Abstract
Senior university students taking an internationally distributed project course in computer systems find themselves in a complex learning situation. To understand how they experience computer systems and act in their learning situation, the what, the why, the how and the where of their learning have been studied from the students’ perspective. The what aspect concerns the students’ understanding of concepts within computer systems: network protocols. The why aspect concerns the students’ objectives to learn computer systems. The how aspect concerns how the students go about learning. The where aspect concerns the students’ experience of their learning environment. These metaphorical entities are then synthesised to form a whole.

The emphasis on the students’ experience of their learning motivates a phenomenographic research approach as the core of a study that is extended with elements of activity theory. The methodological framework that is developed from these research approaches enables the researcher to retain focus on learning, and specifically the learning of computer systems, throughout.

By applying the framework, the complexity in the learning is unpacked and conclusions are drawn on the students’ learning of computer systems. The results are structural, qualitative, and empirically derived from interview data. They depict the students’ experience of their learning of computer systems in their experienced learning situation and highlight factors that facilitate learning.

The results comprise sets of qualitatively different categories that describe how the students relate to their learning in their experienced learning environment. The sets of categories, grouped after the four components (what, why, how and where), are synthesised to describe the whole of the students’ experience of learning computer systems.

This study advances the discussion about learning computer systems and demonstrates how theoretically anchored research contributes to teaching and learning in the field. Its multi-faceted, multi-disciplinary character invites further debate, and thus, advances the field.

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