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PROJECT MANAGEMENT IN SCHOOLS

New Conceptualizations,
Orientations, and
Applications

**Miri Yemini, Izhar Oplatka,
and Netta Sagie**



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INTRODUCTION

The increasing use of project management tools in organizations in the business and industrial sectors is a global phenomenon. In recent decades, such organizations are facing major pressures due to the consolidation of global markets, increased international competition, and the need to pursue commercial opportunities rapidly (Pinto, 2013). These pressures characterizing modern society in general, and the business environment in particular, fostered the development of advanced methods of management that improve an organization's ability to plan, implement, and control its activities and utilize its people and resources (Meredith & Mantel, 2012). Thus, project management has come to be viewed nowadays as a crucial tool in increasing productivity of organizations and one of the most popular and useful tools for organizations to improve internal operations, respond to opportunities, manage contemporary challenges, and achieve strategic goals (Pinto, 2013). Evidently, there is a rapid increase in the number of organizations that use projects as the preferred way of achieving their goals (Meredith & Mantel, 2012). Nevertheless, in light of a high failure rate of projects, many have criticized the way projects are perceived and managed, as well as the way future managers are taught about projects and about project management in higher education institutions (Kerzner, 2017; Thomas & Mengel, 2008).

As the field of project management has significantly grown, so has its literature, and many books and articles have been published about this managerial tool in recent years (e.g., Soderlund, 2011; Webster, 2014; Wong, 2007). However, contrary to the vast amount of empirical work carried out on project management in business and industrial organizations,

in not-for-profit organizations and specifically in the field of education this area has been left relatively untouched (Ahmed, 2017). Education is a field that is perceived by many to be unique and so context-specific that application of generic business-related terms is generally criticized as neo-liberal and a privatization-related measure (Yemini & Sagie, 2015). Nevertheless, proper application of project management methodology in schools at least should be presented to the school leadership team, adding an additional layer to the existing tool-kit of school administrators. It is commonly accepted that education is an extremely complicated field, where measurement of success is not straightforward (Oplatka, 2004; Sellar & Lingard, 2014). In addition, the whole idea of maximizing the profit of the shareholders and issues of organizational efficiency have been loudly contested (Ball, 2012), leaving the managers of projects in schools without appropriate tools.

Unfortunately, no body of literature about project management in schools has evolved over time, leaving this subject far from being conceptualized specifically in educational institutions. Addressing this void is even more crucial as the school context has unique characteristics (Hoy & Miskel, 2008), which call for a separate consideration of many concepts that have come about in business organizations. This situation makes a coherent discussion of project management in schools from a context-related perspective a pressing need.

Given the increasing pressures of decentralization and competitiveness in school environments during recent decades (Oplatka & Hemsley-Brown, 2012), the role of school principals and teachers as project managers is receiving growing interest in practical contexts and especially in leadership development programs worldwide. Thus, school principals nowadays are increasing their independence and control of internal matters and decision-making processes, while at the same time facing growing pressures to improve student achievements and meet government-mandated standards (Goldring & Schuermann, 2009; Inbar, 2009; Lubienski, 2003). These trends have exposed school staff to a complicated array of pressures that impact their work methods and ability to function, but have also provided school leaders with opportunities to act autonomously and initiate changes in their schools. Due to these changes, project management has become a critical tool for schools and therefore adaptation of this discipline in the school context is a matter of the highest priority in current educational systems. It is worth noting, however, that in spite of major reservations concerning the use of project management

methodology in school administration, there is a growing stream of schools that adopt project-based learning and teaching, thus reorganizing the traditional subject-based learning into a holistic module based on a specific topic or project (Lam, Cheng, & Choy, 2010).

As the issue of project management in the school context has hardly been conceptualized and examined, this book provides a comprehensive overview of models and practices of project management in schools, and conceptualizes the processes of adaptation and development of the general aspects of project management curricula within the unique context of the school organization. The book's chapters deal with the complexity and uniqueness of the school environment within the growing implementation of project management in schools. By presenting the general theories and research on project management and adapting these theories to educational organizations and to this specific audience, we hope to open a new and promising niche for teaching, research, and practice.

