8/ Leadership for Transition: Moving from the Special Project to Systemwide Integration

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This chapter considers the role of educational leadership in the overall process of computer applications in education. This process is characterized as having three general phases: (1) initial experimentation and enthusiasm, (2) special-project activity, and (3) integration into the ongoing practice of the teacher and the institutionalized system that supports this on-going practice. In particular, we expand on one particular aspect of this overall leadership—the transition between the special-project phase and the systemwide-integration phase—and argue that leadership for this transition presents a particular challenge. We illustrate the general argument with a case study from The Netherlands and relate the experiences from the Dutch national-level project to those encountered by the school principal. We conclude with considerations for the school leader with respect to leadership for helping staff to make the transition between special tryouts with computers in education and integration into daily practice.

The use of computer-related technology for educational purposes is now widely accepted in educational systems throughout the world. The initial motivations for computers in education have been generally based on high expectations relative to what computer use might be able to do for the student, school, educational system, curriculum, or even the national economy (see Anderson & Collis, 1992, and Hawkridge, 1991, for analyses of these different
motivations and the effect these motivations have on subsequent policy with respect to computers in education).

In practice, and speaking very generally, the pattern of experience with computers in education is a three-step process, each of which has roots in the vision of what computer use can finally effect in the educational system. The first step involves uncoordinated, individualistic initiatives fueled by some sort of vision or personal excitement about the potential impact of computers in education. These initiatives may be at the grassroots level or may be higher in the decision-making hierarchy, even at the top of it. Through the momentum of these initiatives, the second step in the process is typically some sort of special project, in which extraordinary time, money, and support is given to some exploration of or stimulation of computer use in schools. The desired eventual outcome of these projects, implicitly or explicitly, is systemwide diffusion. This third phase in the process involves, finally, implementation into the on-going routine of the teacher and institutionalization into the stable delivery process of school affairs. Figure 1 gives a simple visualization of this process that we will use as an organizer for the rest of this chapter and in particular that we will relate to the on-going leadership task of the present-day school administrator.

![Transition Diagram]

Figure 1. Simple View of the Process of Computer-use Diffusion in an Educational System.

We can identify this process from the national perspective, in many examples from centralized educational systems where special projects can be nationwide in character and systemwide integration can refer to the wide spectrum of subsystems involved in total educational delivery. These include those subsystems relating to teacher training, curriculum development, and resource supply and evaluation (see Collis & Oliveira, 1990, for an analysis). These large-scale national-level special projects generally only happen once for a particular innovation such as computers in education.
However, the process diagrammed in Figure 1 is not just a one-time affair, but can repeat itself on a smaller scale at the regional and school levels and even at the individual-teacher level, where the evolution from “good idea” to “special project or tryout” to “integration-into-daily-life” can begin any number of times.

At all these levels this diffusion process most frequently never makes it to completion of the integration-into-daily-life phase. Any number of surveys and analyses support this last statement, not only for computers in education but for innovations in general in education. White (1990), for example, describes the success rate for implementation of innovative programs beyond the special project phase as “very low...only about 20 percent” (p. 207) and supports this by an analysis of studies beginning in the 1970s. Fullan (1982) describes this as the problem of continuation and notes that when special funding ends very few special projects continue. Jansen and Vegt (1991) describe institutionalization as the situation when the delivery of education as well as school practice seems to be permanently altered so that an innovation is absorbed in a stable way into the life of the school. They, too, note that this “durable establishment of the new” frequently does not occur:

Many attempts at educational innovation, whether they arise inside or outside the school, do not succeed. Renewal plans that were initially received with good intentions are in the end not integrated into the school. Alternatively, the essential nature of the innovation can be eroded: with small, almost imperceptible, alternations the school “tames” the renewal. (p. 33)

Pelgrum and Plomp (1991) in their analysis of computer use in 19 educational systems worldwide are among many who document this same sort of stalled process with respect to computers in education, both in terms of systemwide institutionalization for delivery and support but also in terms of integration into the teacher’s daily practice. Despite undoubtedly individual enthusiasms and large-scale projects succeeding in bringing computers into schools throughout the world, the “final” step of teachers incorporating these computers into daily practice is far from being accomplished. The ambitious motivations of those who champion computers in education, as well as the requirements of those who are beginning to demand accountability for the considerable amounts of money that have been spent on computers in education, are often not being realized.

The purpose of this article is to consider the role of educational leadership in this overall process of computer diffusion in education and to suggest how that leadership can increase the chance of systemwide integration. In particular, we wish to expand upon one particular period of leadership challenge—that of the transition between the special-project phase and the systemwide-integration phase. This period has been labelled Transition 2 in Figure 1. We begin by considering the diffusion process through an examination of policy and
leadership at the national level and then apply this examination to the ongoing task of the school principal.

