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► **To cite this version:**

Elise Lavoué, Safa Khezami, Gaëlle Molinari, Yannick Prié. The Visu Reflection Tool for Socio-Emotional Awareness in CSCL situations. Alpine Rendez-Vous (ARV) 2013, Villars-de-Lans, Jan 2013, Villars-de-Lans, France. pp.00. hal-00837825

**HAL Id: hal-00837825**

**<https://hal.science/hal-00837825v1>**

Submitted on 24 Jun 2013

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# The Visu Reflection Tool for Socio-Emotional Awareness in CSCL situations

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## Introduction

An exploratory study has been conducted in which 12 students in Bachelor of Science in Psychology were asked to use the Visu reflection tool during Computer-Supported Collaborative Learning (CSCL) situations. Visu is a web videoconferencing platform that allows participants to put reflective markers during their collaborative learning activity, and to review the traces of their synchronous collaboration later. In this study, co-learners used two types of markers: (1) free markers and (2) socio-emotional markers to express either negative or positive feelings about the way they collaborate together.

Our contribution is related to the first focus of the workshop: emotion awareness in CSCL. In line with this focus, our main questions are as follows: (1) How can the Visu tool help learners express and share their feelings about collaboration? How does this affect the way they interact and learn together? (2) How do they use the Visu markers after the collaboration to self-reflect on their group processes?

In this paper, we first describe the Visu platform. We then present a study we have carried out to answer the questions presented above. We finally conclude with the contributions of our research to the workshop topic.

## The Visu platform

As already said, Visu<sup>1</sup> is a web videoconferencing platform consisted of several components including an interaction room (see Figure 1) and a retrospection room.

In the interaction room, apart from other functionalities, learners can leave markers on a horizontal timeline (pencil icons) to annotate what is happening during the interaction, be it their feelings or any other types of information. To do so, they can either put a free marker by defining its content (textual form) and then hitting return (or the button “Poser un marqueur”) or use buttons linked to predefined feeling markers: positive (green button) or negative (red button), which are empty by default. Text can also be associated with feeling markers by using the textual form before clicking on the positive or negative button. The markers set by learners are not visible by their learning partners during the course of collaboration (as it was thought this would affect the quality of interaction by focusing too much learners’ attention on their partners’ markers).



Figure 1. The interaction room in the Visu platform

After the interaction, learners can access the retrospection room in their own time and review the traces of the synchronous session (videos and markers). The markers left during the interaction appear on the horizontal

<sup>1</sup> Visu is the outcome of the ITHACA research and development project involving computer scientists and specialists of language education and cognitive psychology (see Bétrancourt, Guichon, & Prié, 2011).

timeline and now all the markers are visible for the collaborators who participated to the interaction. When reviewing the interaction, learners can individually build a reflexive report on the collaboration process by using any of the markers that were set during the interaction.

## Study

### Context and participants

This exploratory study took place during the educational psychology course of the Bachelor of Science in Psychology at the Distance Learning University Switzerland (UniDistance). This course is a semester course divided in (a) 5 three-week online classroom periods and (b) 5 one-day face-to-face classrooms. Each of the online classroom periods is dedicated to one topic in educational psychology (period 1: key concepts in learning and teaching, period 2: behaviorism, period 3: cognitivism, period 4: constructivism/socio-constructivism, and period 5: collaborative learning). Twelve students (with very different professional backgrounds) participated in this educational psychology course in the 2011-2012 academic year.

The study has been carried out during the 4<sup>th</sup> three-week online classroom period. In this period (constructivism/socio-constructivism), students were asked to work in dyads (6 teams) and to use the Visu platform during two synchronous CSCL sessions; the 1<sup>st</sup> session was held during the 1<sup>st</sup> week of Period 4, the 2<sup>nd</sup> session during the 2<sup>nd</sup> week. During these CSCL sessions, students were invited to discuss and share their understanding about four introductory texts on Piaget's and Vygotsky's theories of learning (i.e., two "Piaget" texts and two "Vygotsky" texts). A CSCL script, inspired from a Jigsaw (macro) script developed by Buchs (2002), was used to organize both CSCL sessions. This script was designed so that each member of the dyad were invited to individually read different but complementary texts in preparation for both sessions: student 1 read the "Piaget" Text 1 (for Session 1) and the "Vygotsky" Text 2 (for Session 2); student 2 read the "Piaget" Text 2 (for Session 2) and the "Vygotsky" Text 1 (for Session 1). In other words, each student depended on the other to access the content of the texts (s)he had not read. Both synchronous CSCL sessions (in the Visu platform) were composed of three consecutive collaborative phases:

- (1) Explanation phase 1 (15 minutes): In Session 1, student 1 took the role of *teacher* and explained the "Piaget" Text 1 to student 2 who took the role of *listener/questioner* (in Session 2, student 2 explained the "Piaget" Text 2 to student 1);
- (2) Explanation phase 2 (15 minutes) during which both students exchanged their previous roles: In session 1, student 2 took the role of *teacher* and explained the "Vygotsky" Text 1 to student 1 who took the role of *listener/questioner* (in Session 2, student 1 explained the "Vygotsky" Text 2 to student 2);
- (3) Comprehension test (30 minutes): both students were provided with two comprehension questions (one question per text) that they must answer together orally.

After each synchronous CSCL session, students had to build an individual reflective report on the interaction with their peer (through the Visu platform) with the following instructions: « we ask you to express your personal perception on how your collaborator and yourself have interacted and collaborated. This report should concern your own activity within this teamwork, the activity of your collaborator and more generally the work of your team. ». Students were asked to use the markers in the report.

### Research questions and data collection procedure

Regarding our research issues as described in the introduction, we will answer the following questions classified according to two main activities:

- (1) Activity of marking and its impact on the synchronous CSCL session:
  - How is this reflective functionality integrated in the collaboration process?
  - Which processes (e.g., self-reflection, self-assessment...) are involved in this activity of setting markers during collaboration?
- (2) Activity of reviewing the interaction (videos and markers) and its impact on the subsequent CSCL experience (Session 2):
  - Which processes (e.g. self-judgment, self-reflection...) are involved when reviewing the interaction?
  - How did students use videos and markers to self-reflect on their group processes when building the reflective report?

To answer these questions, we collected several data:

- (1) During the study:
  - Video and interaction traces of the use of the Visu platform (interaction and retrospection rooms).
  - Number, type and content of the markers set during the synchronous interactions.
  - Individual reports (two by learners) built in the retrospection room.
- (2) Post-study:
  - Evaluations of the learners' perceptions of the Visu experience (by dyad, N=5; qualitative data).

- Evaluations of their perception of the quality of the interactions (individual, N = 10; quantitative data)
- Questionnaires on their perception of the Visu platform (ergonomics, functionalities, etc.).

## **Conclusion**

We first can contribute to the workshop by presenting the Visu platform and more specifically the use of markers for socio-emotional awareness during and after synchronous collaborative learning interactions. The analyses are in progress and results will be presented during the workshop. Initial observations show that setting markers and the use of markers in the reports helped learners to be aware of their feelings and those of their partners. This awareness has led to several processes: self-reflection, self-judgment and self-assessment.

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