The unit of analysis is a central piece in any methodology - it determines the object of the inquiry, constituting thus a worldview on what we can and cannot discover about learning in any empirical study. In the growingly diverse landscape of learning research, with various theoretical and methodological frameworks emerging, being clear about our units of analysis becomes a matter of utmost importance. Otherwise, we may believe we are talking about the same phenomena (e.g., learning, agency, motivation) and in fact be talking past each other. This is especially relevant in the present times, where collaboration to address collective problems in and beyond education is perhaps more urgent than ever.

Brought to the stage by the Gestalt psychologist at the beginning of the 20th century, through their criticism of the reductionist approaches employed in experimental psychology at the time, the unit of analysis remains a matter of scholarly concern. Whereas special issues have been devoted to discussing the compatibilities and incompatibilities among competing epistemological and methodological approaches in learning research (Mason, 2007; Tobin, 2008), the question of the unit of analysis often remains in the background, making it more difficult to judge the feasibility of collaborations and dialogue across research traditions. In his 2009 article, in the analysis of a stance-taking article by Alexander and colleagues (2009), Säljö judiciously reminds us that defining the unit of analysis as a methodological instrument has always been difficult. While all scholars agree that learning and education are important and are committed to making the task of learning research more relevant and concrete, the splintering of the field along theoretical and paradigmatic ‘fault lines’ (Alexander et al., 2009, p. 177) has led to divergent perspectives on what the unit of (observation and) analysis may be.

By taking a critical stance, along Säljö and other theorists, with regard to the state-of-affaires concerning the unit of analysis, we acknowledge that there is no unitary definition with compendious coverage and propose two main postulates that guide our inquiry and provide a red thread for the argument in this special issue. First, as others in our field (e.g., Matusov, 2007), we follow in the footsteps of Vygostky’s thought that the unit of analysis ‘designates a product of analysis that possesses all the basic characteristics of the whole’ (original emphasis) (Vygostky, 1987, p.46). While prescriptive, this perspective advocates for considering the unit of analysis that displays the salient characteristics of the respective phenomenon; as opposed to partitioning a phenomenon into separated ‘elements’ that are to be put back together by the researchers. In this way, our quest for better understanding unit of analysis in educational research also is a quest for being more specific, as a collective, on the different understandings that are present in our field of what learning is, and how it can be studied. This approach also reminds us that, in learning research, the choice of a unit of analysis, involves considering the the social and psychological processes involved in learning as complex wholes, and not as a set of disconnected dots.

Second, we distance ourselves from a normative perspective advocating for a generically ‘appropriate’ unit of analysis. We pose that the unit of analysis, in essence, the what, where, who, or when of learning (Säljö, 2009) is to be decided/explained in accordance with the nature
of the learning phenomenon in focus and in a universal, definitely not ‘context-free’ conjuncture. With research being inevitably a ‘reductionist enterprise’ (Säljö, 2009, p. 202), a situative approach allows us avoiding, to a certain extent, the dangers of over-reductionism lurking on the side. Concurrently, as many would immediately observe, this also brings about the issues related to the problem of holism, which is seen as a complicating and perhaps impossible methodological task; and one we do not debate. Instead, in agreement with Matusov (2007), we adhere to a view according to which any formulation of a unit is to be kept open, partial and incomplete in the sense of always leading to further collaborative inquiry. This involves that the unit(s) of analysis is(are) defined ‘in part by the study’s object, in part by the researcher’s focus, in part by the audience of the research and in part by the research participants (as distinct from the research object)’ (Matusov, 2007, p. 325). This opens an array of possibilities for analyses that take into consideration the unit of analysis and its interconnections with the bigger contexts/systems/ecologies within which the studied phenomenon is situated. In the spirit of scholarly exploration and attempting methodological enrichment, all of the contributions in this special issue, in one way or another, engage with aspects charted by this approach.

Clarity and transparency with regard to the unit of analysis has potential to do justice both to the learning phenomenon in focus and to the quest for methodological rigor. In addition, we claim that, because the unit of analysis does not only constitute a worldview or field of observation but also a field of action, it not only determines how we will understand topics related to learning but also how we will proceed about them when drawing implications for practice. This means that a focus on unit of analysis not only embeds ways of doing research, but also the seeds for how this research may offer horizons for and become translated into actual educational practice. This is a latent transformative potential in any empirical study, but ought to be especially relevant in a time in which deep and rapid societal changes demand a more socially engaged and compromised educational scholarship.