Thus, the remainder of this chapter will take the following form. First, more illustration will be given of what is meant by "special project" and "systemwide integration" and the transition between them with respect to computers in education, in order to clarify the frames of reference of the terms. Next, a case study from The Netherlands will be given that illustrates the diffusion process from Figure 1. This case study will serve as a concrete example of the overall problem space for leadership relative to computers in education and in particular to leadership for the transition between special project and systemwide integration. Following this, the relationship between the case study from The Netherlands and the role of the school principal will be discussed, and particular issues related to leadership for transition such as the implications of moving too quickly or waiting too long relative to the transition between special project and systemwide integration will be considered. Finally, some suggestions and strategies will be given for school decision-makers with respect to leadership relative to computers in education within their schools.

Throughout the chapter for convenience we use the term "computers" to include the larger category of computer-related technologies such as multimedia and telecommunications-related resources as well as the more familiar stand-alone units. Also, when we talk about the national level, we mean the highest level of educational organization for a particular system. While in the majority of countries in the world this is the national level, in some countries such as the US, Canada, and Germany the frame of reference is the state, provincial, or local level. For convenience we will use "national" to refer to this highest level of organizational influence.

Leadership Relative to the Special Project, Systemwide Integration, and the Transition Between Them

Figure 1 identified three phases in the diffusion process of computers in education. In this section some overall considerations relative to leadership within this diffusion process are outlined before moving to the case study from The Netherlands and the subsequent discussion relative to the role of the school principal. For convenience in the following remarks, the frame of reference is the national level, but as will be argued later the same process and issues affect leadership at the regional and school level. Leadership is not considered to be an explicit part of the process at the first, individual-exploration phase of the diffusion process so the discussion that follows focuses on the second and third phases of the process and the transition between them. Of course, even during the individual-exploration phase, educational leadership plays an important contribution in terms of endorsing the atmosphere for individual exploration within a system in which personal enthusiasms can grow.
The Special Project

In the "Special Project" approach to computer-related use in education, exploration with technology is carried out in a special environment, special with respect to quantity and quality of personnel, equipment, expectation, or other resources relative to average local standards. A typical strategy in the special project is to bring together a strong collection of players, all of whom share a commitment to the technology potential, and give these players extra time and resources to work out their ideas. Often, in the special-project philosophy, there is a conviction that the best talent should be supported and also that this talent needs central support to establish itself before, eventually, the system is able to handle responsibility for implementation itself. Sometimes, however, special projects deliberately look for a more representative setting, willing to serve as a testbed for new ideas. Often, special projects have some kind of a "installation-related" goal, such as to supply a certain number of computers to every school of a certain type or a certain amount of computer-related teacher training to a certain group of teachers (Collis & Carlee, 1992).

Explicitly or implicitly, the special projects are expected eventually to be of value to the remainder of the system not involved in the project, through demonstrating examples or through providing the strength, infrastructure, and shelter to allow a critical mass of experience and acceptance to develop (capacity building), so that the technology use can eventually support itself unaided.

There are many examples of the special-project approach at the national, regional, and school levels. At the national level, virtually every country in Europe has had a special project to stimulate computer use in schools where in principle all schools in the country would receive a basic infrastructure of equipment and experience. The case study from The Netherlands which follows later is an example of this kind of national-level project. The California Model Technologies Schools Project is an example of a special project at the regional level, in which a number of sites throughout the state have been given special resources in order to "demonstrate the effective use of technology in instructional delivery and enhancement," generating ideas and examples which can then be disseminated throughout the system (Matray, 1992). There are numerous examples of special projects at the school level. In the book, Technology-Enriched Schools: Nine Case Studies with Reflections (Collis & Carlee, 1992) details of 19 such school-based projects in six countries are discussed and analyzed. At the individual-teacher level, although less-well documented in literature, there are uncounted examples of the classroom teacher being stimulated by an idea relative to computer use, trying it out as a sort of individual special project, and then deciding if he or she wishes to make it an ongoing part of instructional practice or not (see Kearsley, Hunter & Furlong, 1992).
Their characteristics ensure that most special projects take time and initiative to establish; typically "results" are not forthcoming for an extended period of time, often years; and the more partners involved the more complicated the project structure development. Also, special projects must have an infrastructure of their own, which often assumes the furtherance of their own existence as an unstated but parallel preoccupation of the special-project period. As the special project thrives or discovers it requires more resources to function, new leadership challenges emerge. "Thriving" can lead to more and more autonomous behavior, which can result in collisions of various sorts with overall system functioning.

The special project-approach requires a leadership philosophy attuned to experimentation and innovation. The leader needs characteristics appropriate to the task of making a team out of individuals from different backgrounds or component organizations. Thus, the leader must not be seen to be in conflict of loyalty him- or herself through parallel identification with one of the component organizations. Also, deciding on additional resource provision for a project in difficulty requires both evaluation and personnel-handling skills, as replacement of personnel or even project shutdown may be required, with the accompanying implications for those involved.

