# Using self-regulation as a framework for implementing strategy instruction to foster reading comprehension☆

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## Abstract

Research on the implementation of reading strategies suggests that self-regulated learning might be a powerful framework to optimize effects on reading comprehension. Models of self-regulation emphasize that the teaching of strategy knowledge (*Strat*) has to be complemented by offering skills of cognitive (*CSR*) and motivational (*MSR*) aspects of self-regulation. In order to investigate whether all aspects of this model have to be carried out under regular classroom conditions, three different strategy programs (*Strat + CSR + MSR* vs. *Strat + CSR* vs. *Strat*) and a control condition were compared. Within a pre-, post-, and retention-test design with 20 classes, comprising of 593 fifth-graders (11 years), development of strategy knowledge, reading comprehension, school-related self-efficacy, and motivational orientation towards learning goals were assessed. While all strategy-oriented programs proved to enhance reading competence, understanding of reading strategies and competence for application of reading strategies, gains in self-efficacy did not differ from the control condition. As regards the retention test, the program that covered all aspects of strategy instruction (*MSR + Strat + CSR*) showed strongest effects as predicted by self-regulation theory.
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## 1. Introduction

The results from PISA (OECD, 2002) made it clear that in Germany — as in some other countries — there is a need for change in reading instruction: among the 23 countries within this study, Germany was one of 14 scoring significantly below the OECD average. A second reason for concern in this evaluation of education systems was that no country showed a wider spread of scores than Germany.

Since the 1980s, there has been broad consensus that strategy-oriented instruction is a powerful approach to foster reading comprehension (Dole, Duffy, Roehler, & Pearson, 1991; Paris, Wasik, & Turner, 1991; Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989). As a consequence, several reading-strategy programs have been developed and evaluated (Brown, Pressley, Van Meter, & Schuder, 1996; De Corte, Verschaffel, & van de Ven, 2001; Duffy et al., 1987; Guthrie et al., 1998; Palincsar & Brown, 1984; Paris & Oka, 1986).

Most of these approaches share a theoretical background which can be described in terms of instructional models of self-regulated learning (e.g., Boekaerts, 1999; Pintrich, 2000; Schunk & Zimmerman, 2003), the good information processing model (Pressley, Borkowski, & Schneider, 1989) and cognitive theories of text comprehension (Kintsch, 1998). There is broad agreement that strategy instruction should be direct and explicit, giving conditional metacognitive knowledge about when and how to use a strategy (Paris, Cross, & Lipson, 1984; Pressley, Snyder, & Cariglia-Bull, 1987). It should use carefully structured tasks, which explain exactly how to accomplish the tasks and provide corrective feedback (Dole et al., 1991; Garner, 1987). There also seems to be no doubt that the process of internalizing strategy use should be supported by instructional aids such as modelling, guided practice, scaffolding and reciprocal teaching and offering various opportunities for practice, transfer, and co-operation among students (Pressley, Goodchild et al., 1989). However, even though there is a large body of research dealing with the implementation of strategy instruction (Duffy, 1993; Kline, Deshler, & Schumaker, 1992), some questions concerning the initial phase of moving strategy instruction into the classroom remain open.

## 1.1. Instructional script vs. teacher education

As a first step it has to be decided whether teachers should be provided with an instructional script (e.g. De Corte et al., 2001; Paris & Oka, 1986) or if strategy instruction can be moved into the classroom by teacher education that combines staff development, supervision, and coaching (e.g. Brown et al., 1996; Guthrie et al., 1998). There are good arguments for both approaches. As Kline et al. (1992) state, providing teachers with materials and equipment is an effective way to reduce barriers to strategy instruction. As regards Guskey's (1986) model of teacher change, teachers need to examine the experience of changes in students' learning results before changing their own beliefs and attitudes towards new teaching methods. According to this model, giving teachers the opportunity to use a fully developed program could be helpful to initiate further use of strategy-oriented reading instruction. A difficulty within this approach might be that providing teachers with a fixed program runs the risk of an inflexible use of strategy instruction (Duffy, 1993). In this line of argument, teacher-generated education should be favoured against using instructional scripts. In the long run, teachers will have to develop an integrated concept of strategy instruction with the aim of giving students an idea of using reading strategies in a self-regulated fashion. However, as Brown and Pressley (1994) or Guthrie et al. (1998) state, following this approach needs at least two years of staff development with many opportunities for feedback and reflection on classroom activities. Integrating these points of view on the implementation of strategy instruction, starting with a program that has been worked out seems to be useful, especially when teachers expect − as they would in Germany − that in-service education means being provided with teaching materials.

Since the focus of our investigation is on whether the implementation of reading-strategy instruction into the classroom can foster reading competence, we decided to develop and evaluate a program that had been worked out. According to the findings of Kline et al. (1992) and Guskey (1986), this seems to be the appropriate way for the initial phase of instructional change.

## 1.2. Fostering reading comprehension within a framework of self-regulated learning

As a second step decisions about the contents of the program have to be made. As mentioned above theoretical frameworks of self-regulated learning cover most of the aspects that are discussed in the field of promoting reading comprehension. Following Boekaerts' (1999) three-layered model of self-regulated learning, students are in need of strategy knowledge, special skills to direct their own learning to find a good orchestration of strategies and additional competence in motivational and emotional control in order to initiate and maintain learning activities. As in the special case of reading comprehension instruction some essential reading strategies should be integrated into a learning environment that comprises the teaching of both cognitive and motivational regulation competence.

Although well-controlled experiments show the effects of many specific reading strategies, teaching multiple comprehension strategies during a short time turned out to be rather ineffective (Brown & Pressley, 1994; Dole et al., 1991; Pressley, Goodchild et al., 1989). As a consequence it seems useful to choose only a few strategies which students can rely on.

In Kintsch's (1998) cognitive theory of reading comprehension a distinction is made between three levels of understanding within the representation of a text: a linguistic level of representation, a conceptual level representing the meaning and structure of a text (the textbase) and a level integrating information from text and from the reader's prior