again. It was interesting to observe how the role distribution.

g6.st1 naturally assumed the role of **moderator to ensure the continuity** of discussion by asking questions like "*Do you have anything to say, g6.st2?*" or "*Can we move to the next section?*"

In summary, the quality of interaction of Group6 with the synchronous communication medium was much higher than the asynchronous media. Their interactions were highly task-oriented, leading to some progress of the task. They showed mutual respect and were quite sensitive to each other's feelings.

5.1.6. *Online Student Interviews*

Semi-structured online interviews (Flashmeeting) with two students from Group2 and three students from Group6 were conducted in the post-trial reflection phase (end-Dec 2006). The average duration of the interview was 39.5 minutes. Verbal protocols were transcribed and analysed to assess various impacts of the trial on the students, which are summarized as follows with corresponding excerpts.

Overall positive experience:

- *Befriended people from different countries*

“I am glad that I have found many new friends, also I am happy that they are from different countries, it is more interesting to communicate with them.”

- *Learned to use new tools*

“What I like is that I learn to use some new tools, which we can use in working through the Internet, such as Google Docs, which is really really nice. Now I am using Skype, which is really nice. I like the idea of blogs, all people can write. You know, it’s quite a clever idea.”

- *Acquired specific experiences*

“I got the idea of how difficult to get people from different countries at the same time and found the good time. I also got the experience on how hard it is to make yourself clear to MSN.”

- *Improved English*

“Also during this project I improved my English language, besides learned how to work with some computer, internet programs”

Perceived competencies gain

- *Autonomy and self-directed learning competence*

“I learned what to do on my own, and how to move on in the project and deal with other people working together. In the local situation whenever problems come up we would go to see the teacher. Here in the trial, we have to work out the solution on our own”

- *Technical know-how and increased self-confidence*

“Technically I learn more in this international way. Right now we got cultural experience. I didn’t learn about making questionnaire, of which I’d have learnt more when I was with my group mates here in Estonia. But I got experience that I’d never got in anywhere in Estonia. And I learned about the issues that

whenever in the future I need to do that kind of thing, or develop anything or work in the internet, I have so much knowledge how to do it, how to do it effectively. This I'd not have learnt in Estonia."

Overall negative experience

- *Unmotivated and busy members*

"We had quite a very big problem with communicating. I think that some people are not really convinced if they want to work in this ... Some people were not interested in it, they don't want to create the questionnaire."

"People in my group are very busy, don't have really time to concentrate on this work. ...we should not be angry with someone that, or we should be angry with someone that don't work in appropriate way."

"The meeting schedule ... many times some did not show up as they were occupied by other jobs; they did not take the project so serious

- *Coordination and communication problems*

"It's hard to find the time suited everybody. One of us is working full time."

"The problem was that something had to go to the dentist, having toothache, and then trapped in the traffic..."

- *Technical problems*

"The people are also working and have problem of internet access because they only have internet access at their work. I think it is stupid!"

"I can't see the real reaction of the group mates. Sometimes it's difficult to work with the Internet without direct contact."

"We communicated by MSN Windows messengers because my group mates had problems with microphone and webcam. They don't have it."

General findings about tool uses

The interviewees' comments showed that the tools provided were perceived to be useful and usable; these users were basically satisfied with the tools and showed strong intention to use them in the future. Specifically, the synchronous communication tool, Flashmeeting, was preferred by all the five interviewees. They also found Google Docs & Spreadsheet useful with the feature of version controlling and it was comfortable to operate. However, the interviewees were ambivalent towards blogs, emails and MSN chat, which could be illustrated by two interviewees' responses to the question which tools they intended to use for future online collaborative learning:

“I’d love to use Flashmeeting. ... Chats on MSN, making changes on Google Docs ... We could all see how it was developing and evolving the questionnaire... Next time when I’d do this, I’d leave out emails – confusing, so many of them, they can get lost easily. I’d use blogs then all of them in one place. Next time I’d not use chatting like MSN, not the conversation ... for me the conversation made it harder because when five people tried to type something at the same time. They got lost in between the messages. That’s the first thing. The second thing is that we could not keep a record of what other people were saying. The third thing about MSN ... people talked irrelevant themes... for example, when we were talking question number 7, someone said “oh, number 3, we should change this and that”. We could not go in the same direction all the time; it could slow us down. Use Flashmeeting next time”

“Using videoconference during the project. I personally think that it’d be the same structure. When you contact your group mates with text or graphic layout, text communicator is used. For discussing important issues, it is good to see reaction of your partners towards what you’re telling about. It’s good to use videoconferencing tools. Sending text material and finding time for meeting, text communicators and emails are sufficient. I even did not know that Flashmeeting was so easy. Email is one of the basic forms for contact, send it via email. When somebody has time and will, he can check and respond to you. It is the best to contact and make appointment or send materials. MSN is the main communication tool. In the beginning we wanted to make a group; writing via Skype; talking is a problem, form a group with *g2.st3* – she’s usually at work. She couldn’t talk directly. Friends from Turkey proposed to use MSN messenger. There was problem with webcam in a few cases. MSN messenger was used to send information and find the proper time.”

Task-expertise match

The level of difficulty of the given task – developing a questionnaire – was perceived to be appropriate. It was regarded as meaningful and useful and had individual as well as social aspects, i.e., one can partially solve the task on one’s own but the completion of the task entails others’ contributions. However, due to the students’ heterogeneous backgrounds, the integration was found to be hard:

“It’s good. A couple of people in the group had IT background. ... But they had no previous knowledge about making questionnaire at all. They always did not understand why I changed this or that. I have psychological background and learnt how to do it. I’m much more strict in my head, but, of course, I tried to get to the point that we could all agree. I took my expectation down; because we knew that we could not have a perfect questionnaire. It’d be easier if everybody has some knowledge about it.”

Facilitation and non-intervention approach

While the students were highly satisfied with their local facilitators, whom they met face-to-face on a regular basis, they were somewhat frustrated by their remote facilitators (or group supervisors).

“The group facilitator ... was not so connected to our group or work. Probably I had one or two emails from her. She did not ask about the change during our work or asked about our problem. We should do it by ourselves. She probably did not want to interrupt our group work. The rest of the group would ask facilitators from their own countries.”

In fact, the students' attitudes towards non-intervention (or self-directed learning) approach were ambivalent, as illustrated by the following excerpt:

“If we have much more precise instructions, we can work better and we have much more motivation to do this. On the other hand, the freedom is also important, if we are adult people we should choose what we want to work about. We should have freedom. I don't know ... more instruction it can be good because we know what to do next. It simply helps us be prepared for the future.”

In summary, what the **students benefited** most from participating in the trial was the advancement in three critical competencies:

- their knowledge and skills in deploying the ICT tools, which were generally found to be useful as well as usable,
- their unprecedented experiences of interacting with international heterogeneous counterparts, and
- their self-directedness.

Their **frustration** was mainly caused by collaborating with **unmotivated partners**, which, nonetheless, was an integral part of their learning experience about teamwork. Language was seen as a barrier, which could somehow be circumvented, and thus was not a serious hindrance. No other cross-cultural factor was perceived or observed to have any visible impact on the students' interaction or performance.

5.2. Facilitator Data

5.2.1. Survey

Three out of four facilitators completed the proposed survey. They self-assessed their English levels as high (i.e. fluent communication but making mistakes occasionally). All facilitators agreed on the importance of encouraging students to exchange their ideas during lessons. They all 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.

Concerning tool use, two of them have used the **communication tools**, including chat, forum, or audio/video conferencing sometimes, and the other one has used such tools frequently. One facilitator had never used blog, the other two have used blog sometimes; but neither of them had used WordPress before participating in the iCamp Trial-1. Only one facilitator has used Flashmeeting sometimes. Others had

never used it. One facilitator had never used any Learning Management System (LMS), and the other two have used LMS frequently. The LMS they used were Moodle and IVA. All facilitators thought that Internet was useful to explore another culture. However, one facilitator suggested meeting in the “real world” would be better.

