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## Seizing the Unexpected and Creative Meaning Making in the Unfolding of Classroom Interaction

LUISA MOLINARI and AMEYA G. CANOVI

#### **Abstract**

This is a theoretical article on creative meaning making in classroom interaction, with a focus on the unfolding of cognitive, relational, and emotional aspects of teaching and learning, often tied to one another. To accomplish this goal, we integrate studies from two theoretical backgrounds, i.e., the historical cultural theory and the developmental system theory principles. We have focused on several fields of research. First, we have summarized works on micromoments of creativity. Second, we have considered studies that have taken a process view on emergent opportunities for creativity. Third, we have focused on creativity in original thinking and the transformation of a relevant object of learning into a learnable. Finally, we have considered research on the rise of learning collective emotional side, conceptualized in terms of class mood and flow. We have concluded by stressing that, beyond the methodological challenges, this literature offers striking indications for a deeper understanding of classroom processes and learning opportunities.

**Keywords:** creativity, emotional experience, classroom interaction, microtransitions, class mood.

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#### Introduction

Classrooms are adaptive and complex microsystems characterized by multiple forms of interaction between teacher and students and among students themselves. In such settings, norms and conditions for social interaction are mostly set. Daily classroom life is commonly planned, routines are scheduled, and most of the time teachers and students follow preestablished scripts that organize interaction and participation in class activities. For both teacher and students, knowing what more or less will go on creates a comfort zone in which the involved social agents share codes and assumptions. Nevertheless, there are also unexpected forms of class interactions and communication that emerge in their moment-to-moment occurrence. By involving cognitive, emotional and relational aspects of teaching and learning processes, these emergent happenings are potentially highly effective in contributing to new meanings construction.

This is a theoretical article on creative meaning making in classroom interaction, with a focus on the unfolding of cognitive, relational, and emotional aspects of teaching and learning, which are often intertwined. Our aim is to bring together conceptual tools that allow us to theorize and, in perspective, foster such creative encounters. To accomplish this goal, we integrate studies from two theoretical backgrounds, one coming from the historical cultural theory and the other referring to the developmental system theory principles.

#### **Backgrounds**

The co-presence of cognitive and emotional aspects in teaching and learning processes was firstly conceptualized by Vygotsky with the multidimensional construct of *pereživanie*, later translated as *experiencing*. According to Vygotskian scholars Jóhannsdóttir and Roth (2014), pereživanie constitutes a continuously unfolding process that simultaneously designates the movement from person to environment and from environment to person. As such, experiencing is a dynamic construct that represents psychological learning activity by maintaining the unity of personal and situational characteristics: a social situated event refracts an individual response and at the same time the environmental stimulus is personally elaborated through emotional and affective filter (Veresov, 2010). In this frame, the environmental factors in themselves do not determine the course of development and learning, but what matters are the same factors refracted through the prism of pereživanie (Gonzalez Rey, 2009).

In the conceptualization of pereživanie, there are two principles that seem particularly interesting for our purpose. One is the assumption that there exists a complicated dynamic system including thinking and a motivational or affective side, and that intellect, like all higher psychic functions, is subordinate to this system (Leontiev, 1992). The other is that learning produces a simultaneous change. both in the individual who learns and in the group the individual interacts with. Through learning, thus, the individual transformation influences the group where social interaction takes place, and the reverse process is also at work.

These principles are consistent with those described in general (Sameroff, 1995; von Bertalanffy, 1968) and developmental (Ford & Lerner, 1992) systems theory. Specifically, these approaches postulate the need to focus on process-levels accounts of human behavior and on the context dependence of developmental phenomena. Moreover, they are concerned with the mechanisms that underlie change and novelty, as well as stability, of dynamic systems (Hollenstein, 2013). Over time, behavioral patterns stabilize and become

increasingly predictable. When a perturbation occurs, the system tries to return to a previous condition out of self-conservation. However, there might be some perturbations that produce a change or transformation in the system. This happens when the system adjusts to new ways of functioning, for instance, accepting and incorporating a new emergent pattern.

With these theoretical backgrounds as interpretive and selective lens, we base the paper on research studying emergent processes of classroom interactions that foster creativity and meaning-making activity.

#### Micromoments of creativity

The notion of *micromoments* (Beghetto, 2013) is fundamental for grasping learners' creative potential. Defined as "brief, surprising moments of creative potential that emerge in everyday routines and planned activities" (Beghetto, 2013, p. 5), micromoments unfold when *planned* and *life* curriculum crosses each other, and new off-script ideas originate (Kaufman & Beghetto, 2009). The novelties arise from students, and they can be conceived as signals of something personally elaborated and produced, able to generate a space for teachers and students to explore, learn and experience something unscripted and unplanned.