More specifically, this book has both theoretical and practical contributions. It promotes our knowledge and understanding of project management within the school's contexts and reveals the unique use of project management within schools. In this manner, this book aims to contribute to a better understanding of the process of managing projects within schools and to provide a holistic view of project management within the educational arena. In addition, understanding the complicated case of schools in this context, as we believe, can significantly contribute to the broader theoretical discourse and introduce new practices. From a more practical view, this book may have implications for school principals' and teachers' work and training in the context of the current educational arena. The book provides a deeper knowledge necessary for initiating, implementing, and evaluating projects that can benefit schools and increase their effectiveness and productivity.

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Implementing Project Management in Schools

Abstract The first chapter outlines the history and definitions of projects and project management from the managerial approach (Meredith & Mantel, *Project management: A managerial approach*, Wiley, 2011) in diverse organizations and makes the reader familiar with major concepts used in the discipline of project management. It then goes on to discuss the particular features of schools as a distinguished form of organization that is different from for-profit firms and businesses as well as from other non-profit organizations that therefore make it necessary to propose a different modeling of project management in educational institutions. The chapter concludes with the presentation of the uniqueness of project management in the education sector and particularly in schools, discussing the specificities of schools in relation to initiation and development of projects at pedagogical, organizational, ethical, political, social, and other levels. This book implicitly focuses on public schooling, but most of the implications are suitable for use in private schooling as well.

Keywords Information technologies • Project lifecycle • Non-profit
• Initiation

1.1 THE HISTORY AND USES OF PROJECT MANAGEMENT IN CONTEMPORARY ORGANIZATIONS

For centuries, project management has been used to plan and implement changes in organizations and societies (Cleland & Ireland, 2006). The great pyramids of Egypt, the pronounced cathedrals of Europe, the Panama Canal, the Manhattan Project for the development and delivery of the atomic bomb, the Siberian transcontinental railroad are all examples of great projects in human history that have been set up for a wide variety of purposes and delivered through a variety of methods. Projects exist in all sectors of industry (e.g., construction, high technology, and consumer products) and in every type of organization (Lake, 1997). In fact, many organizations have always been project-driven, dealing with multiple projects simultaneously (Knutson, 2001). It is worth noting here that large-scale projects in the field of education (digitalization, construction of schools, development of curricular materials etc.) have for decades been managed implicitly using project management methodologies as well.

While most organizations have been traditionally departmentalized according to functional expertise, with specialists from design, marketing, manufacturing, and finance residing in different units (Larson, 2007), projects are no longer the exception but are the everyday reality critical to the success of many firms worldwide. By initiating and managing projects, firms are taking advantage of the latest information technologies, using human and financial resources, working according to the known constraints, dealing with uncertainty and risk to coordinate and track the efforts of professionals both within and across organizations (Larson, *ibid.*). Nevertheless, projects are often perceived as high-risk ventures with limited success in terms of the planned versus actual costs and time limits.

Our understanding of project management as a social construct has evolved over the years since the early 1950s, and is continuing to do so nowadays (Schwalbe, 2009). In these early phases of research on project management, it came to be seen for many years as epitomized by tools such as PERT and CPM,¹ Work Breakdown Structures (WBS), and Earned Value, managed in a strictly quantitative way, using engineering methodologies and tools. Only in recent decades, however, have researchers

¹The Program Evaluation and Review Technique (PERT) and the Critical Path Method (CPM) are systems used for project planning and scheduling (Pinto, 2013).

claimed that a more fundamental feature of project management is integration around a clear objective accepted by the project manager and their team (Morris, 2011). Such developments in the discipline of project management might have brought the momentum for deeper utilization of such methodologies in formal schooling settings. This leads us to a discussion on the meaning of the term ‘project’ and its definition in the literature.