All facilitators have had **experiences in teaching courses** in which students working in groups (two facilitators frequently have had such courses and the other one only sometimes). The average number of students participating in such courses was quite high. Neither of the facilitators had ever collaborated with other tutors or students from other countries using online communication tools while working on a task in a particular course/class project.

Concerning their **motivation**, two facilitators believed that the iCamp Trial-1 provided a good opportunity for acquiring some new experience in cross-cultural collaboration, especially for students. Interestingly, one facilitator, like some of the students, aimed to learn to use new tools through Trial-1.

5.2.2. Content Analysis of Facilitatorspace

Nextspace is a kind of online forum where iCamp researchers discuss and share ideas about the project. Since early 2006, a logical space in Nextspace, namely *Facilitatorspace*, has been created. The content of the **Facilitatorspace** (i.e. all messages posted from 17 August 2006 to 28 December 2006) has been extracted and analysed. During this period, 15 *users*, including the facilitators, local site coordinators, and the project team, have posted messages to the space, equivalent to 21729 words.

Figures 11(a), 11(b) and 11(c) illustrate the activities among the participants from August to December 2006. In these **sociograms**, nodes represent participants and lines represent interactions between any two users. The size of lines represents the weight, or frequency of these interactions.

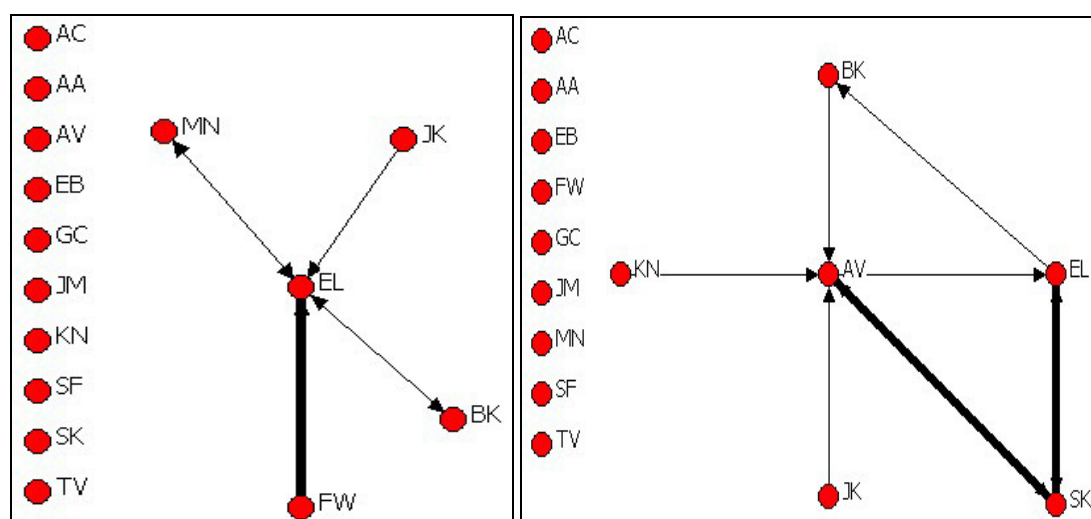


Figure 11a: Interactions among the Facilitatorspace's users in August and September 2006

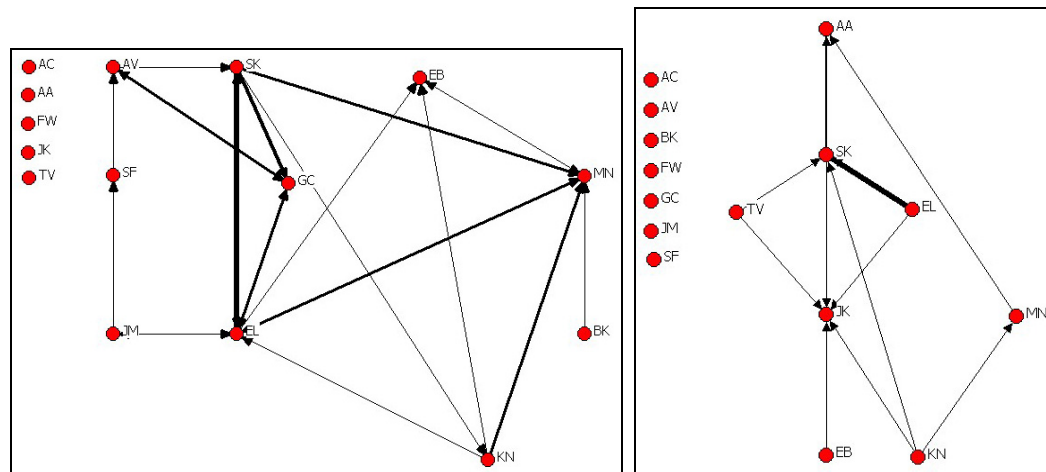
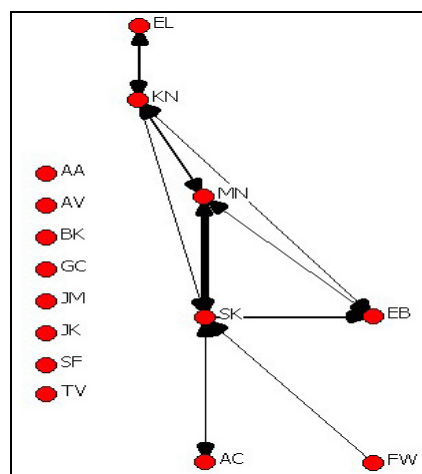


Figure 11b: Interactions among the Facilitatorspace's users in October and November 2006



Legend:

Facilitator: MN, SK, EB, KN

Local site coordinator: JK, GC, TV

Project coordinator: BK

Trial coordinator: EL, AV

Researchers: SF, FW, AA, AC, JM

Figure 11c: Interactions among the Facilitatorspace's users in December 2006

In August, the **interactions** among the users seemed to be **diverse**. Many of them posted their messages into the Facilitatorspace but very few replied to these postings. There weren't many activities during this month, primarily because of the summer holiday.

In September, many interactions were constructed around the trial coordinators, AV and EL, who posted a draft for the first student survey to ask for comments from the other users. In October, the users interacted with one another quite often as they were preparing for the warm-up social meeting (Figure 1) as well as other organisational, social, technical and pedagogical activities related to Trial-1. Such discussions continued in November. However, in November, the discussions were more focused on the particular situations at the local sites. The number of interactions among the *facilitators* (SK, MN, KN, and EB) was very high in December as during this month the facilitators were discussing and defining the assessment scheme.

The messages posted on the Facilitatorspace were classified according to the Henri scheme (1992). The distribution of all the messages along the dimension “Participatory Activities” (i.e. four types: social, coordination, task-related, and technical) is illustrated in Figure 11. The coding was performed by AV and EL independently. The inter-rater reliability was satisfactory ($\kappa = 0.703$). Interestingly, the majority of the messages was task-related, ranging from about 60% in October to above 80% in September.

