

7 - Discourse and Argumentation in Science Education | Empirical

SP - (15916) - SUPPORT WRITTEN EXPLANATION IN PHYSICS LESSON

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Short Abstract

Linguistic actions such as explaining are an inherent part of the educational standards for physics (Tajmel, 2011). Scientific explanations have a specific structure that is also linguistically differentiated (Osborne & Patterson, 2010). In the project, the realisation of explanations in physics lessons is promoted in terms of subject-conceptual structure and language. In a pilot study with 5 comprehensive school classes, the pupils created explanatory videos in which they had to explain the movement of a launching spaceship based on the forces that occur. They had to write script texts beforehand and, depending on the group, revise them using purely subject-conceptual, purely linguistic or subject-conceptual and linguistic combined scaffolds to structure the explanatory texts. The analyses using a coding manual, t-test and Kruskal-Wallis test shows that subject-conceptual and linguistically combined scaffolds are most likely to help in writing an explanation.