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Teaching Behaviors, Academic Learning Time, and Student Achievement: An Overview

Charles W. Fisher, David C. Berliner, Nikola N. Filby, Richard Marliave, Leonard S. Cahen, and Marilyn M.

Abstract: The purpose of the Beginning Teacher Evaluation Study1 (BTES) was to identify teaching activities and classroom conditions that foster student learning in ele- mentary schools. The study focused on instruction in reading and mathematics at grades two and five. During the multiyear series of substudies comprising BTES, a va riety of issues were addressed; data from several samples of teachers and students were collected and ana- lyzed. Depending on the question being asked, various data collection techniques were used, including ethno- graphy, stimulated recall, interviews, teacher and stu- dent self-report, objective observation, and testing. As the study progressed, a model of classroom instruction and student learning evolved and provided the concep- tual framework that guided the final empirical stage of the study. The development of the model is in itself one of the more important outcomes of the study.

The following discussion will present (1) a brief de- scription of the model as it applies to the acquisition of reading and mathematics skills in elementary schools; (2) an overview of the methods used in the final field study; (3) the major findings of the study; and (4) some implications of the study for the practice of teaching.

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Teachers' Beliefs and Behaviors: What Really Matters?

Daniel Muijs, David Reynolds

Abstract: In this study, we looked at the relationship between teacher behaviors, teacher beliefs, teacher self-efficacy, and teacher subject knowledge with student achievement in mathematics. Data was collected from 103 primary school teachers and 2,148 students in the UK using achievement tests, classroom observation, and questionnaires. Structural equation modeling was used to test the hypothesis that all these factors would have a direct or indirect effect, with the factors most proximal to student achievement (teacher behaviors) having the strongest direct effect while more distal factors (e.g., teacher beliefs) influencing student achievement indirectly. This hypothesis was not rejected by the data.

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How Time is spent in Elementary Classrooms

Barak V. Rosenshine

Abstract: The Beginning Teacher Evaluation Study provides us with valuable information on how time is spent in elementary classrooms. Some of the major topics are: the average minutes per day which students spend engaged in reading and math activities, student engagement rates in different settings (that is, teacher-led settings versus seatwork) and suggestions on how student engagement rates might be raised. At the same time, BTES and similar studies also help us understand the limitations of increasing engaged minutes in classrooms. The results should be read with caution to avoid misinterpretation. The Beginning Teacher Evaluation Study was limited to the investigation of instruction in reading, language arts, and mathematics in second and fifth grades. The students were within the average range - from the 25th to the 65th percentile on the pretests - brighter and very slow students were not included in this study. Although the focus in this study is on basic skills, one should not conclude that the entire day should be devoted to instruction in these skills. Although the focus is on academic engaged minutes, we do not know, as yet, how many minutes are necessary for adequate progress by average, below average, or above average students. These data are intended to describe cur- rent practice; they are not intended to prescribe teaching methods.

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Re-conceptualizing "Scaffolding" and the Zone of Proximal Development in the Context of Symmetrical Collaborative Learning

Manuel Fernandez, Rupert Wegerif, Neil Mercer
The Open University, United Kingdom

Sylvia Rojas-Drummond
Universidad Nacional Aut6noma De Mexico

Abstract: The linked concepts of 'scaffolding' and the Zone of Proximal Development (ZPD) were originally applied to the context of asymmetrical teaching and learning with a teacher or adult explicitly supporting a learner, usually a child, to achieve tasks beyond their ability when working alone. In this paper we investigate how these concepts need to be re- conceptualised if they are to be applied to the different con- text of symmetrical learning amongst groups of peers. We present two separate studies. In the first one we analyse the type of talk used by a group of children from Mexico solving the Raven's Standard Progressive Matrices (RSPM) test together both before and after an intervention programme teaching 'exploratory talk'. Our analysis demonstrates a ZPD created by the way in which they talk together. In the second study we present the comparison of the talk of two groups of children, one from Mexico and the other from the UK, solving together a single matrix from the RSPM test. Our analysis shows how the concept of 'scaffolding' can be applied to understand how these groups of children use language to support shared thinking and learning. In both studies we found that applying ideas of 'scaffolding' and the ZPD to symmetrical learning required the re-conceptualisation of these concepts as characterisations of dynamic processes within dialogues.

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Closing Down the Conversation: Discouraging Student Talk on Unfamiliar Science Content

William S. Carlsen
Cornell University

Abstract: This paper describes strategies used by novice biology teachers to exert sociolinguistic control over conversations when teaching unfamiliar subject-matter content. These dis- course control strategies were identified in a year-long study of teacher subject-matter knowledge and its effects on teaching, and are illustrated in three lessons taught by one of the teachers in the study, two on unfamiliar content and one on familiar content. The findings corroborate two parallel analyses of teaching that focused on curricular planning and statistical study of teachers' utterance-by- utterance speech.