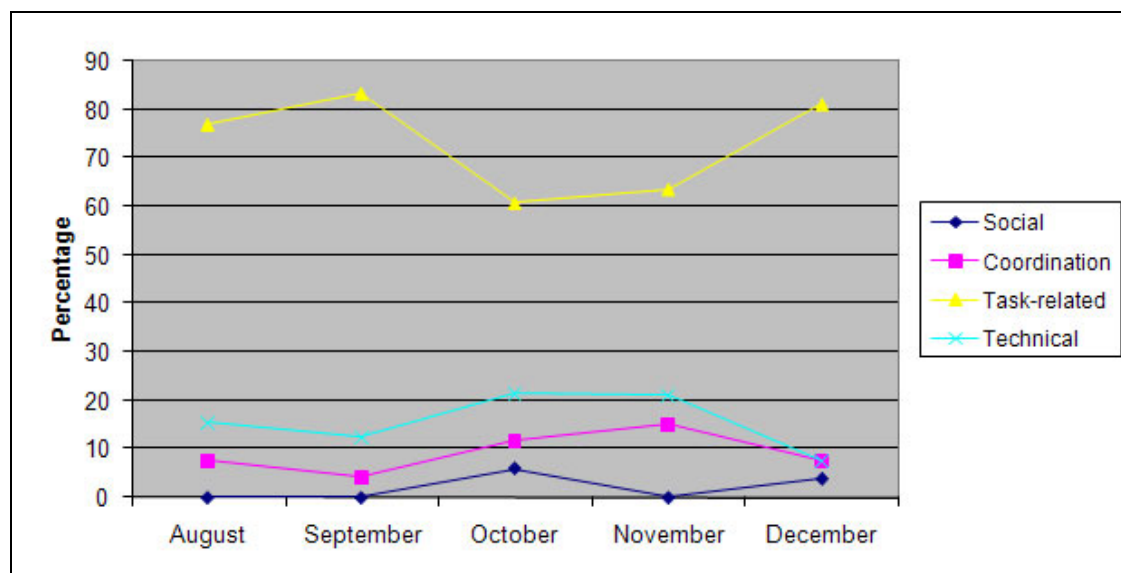


Figure 11: Distribution of all the Facilitatorspace messages along the dimension “Participatory Activities”

5.2.3. Facilitators’ Reflections

There were two channels through which the facilitators shared their reflections on the trial. First, one of the facilitators initiated the attempt to write up together with the other three a scientific publication that focussed on analyzing the trial from the facilitators’ perspectives. Second, the iCamp research team organized a focus group session with the facilitators (15th Feb 2007) to invite their comments on the first trial and propose improvement suggestions for the subsequent trials. Summing up, the facilitators addressed three major issues, which were interestingly consistent with the views expressed by the student interviewees.

Trial Planning

The trial was challenging both for the facilitators as well as for students. While the overall issues and plan of the learning task was set by the project team, the detailed plan of the trial had to be agreed between the facilitators. As none of the facilitators had any previous experience in organizing student collaborative learning over the internet, the process of planning the experiment was running in parallel with the trial. On the one hand, it was obviously inevitable due to the circumstances; on the other hand the recommendation for the next trials and for the actual practice for online collaborative tasks would be to fix the “rules” for all the process earlier, preferably before the students get involved, especially the student assessment which was seen as a weakness of Trial-1. The assessment issue had been discussed in some point but had not been followed-up during the course of the trial. Towards the end of the trial period, this issue re-surfaced and it took quite some time for the facilitators and

the research team to reach a consensus on defining a scheme for assessing the student performance. In the focus group, one facilitator remarked that:

“For my side, I did not see any big problem with the planning. I could manage quite well how it fitted the course and I knew the purpose of the trial. The only problem was the evaluation part. It was a surprise, the students were quite upset. I was not informed that this would be an additional part. The students knew right from the start that they had to communicate and create a questionnaire in a virtual environment within a restricted period of time. But the evaluation part ... there was no mention before. It came out in the end when the students thought the trial was over.”

In fact, the comment of this facilitator was corroborated with a student interviewee's remark:

“When we finished the questionnaire, we got a very interesting letter ... official ... I don't know the word ... hmm ... requirements for the questionnaire. We had no clue! I still don't know what they were. I don't know who should have told us about them. If there were requirements which we didn't know, yes, we need more help from our facilitators.”

Student heterogeneity and motivation

The determining factors for the students coming from different sites to collaborate successfully over the internet were their motivation and willingness to participate and their background knowledge relevant for the task. Different strategies for student recruitment were employed: At two sites the trial was compulsory as part of the running course that the students were taking; at one site voluntary students for the trial were looked for (they got credits for participating) and at one site the students of two different courses were given an opportunity to choose this task as one of three required independent assignments for the course. However, for this first trial it turned impossible to ensure that the students would have had comparable academic background – there were students from very different subjects and from bachelor up to doctoral programs. Even though the facilitators agreed that all the students would get an introduction to the questionnaire development issues before the trial, the students' preparation for this kind of task was very uneven, as well as their ability to communicate in English and to use electronic communication tools. All this made the collaboration rather ineffective for many groups. Therefore it is suggested that for ensuring effective online collaborative learning students should have more common background and reasonably high level of language and computer skills to foster the motivation of the group to communicate and collaborate.

“In fact, why some of my other students did not choose to take part because they realized in the beginning that the amount they could learn about new things in research methods would be very tiny as compared with the time taken for being involved. Their main motivation of my students was to learn about the technical tools; none of my students thought they would learn substantial knowledge about questionnaire development. We had something before in the lecture as we agreed on the curricular plan. The main motivation in my case was the tools. Later, the more active students whom I chatted with said that the value for them was to know the new tools that they did not use before. ... Some of the people seem to assume that the

students will use these tools. But it's not true. They used Skype but the other tools were new for myself and the students.”

Besides, one of the other facilitators addressed the issue on advancing students' competencies through the trial:

“First, it was the knowledge of the tool. Second, the students gained the knowledge that it was very hard to work in a group who came from different countries. It was very hard to reach a reasonable agreement (laugh)... But it was a very valuable experience for them. The opportunities to work in group ... They didn't work in groups in Poland ... they worked individually. So, it was really very good experiences for them.”

As shown in one of the student interviewees' comments, the trial setting seems not an effective means to promote domain-specific knowledge. However, the students could gain some special experiences that are deemed important for their future work.

Pedagogical strategies on self-directed learning

As described earlier, self-directed learning (SDL) is one of three pedagogical challenges being addressed in the iCamp project. It emphasizes the role of the students in guiding and organizing their own ways of learning, while the role of the institution and the teacher is to create the environment and framework which would facilitate and support students' efforts to construct their knowledge and skills (i.e. the term 'facilitator' instead of 'teacher' is employed).

These issues were discussed among the facilitators but obviously there were some differences in interpretation of how these principles should be implemented within the trial. For some groups there was rather tight control over the whole learning and collaboration process from the facilitator, while some other groups were left with less pressure from the facilitator and provided mainly with information and memos about the aims of the task, expectations and available tools. In the circumstances where students' preparation and motivation to get involved in this learning exercise was in some cases not very high, it became obvious that the groups with more guidance and pressure from the facilitator communicated more frequently, used more tools and produced more extensive, high quality artefacts as a result of their learning task. Consequently, they were potentially learning more. Even though there may be other factors explaining the better results for these groups (e.g. in these groups there were active students with better background knowledge) the rising hypothesis from here is that under the circumstances where students' inner motivation is not very high and/or some factors limit students' ability to collaborate effectively, the learning process which is strongly directed and controlled by the teacher will be more effective.

Put differently, the precondition for effective self-directed and self-organized learning via social networking, and collaboration in a mediated and networked environment across national borders are students' motivation, common interests and comparable background (including language and computer skills). It can also be suggested that one task for further elaboration is the question how the role of the facilitator has to be seen and implemented so that it would really be in accordance with the principle of the self-directed learning.

6. *Discussions*

As emphatically pointed out in the foregoing discussion, the iCamp Trial-1 was exploratory with the primary aim to understand the activities in the iCamp online collaborative learning setting – how the participants interacted and communicated under certain constraints, where the problems lied and why, how the problems were resolved or hard to deal with, how the participants perceived the activities, etc. The empirical data thus collected, however, did not allow a holistic picture to be drawn. Nevertheless, we aim to reflect on issues along four major dimensions: Theoretical, methodological, technical and organizational.