Projects exist to sort out problems of cooperation and coordination (Soderlund, 2011), in a process of creating something new or different in the organization or society, and they have a beginning and an end (Webster, 2014). The dynamic nature of the project and its unique outcomes is reflected in the following definitions:

[A] temporary endeavor undertaken to create a unique product, service, or result. (Schwalbe, 2009, p. 4)

A project is a temporary endeavor involving a connected sequence of activities and a range of resources, which is designed to achieve a specific and unique outcome and which operates within time, cost and quality constraints and which is often used to introduce change. (Lake, 1997, p. 8)

Other definitions emphasize effective planning and resource allocation as major characteristics of projects in modern organizations as follows:

[T]he allocation of resources directed toward a specific objective following a planned, organized approach. (Lientz & Rea, 1998, p. 12)

[A] combination of organizational resources pulled together to create something that did not previously exist and that will provide a performance capability in the design and execution of organizational strategies. (Cleland & Ireland, 2006, p. 26)

[A] planned undertaking that requires a set of human task and activities toward achieving a specific objective within a defined time period. (Wong, 2007, p. 18)

Notably, projects have been contrasted with the operation (routine) processes in work organizations (Lake, 1997; Schwalbe, 2009). Accordingly, operation is work performed in organizations to sustain the business, and managers of this organizational unit are chiefly concerned with stability and continuity of routine task performances. In contrast, projects end when their objectives have been reached or when the project has been terminated, and their managers aim to achieve a limited set of objectives within

an agreed amount of time and a fixed budget. In this sense, project management is not the same as ordinary, day-to-day operational management. In other words, a project is about creating something new or implementing a change, whereas a process is a repeatedly performed activity.

Congruent with the major definitions of the organizational project, project management theory and practice continues to be refined toward a purpose of managing change to achieve greater efficiency with less risk and uncertainty (Cleland & Ireland, 2006). In this sense, project management ensures the stability and control required to reduce the risk factors of dealing in a rapidly changing environment (Knutson, 2001) and is responsible for applying the proper skills and competencies to achieve the project's goals. The different definitions of project management highlight this and related aspects of organizational projects:

The application of a collection of tools and techniques to direct the use of diverse resources toward the accomplishment of a unique, complex, one time task within time, cost and quality constraints. (Lake, 1997, p. 12)

The application of knowledge, skills, tools, and techniques to project activities to meet project requirements. (Schwalbe, 2009, p. 7)

Project management is a series of activities embodied in a process of getting things done on a project by working with project team members and other stakeholders to attain project schedule, cost, and technical performance objectives. (Cleland & Ireland, 2006, p. 51)

Project management involves a group of people with complementary skills and experiences who are committed as a team to work together to accomplish the goals and objectives of the project (Wong, 2007), that is, to develop and execute a work plan that will meet the expectations of stakeholders and executives. However, the team ought to be aware of the particular contexts, characteristics, and results during the project's lifecycle. We discuss these aspects in the next section.

1.2 THE BASIC VOCABULARY OF PROJECT MANAGEMENT

Projects have unique characteristics, contexts, and lifecycles that make it necessary for their managers to hold specific skills and competencies in order to bring about appropriate consequences in effective ways. We detail now some of those basic features that are necessary to begin our discussion on projects in education.

1.2.1 *Characteristics*

Projects are unique undertakings that result in a single unit of output (Webster, 2014). For example, a project aimed at an office building in one location is not identical to one aimed at an office building on another site, and their project managers are likely to face a different set of challenges (Lake, 1997). Yet, projects are characterized by interdependent activities with a beginning and an end that are interrelated either arbitrarily (e.g., each activity can be carried out at the same time) or consecutively (e.g., one activity must be completed before another can begin). Without these activities the outcome of the project is unlikely to be achieved. In a small project, though, these activities may be performed by the same multi-skilled individual or individuals. However, in a large project, the performance of these activities usually requires a team of people who have different types of technical skills or specialist knowledge, as well as investment in coordinating and managing efforts (Lake, 1997). The team faces the challenge of diversity and therefore the project manager has to address a multi-functional, multi-cultural, and multi-gender project environment.