Systemwide Diffusion

In contrast to the special project, the systemwide-diffusion orientation sees its goal as facilitating technology use throughout a system, not as a special object of attention but as a tool for handy use when and where appropriate, by teachers and students. Systemwide diffusion refers to both organization and content. Computer-related resources are to be handled as are other resources in the system as, for example, relative to purchasing and maintenance; are to be integrated into existing procedures for teacher training; and are non-exceptional variables within assessments of overall school functioning and performance. While not equating computers with other resources such as desks or textbooks or science laboratory equipment, systemwide integration would see the computer being as well integrated as books or the school library in the everyday practice of the school and teacher.

Many educational jurisdictions have this sort of systemwide integration as an explicit target for computer-related technology. This sort of integration is visible in the context of the new national curricula evolving in, for instance, The Netherlands, the United Kingdom, and Japan. It has emerged as a hoped-for goal in many of the North American states and provinces. And it is the long-term policy in many individual schools in countries in many different parts of the world.

Leadership relative to a systemwide diffusion model for technology in education also offers special challenges. One such challenge is finding strategies
Leadership for Transition

To informally evaluate the effective integration of technology within and between many different departments in the educational system (or the many different parts of the teacher's day) and to deal with the implications of different decisions when those decisions interfere with each other. This can happen, for example, when a curriculum committee may urge technology use as both a goal and tool for science laboratory use, but teacher trainers in science education may not wish to follow such an approach. Thus, time and resources spent in one department may come to little avail if not supported by another department. Leadership challenges here relate to maintaining the balance between fostering local control and preventing systemwide loss as a result of local decisions.

Another challenge relates to how to stimulate new ideas or potentialities related to rapidly emerging new technologies in a system-integration model. Institutionalization brings with it the characteristic of a certain freezing of an innovation (Jansen & Vegter, 1991) so that it can be fit to a routine, which runs the risk of soon having obsolete or no-longer-optimal characteristics of computer use entrenched in procedure. As an opposite danger associated with the rapid appearance of new possibilities with respect to technology in education, leadership in a systemwide model requires some level of central coordination, or else wide disparities may rapidly appear in the system (i.e., those responsible for hardware resources may move to a new type of computer without considering the implications for teacher training or curriculum resources that such a move may make).

Thus, in a systemwide integration approach, good leadership requires a capacity to keep well-informed about the developments within each component of the overall system and to identify when decision-making about technology use in one of these components will lead to conflict with the decisions or desires of other components. It requires the skill to know when and how to intervene in the procedures of suborganizations within the system to better shape coordination. Good leadership will also require a strategy for information dissemination throughout the system relative to new developments in technology for education, including both research and technical findings. Finally, good leadership in a systemwide approach will require the ability to identify appropriate persons to move into new "special project" leadership roles if an opportunity for a next round of special projects emerges.

Transition Period Between Special Project and Systemwide Integration

While systemwide diffusion may be an eventual goal of special projects, there are many differences in the project approach and the systemwide-integration approach. Even if systemwide integration is centrally organized or stimulated, it carries with it the assumption of local control and decision making. The target end adopter is a member of a heterogeneous group—all the teachers in a system
or school or other definable group—who will differ widely from one another in
terms of prior experience with technology, interest in technology, or even
interest in change and placement difficulties.
Lack of money and support at the previous project level will be generally the
case, and "the larger the external resource support, the less likely the effort will
be continued after external funds terminate, because the district cannot afford to
incorporate the costs into its regular budget" (Yin, Herald & Vogel, 1977, p. 16).
And in a heterogeneous setting, the system may not be willing to compensate for
resource deficiencies by voluntarily putting in extra personal time or effort, as
can generally be counted on in the "individual enthusiast" and "special project"
phases. In addition, moving from the special project to integration will mean that
those in the special project generally must move back into larger system again,
which often brings many adjustment and placement problems and may result in
the dissipation of the expertise of the project team.
All of these characteristics of the transition between the special project and
systemwide integration call for special leadership skills from the administrator
overseeing the transition process. Even with good leadership skills, bridging the
transition period will be a challenge.

Case Study in Educational Leadership
with Respect to Computers in Education

In The Netherlands four periods of innovative activities with respect to
computers in education can be distinguished: (a) before 1984: the era of the
pioneers and grassroots developments; (b) 1984-1988: establishment of an
innovative movement through the so-called unorthodox (special project)
approach; (c) 1989-1992: blending of new policy about computers in education
into the existing (non-computer specific) structures for the support of innovation
in the educational system; and (d) 1993-upwards: systemwide integration (and
new phases of innovation) within the autonomous school.
In the next paragraphs we will describe each of those periods. For each period
the context, the leadership position, and the constraints relative to the computer-
diffusion process will be described. A more complete description can be found

Grassroots Developments

Context

In The Netherlands innovation with respect to computers and education
started as grassroots movements at the end of the 1960s. Projects were set up by
individuals in order to explore the possibilities of the computer in educational
practice and to improve particular aspects of educational practice. Projects were
also set up at universities as only those organizations had access to the
mainframe computers needed for some kinds of computer-based learning at that time. Some projects were conducted explicitly in the university environment; others connected university people and facilities and secondary or primary schools. At the end of the 1970s, when micro-computers entered Dutch life, many more individuals, particularly in schools, became pioneers in this area. Grassroots developments blossomed.