6.1. *Theoretical*

6.1.1. *Cross-Cultural Collaboration (CCC)*

The question is which role **cultural factors** played in the process and outcomes of the collaborative learning activities in the context of Trial-1.

Language is identified as the most perceptible cultural factor, which influences all the three aspects of interaction – social, cognitive and affective (Table 1). None of the students is a native English speaker. The first survey showed that the students' self-assessed English proficiency was medium with 2.7 (out of 5 the highest). The interviews showed that some students of the target groups were not confident about their written English and shy of speaking it. Presumably the students would have been more responsive if the language barrier did not exist. Nonetheless, the collaborative activities proceeded. However, whether the effectiveness and efficiency in terms of the quality of the joint artefact produced and the time required for completing it will be higher in a mono-linguistic OLE remains an empirical question to explore. In fact, the findings of previous research on this specific issue are inconsistent (e.g. Akar et al., 2004; Williams, 1997).

Other cultural differences (e.g. lifestyle) were perceived to be positive factors for making the **group interaction** more interesting than otherwise, but they had no visible impact on the quality of the task per se. The data of the all the eight groups showed that the students could manage their work regardless of the differences in time zone and curricula. Nonetheless, some students were quite disappointed because their expectation of improving their English through participating in this trial could only be met to a limited extent or not at all.

6.1.2. *Self Directed Learning (SDL)*

The question is whether the specific characteristics of the iCamp Trial-1 were conducive to **self-directed learning**. The data of the two target groups showed that the students could manage their work regardless of the difference in time zone and curricula. With minimal interventions from the group facilitator, the students were able to complete the task, which was relatively simple. While the effectiveness of such a SDL approach seemed verified, one may query about the efficiency. As reflected in

the interviews, the students were ambivalent about the **issue “structured vs. freedom”**.

In fact, in the focus group session, some of the facilitators queried whether they should have intervened more in the activities of the groups that they were supervising. One facilitator, who was more active in interacting with her groups, remarked that SDL entails relevant basic knowledge and skills and thus should be preceded by scaffolding. It is hard to strive for the **balance between teacher-led guidance and student-led SDL**.

Presumably, it depends on the readiness of students (i.e. motivation, attitudes, relevant knowledge and experience) and on the mindset of facilitators. Concomitantly, the question about what role a facilitator should play in a cross-cultural collaborative learning setting is addressed. As derived from the data in the Communication Diaries, blogs and student interviews, 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, rather than the remote facilitators who supervised their groups.

Clearly, **two factors** - no language barrier and the desirability of co-presence (synchronous face-to-face) – can explain the students' preference for their local facilitator. This observation leads to the question about the **share of supervising responsibility** among the facilitators – a task that was not well-defined in Trial-1. It also touches upon the issue about the effectiveness of remote tutoring, though it is not the focus of this Trial-1 or the subsequent ones, given the emphasis on advancing SDL competence.

6.1.3. Social Networking (SNW)

The question is what kinds of **communication patterns** among the participants emerged under specific constraints of Trial-1. The SNA of the data from the Communication Diary, blogs and emails indicate that the communication patterns were largely determined by the collaborative phase, be it group formation, theme identification or question selection. It is intriguing to know how the group communication patterns would evolve if the constraints of the trial varied with, for instance, a longer duration, a more complex task and more teacher-led guidance.

Obviously, these factors influence the quality of interaction, which manifests in terms of cognitive, social and affective aspects (Table 1), varied with the tool. While blogs and emails supported **social and affective communication**, Flashmeeting and MSN chat enabled **cognitive engagement**.

Besides, the adoption of the non-interference approach could partially explain the low involvement of the facilitators in the student group activities, as shown in the sociograms of the two target groups. However, it is speculated that some of the other groups with the more active facilitator would portray a different picture.

Further, it is interesting to know whether the **social relationships established** in such a short trial period can be **sustained afterwards**. In fact, all of the student interviewees were quite optimistic that they would sustain the contact with the group mates. Data in this regard can be collected several months after the trial was over by

asking these students to fill out a short questionnaire to indicate their social networking with their group mates.

6.2. Methodological

6.2.1. Inter-rater agreement

Triangulation of the multi-source and multi-perspective data proved to be indispensable. A distorted picture would be obtained if the data from a single source were interpreted. For instance, an erroneous conclusion that the students were cognitively inert could be drawn if only the results of content analysis on their emails were considered.

Nevertheless, it is very challenging to jig-saw a complete picture, especially when some data are inaccessible. Apart from the technical constraints, personal factors hindered data capture, e.g., some facilitators tended to minimize any extraneous interference engendered by the data collection procedure. Indeed, the two target groups did somewhat **change their behaviour** when they were aware of being observed, e.g. Group2 grudgingly posed messages to their group-blog. Such an **'observer effect'** is inevitable.

Beside data collection, analysis of qualitative data is deemed challenging. We modified and applied Henri's (1992) coding scheme to the emails of both target groups. For Group6, the inter-rater agreement was found to be fair for the category "Participatory Activity" ($kappa = 0.69$) and low for "Interactivity" ($kappa = 0.36$).

Specifically, the segmentation was inconsistent, which is not uncommon (Strijbos et al., 2006), and the interpretations about the links between message-units differed. Negotiations between the two coders led to higher consistency. Consequently, the average $kappa$ over the two target groups was 0.74 for "**Participatory Activity**" and 0.66 for "**Interactivity**".

Similar exercises were carried out for categorizing the messages in Facilitatorspace (Section 5.2.2), the inter-rater reliability in terms of kappa statistic was 0.703 for "Participatory Activity" and 0.779 for "Interactivity".

6.2.2. Validity of task performance

As explained earlier, the group questionnaire was expert- as well as peer-reviewed and the activities of each student were assessed by their team mates, resulting in a final grade. It was intriguing to know whether this indicator of task performance correlated with the students' demographic variables.

Surprisingly, no **correlation** could be found between the students' levels of English proficiency and their final grades ($r=0.025$, $p=0.897$), or between ICT experience and grades ($r=0.33$, $p=0.1111$), or between motivations and grades ($r=0.007$, $p=0.969$).

There were **not any significant difference** in grades between students majored in software engineering and those majored in other subjects ($t=-0.346$, $df=25$, $p=0.731$),

or between undergraduate and postgraduate students ($t=-0.438$, $df=11$, $p=0.669$), or between students who have had some group work experience and those who haven't ($t=0.492$, $df=11$, $p=0.632$), or between students who have had some online course experience and those who haven't ($t=1.149$, $df=5$, $p=0.302$).

These observations may be attributed to several reasons:

First, the students were unprepared for it; peer review entails relevant background knowledge and proper training.

Second, some students were reluctant to assess their team-mates and tended to grade leniently.

Third, the facilitators might not know their remote students well enough to grade accurately.

These undesirable factors tend to undermine the validity of the final grade as an indicator for the students' actual task performance.

6.3. Technical

6.3.1. Automatic data capturing

The Communication Diary could basically capture the students' communication data, but it relied heavily on their memory and motivation and thus might be prone to data fabrication and user attrition.

Mashups combining some appropriate Web applications in a single user interface and automatic logging the usage of these applications is a plausible solution that may not only increase the validity of the communication data but also enable the students to deploy the applications by eliminating the tedium to switch between tools. In fact, shifting among **different communication tools** might aggravate the students' confusion. Seamless tool interoperability remains to be a critical iCamp challenge.

6.3.2. Usability and training of tool use

Apart from the access issue, the usability of the tools selected should be evaluated as well. In Trial-1 some students reported retrospectively and subjectively their perceived (dis)satisfaction with the selected tools, but no diagnostic information about usability problems of the tools based on observations of real-time usage was collected. Nonetheless, as it is not the goal of iCamp to improve the tools per se, more important is to select the right tool for the right task, so-called "**fit for purpose**" or "**context-tool match**".

