An Adapted Group Psychotherapy Framework for Teaching and Learning About CSCL

Yotam Hod, Dr. Dani Ben-Zvi, University of Haifa, Israel
Email: yotamhod@edtech.haifa.ac.il, dani.benzvi@edtech.haifa.ac.il

Abstract: This theoretical paper presents a framework adapted from group psychotherapy (GP) for teaching and learning about computer-supported collaborative learning (CSCL). The framework is used both in the design of a learning community and to explain how aspects of learning occur within it. The design, which we enacted in a graduate level course that taught about CSCL, is based on content-process integration, group cohesion, and reflection. The learning is based on transference into a microcosm and developing the intentionality to change. We use narrative illustrations from moderators' and students' discourse to show how this framework impacts teaching and learning about CSCL.

Introduction

Since its inception, the scientific CSCL community has shown substantial interest in implementing its ideas in practical settings, particularly in higher education (Strijbos, Kirschner, & Martens, 2004). A great deal has been published about various educational designs that employ CSCL, with the goal of getting learners to collaborate in ways that are supported by technology (e.g., De Graaf, De Laat, & Scheltinga, 2004). In most of these cases, the content that is collaborated upon is external to the field, such as in mathematics, and the learning process is *through* CSCL. While such research is certainly important, more can be done to build upon existing research in teaching and learning *about* CSCL (e.g., Ronen-Fuhrmann, Kali, & Hoadley, 2008), as opposed to *through* it.

Further researching this particular niche in CSCL involves examining what material should be studied during graduate courses about CSCL as well as the appropriate pedagogical design to foster learning. Regarding the content, the big ideas of CSCL have to do with metaphors or conceptions of learning such as participation (Sfard, 1998), knowledge-building (Scardamalia & Bereiter, 1994) and collaboration (Stahl, Koschmann, & Suthers, 2006). Likewise, developing expertise in CSCL involves studying rich academic literature on a range of topics that include learning, research methods, and technology, just to name a few. While the learning material is not the prime focus of this paper, the epicenter upon which to base it ostensibly should start with academic material published from the CSCL community. From there, it can span out in nearly endless directions to include more peripheral ideas.

Regarding the process of teaching and learning about CSCL, there are good pedagogical reasons to integrate the process with the content. In approaches that aim for students to learn *through* CSCL, the content can be in any discipline so long as the learning process is collaborative and supported by technology. In approaches that aim for learning *about* CSCL, an inverse of this content-process relationship exists. The content, however debatable, must be about CSCL and is therefore fixed; the pedagogical approach is variable. Nevertheless, research into teaching programs show that methods are too often disconnected with what they are trying to teach (Bransford, 2000) and there is growing evidence that they should be integrated (Darling-Hammond, 2000). Therefore, there are good reasons for those seeking to teach about CSCL to integrate content and process. In this way, students simultaneously study CSCL content and develop a rich repertoire of experiences about it.

Relations to Group Psychotherapy

Much like in teaching and learning about CSCL, the field of group psychotherapy (GP) also deals with the integration of content and process. In GP that takes a here-and-now approach, there are two tiers that are critical for the therapy to occur. The first tier has to do with taking an interest in the here-and-now events of a group, or the present process the participants engage in. This process, in effect, becomes part of the content of the second tier, which deals with illuminating this process together with the group. The content is integrated with substantive issues in GP, such as power and dominance or psychic functions, that have to do with interpersonal relationships of the participants (Yalom, 2005). Thus, while the external content of GP and CSCL are different, both have a shared characteristic of integrating their respective content with the process of interpersonal learning.

There are many implications of the shared content-process integration found in GP and teaching and learning about CSCL. These seem to hinge on the idea of reflection. While reflection is a fundamental concept and practice in both, the separation of the fields leads them to use different jargon to explain its role, and research upon which to base findings. Yet, they have a strikingly great deal in common.

In CSCL, reflection is based on literature with a long and well-established history (e.g., Schön, 1987; Yost, Sentner, & Forlenza-Bailey, 2000). Developing reflective students is associated with ideas that have to do

with taking responsibility over one's learning, such as meta-cognition (e.g., Brown & Campione, 1994) and intentional learning (Scardamalia & Bereiter, 1994). Indeed, these have been cornerstones in CSCL research (Stahl, Koschmann, & Suthers, 2006). In more contemporary CSCL studies, reflection has been used to develop group members' awareness of their individual and group behavior, creating a bridge between social and cognitive processes in collaborative learning (Phielix, Prins, & Kirschner, 2010). In all cases, the primary idea has to do with organizing instruction, through reflective discourse, so that learning can be controlled and intentionally changed.