Generally speaking, projects are characterized by unique and well-defined objectives, a strategy that identifies how to achieve these objectives, multiple human resources (e.g., traits) and non-human resources (e.g., technologies, skills) which require close coordination (Lientz & Rea, 1998; Webster, 2014). The aim of the project is usually defined broadly at the beginning of the initiation phase (when it begins and, as time passes, the specific details of the objectives become clearer), and involves uncertainty in terms of scope, cost, and time—three aspects that are named ‘the triple constraint’ (Schwalbe, 2009).

Thus, the triangle of scope, cost, and time lies at the heart of project management. In fact, it is the project manager’s task to achieve the required outcomes within a predetermined schedule and budget, while maintaining quality standards (Lake, 1997), that is, to drive the projects by competing constraints. To create a successful project, then, a project manager has to consider scope (what work will be done as part of the project?), cost (what should it cost to complete the project?), and time (how long should it take to complete the project?) (Schwalbe, 2009).

Projects are temporary, though they may last from a few hours to many years (Wong, 2007), and different projects may be driven by different constraints depending on the emphasis established by the project manager

(Webster, 2014). For example, a project manager in a bakery, who aims to reach cost efficiency in his facility, may begin to reach his target by using cheaper raw materials before addressing his machinery efficiency, as the raw materials in his business case are the largest components of his cost structure, even though taking care of the machinery may, in the long run, increase his facility's capacity and therefore grow the business.

1.2.2 *Context*

Projects, including their resources, budget, methods, and tools, are shaped by their environment (e.g., social and economic systems, politics, regulation, technology) and are also set in the context of the organization (Lientz & Rea, 1998). For example, the new environment of many educational systems today is more competitive, characterized by rapid technological changes in schools, use of ICT technologies in teaching, empowerment of teachers, accountability and measurement, and a focus on quality and continuous improvement (Astiz, Wiseman, & Baker, 2002; Goldring & Schuermann, 2009; Selwyn, 2011). Thus, projects tend to assume more importance to management in a wide variety of organizations because they become essential to resolving complex and unique organizational challenges, whose scope is larger than one normally encounters (Cleland & Ireland, 2006).

Two streams of empirical research run parallel in the literature about project management. One stream focuses on factors of success and failure in projects, with the aim of identifying the best practices of project management (Soderlund, 2011). This kind of investigation usually took place during the 1970s to the 1990s, when researchers paid serious attention to the causes of project success and failure. They also sought project management bodies of knowledge to make this field of study a profession with some form of certification and competence (Morris, 2011). Among the critical success factors found in this line of research are awareness of the benefits that project management brings to the organization; an organizational structure that underpins team work such as clear job descriptions, effective reward system, proper performance management system; processes that codify how the project work is to be performed (e.g., the product development process or lifecycle and the project management process and lifecycle); tools (e.g., suitable software); the leadership and motivation of the project manager; and education (teaching the team the competencies necessary for project performance) (Knutson, 2001). Note, however,

that it is difficult to effectively organize projects because most of them are multi-disciplinary in nature (Larson, 2007).

The second stream of research centers on analyzing projects as organizational forms and processes. Projects have been analyzed as temporary organizational systems and a series of related human and behavioral inquiries, including individual motivation and professional development in projects (Soderlund, 2011). In this sense, projects tend to originate either from the top of an organization, as a result of the strategic planning process, or from the bottom, when an individual or a group decide to initiate a project because they believe it will add organizational value in some way (Knutson, 2001).

From these and related studies it is apparent that project managers might face varied difficulties, such as different priorities in the team and contradictory viewpoints, barriers to effective decision making, different views on how to fulfill the project's objectives, and vague or ambiguously defined deliverables (Knutson, 2001; Soderlund, 2011). A significant weakness of projects refers to the level of cooperation among team members, given the fact that individuals, let alone professionals from different occupations and professions, have conflicting goals and behave opportunistically. Likewise, the problem of coordination stems from the complexity of the task and the necessity of communicating and synchronizing complex activities to achieve action efficiencies (Soderlund, 2011).