Leadership

Most of the time the didactic approach within a subject area at the university or school was the basis for starting exploration of using computers in education. Therefore, the leadership within such projects came from individual teachers or professors already trying to deal with those instructional problems. Leadership at a higher hierarchical level was no more than incidentally involved. The faculty deans or school principals accepted the pioneers’ interest in new developments without taking any kind of leadership position in the area.

Constraints

The teachers involved had to deal with the problems they encountered at both the technical and organizational levels. Often the functioning and limited possibilities of the computer hardware and software created technical problems. The logistics needed for having computers available and acquiring expertise to deal with the technical problems involved created organizational problems. Because of the (non)leadership situation, many projects bounced against all kinds of practical constraints. But at the same time, a wave of enthusiasm about the great potential of computer technology for education came into existence.

The combination of individual enthusiasm, the growing importance of microelectronics, and the projected influence of microelectronics on society and on the economic developments of the country created a growing pressure on the Dutch government to take these grassroots developments seriously. As a result, committees were installed to prepare a national policy with respect to what was called “Information Technology and Education.”

The “Unorthodox Approach” (National-level Special Project)

Context

During the period 1980-1983 reports of special committees and discussions in the Dutch parliament led to the governmental decision that the use of computers in education needed a special centrally-led innovative effort. It was also decided that this innovative approach should be expressed through an even-larger special national project explicitly focused upon two goals: (a) to get each citizen acquainted with information technology, and (b) to create sufficient “human capital” to support the economy and the functioning of Dutch society in an
emerging technologically oriented world. A large-scale project, called the Informatics Stimulation Plan (INSP), was set up as a four-year project (1984-1988).

Clearly, the projected innovation went far beyond simple educational objectives about using computers as didactic support in subject areas. The goals were explicitly related to broader issues such as economic and societal development. Taking as a starting point experiences abroad, the innovation set up a comprehensive set of activities involving special national (sub)projects related to computers and education: (a) the building up of a national and regional infrastructure for the development and distribution of educational software; (b) specific (sub)projects focused on the different educational sectors (elementary, secondary, and vocational education); (c) in-service training and information dissemination; (d) preservice training; and (e) research.

Leadership

In the Netherlands there is a national support structure consisting of six large and many smaller institutes whose regular task is to support educational innovations in primary and secondary schools. However, when this structure was created many years ago, the government did not realize that it, as with every organizational structure, was going to develop its own dynamics and therefore its own approaches and goals. As a consequence there were serious doubts that the existing structure for the supposed support of innovation in schools would be able to cope with the demands of the information technology innovation. First, to cope with this computer innovation meant being able to respond to specific pressure from society, which was different from the traditional entrance point of an educational innovation through strong curriculum-oriented links—the way the support structure had organized itself to work. Second, doubts occurred because there would be a large technological component involved in the innovation, which was not part of the current experiences of those in the support structure.

Also, because of the global approach that was taken, an additional set of problems was anticipated in terms of leadership. Traditionally, a Ministry of Education is divided into different directorates, each dealing with a specific area of the educational system or process. Given the global approach and the need to handle that approach in a concentrated way, the coordination of the many directorates within the Ministry of Education was expected to create problems that would require special skills and stature of those in the computers in education leadership.

As a result of this analysis, the Dutch government decided to create an ad-hoc, so-called unorthodox approach, with a limited lifetime, to initiate the computers-in-education innovation. As such the government could circumvent potential problems within its own Ministry and within the existing educational support system. In addition both the Ministry and the traditional support
structure got the benefit of time to respond from within their existing organizations to the way the innovation evolved and to prepare to take over when, eventually, systemwide integration was expected.

The unorthodox approach was shaped by forming a special three-person management team within the Ministry. This team had direct links to the Minister himself and was made responsible for the total budget of the project. The management team showed strong leadership, not only because of their personal skills and characteristics, but also because the members of the team had no links to existing organizations whose interests they had to defend. As a counterpart of this management team, and outside of the Ministry, content- and sector-oriented management teams were set up, concentrated into positions for 10 to 11 project managers, augmented with a new (temporary) national institute to bring together special skills and expertise in the area of the application of information technology to education. Thus, in The Netherlands Transition 1 (relative to Figure 1) of the diffusion process was accomplished.

**Constraints**

This approach had many advantages. Suddenly, a substantial amount of resources and money became available to support the introduction of information technology into the schools. Central decision-making about hardware standards, about educational software development strategies, about the management of projects, and about the approach and content of teacher training were introduced. The introduction of computer literacy in the first years of secondary education became a great success through planned national strategies such as every secondary school receiving a networked set of 15 computers with a starter package of especially prepared software, and teacher training for three teachers per school (one of whom had to be a female) integrated directly with the hardware and software. And in the vocational education area, the provision of hardware and software improved the circumstances through which those schools could better cope with the new technological developments in the industries for which they were preparing students.

