

7 - Discourse and Argumentation in Science Education | Empirical

SP - (15973) - EXPLICIT DISCOURSE STRATEGIES FOR SCIENCE TEACHER EDUCATION

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Short Abstract

The purpose of this paper is to examine the discourse strategies used by science teachers and to distinguish between implicit and explicit strategies. Every science teacher – unconsciously or consciously – uses a range of discourse strategies to achieve a particular goal in the teaching of science. However, many of these discourse strategies are implicitly (unconsciously) used such that most teachers are not even aware of their existence and usage. This paper presents an argument that we need to make the implicit discourse strategies used by science teachers explicit, so that they can be examined, highlighted, and discussed for teacher education. Using data from a three-year study, this paper illustrates the difference between implicit and explicit discourse strategies in two specific areas – fostering teacher-student interaction and constructing scientific explanation, and shows how implicit or explicit strategies can respectively prohibit or promote learning in those areas. This paper draw our attention to many implicit discourse strategies that are detrimental to student learning so that we can discuss what needs be improved. At the same time, it makes the teaching by exemplary teachers more explicit so that their effective discourse strategies can be codified into a teachable language and form of knowledge for novice teachers to learn.