In GP, reflection is essential to the therapeutic process. The group setting serves as a microcosm, whereby each participant *transfers* (1) their own attitudes, understandings, and behavior in their ordinary life to the group situation. Participants are guided to speak about their feelings and experiences as they relate to the ongoing events during meetings. This is referred to as the *here-and-now* focus. Reflection on the process helps the participants recognize their own attitudes, understandings, and behavior, in relation to others and their lives in general. This allows them to decide if they are satisfied with what they bring to the microcosm, and if not, empowers them to exercise the *will* to change it (Yalom, 2005). Thus, despite the different jargon, the similarity between the two fields is evident. In both cases, deep learning is based upon the intentionality of the learner to make changes, which occurs as a result of a reflective process that they engage in.

In addition to the content-process integration as well as the role of reflection, one final similarity rests with group cohesion, or generally the sense of membership in the group (Yalom, 2005). In GP, this has been identified as an elemental therapeutic factor. In CSCL, it is possible to find some corollaries to this, such as with the study of the design of social infrastructure for effective collaboration (Bielaczyc, 2006). Still, there have been calls in CSCL to further examine "the social (psychological) dimension of social interaction for group forming, group structure, and group dynamics" (Kreijns, Kirschner, & Jochems, 2003, p. 343). While GP deals with group cohesion more directly as part of its theory and practice, it is clear that it is important to both fields.

While the similarities between GP and teaching and learning about CSCL are striking, there are important differences too. As mentioned already, the content of GP and CSCL differ, each with its own interests. Other key differences have to do with the goals, participants, and settings of each. Even though contemporary GP has moved away from curative goals and today aims for learning and growth like in teaching and learning about CSCL (Yalom, 2005), the goals are therapeutic. In comparison, participants in courses about CSCL are typically in graduate institutions who aim to develop their professional interests and skills. As such, the terms of the agreement and expectations between therapist-client versus teacher-student are different.

Taking these differences into account, we adapted a theoretical framework from GP and applied it to teaching and learning about CSCL. The design based on the adapted framework had three inter-related components: (a) content-process integration, (b) promoting group cohesion, and (c) reflection. We applied this to a blended learning community as part of a graduate-level course. We focus on describing this "grain of sand", seeking to illustrate the learning that emerged about CSCL as a consequence.

Implementation of the Framework

In this paper, we illustrate our preliminary findings in a case study of a blended graduate course as part of the Educational Technologies Graduate Program at the University of Haifa (UH), Israel. The course, titled "Challenges and Approaches to Technology-Enhanced Teaching and Learning" (CATELT), served as an introductory requirement for all students in the multi-year program. CATELT's primary goal was to teach the basics of the learning sciences, with a special focus on CSCL. Originally enacted during the 2006-2007 academic year, five previous annual iterations were progressively refined to form the version (2011-2012) that is presented in this paper.

CATELT 2011/2 included 14 students, aged 23-54, who had no prior relationship and were selected based on their academic records and interest in educational technologies. The primary course moderator, who was accompanied by a teacher's assistant (TA) and a researcher, was a senior lecturer at the UH. In addition to his research interests in innovative educational technology and collaborative learning communities, his prior training in group counseling was relevant to enacting the adapted GP framework.

Data collection and analysis

To draw conclusions, rich micro-level data from ftf class interactions, the online collaborative editing environment (Wiki), personal interviews and observations of modersator/TA meetings were collected throughout the full duration of the course. These were analyzed micro-analytically (e.g., Meira, 1998; Siegler & Crowley, 1991). Findings based on video and audio recordings of the ftf interactions, as well as all written material from the Wiki, were reviewed by the researcher and triangulated by a committee of expert and novice peers. Furthermore, conclusions were reached only after multiple sources of data validated a specific result.

Design

CATELT had a blended course structure that was arranged as a series of 26 alternating and interconnected face-to-face (ftf) and online interactions. These occurred in a small classroom and online collaborative editing environment (Wiki) (Ben-Zvi, 2007). Each pair of interactions occurred over one week, making the course duration a thirteen-week semester. Several activities were run during each interaction, as seen in Figure 1. Overall, reflective activity in the form of groups reflection sessions (GRS) consisted of nearly one-third (758 out of 2410 minutes) of all ftf interaction; reflective diaries and moderator reflective messages were recurring and central components of online interactions. The remaining components were either collaborative activities on the course content, or aimed to build group cohesion between group members.