The information about tool selection is deemed essential for the students as well as facilitators. Besides, more systematic training of tool uses prior to the start of the trial is required. Explicit guidelines on such training can maximize the uniformity across

the trial sites, thereby enabling the students to communicate more effectively with requisite skills and confidence.

6.4. Organisational

6.4.1. Selection of students

One of the common motivations of the students to participate in the trial was to improve their English, as shown in the first online survey. However, the responses in the second survey showed that the students were disappointed as nobody among their peers is a native English speaker, and the English competence of most of them is rather limited. Apart from the language barrier, the passivity and non-committed attitudes of some students could either be attributed to technical constraint (i.e. no internet access at home) or their occupation with other duties (i.e. some are part-time students). These findings have a significant implication for the selection of student participants.

A set of selection criteria such as minimal **technical requirements**, fluency in **English, availability**, etc, which were already developed for the first trial, should more strictly be applied in the future trials. Furthermore, a rather uncertain issue is the **group heterogeneity**. In Trial-1 the groups were a mix of different academic levels (under- and post-graduates), disciplines (sociology, computer engineering) and level of English competence; these differences hindered rather than fostered their collaboration. Interestingly, it contradicts with the pedagogical assumption about apprenticeship (Rogoff, 1990); the gaps perhaps were too big to bridge without some sort of support such as scaffolding and modeling provided by the facilitators.

6.4.2. Assessment of students

The **harmonization of core actors'** (including researchers, facilitators and students) needs, expectations and constraints entails very early planning and ongoing negotiations. Particularly sensitive is the issue of student assessment that can strongly affect the students' motivation and interfere with the institution's accreditation policy.

It is deemed necessary to specify and document the **assessment criteria** and procedure from the very beginning of the trial. Such information can then serve as references for the student recruitment, thereby providing potential participants with appropriate expectations about what they are supposed to achieve and to be rewarded accordingly.

In summary, the current first trial can well exemplify the complexity of cross-cultural CSCL. There exist several factors that tend to undermine the overall effectiveness of iCamp learning activities: technical constraints, language barrier, inadequate self-directed learning experience of the students, lack of relevant cross-cultural online collaborative experience of the facilitators, and the (too) openness of the learning setting. It is difficult to strike good balance to address all tradeoffs of every possible option.

7. **Concluding Remark**

As corroborated by the interviews with the students and the facilitators, the iCamp setting enabled the participants to gain unprecedented experiences of online collaboration and to advance critical competencies such as self-directed learning. This is beneficial for their future work, given the ever-increasing importance of cross-cultural technology-enhanced learning. While no prescriptive guidelines can be formulated, several issues are worthy of serious consideration in designing online learning environment:

- **Careful selection** of right student participants to minimize the risk of demotivating the group morale by uncommitted or busy members. This addresses the issue of voluntariness, which is strongly linked to learners' motivation and in turn determines their technology acceptance. Volunteer students and facilitators are desirable.
- **Equal access to the selected tools.** Participants should be fully informed about the availability, strengths and limits of individual tools, enabling them to make informed choice.
- **Systematic training** of tool uses to attain certain threshold;
- **Cautious task selection** for a heterogeneous group to reduce bias for students with particular backgrounds; involving students in task selection to enhance the sense of ownership;
- **Moderately structured setting** with precise instructions, thereby enabling students to prepare themselves better and fostering their motivation;
- **Inter-cultural but intra-disciplinary - this point is controversial.** While mutual stimulation can be promoted in a group with different academic backgrounds, the knowledge gap should not be too large to be bridged lest it would lead to communication breakdowns and frustration.
- **Economical issues** - whether the resources (time, effort) consumed can be justified by the gains acquired (experiences, competencies) for establishing a complex OLE (i.e. cost-effectiveness; Twigg, 2003) remains an empirical question to address in our future work.

8. References

Akar, E., Öztürk, E., Tuncer, B., Wiethoff, M. (2004). Evaluation of a collaborative virtual learning environment. *Education + Training*, 46, 343-352.

Borgatti, S.P., Everette, M.G., & Freeman, L.C. (2002). *Ucinet 6 for Windows: Software for Social Network Analysis*. Harvard: Analytic Technologies.

Bryan, A. (2006). Web 2.0: A new way of innovation for teaching and learning? *EDUCAUSE Review*, March/April, 33-44.

Clark, H.H., & Brennan S.E. (1991). Grounding in communication. In L. Resnick, J. Levine & S. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 127-149). Hyattsville, MD: APA.

Dillenbourg, P., & Schneider, D. (1995). Collaborative learning and the internet [online document]. Available: http://tecfa.unige.ch/tecfa/research/CMC/colla/iccai95_1.html

Dillenbourg, P., Baker, M., Blaye, A. & O'Malley, C. (1996). The evolution of research on collaborative learning. In E. Spada & P. Reiman (Eds) *Learning in humans and machine: Towards an interdisciplinary learning science*. (pp. 189-211). Oxford: Elsevier.

Educational Psychologist (2004). Special issue: Design-based research methods for studying learning in context, Vol. 39. No.4

Frechtling, J., & Sharp, L. (Eds.) (1997). *User-friendly handbook for mixed method evaluation*. Directorate for Education and Human Resources Division of Research, Evaluation and Communication, NSF, USA.

Henri, F. (1992). Computer conference and content analysis. In A. Kaye (Ed.), *Collaborative learning through computer conferencing: The Najaden papers* (pp. 117-136). Springer.

Rogoff, B. (1990). *Apprenticeship in thinking: cognitive development in social context*. New York, NY: Oxford University Press.

Rychen, D.S., & Salganik, L. H. (2003). *Key competencies for a successful life and a well-functioning society*. Göttingen: Hogrefe & Huber.