In more details, classroom micromoments are opportunities for emergent creativity (Csikszentmihalyi, 2014; Robinson, 2011) that is associated with unpredictability, original thinking, doing something in a way never done before, and taking initiative, to mention but a few outcomes (Abdul Halim, Kingsbury, & Drage, 2013). In Vygotskian terms, creativity reminds the concept of imagination, which is intrinsically social as it always taps into reality and experience. For the combination of already known and new elements, creativity and imagination need the activation of both emotional and intellectual factors, as in pereživanie (Lindqvist, 2003).

Going deeper into creativity analysis, Kaufman and Beghetto (2009) introduced a distinction between *Big-C*, that is, creativity with capital C, and *little-c*, with lower case. Creativity with Big-C corresponds to an explosive artistic inspiration, belonging to few gifted ones, while ordinary, everyday, self-expression little-c creativity is a quality of participation, emotional involvement, motivation in learning activities that can be found in nearly all people.

The same authors also expand this dichotomy by proposing a Four C model of creativity, with two more creativity types added: *mini-c* creativity, which is inherent in the learning process, and *Pro-c*, which represents professional expertise in any creative area. Mini-c creativity can be learned at school, as it is day-by-day developed. Also, it is individually but at the same time socially developed in a particular collective cultural context. In line with the Vygotskian conception of cognitive and creative development, all individuals have a creative potential. It is an internalization or appropriation of cultural tools and social interaction, not so much in terms of imitation but rather as transformation and reorganization of the incoming information and mental structures, based on the individual's characteristics and existing knowledge. In this sense, personal creativity originates from a shared meaning system: it makes sense because it is related to previous ideas, it has a social frame, it happens in a social environment and it is never isolated.

The Pro-c creativity type is synonym of professional expertise, as it helps students to develop little-c creativity. The need to train teachers' capacity to respond to unexpected curricular moments is pointed out by several authors, who emphasize that teaching can support creativity and cheer all the activities that enable thinking 'out of the box' (Eadie & Lymbery, 2007; Kirkendall & Kirshen, 2015). With Pro-c, teachers can cultivate classroom awareness and exploit micromoments' creative potential to promote original learning opportunities. According to Şahin (2014), a constant feedback, good personal relationship between mentors and mentees, and providing support for mentees' development of personal ideas increase creative skills. Yi, Plucker, and Guo (2015) also confirm the role of mentoring, modeling, guiding, and building a supportive environment to creative potential development.

Moreover, the combination of originality and appropriateness to a specific context characteristic (Beghetto & Kaufman, 2014) has to be considered. For example, teachers might like to promote creative skills, but they might also be afraid of chaos or wasting time. Teachers should be encouraged to participate in experiences that lead students to learn how to take care of their own creativity, in a responsible way, respecting time and space, providing supportive, constant and honest feedbacks. In this sense, creative skills imply knowing how to respond to many stimulus at the same time, flowing with trust, risk taking, welcoming new ideas, but never forgetting context appropriateness and task demands.

Enhancing Pro-c is a valuable tool for teachers. Many researchers in fact report that students appreciate creative activities that also increase their learning motivation (Morais & Azevedo, 2011). A creative classroom context supports risk-taking, for it could be linked to the drifting from curricula and accepting unpredictable learning situations. Overall, these results support the idea that fostering creativity incentives students' agency, it empowers them in problem-solving skills, and it offers tools to successfully overcome new challenges (Catala, Jaen, Pons, & Garcia-Sanjuan, 2014).

Catching emergent opportunities for creativity in classroom talk

Thanks to Pro-C, teachers develop the ability to seize the unexpected, transform lessons by including novelties, and respond flexibly to the classroom needs by tuning in with the group (Lunkenheimer, Shields, & Arbor, 2012). When ready to grasp the motivational movements and the emotions going underneath and to convert them into learning experiences (Mason, 2002), attentive teachers foster pereživanie in their classrooms. Whether or not opportunities to nurture students' motivation and curiosity will be addressed or missed, it has important implications for teaching and learning processes.

When emergent opportunities are grasped, discourse opens up to a sort of expansion, like a floating space spontaneously created in the system, in which teacher and students leave for a new adventurous journey, unknown, unexplored and unplanned. During any kind of lesson or school activities, these emergent happenings or stances have the potential for meaning making, as they can transform the participant structures, the relationships among classroom members and even the relations between the students and the subject matter (Cornelius & Herrenkohl, 2004).