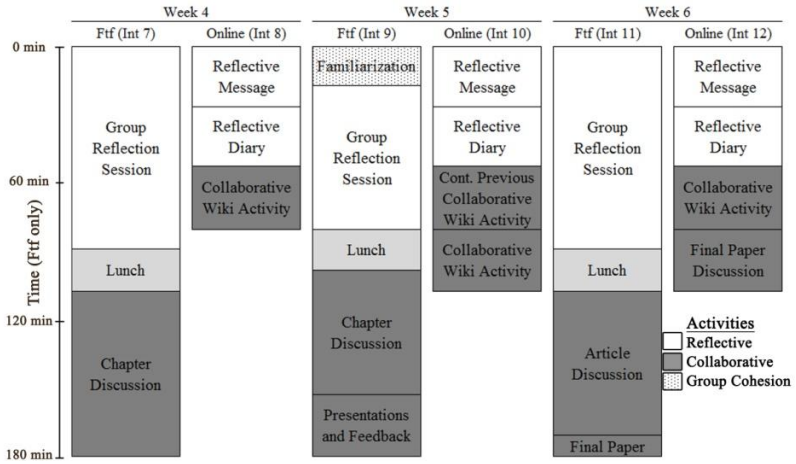

Figure 1. Sample of activities in CATELT's adapted GP framework.

Component 1. Content-Process Integration

Content and process in CATELT were integrated such that students could examine their own collaborative learning process in a technology-enhanced environment. To do this, the learning process that emerged and was practiced became the basis of both ftf and online discussions, primarily in reflective activities. Likewise, CSCL content that was relevant to the students' experience of learning was collaboratively studied. These interacted symbiotically. As students developed more collaborative experience, they could understand CSCL content more deeply; as students understood CSCL content more deeply, they could collaborate more effectively. While this integration in studying about CSCL is similar to that in GP, two key adaptations to the framework were made. First, the actual content studied dealt with CSCL, instead of substantive content of GP. Second, the design was adapted so that students could participate in a process of CSCL instead of GP.

CSCL content was introduced in three broad themes that were addressed sequentially, in relation to the expected learning trajectory of the students. The first theme focused on the individual learner, as the students entered the course primarily with traditional views of learning. Specifically, the first four chapters from "How People Learn" (Bransford, 2000) were studied collaboratively to deepen their understandings of learning, mainly from an individualistic perspective, while providing them with collaborative experience. As the students gained this collaborative learning experience, the course moved to the second theme of learning in a community. This consisted of academic articles that had an important influence on CSCL (e.g., Brown & Campione, 1994; Brown, Collins, & Duguid, 1989). The content of the final theme maintained this collaborative focus but in ways that were supported by technology (e.g., Scardamalia & Bereiter, 1994), as the students increasingly engaged in the course Wiki. As such, the content was planned to parallel the broad process of the students' learning.

Having students experience CSCL was also integral to the GP framework. Mediated ftf sessions alone, like in GP, would not have sufficed to make the experience one that entailed CSCL. As such, a number of ftf and online activities were supplemented to give the students a range of CSCL experiences. These were primarily designed on the course Wiki, which the students needed to complete throughout the week. As part of their online assignments, students were typically asked to work in self-created teams and co-author content pages on the Wiki. These were based upon key concepts and ideas found in their assigned readings. Although some Wiki-based activities were completed individually, such as the writing of final course papers, all of these had components, such as peer-feedback, that encouraged the students to collaborate intensely.

Assignments generally had ill-structured designs, leaving the group members to deal with challenges like forming groups on their own and deciding for themselves where to stop. These assignments were designed this way purposely so that students could engage in CSCL experiences that brought about difficulties and challenged them to think deeply about the process they were engaged in. Moreover, the moderators' interventions challenged the students to be in a continual search for improvement and deepening of

understanding which took precedence over praising students for a job well done. This was important because it focused on the process of collaboration over achieving a final product, raising important issues that could be related to CSCL content, such as that learning never ends (lifelong learning) and that learning should be driven by the student (learner-centered design). Designing and intervening for serious challenges gave the group experiences that they could consider, becoming an important source of content in reflective activities. This also explains the reference to *challenges* in the course title.

Component 2: Promoting Group Cohesion

Cohesion building in the group served two primary purposes. The first was to get the students, to the maximum extent possible, to feel a part of and participate in the community. The second purpose was to generate important collaboration-related process issues as content. To fulfill these purposes, several specially designed activities as well as techniques throughout the course were enacted.