Although mentioned in the starting policy documents, an emphasis on introducing the computer as an instructional aid in education was not a major focus in the beginning of the project. However, as the project evolved, this focus began to get more attention in all of the specific activities. Then it became apparent that the integration of new didactic approaches into teacher practice were not so easy to realize: first because changing existing educational practice is always a difficult problem; and, second, because the leadership position of the INSP project was not fitted to stimulate such a change. This leadership was very well equipped to introduce a new topic such as computer literacy or to decide that the vocational education sector needed more hardware, because such
decisions could be taken on a national level. Decisions about changing classroom practice, however, needed the direct involvement of classroom teachers, as well as the involvement of the school principals not only for support of the teachers but also with respect to the organizational aspects about how to deal with equipment and its maintenance in the schools.

PRINT: A Special Project for Transition Between Centralized Special Project and Systemwide Integration

Context
By 1986 it became clear that the continuation of the INSP should be based upon a different approach to educational leadership. Instead of providing hardware, software, and training infrastructure, the integration of information technology into the classroom became the central issue. A new national-level special project was defined: PRINT (Project for the Implementation of New Technologies), to be executed from 1989 until 1993. The organization of the PRINT Project was concentrated around three subprojects, each focused toward a specific educational sector (primary and special education, non-vocational secondary education, and vocational education). Within those subprojects’ three principal areas were identified: (a) computer-managed instruction and classroom management, (b) learning and application of information science and informatics, and (c) computer-assisted learning. Other major activities such as hardware provision, development of educational software, and teacher training still got plenty of attention, but now from a starting point within each educational sector itself.

Leadership
In his policy document (Deetman, 1988) the Minister of Education wrote that “further stimulation of educational development is a necessity, in which increasing the autonomy of the educational field will be a prior condition” (p. 3). As already foreseen at the start of the INSP, the integration by school principals and teachers should eventually take over. This was also one of the conclusions of an evaluation of the INSP that had been performed. In the evaluation report (Zegveld, Scheerens & Stehouwer, 1988) it was stated that: “... the emphasis should be placed more positively on stimulation from the demand side.”

However, many teachers and school principals were not yet ready to take over this school-based leadership. Therefore, the leadership role for PRINT moved instead towards involving the existing support structure for innovation in The Netherlands as an interim step between the centralized special project and the expectation of school-based integration and leadership. It was hoped that the previously existing Dutch educational support structure had used the INSP years to prepare themselves for this leadership role. A project management team was
formed, with representatives from each of the six major support organizations (organizations with a long history of competition among themselves for both ideological and financial reasons). Also, for each of the three educational sectors (elementary, secondary, and vocational) a special organizational team was set up to explicitly balance the power structure among the six support organizations. A management team was also put in place in the ministry, but with much less influence than had been the case in the INSP period, as the power had explicitly been shifted to the support organizations. Virtually none of the expertise from the INSP period continued on in leadership positions within PRINT, in that each of the component support organizations moved its own people into leadership roles.

Thus, in The Netherlands Transition 2 in Figure 1 became a four-year special project in its own right.

Constraints

Whenever the management of a major operation is changed, it takes time and effort to smooth out the difficulties and take out the rough edges of the transition. This natural phenomena also happened at the start of the PRINT Project. That was unfortunate, however, because it created a backlog of several months before the new leadership position was clearly established. That situation did not create a strong initial impression in the field of practitioners, which had already been generally critical for many years about the leadership capacity of the Dutch educational support structure with respect to educational innovations.

More substantially, however, the educational leadership position given to the support structure by the Ministry of Education, and in a way by the political powers in the Dutch parliament, was also challenged by other groups in the educational system, especially in the vocational education sector. In that sector interests were traditionally brought together within other organizations that did not relate to or participate in the official educational support system that was now responsible for PRINT. Their challenge of the PRINT leadership position was partly caused by lack of confidence in general in the educational support system—a lack of confidence which had almost become a traditional situation through its long history—but also by the too-bureaucratic approach executed by the new PRINT Project management itself. What should have been done through the leadership of PRINT, namely, to bridge the gap between a very centralized approach during the INSP and the strong involvement of the actors in the schools, did not really occur.

The impression developed that the leadership of the project was very much involved in strengthening its own position instead of thinking about the interests of the schools. It was therefore no surprise that in 1990 the Minister ordered an evaluation of the PRINT Project, with the (almost) expected result that strong criticism was formulated about the way it was led and managed. Consequently, a
part of the project (the subproject that dealt with vocational education) was taken away from PRINT. A new organizational structure (called PRESTO) was created that had credibility in the vocational education sector and that took over the leadership position for that sector. Immediately PRESTO gave strong emphasis to input and influence from the vocational schools themselves. The remaining PRINT project (for primary and non-vocational secondary education) continued. However, the lesson was understood, and also in those subprojects more attention was given to schools and their actors.