1.2.3 *The Project Lifecycle*

A project is treated not as a state but as a discernible process (Soderlund, 2011), that has a discrete beginning, a discrete end, and a discrete set of deliverables (Knutson, 2001). It is not a routine, repetitive transaction-driven effort, but rather a dynamic effort to achieve predetermined outcomes. To this end, a project goes through several phases before completion that together make up the project lifecycle. Among these phases are *idea* (the generation of the notion or concept for a new project), *planning* (the conversion of the idea into a plan for a product, service, or organizational process), *implementation and execution* (what is involved and why, what motivates people to do their best work, and who decides what and when), and *outcomes* (who judges results and by what standards) (Cleland & Ireland, 2006; Lake, 1997; Webster, 2014). Note, however, that the number of stages, what happens in each of them in practice, and the terminol-

ogy used to delineate them, will differ from one project to another. Yet, projects usually follow this general pattern.

Start-up

This is the stage at which the idea for a project emerges and is given consideration, including selection of a specific solution/project among several available alternatives. The project originates as an idea in someone's mind (management, stakeholders, investors) to meet particular needs, takes a conceptual form, and eventually has enough substance to allow decision makers in the organization to choose the proposed project as a means of executing elements of purposes and strategies in the organization (Cleland & Ireland, 2006). In this phase, though, the project manager or the deciding body (e.g., general manager/board) sets quantifiable project objectives (Knutson, 2001) that might solve the problems and satisfy the initial needs that brought about the idea to initiate the project.

Planning and Organization

After the top management or stakeholders have articulated the project's major objectives and opportunities in the initiation phase, the project manager develops a detailed and integrated project plan (Knutson, 2001). The role of a project team now is to plan, execute, and control the project. The basic project document is the project plan (Lientz & Rea, 1998) that encompasses the breakdown of all the tasks involved in the project, strategies, business plan, budget, schedule, requirements, policies, performance standards, procedures, and deliverables, all defined by the organization, as Wong (2007) indicated. Risks and contingencies are also considered and potential team members are approached and premises, equipment, and suppliers are identified.

A project plan describes, then, at a high level what is to be accomplished in a project and delegates authority to the project manager to implement actions required for project completion (Cleland & Ireland, 2006). Decisions taken in the planning process become the directive from which projects are performed. In this sense, the plan is converted into an ongoing strategic management process that continues to review strategic objectives and filter down any changes, to assist the project managers in redirecting their efforts adequately (Webster, 2014).

Implementation

This phase is the implementation of the formal plan to monitor, tackle, and control work in progress. The project manager and the team are expected to put the charted plan into action. This is the time of maximum activity and resource use. The project manager's role includes monitoring closely the work of the team, controlling the budget and the progress of the project schedule, and appraising resource allocation requirements. This is vital in order to anticipate, analyze, and resolve future problems (Knutson, 2001). Project management tools and techniques assist project managers and their teams in carrying out their work in this phase of the project's lifecycle (Schwalbe, 2009).

Likewise, the project manager should be communicating with the initiator of the project and the project's end users throughout this phase to make sure the project meets their expectations (Schwalbe, 2009). The analysis of success factors, the evolution of the project, and project governance merit much attention by all members of the project team (Soderlund, 2011), specifically because growth and development are gained from exposure to the various disciplines represented by subject-matter experts from different parts of the organization (Knutson, 2001).

Termination

In this phase, the main project deliverable is completed and many people consider the project to be finished. However, the project manager still has some important work to do. The team must be disbanded, project documents must be assembled, reports must be written, and contracts checked and closed. It is appropriate to perform a post-project review or an audit that evaluates actual time, total cost, and quality of the product.

In addition, the project manager needs to reflect on every aspect of the project and consider what should be done differently another time around (Lake, 1997), and inform top management of the actual and the expected future impact of the project on annual expenses and whether the paybacks or savings that were contemplated will be realized (Knutson, 2001). Special attention should be given to the definition of the project's success or failure (Schwalbe, 2009). Questions such as the degree to which the project met scope, cost, and time goals; to what extent the project satisfied the initiator/sponsor; and the level of goal achievement arise in this phase.