Familiarization activities were the most direct method to promote group cohesion. Five different familiarization activities were run towards the start of the semester (weeks one, two, three, five, and nine). Each of these used some artifact (e.g. image, textual prompt) and involved some form of peer-to-peer conversation so that students could more freely share their personal feelings, attitudes, and perspectives with each other in a trusting and safe environment. Additionally, various techniques were used by the moderators to encourage group cohesion, both within and outside of the familiarization activities. For example, at the start of peer discussions, students were regularly asked to talk with someone who they didn't know yet to reduce the fear of approaching an unknown person and to deepen their relationship with them. At times, students were encouraged to sit in different places in the room, which the moderators themselves often modeled by switching places themselves. The moderators also discouraged particularly active students from dominating by encouraging them to wait and listen; invited members to join the community by welcoming them warmly on the course Wiki; and built a caring and trusting community with empathy by demonstrating personal knowledge of the students' perspectives. Together with the familiarization activities, these many techniques promoted group cohesion.

In addition to directly building the students' sense of membership to the group, a second purpose of promoting group cohesion was to give students experience on what it meant to build a learning community. By being engaged in a process of building group cohesion, they could examine some of the related challenges and issues. For example, one student who reflected upon the first ftf meeting, which was designed largely to promote cohesion, thought of the implications in relation to her own experiences as well as educational design in general.

> Patricia (2): The excitement of first grade won't return but this was close… I left the class with a feeling of, "if a student didn't have a teacher that wanted them to feel, this is something they need to go through! So they will have an appetite for more". It was pleasant for me to be in class, many smiles, a lot of listening, a lot of patience, and attempts to calm fears. We the students were in the middle, we told about ourselves and listened to others, who listened to us and cared for us. (3)

As such, cohesion building was not just a mechanism to facilitate the group's functioning, but was also part of the content-process integration. In this way, like the other collaborative activities, the process of building group cohesion was a basis for reflection and learning.

Component 3: Reflection

Reflective activities in CATELT had the purpose of creating rich discourse in two tiers. The first tier focused on the here-and-now events of the group, and the second tier on illuminating this process. There were three types of reflective activities in CATELT that enacted these two tiers. These included group reflection sessions (GRS), online reflective diaries, and online moderator reflective messages. While reflection in CATELT was at the core of its resemblance with GP because of these tiers, several adaptations were made.

Among all CATELTs activities, GRS had the most direct resemblance with GP because of the format, which is typically run in small mediated ftf groups (Yalom, 2005). GRS elicited first tier here-and-now discourse based on the group's present and past experiences. To do this, the moderator used a number of techniques all guided by an underlying principle of focusing on the here-and-now. For example, when one student began talking abstractly and analysing his experience, the moderator abruptly stopped and refocused him:

> Moderator: You can't make generalizations in a reflection discussion because a large portion of us… act from different paradigms that they bring from their previous lives…, which is why I'm asking you to explain your paradigm based on exactly what is happening to you.

As an adaptation to GP, CATELT had many collaborative activities, particularly during the week on the Wiki. These supplemented the GRS discourse, as students were encouraged to talk about the events that occurred collaboratively over the week. While this adaptation broadened the experiences that could be discussed during reflection sessions, it was still operationally consistent with GP, as "past events of the therapy group are a part of the here-and-now" (Yalom, 2005, p. 162).

A second adaptation had to do with the second tier. While both GP and CSCL deal with inter-group relations and therefore have a great deal of content in common, CATELT's focus on CSCL changed the focus of the process commentary. For example, during one reflection session the group discussed their experiences of collaborative editing on the Wiki. One student raised the challenge of editing others' work, aware of the different styles of writing but not wanting to offend a peer by making changes. At this point, Phil offered a solution:

> Phil: There is a simple solution: You split the sections between the participants, you upload all of it, and then you decide that one person is the editor of everything.

The moderator used this opportunity to make process commentary based on CSCL content. Instead of focusing on Phil's motivations for offering advice, as may be done in GP, the moderator instead focused on his understanding of cooperation and collaboration.

> Moderator: This is one of the solutions [to how the group should work together]. You come from a perspective as if you know the answer. But this solution is problematic because when you talk about cooperation versus collaboration, the meaning of collaboration is more or less what Tina and Jane described: They worked nearly completely synchronously, on every word and statement. That is collaboration - a shared product that is a synergy of their work. You offer a different model.