In this special issue, we bring together contributions from diverse theoretical and methodological traditions within learning research, in which the unit of analysis is made explicit both with respect to concrete empirical cases and to the implications that each of these have for learning research and practice. The goal is to offer researchers and practitioners an overview of the frameworks, approaches and diverse research tools available in the current research on learning, making the different units of analysis and their theoretical and methodological implications explicit, thereby expanding opportunities for dialogue and development. A value added to prior discussions on the topic concerns the fact that each contribution discusses these theoretical and methodological implications with regard to the potential each unit has for facilitating change and development in educational practice, offering thus input for imagining a transformative agenda.

In the first contribution, Jornet and Damşa engage in a meta-theoretical discussion of an ecological perspective that takes relations between persons and their social environments as the starting point for defining units of analysis. Their approach attempts to move beyond the individual/social dichotomy, instead identifying two different logics that support the definition of the unit. Where a formal logic conceives objects of study in terms of things and their relations, an ecological logic defines worldly objects in terms of their histories of mutual development. The article elaborates on a general, meta-theoretical framework that defines constitutive features of any unit of analysis labeled as ecological, which is illustrated through
the analysis of empirical material displaying creative teaching practices in an arts-based school community. In terms of implications to educational research and practice, the article concludes with a reflection on the importance of identifying teaching and learning social, historical practices for what makes them such and such practice, rather than relying on generic definitions.

Markauskaite, Goodyear and Sutherland draw on grounded cognition and the notion of (conceptual and material) blending to identify actionable conceptualisations as a unit of analysis for examining complex professional action. This conceptual exercise is illustrated through analyses of the way pre-service (student) teachers enact formal disciplinary and pedagogical concepts during lesson design meetings. The eight multimodal moves identified as dimensions of this unit of analysis reveal how relevant features of formal concepts get transferred to new practical contexts, and also how new actionable conceptualisations dynamically emerge from diverse conceptual, material and other multimodal inputs.

In the third article, Ritella, Rajala and Renshaw discuss the notion of chronotopes as analytical framework for examining interaction unfolding over time and spaces, where both discursive and material aspects of space-time relations are considered and seen as mutually interdependent. The article introduces and discusses four dimensions of chronotopic units of analysis foregrounding processes, dialogicality, material-discursive features of space-time, and interdependency of space-time, derived by examining how our own and others’ investigations have been able to make visible educationally relevant phenomena related to space-time, illustrated by use in exemplary studies.

The fourth contribution by Dieumegard, Nogry, Ollagnier-Beldame and Perrin, presents a compelling conceptualisation and elaboration of a framework that takes ‘lived experience’ as unit of analysis, which the authors argue provides a view of learning processes “from within.” Through analyses of two datasets, documenting a lesson planning activity and a swimming lesson, the authors show how lived experience, as a unit of analysis, is irreducibly individual but it is also intertwined with the material and social world with which the subject interacts. They argue that this unit of analysis implies reconstructing the dynamics of the learner’s coupling or interaction with the environment, adopting the point of view of the subject to comprehend the engendering of the examined activity.

The fifth article, by Chan and Clarke, extends the scope of the collected contributions by discussing issues arising from the consideration of the unit of analysis in multi-theoretic research designs. It engages in problematizing the nature of the unit of analysis in this context and elaborates on issues of coherence between the identified constructs and the theories, and between each unit of analysis and the construct it performatively represents. The discussion is illustrated through parallel analysis of pupils’ interaction data from a project that examined individual, dyadic, small group and whole-class problem-solving and learning in mathematics. The authors conclude that analyses informed by different theories possibly require different units of analysis, emphasizing that strategic consideration of the units of analysis can facilitate the identification of connections and distinctions across multiple theories.

Lund and Vestøl reflect on the nature of the unit of analysis in the context of their empirical examination of student teachers’ transformative agency. The study uses Vygostky’s principle of double stimulation as a lens for establishing and discussing a unit of analysis that captures processes, dynamics and the dialectics that reflect transformative agency. Building on “empirical snapshots” of teacher students’ problem solving during an intervention study aimed at fostering professional digital competence, the authors define (and employ) a dialectical unit
of analysis as a reductionist heuristic that affords explanatory power through a dialectics that captures the mutual contingency and constitution of agents, contexts and artifacts, leading to transformative enactment and opportunities for agency expansion.

Finally, two final commentaries by Roger Säljö and Nina Bonderup Dohn reflect upon the special issue’s theme and on the various perspectives proposed by the different contributions, further emphasizing compatibilities and incompatibilities across units of analysis and the different prospects these provide for future research on learning practice.

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