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Conditions Fostering Educational Change

PETER SLEEGERS

Department of Educational Sciences, University of Nijmegen, The Netherlands

FEMKE GEIJSEL

Department of Educational Sciences, University of Nijmegen, The Netherlands

RUDOLF VAN DEN BERG

Department of Educational Sciences, University of Nijmegen, The Netherlands

During the 1990s, large-scale reform efforts intensified as a strategy to implement educational innovations (Fullan, 2000). Evaluations of innovation efforts from past decades have made clear that these reforms have produced unsatisfactory results in many cases. In particular, we can conclude from this literature that changes in teaching practice are extremely difficult to accomplish. Within this context of intensifying educational reforms, it is important to examine the organizational potential for innovation and capacity of schools to realize large-scale innovations.

In the previous edition of this handbook, van den Berg and Slegers (1996a) focused on building innovative capacity of schools and related issues. The chapter ended by stressing the importance of transformational leadership, incremental policy development, and teachers' personal concerns in the context of educational innovation and change. These conclusions were consistent with ongoing discussion within the school improvement and educational change literatures during the 1990s about the relevance of cultural-organizational aspects in schools and individual teacher issues for realizing innovation and change (cf. Fullan, 2000; Louis, Toole, & Hargreaves, 1999; Smylie & Hart, 1999). In this chapter, we further challenged a number of assumptions that had been taken for granted during the 1980s. These included, for example, the notion of the school as the unit for change and policymakers' emphasis on planned change (Louis et al., 1999).

During the 1990's, educational scholars started to plea for and use alternative perspectives to better understand the working of schools and teachers when realizing educational change. Similarly, attention in educational research has gone more and more to the conditions that foster the realization of educational

change within classroom practice (cf. Geijsel, Sleegers, van den Berg, & Kelchtermans, 2001; Leithwood, Leonard, & Sharrat, 1998; Marks, Louis, & Printy, 2000). These *conditions* may refer to the school organization, like school leadership or the school as a workplace. Other conditions refer to teachers' attitudes and behavior, such as teachers' professional development and teachers' commitment to change. Both school organizational and teacher conditions are believed to affect the extent to which teachers change their practices.

The goal for this chapter is to examine the manner in which school organization and teacher conditions foster educational innovation and change. We seek to uncover issues that might challenge future research into conditions fostering educational change. To understand the change conditions, we first outline two opposite perspectives on innovation reflected in the research literature on school improvement and educational change: the structural-functional perspective and the cultural-individual perspective. We then review key conditions fostering educational change. This is followed by a discussion of multilevel modeling, the issue of heterogeneity, and the assumption of effectiveness regarding the study of change conditions. But first, the changing context of educational change is described because that context largely determines the shift of perspectives and consequent needs.

THE CHANGING CONTEXT OF EDUCATION

The current trend in educational innovation is fundamentally different from predominant approaches of the late 1970s and early 1980s (Lagerweij & Haak, 1994; Leithwood, 1994; van den Berg & Vandenberghe, 1999). During those decades, the purposes of change were largely known and agreed upon, and the practices intended to achieve those purposes were clearly specified. The innovations were based largely on research into effective instruction and aimed at the implementation of new teaching methods, texts and curricula. These innovations were designed to strengthen the weak bureaucratic and professional controls over schools. The impact of these innovations on the work of teachers was limited to clearly framed adjustments in their classroom behaviors or what is referred to as the core technology of education.

Compared to the change agenda of the 1970s and 1980s, recent trends in educational innovation are far more complex and uncertain. This is partly caused by the intensification of large-scale reform efforts as a strategy to implement educational innovation during the 1990s (Fullan, 2000). Large-scale reform involves the implementation of educational innovations in large groups of schools. Such large-scale reforms are in fact bundles of innovations and can be characterized by their complexity, multidimensionality, and need to accomplish several objectives simultaneously (van den Berg, 1992; van den Berg & Sleegers, 1996a).

Furthermore, during the 1990s there emerged a global trend towards greater social and economic complexity. Policymakers began to recognize an explicit and urgent need for educated citizens who can take responsibility for their health, behavior, and learning. As a consequence, large-scale reforms – already complex in nature – became directed at new, more complex forms of instruction and learning emerging out of constructivist theories of learning. These new approaches to teaching and learning depart from traditional ways of educating children and are less easily understood and implemented than traditional models of teacher-directed instruction. Apart from being experts in specific subject matter, these approaches place teachers in the role of expert coaches of the learning process.

The consequences for teachers can be highly disruptive (van den Berg & Vandenberghe, 1995). The new educational innovations ask them to achieve vaguely formulated purposes, and the desired teaching and learning practices are often more difficult to specify. In order to succeed with these new approaches, teachers must make fundamental, even radical, changes to their perspectives and practices. It should be no surprise that in this changing context many teachers feel insecure about the benefits of these innovations and their own role as teachers (Gitlin & Margonis, 1995; van den Berg & Ros, 1999; van Veen & Slegers, 2001; van Veen, Slegers, Bergen, & Klaassen, 2001).

Furthermore, these current innovations go beyond changes in the core technology of school, often referred to as *first order changes*. *Second order changes* that impact the functioning of the school as an organization are necessary in order to enable and support changes in the core technology of schools (cf. Cuban, 1988). Several research projects have suggested that in the absence of second order changes in the school's organization and culture, innovations that focus on the core technology soon disappear (Fullan & Hargreaves, 1992; Louis & Miles, 1990).

