

Developing Participatory Learning Practices when Studying the Learning Sciences: A Theoretical Framework and its Pedagogical Implications

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Introduction

Over the past 20 years, the learning sciences has become an influential discipline in education on how people learn (Bransford, Brown, & Cocking, 2000), advancing learning research into real use as technology has proliferated (Kolodner, 2012), and producing ideas that are at the heart of a robust movement to reform education (Darling-Hammond et al., 2009). Graduate courses and programs of the learning sciences that have sprung up worldwide (e.g., Network of Academic Programs in the Learning Sciences - NAPLES) have sought to teach the next generation of scholars and practitioners the complexity of this discipline (e.g., Ronen-Fuhrmann, Kali, & Hoadley, 2008). Yet, this remains a challenging task given the difficulty of deepening novices' often naive or traditional understandings on learning (Rogoff, 1994).

Based on our own extended experiences in a graduate level course that has a goal of teaching the learning sciences, we¹ have developed an innovative pedagogical model where students learn about the science of learning through the prism of their own experiences. This is based on the view that learning involves enculturation of the authentic practices of experts in a discipline (Brown, Collins, & Duguid, 1989; Scardamalia & Bereiter, 1994). In our unique setting, students participate in an emerging classroom learning community (LC) (Bielaczyc & Collins, 1999; Brown & Campione, 1994). As they do this, they are guided to ask personal reflective questions about their **participatory learning practices** – practices relating to the way they

1 Developed and led by the secondary author of this paper, and later joined by the first author as a researcher and contributor.

learn alone or with others – with a focus on the individual and collaborative learning they experience in the present LC. Students’ informal and personal ideas about these learning processes are deepened by relating them to the learning sciences content that they study. For example, students may be challenged to collaboratively build their knowledge on an article about collaboration. Thus, the **process** of their studies is integrated with the **content**.

While this pedagogical approach builds upon an established view of learning by the learning sciences community that all learning is situated (Sawyer & Greeno, 2006), upon close investigation we have found a unique phenomenon occurring (reported in Hod & Ben-Zvi, in press). Specifically, the deep learning experiences that many students were reporting could be described by an adapted theoretical framework which underlies process-oriented group psychotherapies (henceforth referred to as just GP).

While the relationship between *learning about learning* and GP may seem odd at first, there is an inherent connection between these two. In both cases, deep learning is based on going through a group process and making sense of it by reflecting upon it individually and interpersonally (Yalom & Leszcz, 2005). Although GP deals with a different population of participants and has therapeutic goals, it offers a unique lens that sheds light on some of the processes involved in learning about the learning sciences.

Adapting a GP framework to describe learning of the learning sciences

We have adapted a framework that has been articulated in GP for therapeutic change into three learning dimensions that include (a) social microcosms, (b) motivation for change, and (c) changing practices. These adaptations were made to relate the framework to learning-based research while maintaining the basic principles underlying GP.

The essence of the framework is based upon social microcosm theory, which is “of paramount importance in group therapy and is a keystone of the entire approach to group therapy” (Yalom & Leszcz, 2005, p. 32), and is a widely accepted clinical

assumption (Markin & Kivlighan, 2008). Social microcosm theory posits that the group setting serves as a social microcosm, whereby each participant *transfers*² their general relationship pattern in their everyday life to the group situation. When given the opportunity to interact freely, over time participants' interpersonal styles from their everyday lives manifest within the therapeutic group. For example, a person who is very competitive with others in their everyday life will recreate such competitive practices in their new social microcosm.

Building upon the social microcosms that manifest, a reflective process allows participants to become aware of their participatory learning practices within their microcosm, enabling them to decide if they are satisfied with what they find, and if not, empowers them to exercise the *will* to change it (Yalom & Leszcz, 2005). Participants may also develop the motivation to change by observing others in the group and by getting advice from their peers or the moderator about how or what to change. Moreover, participants may have certain dispositions making them more or less ready to change (Hod & Ben-Zvi, in press). While all of these contribute to a person's motivation to change, ultimately it is up to a person to decide for themselves if they are willing. This implies that change is deliberate, directed towards a goal, and is the responsibility of the individual.

Pedagogical and Design Implications

A great deal is already known about the design of LCs based on various descriptions and syntheses of them. One prominent example is Bielaczyc and Collins' (1999) 14 principles for the design of effective LCs. In relation to these, we offer a design principle that we believe is innovative in that we do not find it described in any relevant literature on LCs, yet is central to ours. As such, an exploration of this principle on theoretical and pedagogical grounds is important so that future research can investigate its existence elsewhere. Our principle is based on the process and content integration that underlies the adapted GP framework. We believe there are four characteristics of this principle, briefly described here-in.

2 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, et al., 2000).

Here-and-now reflective discourse

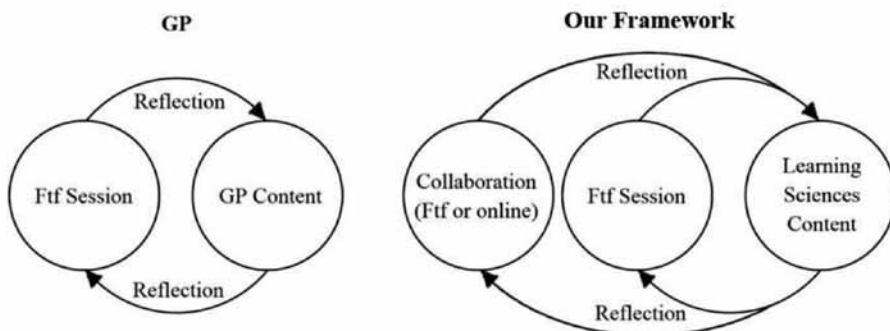
Reflective here-and-now discourse focuses on eliciting the group's present collaborative experience. To do this, the moderator must focus students on sharing their feelings openly about their present collaborative efforts. This can include, for example, preventing students from intellectualizing or digressing into past, historical experiences that are outside the boundaries of the group.

Ill-structured collaborative learning

Instead of being assigned clear and organized tasks, assignments should be ill-structured, leaving the group members to decide for themselves how much and where to invest their efforts. Additionally, the moderators' interventions should challenge the students to be in a continual search for improvement and deepening of understanding, even when they created products that they perceive as finished.

So that these collaborative experiences are deep, face-to-face sessions are not enough. Thus, there needs to be a supplement to ftf sessions, otherwise there may be a group process, but without a sufficient experiential basis to reflect. As such, online collaborative processes can supplement face-to-face meetings so that the community is continually active, as Fig. 1 illustrates.

Fig. 1 Process-content integration via reflection in GP and in our framework



Technology-enhanced relationship building

So that students can speak openly, honestly, and non-defensively about their own participatory practices, technology must support relationship-building efforts.

Emergent-design

The emergent-design principle guides decisions of the moderator(s) based on the idea that they need to be sensitive to the activities of the group and respond accordingly. The moderator(s) must actively review the events that transpire in each meeting, discuss their meaning, and plan the subsequent meetings based on their informal findings.

In this presentation, we will further describe these four characteristics and provide illustrative examples of them to demonstrate our innovative approach. Likewise, we will show their inter-connectivity in supporting process-content integration. We believe that this can contribute to graduate programs and courses worldwide seeking to teach their students the learning sciences, as well as the design of LCs in general.

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