Although the PRINT Project has not yet ended, it seems fair to say that it could not repeat the success of the INSP Project. When considering the three areas on which the project was focused (see above), only the second one (concerning the use of information science and informatics) remained successful. But that had already been the case in the INSP. In secondary education no breakthrough has occurred to anticipate teacher integration of computer-managed or computer-assisted learning. In the elementary sector, the large-scale implementation efforts started much later, so it is too early yet to have a clear opinion about the eventual success of integration of the instructional use of computing in that sector.

A crucial question, of course, is whether the lack of a clear success for PRINT is the result of a lack of adequate leadership. If yes, what leadership could have been provided to change the results? The obvious message is that the self-interests and prior competitive histories of the existing groups given key roles in the project predestined extreme difficulties for the project leadership. As a general impression, however, a stronger focus of the leadership towards the needs of schools and the existing conditions within the schools could have had some influence.

But by and large there probably would not have been a significant difference from the situation which did occur even if more school involvement had been offered. The main reason for this impression is based on the experiences of the PRINT successor (PRESTO) for vocational education. PRESTO has made considerable efforts to reach the schools and school actors. Nonetheless, the great majority of teachers did not respond to the invitations. It is the old story about people who do not want to change and/or do not have the time for it. In addition, new professional developments have taken the attention of the teachers, developments with respect to global organizational and content-oriented restructuring of their school system and a constant stream of arguments about their salary levels. In such circumstances no external leadership seems to be able to attract sufficient attention to stimulate a big move forwards in changing instructional practice using computers.
Systemwide Integration: The Autonomous School

Context
When the PRINT Project ended in 1993, the government had prepared its policy about how to continue. Continuation could be done following one of two conflicting positions. On the one hand, the PRINT management argued very strongly that schools and school actors were still not able to take over the decision-making for integrating information technology into their own hands, and therefore a centrally-steered approach, with a centrally-organized leadership, was still necessary. On the other hand, it was argued that almost eight years had passed in which schools and school actors had had the chance to get acquainted with information technology and its potential, and that centrally-organized hardware provision, educational software development, and teacher training had been made generously available during this time. The infrastructure of the schools and its staff with respect to handling computers was rather well put into place. Therefore, it was up to the school now, given the means and resources, to make up its mind and decide in what way and in what amount information technology was going to be used.

After long discussion, the government decided to choose the latter approach. That approach fit into a more general movement that had become apparent in The Netherlands and that was being motivated by a cluster of reasons, political and financial as well as educational: the movement towards a more autonomous school. The major characteristic of this movement is to give the school what is considered as a reasonable budget, but then let the school choose its own priorities for the use of that budget.

Leadership
The choice of the government for the autonomous school policy clearly indicates that the leadership position now with respect to computers in education in The Netherlands has to shift toward the school principal and, finally, to the individual teacher. The school, and within the school the subject areas, have to become the central units where change has to occur. The main reason is that finding a balance between change efforts and the effects of the change process can best or perhaps only be done within each particular situation itself. It is only a school principal, knowing his or her school and its circumstances, that can decide if the time for change is right. The principal knows if the technological infrastructure of the school is sufficient. He or she knows about the level of expertise and motivation of the staff. He or she also has to decide if the school wants to cooperate with other schools in this area, and if it is wise to try to stimulate specific teachers or subject areas to get more involved.
The same reasoning is true at the subject-area level. Teachers themselves are the best judge about how deeply to become involved in instructional change in their own subject area.

By choosing this direction and by providing the necessary means, the Dutch government hopes that leadership for computers in education, once the province of the few pioneers, has reached enough teachers and school principals so that a critical mass has come into existence in a sufficient number of Dutch schools. Such schools should start a snowball effect, providing good examples of instructional computing practice. Thus, the leadership with respect to computer in education is brought back to the place were it belongs.

**Constraints**

Of course, there are many obstacles that could prevent success in this new leadership orientation. The main obstacle is a shift in interest away from computers among teachers in general because of their preoccupation with new policy issues more directly affecting their jobs and salaries. Although the government has a realistic budget available for the support of information technologies in schools, it is becoming visible that the strong interest in computers in education, which had been in schools for the last ten years, is fading. Because of this long period of time, this is a natural movement. At the same time, it is fair to notice that in society in general the impact of computerization has not lived up to its promises. Another obstacle is a growing negative attitude among teachers toward investing energy in innovations in general as a result of salary constraints.

**Issues Related to Leadership for Transition and Their Relationship to the School or District Administrator**

The Dutch case study illustrates issues related to educational leadership relative to each phase of an attempted diffusion process for computers in education, beginning at the national level and moving finally into the schools as the focal point around which ultimate systemwide integration, if it is going to occur, must be wanted and steered. Therefore, because of his or her influence on the school, the school principal becomes a central figure in the integration phase of the diffusion process relative to computers in education, regardless of whether the special project preceding the integration phase was at the national, regional, school, or even individual-teacher level.