Scott, J. (1991). *Social network analysis: A handbook*. London: Sage

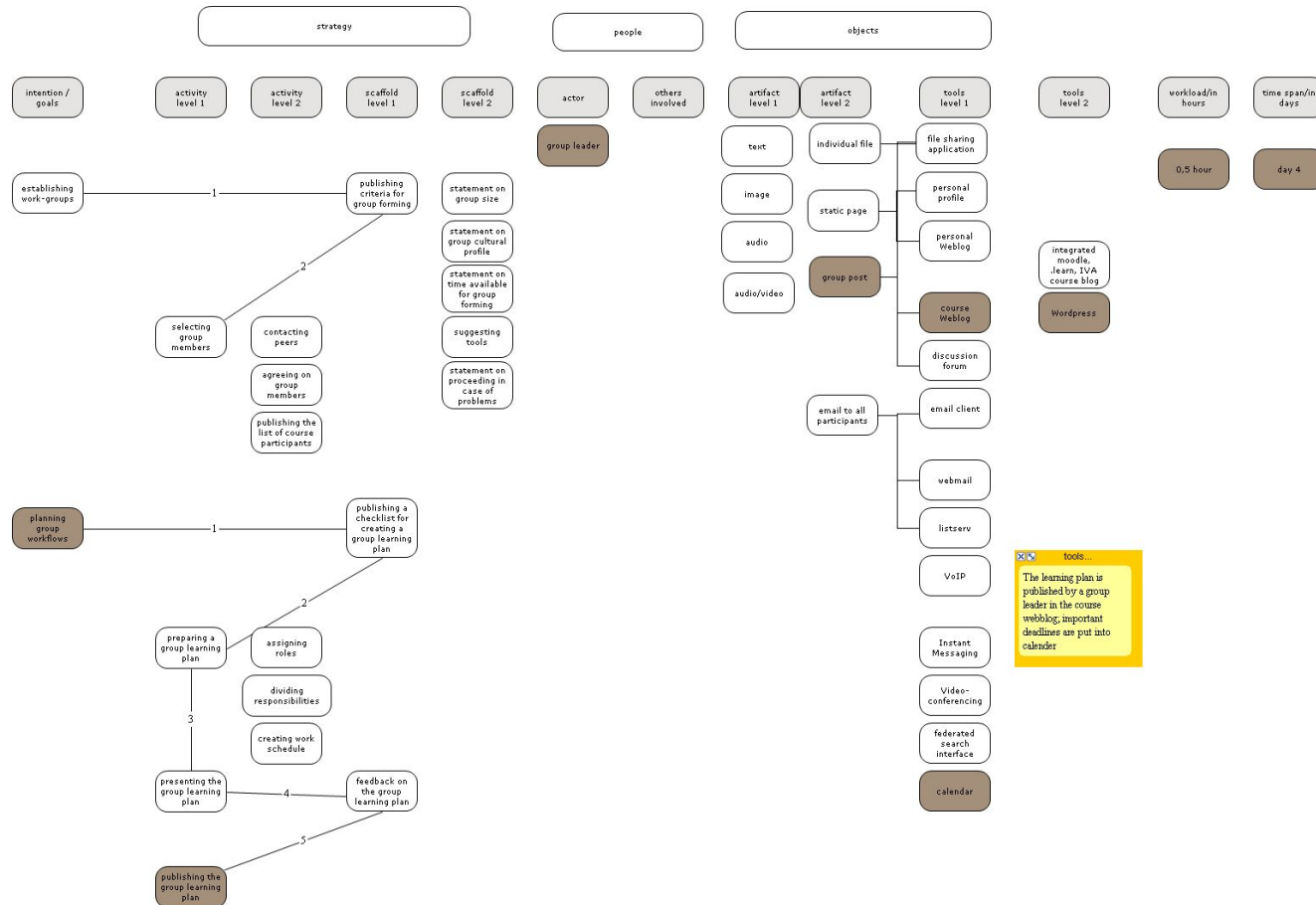
Stahl, G. (2005). Groups, group cognition and groupware. In H. Fuks, S. Lukosch & A.C. Salgado (Eds.). *CRIWG 2005, LNCS 3706* (pp. 1-16). Springer.

Strjbos, J-W., Martens, R.L., Prins, F.J., & Jochems, W.M.G.(2006). Content analysis: What are they talking about? *Computers & Education*, 46, 29-48.

Twigg, C.A. (2003). New models for online learning. *EDUCAUSE Review*, Sept/Oct, 28-38.

Williams, G. (1997). Task conflict and language differences. Opportunities for videoconferencing? In *Proc. 5th ECSCW*, 97-108

A. Appendix: Pedagogical Activities Chart (by WP1)



B. Appendix: Student First Survey

Data collection template – Trial One – Part One

University of Leicester

iCamp project

Students should note that the purpose of this questionnaire is to gather data for research and for better preparing the iCamp learning activities. The data will be processed independently from the assessment of your course tutors/lecturers/professors. You can give your answers freely. However, please provide information as most accurately as possible.

The questionnaire is organised into four different parts: general background, information and communication technologies (ICT) competence, cross-collaboration experience, and expectation, needs, and motivation

(Note that some questions allow free-text, others are multiple-choice)

General background

1. Name
2. Gender
3. University
4. Department
5. What is your major background?
6. Which year?
7. What is the main language used at your university?
8. How would you rate your level of proficiency in spoken and written English

(Please choose *only one* of the following)

- Very low (great difficulty in communicating in English)
- Low (Difficulty in communicating in English)
- Medium (Being able to communicate in English but making mistakes from time to time)
- High (Fluent communication in English but making mistakes occasionally)
- Very high (Very fluent communication in English)
- Other

Information and Communication Technologies (ICT) competence

1. Your familiarity with ICT in general (from 1: very low ->5: very high)

2. Which operating system (OS) do you prefer

(Please choose *all* that apply)

- MS Windows
- Mac OS
- Linux
- Other

3. Do you have Internet connection at home?

• If yes

➤ How often do you connect to the Internet at home?

(Please choose *only one* of the following)

- ✓ Never
- ✓ Once a day
- ✓ Once a week
- ✓ Sometimes a week
- ✓ Several times a day, every day
- ✓ Other

4. Have you ever used any of the communication tools such as chat, forum, audio video conference?

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

5. Why do you use these tools?

(Please choose *all* that apply)

- For your courses
- To communicate with your friends
- Just for fun
- Other

6. Have you ever used blog tools?

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

7. Do you have your own blog?

- If yes
 - With which application do you create your blogs?
 - How often do you post new data on your blogs?
 - ✓ Never
 - ✓ Sometimes
 - ✓ Frequently
 - Have you ever used or posted data on the blogs of your friends or your family?
 - ✓ Never
 - ✓ Sometimes
 - ✓ Frequently
 - Have you ever read information or posted comments on the blogs published on the Internet?
 - ✓ Never
 - ✓ Sometimes
 - ✓ Frequently

8. Have you ever used any shared or online (work)spaces?

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

9. Which shared or online spaces have you used?

10. Have you ever used “wordpress”?

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

11. Have you ever used Flashmeeting

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

12. Have you ever used Learning Management Systems (LMSs)?

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

13. Which Learning Management Systems have you used?

14. Have you ever used any digital library?

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

15. Which digital libraries have you used?

16. Which communication tools do you use most often while communicating with your friends

(Please choose *all* that apply)

- Chat
- Email
- Blog
- IP telephone (e.g. Skype, Yahoo, etc.)
- Other

Cross-collaboration experience

1. Have you ever collaborated with students while working on a task in a particular course/class project?

(Please choose *only one* of the following)

- Never
- Sometimes
- Frequently

2. Have you had any difficulty while collaborating with fellow learners/students/friends? If yes, can you explain why?

3. Have you had any course in which you had to work in groups or teams?

- If yes
 - Which kind of course? In case you have participated in different courses, select the one with the longest duration
 - How many students were there in each group?
 - How many tutors/lecturers/professors responsible for the course?
 - Have you had any difficulty when working in groups or teams?
 - Do you like to work in groups or teams?
 - Were you satisfied with your group-mates/team-mates?
 - ❖ Not at all
 - ❖ Fine
 - ❖ Very much

4. Have you ever enrolled in an online course?
- If yes
 - Which kind of course? In case you have participated in different courses, select the one with the longest duration
 - How many students were there in each group?
 - How many tutors/lecturers/professors responsible for the course?
 - Have you had any difficulty while attending the course?
 - How did you communicate with other students?
 - How did you communicate with tutors/lecturers/professors?
 - Did your tutors/lecturers/professors facilitate your work in an online environment and how did they do that?
 - Were you satisfied with the course?
 - ❖ Not at all
 - ❖ Fine
 - ❖ Very much
5. Please summarize in a few lines of text: How you would introduce yourself to fellow learners/students/friends in your course as well as those in other countries:

Expectation, needs, and motivation

- (i) Are you interested in knowing and collaborating with fellow learners/students/friends from other countries?
- (ii) Do you think it is important to collaborate with fellow learners/students/friends from other countries while learning something or working on a task?
- (iii) Do you think it is easy to collaborate with fellow learners/students/friends from other countries while learning something or working on a task?
- (iv) Do you think it is important to collaborate or exchange ideas with other colleagues/students/friends or tutors/lecturers/professors while learning something or working on a task?
- (v) Do you usually discuss with your colleagues/friends/tutors about some particular issues (concerning not only academic but also daily activities)?
- (vi) Do you think Internet is a good instrument to explore another culture?
- (vii) What do you think about an online course as compared to a traditional one?
- (viii) What do you know about the purpose of the 'iCamp learning activities' as parts of a regular course?
- (ix) Why do you want to participate in the 'iCamp learning activities'? (Multiple answers are possible)

(Please choose *all* that apply)

- A part of a compulsory course
- Bonus grade
- Curiosity
- Make friend
- Learn English
- Just like any other learning activities
- Other

(x) How would you rate your level of motivation for getting involved in 'iCamp learning activities' (1: very low □ 5 very high)? Please explain your choice.

