5 - Teaching-Learning Sequences as Innovations for Science Teaching and Learning | Empirical

SP - (15807) - HOW SEPARATING EVERYDAY AND SCIENTIFIC LANGUAGE IN CHEMISTRY TEACHING ENHANCES LEARNERS' COMMUNICATIVE COMPETENCES

Robert Gieske (Germany)[1]; Claus Friedrich Bolte (Germany)[1]

1 - Freie Universität Berlin

Short Abstract

The pursuit of Scientific Literacy as a response to questions of educational inequality has become much more complex, especially in countries like Germany which have faced immigration and growing diversity in recent years. STEM education should therefore pay additional attention to the diverse backgrounds of students, for instance regarding their language resources. Integrated language instruction or language-sensitive teaching are among various approaches to meet this requirement, however, there still seems to be a lack of initiative from the individual subject areas.

The disaggregate instruction approach (Brown et al., 2010) addresses the issue by offering learners new ways to access scientific discourse. Learners with beginner and developing verbal skills benefit greatly from the strict separation of subject-content and language learning. This approach reduces the cognitive load through allowing students to focus first on everyday language, and then scientific vocabulary. Picking up the very promising findings from previous studies, we adapted the approach to the conditions in a culturally as well as linguistically highly diverse area and plan on conducting an intervention study with first-year chemistry learners to gather data on how they might profit from disaggregate instruction. The focus of this presentation centers the initial results of the analysis of explanatory texts aimed at addressees with varying knowledge.