Notably, the project process is iterative, that is, a phase of the product process might be revisited (Webster, 2014). For example, if something was discovered during the implementation phase that necessitated going back

and revising the planning, that means that the team should stop implementing the project and consider its planning anew to prevent pitfalls and deficiencies. Additionally, the activities to create the product or the service are specific to the industry and to the product or service being created (Soderlund, 2011). For example, the lifecycle of projects in schools might be different from that in business companies. Yet, the same project management lifecycle can be used in both types of organizations, as the phases described above are broad enough to comprise varied forms of engagements.

1.2.4 *The Project Outcome*

Projects are established to achieve specific outcomes that are relatively new and therefore bring about change of some kind. The change may be relatively unimportant, and be easily assimilated into the organization by the people it affects or may have very significant consequences upon the organizational purposes and structures (Lake, 1997). In a ‘hard project,’ the outcome is something which has a physical reality, such as a building, a bridge, or a new product. A ‘soft project,’ on the other hand, is designed to achieve a less tangible kind of result, such as a new process or an organizational change (Lake, *ibid.*). Among the intangible benefits of project management are the experience and professional development that the project team achieves by working in a cross-functional team environment (Knutson, 2001). The implementation of many projects, though, has contributed to improved living conditions for many people and has created alterations that benefit society as a whole (Cleland & Ireland, 2006).

More specifically, project management results in better control of financial, physical, and human resources, improved customer relations, shorter development times, lower costs, higher quality and increased reliability, higher profit margins, high quality assurance of each deliverable, and improved productivity (Schwalbe, 2009; Webster, 2014). It is more effective in performing unique work to convert resource to new products, services, or organizational change (Cleland & Ireland, 2006). Special attention is given to the stakeholders (e.g., project sponsor, project team, suppliers), who are the people involved in or affected by project activities (Schwalbe, 2009).

1.2.5 *The Project Manager*

Increasing attention is given in the literature about project management to the critical role of the project manager in the successful implementation of organizational projects, as projects need leadership. Thus, the project man-

ager needs to maintain an overall vision of the goal and a detailed understanding of the progress that has been made toward this goal, and coordinate between the members of the project to achieve a predetermined result, because they are usually made up of people with complementary, and consequently different, areas of expertise (Lake, 1997). Furthermore, the changing of organizational environments is asking each project manager to plan, monitor, track, and manage schedules, resources, costs, and quality (Knutson, 2001). Project managers must not only struggle to meet specific scope, cost, time, and quality goals of projects, but also facilitate the entire (complex) process to meet the needs and expectations of the people involved in or affected by project activities (Schwalbe, 2009).

To meet the many tasks they are responsible for, the project manager has to develop a wide variety of skills and competencies such as planning skills, leadership qualities, team management, a sensitivity to the culture of the environment in which they are working, risk management, financial analysis, telecommunications design, or marketing creativity (Lake, 1997; Webster, 2014). Above all, the project manager should know how to balance the triple constraint (scope, cost, time) and decide which aspect of it is most important and which is less significant (Schwalbe, 2009). Springer (2010) claimed that there is no agreement upon the desirable project management competencies for success in practice and suggested a list of project management behaviors that are separated into qualitative vs. quantitative behaviors. The qualitative behaviors include understanding the global environment (seeing the bigger picture, understanding leadership, understanding team dynamics and individual personalities), team building and team development, understanding decision making, understanding the business case for diversity and attendant inclusivity. The quantitative behaviors encompass domain-specific knowledge dealing with all the essentials of project management.

1.3 THE UNIQUENESS OF SCHOOLS IN THE CONTEXT OF PROJECT MANAGEMENT

Thus far, we have outlined, although succinctly, the current scholarship on project management in the disciplines of general management and business administration. However, one should bear in mind that this scholarship has been developed mostly in organizations that differ, by and large, from educational institutions and therefore the current section extends our understanding of the particular features of the school organization and sets the stage for our model of project management in this kind of organization.