(xi) What do you expect from the iCamp learning activities?

(Please choose *all* that apply)

- Easy to obtain a high grade
- Learn in a flexible way (at anytime and from any location)
- Learn in an easier way
- Improve your self-confidence in studying
- Improve your autonomy in studying
- Improve your English
- Improve your knowledge in using online communication tools
- Improve your ability to organise the activities
- Improve your communication skills
- Have more (international) friends
- Other

(xii) Please summarize in a few lines of text your **Expectations** and **Needs** for taking part in the iCamp learning activities:

Thanks for your collaboration!!!

C. Appendix: Student Second Survey

DATA COLLECTION TEMPLATE – TRIAL ONE – PART TWO

University of Leicester

iCamp project

Students should note that the purpose of this questionnaire is to gather data for research and for better preparing the iCamp learning activities. The data will be processed independently from the assessment of your course tutors/lecturers/professors. You can give your answers freely. However, please provide information as most accurately as possible. Please also note that while the data to be captured by this questionnaire is primarily for our research purpose, the researchers responsible will discuss results of the questionnaire with your tutors/lecturers/professors in order to identify some improvement suggestions for our future work in this area.

This questionnaire consists of two sections: Section 1: a set of **39** close-ended questions on cross-cultural collaboration and technology acceptance; Section 2: a set of **5** open-ended questions on general experience.

Section 1: Cross-cultural Collaboration & Technology Acceptance

Instruction: For each of the following statements, please read carefully and indicate your level of agreement on it by marking an appropriate box on the scale (from 1, which means strongly disagree to 5, which means strongly agree). If you do not know what to answer or if you are not sure, you can select NA. Please note that there is NO right or wrong answer. The rating is entirely based on your personal experience and perception.

RATING					
Strongly Disagree			Strongly Agree		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	2	3	4	5	NA

The first 13 questions ask you to express your opinions on the **synchronous communications** (*direct conversations* with your group-mates via Flashmeeting or other audio/video conferencing tools):

1. There were too many <i>interruptions</i> or <i>pauses</i> during the direct conversations via Flashmeeting or other audio/video conferencing tools with my group-mates
2. These were unnatural conversations
3. I found it difficult to keep track of the direct conversations with my group-mates
4. I actively participated in the conversations
5. My group-mates actively participated in the conversations
6. I was able to <i>understand</i> my group-mates with no difficulty
7. I felt that my group-mates <i>understood</i> me with no difficulty
8. I was able to <i>express</i> myself clearly
9. My group-mates were able to <i>express</i> themselves clearly
10. The conversation seemed very useful for my group-mates and I to know each other
11. The conversations seemed very useful for my group-mates and I to divide our work
12. I found that the direct conversations would be very useful to any kind of collaborative tasks
13. I would attend other direct conversations with my group-mates

The next 13 questions relate to the **tools usage** and technology acceptance experience:

1. The provided tools are <i>easy to use</i>
2. I think I can use the provided tools in an effective way
3. The provided tools have all <i>functionalities</i> I <i>need</i> to design the questionnaire with my group-mates
4. I found it easy to get these tools to do what I <i>wanted</i> to do
5. The provided tools are <i>useful</i> for my current tasks
6. The provided tools are <i>possibly useful</i> for my future tasks
7. I intend to <i>use</i> these tools <i>again</i> for my future tasks
8. I think I can use these tools in the future without any effort
9. I felt that it was efficient and effective to share and exchange ideas using <i>blogs</i>
10. I felt that it was efficient and effective to collaboratively develop the questionnaire using Google Docs and Spreadsheets
11. I found that direct conversations with my group-mates were well supported
12. I did not need other tools to communicate with my group-mates
13. My group-mates and I developed more shared <i>understanding</i> about the <i>tools</i> over time

The next 13 questions focus on the **collaboration** with your group-mates while carrying out the defined task (i.e. design the questionnaire) and other activities

1. I agreed with many of the points made by my group-mates during our discussions
2. I was very aware of the <i>presence</i> of my group-mates while working together on the tasks
3. The viewpoints expressed by my group-mates had no impact on my thinking about the issues concerning our tasks
4. My group-mates made statements that influenced the way I feel about the issues concerning our tasks
5. As a result of the points made by my group-mates, I now think differently about what the questionnaire should be
6. My group-mates and I developed more <i>shared understanding</i> about the <i>tasks</i> over time
7. My group-mates and I started many useful conversations based on the comments posted in our blogs
8. My group-mates and I exchanged documents, papers, literature, and the like very often
9. My group-mates and I used the provided tools very often for social conversations
10. I felt that I've learned many things from my group-mates
11. I felt that my group-mates could learn something from me
12. My group-mates and I developed better understanding about <i>each other</i> over time
13. In general, I was satisfied with the collaboration with my group-mates while carrying out our task

Section 2: General Experience

Instruction: Please answer each of the following questions as detailed as possible. If you feel more comfortable to answer in your **own native language**, please feel free to do so.

Based on your personal experience in the last few weeks, to what extent have your expectations and needs for taking part in the “iCamp learning activities” been fulfilled?

Very low Low Medium High Very high

Please explain your rating in detail:

Please identify three things that you **like and value** most in the “iCamp learning activities” and give your reasons for each of your three choices if possible.

Please identify three things that you **dislike and despise** most in the “iCamp learning activities” and give your reasons for each of your three choices if possible.

Based on your involvement in the last few weeks, how do you rate your level of motivation in the “iCamp learning activities”?

Very low Low Medium High Very high

If you could change the arrangement of the “iCamp learning activities”, how would you do so and why?

D. Appendix: Facilitator Survey

Data collection template for facilitators

University of Leicester

iCamp project

The questionnaire is organised into four different parts: general background, information and communication technologies (ICT) competence, cross-collaboration experience, and expectation, needs and motivation

(Note that some questions allow free-text, others are multiple-choice)

General background

1. Name
2. Gender
3. What is the main language used at your university?
4. How would you rate your level of proficiency in spoken and written English
 - a. Very low (great difficulty in communicating in English)
 - b. Low (Difficulty in communicating in English)
 - c. Medium (Being able to communicate in English but making mistakes from time to time)
 - d. High (Fluent communication in English but making mistakes occasionally)
 - e. Very high (Very fluent communication in English)

Information and Communication Technologies (ICT) competence

1. Your familiarity with ICT in general (from 1: very low ->5: very high)
2. Which operating system (OS) do you prefer
 - a. MS Windows
 - b. Mac OS
 - c. Linux
 - d. Other
 - e. Don't know what OS is

3. Have you ever used any of the communication tools such as chat, forum, audio video conference, etc?
 - a. Never
 - b. Sometimes
 - c. Frequently
4. Have ever you used blogs tools?
 - a. Never
 - b. Sometimes
 - c. Frequently
5. With which application do you create your blogs?
6. Before iCamp, have you ever used wordpress?
 - a. Never
 - b. Sometimes
 - c. Frequently
7. Have you ever used any shared or online (work) spaces?
 - a. Never
 - b. Sometimes
 - c. Frequently
8. Which shared or online spaces have you used?
9. Before iCamp, have you ever used Flashmeeting?
 - a. Never
 - b. Sometimes
 - c. Frequently
10. Have you ever used any Learning Management System (LMS)?
 - a. Never
 - b. Sometimes
 - c. Frequently
11. Which LMS have you used?
12. Have you ever used any digital libraries?
 - a. Never
 - b. Sometimes
 - c. Frequently
13. Which digital libraries have you used?