In a series of observational studies carried out overall in primary schools, the dynamic and process dimension of the interactions unfolding in classroom life were analyzed (Mameli & Molinari, 2013; Molinari & Mameli, 2013). In the frame of developmental system theory, the concept of *microtransitions* was used to indicate a change in the participant structures

and power relationships among classroom members. Such change is introduced by a signal of an emerging discursive shift, corresponding for instance to an unsolicited student question, to the increasing tone of classroom noise, to a comment or a reply that reveals original thinking. These signals produce a perturbation in the ongoing interaction. However, if they are ignored or refused by the interacting system, they will simply be 're-absorbed' and no transformation will take place. For the signal, or *turning point*, to be effective in producing a microtransition, two fundamental properties of the process have to be fulfilled. First, it should break a condition of stability; secondly, it should cause a clear and visible reaction in participants, who thus confirm that the system is open to incorporate the signal by going through a microtransition. When this happens, classrooms experience a blended interactive flow that favors relational shifts and enhances novelties. Grasping turning points by going through microtransitions is thus a means for a new space activation, a negotiation land fostering creative meanings.

#### Creativity in original thinking

In the sociocultural approach, the importance of student agency and active role is widely recognized (Mercer, 2000) as central to learning processes. In this direction, common knowledge and understanding are at the core of a collective creative meaning making activity that is fostered by teachers' attitudes in their teaching routines. If teachers are really interested in listening to what students are saying, their real curiosity drives class interaction towards students' original and creative thinking, thus promoting a meaning making activity. We describe this attitude as *aboutness*, since the underlying message of this kind of teaching is 'I am willing to listen to what you do think about it'.

According to Boyd and Markarian (2011), classroom talk should be based on trying to understand students' points of view, and building knowledge from what students tell in a precise moment. In this perspective, students are considered culture and values owners, those who lay the first stone in their own learning process. Quoting words from a teacher interviewed by the authors:

I think most learning starts with the learners and goes from there. And so to start with their reading logs or what they are talking about and try to expand on that and to bring other things into that ... when they say something it might be the perfect opportunity to slide something in. (Boyd & Markarian, 2011, p. 515)

In this way, teachers do have the possibility to encourage their creative role in the ongoing flow of classroom social interaction (Kumpulainen, Lipponen, Hilppö, & Mikkola, 2014).

In an interesting work on learning Swedish as a second language, Majlesi and Broth (2012) build upon this view by arguing that, in social interactions, participants can engage in a cooperative process through which any *object* of learning can be turned into a *relevant object* of learning or, as they call it, into a 'learnable'. A *learnable* is thus defined as "whatever is interactively established as relevant and developed into a shared pedagogical focus" (Majlesi & Broth, 2012, p. 193). For its characteristics, a learnable is the result of mutual orientations in the unfolding interaction meaning-making processes, involving cognitive skills (Garfinkel, 2002). It is a kind of choral, polyphonic, creative instant knowledge, not ready-made but self-built, *hic et nunc*.

For these characteristics, learnables are emergent and co-constructed by teacher and students. They do not form part of the academic syllabus, nor can they be pre-planned by the teacher, but rather they arise during classroom interactions due to the learners' own initiatives. To create a learnable, teacher's flexibility and improvisation skills are needed. S/he is present (Mason, 2002) to what happens in class system and available to receive prompts that the students spontaneously may offer.

Emotions can become learnables, too. We draw on this assumption by referring to what Muller Mirza, Grossen, de Diesbach-Dolder, and Nicollin (2014) have called 'secondarisation', that is, a process transforming personal experience and emotions into thinking forms. Focusing on cultural diversity education, these authors have argued that when school subjects are particularly close to personal experience, and therefore emotionally salient, a transformation of these emotions into something learnable and knowledgeable is crucial for learning, development and identity (Grossen, 2010; Gillespie & Zittoun, 2010). Through secondarisation, students can transform their emotional reactions and feelings into a communicable form for themselves and other students, thus turning an emergent affective event into a learning opportunity.

The emergence of emotional experiences in class mood and flow

"Both the calm and the flurried moments of classroom life are permeated by moods that influence children's learning experiences" (Stone & Thompson, 2014, p. 309). With this incipit, the authors introduce their article on *classroom mood*, described as an emotional condition created by group dynamics in classroom context during teaching learning processes. For its characteristics, the concept of classroom mood is strictly linked to what we have discussed so far. In fact, it is conceived within a Vygotskian frame, stressing the dialectical relation between emotions and learning (pereživanie) as well as between the individual and the collective. Moreover, it is described as a socially emergent process that unexpectedly arises and spreads in the classroom during a lesson.

Quoting authors' words, "mood becomes social without ceasing to be individual" (Stone & Thompson, 2014, p. 311). According to this definition, mood is not to be confused with a subjective emotional state, but it is rather created in a context and in a temporal frame. Class mood is in fact featured as a collective, spontaneous and unpredictable co-construction that develops across time and space. Mood passes by time, because it is a diachronic back-and-forth emergent movement, arising from interactive processes. Mood unfolds in space, because it is located in the interactional context, thus existing between and beyond individuals.

