7 - Discourse and Argumentation in Science Education | Empirical

SP - (15979) - DIPPING INTO THE ART OF WRITING SCIENCE: A TASK-BASED APPROACH TO BIOLOGY EDUCATION

Johanna Taglieber (Austria)[1]; Barbara Hinger (Austria)[2]; Suzanne Kapelari (Austria)[1]

1 - Universität Innsbruck, Department of subject-specific Education; 2 - Universität Graz, Institute of Romance Studies

Short Abstract

This study explores the effects of a task-based intervention on the development of year 9 biology students' scientific interlanguage in informative writing tasks. Based on the assumption that subject-specific language acquisition is comparable to second language acquisition, the study transfers Task-Based Language Teaching (TBLT) – a well-established approach from foreign language education – to science education. The first aim of the study is to design a pedagogic task-sequence for biology education that follows TBLT guidelines. The pedagogic task asks students to write lexicon entries based on specialist texts, addressing their fellow students. In these lexicon entries, the students define, describe, and explain concepts related to cytology, microbiology, and immunobiology. The task-sequence structures the learning process into (i) a pre-task phase including concept mapping and text analysis, (ii) a task cycle with planning and writing, and (iii) a post-task phase with peer-feedback, teacher-feedback, and revision. The second aim of the study is to explore the effects of the task-sequence on the learners' scientific interlanguage by means of a small-scale intervention study with pre-post-test design. The pre-post-tests include (i) a word association test, and (ii) a writing task. In addition, we use questionnaires to get background information about (iii) the students' linguistic background, (iv) their interest in reading and writing, and (v) their situational interest. The pilot studies (N_{P1}=26; N_{P2}~20) serve to refine the task-sequence as well as the tests. Data from the main study (N~20) describe the effects of the task-sequence on the scientific interlanguage development of individual learners and the whole group by means of qualitative content analysis on word, sentence, and text levels.

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