Cross-cultural collaboration experience

1. Have you ever locally collaborated with your colleagues and/ or your students while working on a task in a particular course/class project?
 - a. Never
 - b. Sometimes
 - c. Frequently

2. Have you had any course in which your student had to work in groups or teams?
 - a. Never
 - b. Sometimes
 - c. Frequently
3. In average, how many students were there in each group?
4. What was the maximum number of students participating in the course?
5. Have you ever taught an online course?
 - a. Never
 - b. Sometimes
 - c. Frequently
6. What was the maximum number of students participating in the course?
7. How did you communicate with your students?
8. Have you ever remotely collaborated with your colleagues and/ or your students from other countries using online communication tools while working on a task in a particular course/class project?
 - a. Never
 - b. Sometimes
 - c. Frequently
9. Could you explain in few words your experience of such cross-cultural collaboration?

Expectation, needs, and motivation

1. Do you think it is important to help and encourage students to exchange their ideas with other students? Could you explain your opinions?
2. Do you usually discuss with students (concerning not only academic but also daily activities)? Could you explain your opinion about this?
3. Do you think Internet is a good instrument to explore another culture? Could you explain your opinion?
4. Do you think Internet is a good instrument for facilitating cross-cultural collaboration? Could you explain your opinions?
5. What do you expect from the iCamp learning activities in general?
6. What do you expect from students participating in the iCamp learning activities?

Thanks for your collaboration!!!

The screenshot shows a web browser window titled "iCamp Data Collection Template for facilitators - Trial I - Mozilla Firefox". The address bar shows the URL "http://survey.icamp-project.org/phpsurveyor/index.php". The browser's menu bar includes "File", "Edit", "View", "History", "Bookmarks", "Tools", and "Help". The browser's toolbar shows navigation buttons (back, forward, home, stop, refresh) and a search engine (Google). The browser's tab bar shows several open tabs: "XE.com - The Univers...", "iCamp space", "iCamp survey", and "iCamp groups".

The main content area displays the survey form, which is titled "iCamp Data Collection Template for facilitators - Trial I". The form is displayed at 0% zoom. The form is divided into sections:

- Part 1: General background**
- 1. Your name**: A text input field.
- 2. Your gender**: A section with the instruction "Choose only one of the following" and three radio button options: "Male", "Female" (selected), and "No answer".
- 3. What is the main language used at your university?**: A text input field.
- 4. How would you rate your level of proficiency in spoken and written English?**: A section with the instruction "Choose only one of the following" and five radio button options: "Very low (Great difficulty in communicating in English)", "Low (Difficulty in communicating in English)", "Medium (Being able to communicate in English but making mistakes from time to time)", "High (Fluent communication in English but making mistakes occasionally)", "Very high (Very fluent communication in English)", and "No answer" (selected).

At the bottom of the form, there are navigation buttons: "<< prev" and "next >>", a link "[Exit and Clear Survey]", and a button "Save your responses so far".

Figure 12: The online version of the facilitator survey (similar to the student survey)

E. Appendix: Communication Diary

iCamp Communication Diary

University of Leicester

iCamp project

The first week (from 6th November 2006 to 12th November 2006)

Your name

Your university

The following sections contains several question blocks, EACH OF THEM (e.g. from 1a to 1e) will ask for information about the communication(s) you have had with ONE student or facilitator partner

1a. Please specify with whom you communicated (e.g. name)

1b. Please specify if you were the communication sender or receiver

Hint: You could be considered as a sender of a communication if you were the *one who initiated that communication*. For example: in blog modality, assume that you posted something on the blog, and another student posted some comments on it, in this case you were the sender and your partner was the receiver of this communication

Please choose **only one** of the following

- Sender Only
- Receiver Only
- Both

1c. Please specify the frequency of the communication(s)

Hint: You should update regularly the frequency of your communication(s). For example: on the first day, you communicated ONCE with student A, then the frequency should be LOW. The following day, if you communicated again with student A, you would update the frequency to MEDIUM.

Please choose **only one** of the following

- Low (if you had only ONE communication with THIS partner)
- Medium (if you had from TWO to FOUR communications)
- High (if you had FIVE or MORE communications)

1d. Please rank the purpose(s) of your communication(s)

Hint: The most important purpose should be ranked FIRST

- Developing collaboratively the questionnaire
- Discussing the reading material, literature, etc.
- Social chat
- Other

1e. Please rank the modalities you used for your communication(s)

Hint: the most often modality you used should be ranked FIRST

- Blog
- Email
- Audio/Video conference (Skype, Flashmeeting, etc.)
- Text chat (Yahoo messenger, Google Talk, etc.)
- Phone
- Other

F. Appendix: Questionnaire Assess. Scheme (by the Facilitator)

Your Name :	
Country :	
Group :	

EVALUATING THE QUESTIONNAIRE PRODUCED BY OTHER GROUPS

* Please do not evaluate your group in this part, keep the grading line empty for your own group.

* Please do not forget to use the grading scale for this part as follows; 0=none/does not exist, 1=poor, 2=weak, 3=moderate, 4=good, 5=excellent

* The theme of the questionnaire: You base your evaluation on the following qualities (criteria): how interesting/innovative is the them, how relevant it is to e-learning, how significant a theme it is, how clear is the goal, how clear are the specific objectives, how clear is the target group

* The design of the questionnaire: How well it maps with theme, how well it covers all aspects of theme, whether all questions can serve as good indicators of the topic

* The implementation of the questionnaire: How good is the wording and the English, how good is the layout, how good is the structure and the organization, how good is the look and feel in Google docs, how friendly is the questionnaire.

Group Name	The Theme of the Questionnaire	The Design of the Questionnaire	The Implementation of the Questionnaire
Group WP1			
Group WP2			
Group WP3			
Group WP4			
Group WP5			
Group WP6			
Group WP7			
Group WP8			

EVALUATING CONTRIBUTION OF YOUR TEAM MATES TO YOUR GROUP WORK

* Please do not evaluate yourself in this part, keep the grading line empty for your own.

* Please do not forget to use the grading scale for this part as follows; 0=none/does not exist, 1=poor, 2=weak, 3=moderate, 4=good, 5=excellent

* **Communication:** For availability, participation and activity in communication within the group by e-mail, Skype, flashmeeting, blog and so on.

* **Desing of the questionnaire:** For contribution to the design of the questionnaire (contribution to determining the theme, setting up research questions, producing questions for questionnaire, etc

* **Use of tools:** For activity in setting up the group blog, document(s) in google docs, etc. (that is work done on electronics medium using the tools)

Member Name	Member's Country	Communication	Design of the questionnaire	Use of tools

G. Appendix: Modified France Henri's Coding Scheme

Participative	Interactive	Cognitive		Metacognitive
		Reasoning skills	Information Processing	
Coordination (CO)	(Explicit interaction)	Elementary clarification (RE)	Surface (PS)	(Knowledge)
Technical (TE)	• Direct response (DR)	In-depth clarification (RI)	In-depth (PI)	• Person (KP)
Social (SO)	• Direct commentary (DC)	Inference (RF)	(Unclassified) (UN)	• Task (KT)
Task (TA)				• Strategy (KS)
(Group-level)	(Implicit interaction)	Judgement (RJ)		(Skills)
Group (GR)		Strategy (RS)		• Evaluation (SE)
Individual (IN)	• Indirect response (IR)	(Unclassified) (UN)		• Planning (SP)
	• Indirect commentary (IC)			• Regulation (SR)
				• Self-awareness (SS)
	(Independent statement) (IS)			(Unclassified) (UN)