Hence, educational scholars have come to the conclusion that the almost exclusive focus on changing classrooms may explain the failure of past innovation efforts to achieve long-term effects on classroom practices and outcomes (e.g., Fullan, 1993; Lagerweij & Haak, 1994; van den Berg & Vandenberghe, 1999). Consequently, scholars now advocate that professional development at the teacher level should be accompanied by development of the school as a whole, and vice versa (D.H. Hargreaves, 1994; Leithwood, 2000; Senge, 1990). This seemingly straightforward conclusion has enormous consequences for the role of the school organization and leaders during the implementation of innovations.

In line with these evolving perspectives, our approaches to implementing educational innovation and change have also changed. Two opposing theoretical perspectives underlie our approaches to educational innovation and change: a structural-functional perspective and a cultural-individual perspective (Slegers, van den Berg, & Geijsel, 2000; van den Berg, Vandenberghe, & Slegers, 1999). To understand the focus of this chapter, it is necessary to clarify these perspectives.

THE STRUCTURAL-FUNCTIONAL PERSPECTIVE ON EDUCATIONAL INNOVATION

Over the past several decades, the structural-functional perspective on educational innovation has dominated in research, policy, and practice. The essence of this perspective is that educational change and effective implementation of innovations can be realized by changes in the structure of the school as an organization (Louis, 1994). Studies that reflect this perspective refer to organizational theories of control, economic rationality, and contingency (cf. Monk, 1989; Perrow, 1972).

Control theory emphasizes the role of school management and leads to the subsequent focus on the centrality of the principal's role in coordinating and controlling innovation efforts. The economic rationality approach of organizations puts the focus on student achievement as the final purpose of educational innovation. Contingency theories propose various situational constraints that impact on the capacity of the organization to routinize change as a technology. The goal of a structural functionalist approach is to describe the set of behaviors and conditions that lead to goal achievement for the organization.

These theories all express a view of human beings as rationally functioning creatures who can be steered towards desired behaviors by organizational structures and management. These theoretical propositions lead to a bureaucratic conception of the school as an organization with control and formalized routine as modes to achieve productivity targets. Within this model of school organization, the role of the principal becomes essentially managerial in nature (cf. Bacharach & Mundell, 1995). Innovation is construed as a strategy through which the school controls teacher behaviors towards achievement of desired outcomes of the organization. Systematic methods, top-down coordination, and managerial-organizational steering become central organizational design characteristics designed to foster the implementation of innovations. It is in this regard that Louis (1994) speaks of 'the paradigm of managed change'.

In fact, the structural-functional perspective is entirely consistent with the traditional way of thinking about management in industrial settings. Management is viewed as a necessary function to solve problems rationally through adaptation of structures and procedures. This mode of thinking was transferred to the field of education long ago and has led to the so-called control-oriented approach to educational change as described by Rowan (1990; 1995).

The idea of the control-oriented approach is that student achievement can be improved by routinization of the schools' core technology through strengthening the schools' bureaucratic controls. This involves the development of a system of input, behavior, and output controls designed to regulate classroom teaching and to standardize student opportunities for learning. Such systems have restrictive and regulative consequences for teachers' discussions about methods to use and subject matter to choose. They strictly prescribe what teachers are supposed to do in their classrooms through the year.

According to Rowan, a control-oriented approach usually includes two strategies for improving education. The first strategy is to strengthen curricular controls by the standardization of curriculum purposes, materials, methods, and testing. The second strategy is to strengthen controls on teacher behavior by training, supervision, and goal-setting. Execution of such strategies presupposes strict coordination and steering on the part of the school management.

Research on Educational Innovation from a Structural-functional Perspective

Many studies have been executed from a structural-functional perspective. Studies into the schools' policy-making capacity form a good example (e.g., Hooge, 1998; Slegers, 1991; Slegers, Bergen, & Giesbers, 1994; see also: van den Berg & Slegers, 1996a). Starting from the assumption that schools are rational and goal-directed, these studies made clear that school policy-making activities can be viewed as systematic and planned attempts to coordinate the functioning of a school. Furthermore, these studies assume that the school manager's key role is to maintain at least an oversight role with respect to implementation of the innovation.

This perspective emphasizes the manager's role in initiating the development of explicit policy, an active monitoring of the implementation of the policy, the creation of a formalized structure of consultation and communication, and the generation of a strategic view. Although active engagement of teachers in the policy-making process is also advocated, decision-making at the school level is generally reserved to the principal. This centrality attributed to the principal's role expresses a view of the principal as the manager of others.

Studies based on the results of school effectiveness research also largely reflect this control-oriented approach (Rowan, 1990). School effectiveness research traditionally focuses on understanding the factors of 'what works', i.e., factors at the pupil, classroom, school, and context level that explain student outcomes (Bosker, Creemers, & Stringfield, 1999; Teddlie & Reynolds, 2000). When carried over to the domain of school improvement, however, the same scholars tend to assume that the same factors which appear to *explain* educational productivity also function as the right arrangements to *improve* educational productivity.

School effectiveness researchers' concern for identifying explanatory factors is related to the desire to manipulate internal and external conditions of schools. This approach assumes that the goal is to improve the means-end operations of schools (Scheerens & Bosker, 1997). Meta-analyses of Scheerens and Bosker (1997) show how particular teaching methods such as cooperative learning and feedback influence school effectiveness. School organizational factors like achievement pressure for basic subjects, evaluation, educational leadership, parental involvement, and an orderly climate have also been studied from this perspective. Recently, there is evidence of increased efforts to make use of this body of knowledge about effectiveness factors within the school improvement community (Reynolds, Creemers, Bollen, Hopkins, Stoll, & Lagerweij, 1996).

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