Together, the GRS included two tiers that are found in GP. The first tier elicited the group's here-and-now experiences as they collaborated, and the second tier illuminated this process in relation to CSCL content.

In addition to the GRS, online reflective diaries and online moderator reflection messages contributed to the reflective discourse. The online reflective diary was a continuation of the GRS, where students were asked to reflect upon their learning from the ftf meeting that passed. They wrote these in the community section of the Wiki, where other members of the class could see. This encouraged a continuation and further deepening of key ideas raised during the ftf meeting. Students were also encouraged to create conversations in each others' reflective diary discussion pages to deepen dialogues by seeding, migrating, and mutually appropriating ideas (Brown & Campione, 1994). To strengthen the connection between these experiences and GRS, the course moderators would sometimes take meaningful conversations and use them as part of ftf reflections. While the writing of personal diaries after sessions is a common practice in GP, the public online format of these reflections, the discussions around them, and their connection to ftf meetings are adaptations.

Like the reflection diaries, another common practice in GP is for the therapist to write and share their own reflection following each ftf meeting (Yalom, 2005). In CATELT, this was done in the course Wiki. The messages, which were written following reflective meetings by the moderators after each interaction, presented the moderators' reflection of what was meaningful. They also encouraged exemplary behavior and built on related CSCL content that was brought up during ftf meetings.

Transference and Change

Just like in the GP framework, a critical aspect of CATELT had to do with developing group cohesiveness so that the members could re-experience their attitudes, behaviors, and understandings from their daily lives into the group setting, a process known as transference (Yalom, 2005). The microcosm that developed in CATELT, in comparison to GP, had a more direct focus on collaboration. As such, students had a chance to play out their own past experiences in the collaborative learning microcosm that was formed. These were examined as part of the reflective discourse. As students raised their awareness over who they were as learners along with their role in the group, they were able to intentionally make changes to the way they collaborated.

Transference into a cohesive CSCL microcosm occurred within the context of group cohesiveness. Examples of group cohesiveness could be found by the emergence of group behaviors as the course developed. For example, the students began organizing their own shared lunches, had informal meetings before class over coffee, and were very active online during the week, particularly commenting in each others' diary discussion pages. Evidence came about explicitly as well, such as when one student shared her feelings about the group as part of a GRS. The discussion revolved around the metaphor of a turtle:

> Moderator: What is your protection? If you were a turtle, what would protect you?

> Beth: …You are all my family, yes, in the past few weeks I feel this way: Protection.

Given the cohesiveness of the group, transference effects were found prevalently. For example, Patricia was a self-described competitive person, who worked in the hi-tech industry for many years. Showing that her behavior in the course was transference from her "real" world, Patricia started the course in the same manner. For example, she favored learning from an authority over her peers. She also made many arguments rejecting the idea of collaborative learning on the grounds of practicality:

> Patricia: In a workplace when you come to work, the work is very important at the end of the day. And when I think about these things, I say… what is happening here is an island. …In real life, ultimately you go to your job and you need to sit with yourself and work.

Because of Patricia's background, her primary preoccupation in the course related to her individualistic, competitive background. The cohesiveness of the microcosm allowed her to transfer her experience to CATELT.

Individual Change

The collaborative microcosm that developed, which formed part of the content of reflective activity, led to discourse where the students examined and tested their own and others' behavior and identity as learners in the course.

> Patricia: From the discussion on the Learning Sciences – [I reached the conclusion] that there is a need to learn more about how we learn and understand. That I need to learn the way I learn myself, what actions I do while reading, when I understand better, how I overcome a text that isn't clear, and an open question for me - learning in a community, looking at ourselves as a learning community. I am so much of a "lone wolf" in this respect…

Such discourse allowed students to become aware of themselves as collaborative learners, and suggest new ways to participate in the group. For example, as part of Patricia's competitiveness, she was very dominant in the group towards the beginning of the semester. By becoming aware of her behavior through reflection, she appeared to show greater sensitivity towards others by taking a less dominant role:

> Patricia: In the last few lessons in the reflection, especially in the beginning, I spoke a lot and now I talk less. This is because sometimes I want to hear others. I don't want to be in a situation – I admit that I talked a lot – and I don't want to be in a situation where I am always talking. I really want to hear others.

Patricia's change coincided with an epistemological shift. At first she questioned the logic and effectiveness of learning from peers, arguing that bad ideas could be seeded and migrated. As such, she resisted collaboration with peers on the Wiki. However, upon reflecting on her collaborative experience with her peers, she showed a greater openness and desire to listen and learn from others.