For these properties, classroom mood is an insightful concept to describe what occurs unexpectedly in everyday school life. However, scholars face a powerful challenge when they come to the methodological level. Is it possible to observe and especially to measure something that occurs across time and between individuals? By drawing on the assumptions of several authors (Ervin-Tripp, 1976; Goodwin, 2007; Ochs, 1992), Stone and Thompson (2014) have proposed that the concept of *stance*, an anthropological linguistic construct widely used in many different fields, is heuristically suitable to identify class mood and to observe how it emerges across time from social agents' interactions.

Generally speaking, a stance (Englebretson, 2007) is a statement indicating an interactively produced point of view. It is possible to distinguish between two types of stance. An *affective stance* indicates an emotional state related to what others are saying

(Goodwin, 2007); whereas an *epistemic stance* (Ochs, 1996) implies a knowledge-based relationship with what others are assuming. In one of the few studies applying the stance construct to a classroom context, Stone and Thompson (2014) have carried out an ethnographic analysis of a first-grade classroom engaged in literacy activities. Their results showed that a stance-taking process (Du Bois, 2007) made by the combination of epistemic and affective stances favored the establishment of a positive, collaborative class mood.

The construct of flow was also used to argue about the relationship between cognition and emotion in classroom life. Csikszentmihalyi and Csikszentmihalyi (1991) described flow as an intense emotional condition that can be experienced while learning. An optimal flow experience happens when there is a balance between a task challenge, on one side, and personal skills, on the other.

This phenomenon has been analyzed in studies of different school settings (Abbott, 2000; Egbert, 2004; Shernoff, Csikszentmihalyi, Schneider, & Shernoff, 2003) focusing on the student subjective or individual experience of flow. If challenge perceptions and personal skills are unbalanced, then either failure fear or boredom might happen, with a negative impact on learning. Failure fears may occur when task challenges are too high as compared to personal skills; boredom feelings may arise when personal skills are too high as compared to task challenges. However, and more interestingly in our point of view, the same process can also resolve into a group experience. Sawyer (2006) describes the process of *group flow* as a collective state evident when a group performs to the best of its abilities.

In the classroom, the creation of a group flow depends on the synchronization of physical and verbal behaviors, when teacher and students mirror and echo each other mutually, either in gestures, words, or thoughts. These movements recall the basic assumptions of developmental system theory. As adaptive and self-organizing complex systems, classrooms are lands of shifts and dynamics through which individual members influence and are influenced by the system as a whole. This helps to generate a sense of 'togetherness' for the involved participants, which is strictly bound to emotional arousal.

In a study on small groups working in middle school mathematics classrooms, Armstrong (2008) has explored the conditions that helped to promote the occurrence of classroom flow. In this study, group flow was observed through verbal (tone of voice, echoing and repeating words/phrases, rate of speech, fragmentation of speech), nonverbal and physical (posture, positioning, gestures, facial expression) aspects. Notwithstanding the use of systematic observation and a rigorous analytic approach, Armstrong concluded that seizing group flow is not an easy task, for it can last only a few minutes and then it fades away, to come back again. It is a kind of 'floating' condition, not always occurring and sometimes not orchestrated either.

More research is certainly needed in this direction. Nonetheless, the impact of this construct for the understanding of classroom meaning making activity is noteworthy. Group flow indicates that the task is stimulating, sensed as appropriate to group possibilities. When this phenomenon is perceived in the classroom, collaborative creativity stands out, inter thinking is experienced, and the group feels rewarded for its engagement. Eventually, joy, participation and enthusiasm arise, with an important beneficial impact on teaching and learning.

#### **Conclusion and Discussion**

Coming to the end, we are aware that we have been facing a peculiar reality. Classrooms are complex adaptive systems, daily school interactions are multiple and various, springing and fading away, with landscapes changing moment by moment.

Research in such heterogeneous reality implies methodological challenges. 'Seizing the day' in classroom routines is a fascinating and at the same time difficult process, as Sawyer (2006) and Armstrong (2008) point out. Nonetheless, we suggest the importance of further research able to improve our understanding of how creative meaning making activities can arouse and be fostered in classroom systems. In school, opening to new experiences and promoting creativity arise motivation and facilitate interaction. For this process to occur, teachers should give space to novelties, trust moment-by-moment lesson unfolding, encourage spontaneity and original thinking in a safe, inclusive and nurturing school environment (Yi, Plucker, & Guo, 2015).

Awareness about how classroom interactions unfold enables expanding opportunities for students' emotional competence, responsibility and agency to develop. These skills can also prepare students to participate in social life, once outside school. Thinking and engaging together in classroom activities, thus, are means to share social reality: experiencing social dynamics, students learn to face the 'outside'.

Finally, to think 'out of the box', a box is required. Thus, school curriculum is a safe, training base to start from, and to come back to. In this 'dancing' from subjects to life, and from life back to school routines, we stand for research to go further in supporting learning as an adventurous, emotional, motivational, responsible activity.

#### **Notes**

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