There has already been considerable analysis of the role of the school principal in facilitating continuation or integration of an innovation within the school. Fullan (1982) is one of the major sources of this analysis and within his well-known book many hundreds of pertinent associated references are given. For example, Fullan notes that the school principal becomes the key to continuation of the goals of a special project within the school once the project
Loses its funding and special status (see also Berman & McLaughlin, 1978; Leithwood & Montgomery, 1982; and Nicholson & Tracy, 1982). Therefore, the principal's leadership role in leading the transition between special project and schoolwide integration must be emphasized. Often, others are involved in this transition as well, especially if, as in the Dutch example, decisions about ending special project status are made at a level outside of the individual school. But, in any case, major issues for leadership involve identifying the right moment and pace for phasing out the special project and supporting schoolwide integration. These and other issues are discussed next in a way that relates the Dutch case study to the experience of the school or district administrator outside of The Netherlands.

What are the main issues from the Dutch case study that can relate to the leadership role of the school or district administrator?

Although there are differences in scale and in local particulars, the Dutch national-level case study offers a number of points of reference to the local administrator at the district or school level. There are a number of major lessons that have common relevance.

What are key considerations in selecting project leaders?

A first point of consideration relates to the composition of leadership needed for special projects. In the Dutch case, the key persons in the INSP Project were individuals carefully chosen for their personal leadership strength. They fulfilled their task without having to at the same time represent a particular group or institution (they were all from the Ministry). However, the key persons in the PRINT Project were individuals chosen to represent their home organizations in the project. Thus, the histories and personalities and juridical issues that already were present in the interactions among those organizations were brought forward into the project venue and proved at times to be crippling. In the school or district this can also be a dilemma. Should committees and projects be set up with the “best” people, even if this leads to a lack of balance in terms of home institutions in project leadership? To what extent do members of a project team represent their home groups with regard to decision-making about the project? To what extent do prior considerations and relationships affect decision-making about computers-in-education activity? The Dutch example illustrates well the difficulties in trying to be democratic in terms of project organization.

When is the right time for transition between the special project and schoolwide integration?

As the Dutch example illustrates, the answer to this question will vary depending on the perspective of who is being asked. In many cases, a project has a predefined timeframe, which appears to provide a simple answer to the
transition-timing question, but as was seen in the Dutch situation, the end of one special project, such as the INSP, can be the beginning of another special project, such as PRINT, if the decision makers do not feel transition is appropriate. And at the end of PRINT in The Netherlands, many feel it is still too soon to move to school-based ownership, and would prefer another round of centrally supported special project initiatives.

But both moving too quickly and waiting too long can have negative consequences. Moving too quickly may mean that the system will resist taking ownership as appears to be happening in the vocational education sector in The Netherlands. Teachers will not yet be able to see the ways in which computers can be valuable in their teaching, or picture the ways in which they could use them in a routine or independent manner. And, even if they can, the support system they need in order to have computer use truly integrated into their work patterns may not yet be operable. Resource centers which have to handle computer resources as well as all their own materials may not have specialized staff able to deal with the technical problems surrounding continually changing hardware and software. Curriculum development teams may not have people with the experience and insight to appropriately align computer use with other instructional materials and curriculum. Teacher training and inservice deliverers may not have staff experienced in using computers in the classroom (a problem likely to continue for many years) so effective guidance and coaching and stimulation will continue to be lacking in the school-teacher education liaison (see Eraut, 1990, for consensus on the seriousness of this problem among ministers of education in Europe). Educational software may not be in adequate supply. All these factors together suggest that too-soon removal of the guidance and structure of the special project may leave computer use to occur only among the hearty pioneers who will push on regardless of lack of support.

Waiting too long can also have negative consequences. The special project can build up such an identity of its own that its disbandment will cause serious personnel and contractual problems. The reputations and benefits that have come to those in central positions in the special projects will be difficult to compensate for if they go back into the system. (This was an issue between the Dutch INSP and PRINT Projects.) Thus, they may leave the system entirely and take with them the expertise for which the system has paid so much for so long. Those in the schools will come to expect that all will be done for them and will lack the local leadership experience to know how and where to begin in managing their own affairs. Or, they may feel so disenfranchised from the decision-making of the special project that they begin to react negatively to whatever it does and subsequently may reject doing anything with computers in education as a sort of counterreaction, which is what has generally happened in the Dutch PRINT Project. Another problem which can come from waiting too long is that the initial excitement in a new area such as computers in education can fade away by
the time that opportunities are finally made available for individual control of activities. Disillusionment can have set in and the sense of vision which is necessary to drive change is difficult to sustain over time. The feeling that “we tried that once and it was a disaster” is too easy to remember if schools and teachers are not challenged to keep going after initial trial experiences. The development of a human network of teachers sharing experiences and ideas with each other can be an important support mechanism. Special projects may be too limited in time and membership for this sort of networking to develop in a realistic sense. Waiting too long to give teachers ownership of an innovation can result in a missed opportunity for growth.