> Patricia: I assume that if someone wrote something, they thought about it, and this is what they understood. [I want] to see why they understood it this way, because maybe I didn't understand it.

While Patricia's increased sensitivity and epistemological understanding was by no means linear nor absolute, it did show that she was engaged in meaningful discourse about herself. Such personal awareness gave her the will and desire to make these intentional changes.

Group Change

The intentional changes also occurred at the group level, which manifested, for example, as a group norms discussion. From the start of the semester, at any time when the group complained about their own collaboration, the moderator encouraged the students to take responsibility over their own norms. Supporting this call, a blank norms page on the Wiki was posted in the main navigation bar. This page included links to previous iterations of the class' norms pages, suggesting that this stage would be reached later in the course. The moderator did not assign such a task, however, waiting for the group to be ready to take responsibility for it. Indeed, in previous iterations of the course, the group norms discussions manifested in different ways. As members in the group continued to reflect upon themselves and deepen their understanding of collaboration, the idea coalesced that the group norms that emerged were not consistent with their desired behavior as a group.

> Patricia: On Wednesday, it became clear to me that I wasn't alone. That a few others thought that there wasn't collaboration and that it is not possible to create collaboration in this way. Something else is needed.

The group, by consensus, chose to engage in a process of discussing their own norms so that they could alter their existing norms. With the support of the group, two student leaders requested time during the subsequent ftf interaction to lead a process where the group renegotiated their norms. They followed this with more discussions on the Wiki. Showing symbolically that they really understood the process orientation of their actions, they chose to work on their agreed upon norms in a page intended for collaborative discussion, instead of a regular content page.

Following the group norms discussion, the group maintained their collaborative focus for the remainder of the semester. For example, when one student in a later assignment suggested that the group divide up a task and complete the separate parts in small groups, the idea was rejected. One student wrote the following, and several others quickly followed in agreement, showing that the group had intentionally changed.

> Patricia: Let's try real collaborative editing for once, and not cooperative… not like Phil suggested (sorry Phil…). I mean that every person adds his insights to every paragraph and not that we shall break apart [the work] and each group writes something. That we already tried and we all thought this wasn't really collaborative editing…

Discussion and Conclusion

This theoretical paper presents a framework that is adapted from GP that can be used to design, enact, and explain individual and group changes when teaching and learning about CSCL. Content-process integration, group cohesiveness, and reflection are essential components for this to occur. The idea that a learning community can be viewed as a microcosm where transference effects take place, and where reflection empowers students to make intentional changes, is a novel approach that can impact the field. Indeed, our illustrations, while modest, show that there is potential in this framework for the design and promotion of deep learning. Namely, getting individual learners to make intentional changes to their epistemological ideas as well as sensitivity towards others, along with getting groups to move from cooperative to collaborative learning, is a potentially profound result. We posit that this is an important desired result of teaching and learning about CSCL, and a key to getting students to enter the CSCL and Learning Sciences communities.

Certainly, there are many aspects of our design and illustrations that are not considered as part of our adapted GP framework. For example, GP has identified therapeutic factors that we have not considered here, such as the instillation of hope (Yalom, 2005). We have focused on a simplified framework for GP to describe the central mechanisms of individual and group change and what we consider are the most critical elements in the design for this to happen. Our hope is that with more research, we can further develop this framework. Moreover, using design-based research methodology, we can systematically adjust and refine our model to gain a better understanding of how people learn about CSCL as they gain membership in the learning community.

Our next steps include trying to re-teach CATELT with a different moderator. This can help us isolate some of the characteristics of the moderator, such as personality and expertise, and focus instead on the role of the design. Likewise, we are continuing our retrospective analysis of CATELT, micro-analysing the data on related research questions that can provide a more complete description of the learning processes. We hope that through these sustained efforts, we can positively influence programs and courses seeking to teach about CSCL so students can be enculturated into the CSCL and Learning Sciences communities.

Endnotes

(1) We use the terms *transfer* and *transference* in the context of its use in GP and not in relation to the concept as it is used commonly in the Learning Sciences (e.g., Bransford, 2000).
(2) All course participants were designated pseudonyms to maintain their confidentiality.
(3) All quotes were originally said or written in Hebrew, and have been translated for the sake of this paper. As part of our ongoing micro-analytic study, we closely examine the meaning of every word to make sure the translation is as close as possible to the original intention of the contributor.

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