How should transition be timed?
Another major question is the timing of transition. Reasonably, it would seem sensible to have a gradual transition between special project and system integration, but in practice this becomes difficult to handle. Those in the special project who know their days are numbered naturally begin to invest more and more energy into where they as individuals or as a re-formed group will go next. In a transitional period in which decisions are made in more than one place, inevitable confusion and wastage may occur. Long periods of phasing out will likely exacerbate the negative aspects of “waiting too long” as described above, as the special project will probably become less and less effective in its role while still retaining formal control. In the Dutch situation, the second special project, PRINT, may have turned out to involve too long a transition time, in that the “waiting too long” dynamics described above, particularly that of the system as a whole loosing interest in computers, seems to be occurring.

How should transition be managed?
The above sets of problems relating to both the timing and pace of transition can be reduced through effective educational leadership during the transitional period. Expertise that has developed during the special project should be carried forward as much as possible into liaison or partnership roles with those who will be making decisions about computers if system wide integration successfully does occur. Those in the system who will be taking over responsibility must be gently led to see that reinventing the wheel will not be as productive for them as learning from the experiences of those who worked within the previous special project. Stimulating this sort of mutual respect for each other’s experience and point of view will be a major human-resource management task for the educational leader. Also, balancing the characteristics of the new situation with the historical baggage that preexisting groups bring with them into any new collaboration requires leadership and political sensitivity of a very high order.
How do people's expectations of leadership change between the special project and integration phases? How can these changing expectations be handled during the transition period?

During a special project, particularly during its formative and early days, its leadership is expected to be strong, aggressive, and to embody the identity of the project in order to give it recognition and respect. However, as a special project continues and its internal strength grows, this leadership style can turn into that of a "star" who comes to be resented by others even within the project who also wish part of the rewards of identification with the project. With the systemwide-integration approach, leadership must become much more subtle. Each group and subsystem has its own ways and local identity; nurturing a willingness to cooperate while not appearing to infringe on the local autonomy of a subsystem requires different sorts of leadership sensitivity. Skills for managing conciliation and leading others to accept suggestion grow in importance. Being well informed without appearing to be interrogating or overstepping one's authority is another special skill for leadership in an integrated system. And identifying the moment in which another special project can be started is another important leadership task. Putting the most appropriate persons into leadership roles in new special projects which emerge locally is particularly sensitive, as the various decision-makers in the different local subgroups will react very quickly to what they might perceive as an invasion on their procedures.

What happens if the system isn't ready, after all, for integration?

This is also difficult. One response is to move back to new special projects, but some of the difficulties in that were described above. More fundamentally, the overall system cannot afford to support integration being handled badly or which cannot hope to succeed because of local conditions. The strength to stop a process that is not productive is also part of the task of leadership and should be handled in a way that is both humane to those personally involved and not of potential long-term burden to the system. Making an unsuccessful project leader a "special advisor" to the minister may solve an immediate personnel problem, but will carry with it problems or at the very least wasteful expenditure to the system for many years to come.

Finally, we must trust the practitioner in his or her final judgment. If, after having adequate time and experience and support to become familiar with computers in education, the school chooses to put its priorities elsewhere, those who advocate systemwide integration of computers in education may have to graciously accept the lack of reception to their ideas. Or reshape their ideas until field interest and grassroots acceptance occurs.
Suggestions and Strategies for School Decision-Makers

For the school decision-maker, what are the main points that can be taken from the discussion in this chapter? Perhaps the following:

1. Within your own school, look for opportunities to build upon local enthusiasm and exploration as the basis of special projects. Conversely, avoid special projects for which no real individual belief or commitment exists within the school.

2. Nurture a special project with extra time and resources. As those in the project gain confidence, look for ways to begin to link what they are doing with on-going processes in the school.

3. Be sensitive to the personal dynamics of all involved when moving away from the special project and toward systemwide integration. Build on the expertise of the early adopters, but also nurture others who, later on, begin to get involved.

4. Know when and how to stop a special project or the assignment of special responsibility to certain persons when those become counterproductive.

5. Keep well informed about who is doing what, and also about emerging possibilities for linkages and cross-fertilization among your staff and others.

6. Maintain established conventions for decision-making at the same time as giving more and more personal control.

7. Be alert for the start of new diffusion cycles and manage the development of new special projects in a way that minimizes conflict with locally established procedures.

8. Be aware of and respond creatively to "the central dilemma of the institutionalization process. On the one hand, 'stability through routinization' guarantees secure borders for the innovation, but, having so successfully refrozen, this contains the possibility of death-through-freezing. On the other hand, flexibility which encourages continuous interaction between the innovation and the host system—through permeable borders—constantly evokes modifications or revisions, leaving neither system nor innovation much opportunity to rest. This dilemma has been underanalyzed" (Jansen & Vegter, 1991, p. 45).

References


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