The school has long been conceived of as a unique type of organization, defined by Tyler (1988) as “a localized administrative entity concerned with the face-to-face instruction of the young” (p. 224). This definition implies that schools face a tension between formal structure and the face-to-face interactions of teaching and learning; that is, a tension between expectations for unity and structured procedures and informal interactions embedded within the school’s major organizational structures—the classrooms. These tensions are also related to two contradictory theoretical approaches of the school.

Thus, one may see the school as a tightly woven, fairly predictable pattern of roles and functions just like many industrial organizations, because the demand for uniformity in product and the need for movement of students from grade to grade in an orderly process require a routinization of activities and, hence, a bureaucratic basis of school organization (Hoy & Miskel, 2008). The school is considered to be a bureaucracy with a formal control system, whose separate parts are highly integrated through coordination, supervision, and planning (Firestone & Herriott, 1982). Current reforms of accountability and standardization in educational systems draw largely on this approach, because it is believed that the school’s technology (i.e., teaching) can be measured and standardized, and that the link between inputs, processes, and outputs in education is clear and susceptible to accountability.

In contrast, many, including the authors, see schools as a ‘loosely coupled system’ (Weick, 1982), characterized by the ‘looseness’ of school administration and “debureaucratization” (Tyler, 1988). By ‘loose coupling’, Weick (1976) conveys “the image that coupled events are responsive, but that each event also preserves its own identity and some evidence of its physical or logical separateness” (p. 5). In this sense, structure is disconnected from technical work activity, and activity is disconnected from its effects. Purposes and programs are poorly and uncertainly linked to outcomes; rules and activities are disconnected; and internal organizational sectors are unrelated (Meyer & Rowan, 1978). In fact, there is loose connection in schools over how well the work is done; that is, the management and supervision of instructional activities in the classroom is infrequent, weak, and usually perfunctory.

The structural looseness of the school organization is related, by and large, to the complex, uncertain, and boundaryless characteristics of the teaching occupation, as Hoyle and John (1995) have indicated. Some scholars have claimed that teachers spend their time in individual class-

rooms with little feedback, little opportunity to interact with other adults during the workday, and with maximum responsibility to control often unruly groups of children (e.g., Sykes, 1999). Bidwell (1965) noted that in order to deal with student diversity on a day-to-day basis, teachers need to have freedom to make professional judgments and therefore they enjoy broad discretionary powers with respect to curriculum and teaching methods. At the same time, the administrative, routinized work in schools requires a bureaucratic basis. This led Bidwell to describe the school as a distinctive combination of bureaucracy and structural looseness.

The basic assumption of this book, shared also by scholars of education worldwide (e.g., Biesta & Miedema, 2002; Doyle, 1990; Munthe, 2003), is of teaching as a very inchoate, immeasurable, and messy profession, taking place in an isolated work environment that resembles art rather than science, because it involves artistic judgment about the best ways to teach and is based primarily on feelings and invention (Ornstein, 1989). It is unlikely to have a simple set of easily prescribed behaviors that invariably add up to teaching effectiveness (Darling-Hammond, Wise, & Klein, 1995). This begs critical questions regarding the essence and structure of teaching and its relation to project management: Can teachers work together as a team to achieve common goals? To what extent can project managers coordinate among employees whose work is more like a craft than a profession? Given the unique atmosphere in each classroom, could schoolteachers implement the same project in their lesson/class adequately? Can school principals measure the outputs of instructional projects by strict and valid tools of evaluation? To the best of our knowledge, educational scholarship has failed thus far to coalesce around any powerful and generative theory of schooling and teaching that could answer these and related questions.

Teaching, though, is an occupation that is relatively based on the personal characteristics of teachers, as well as on cultural-based definitions of ‘proper’ teaching in a particular society. On the individual level, these are the teachers who combine, for example, what Lieberman and Miller (1984, p. 2) called “the universal and cognitive and the other particular and affective” aspects of teaching, based, at least in part, on teachers’ beliefs of what competent teaching is. Lortie (1975) showed in his seminal work that a host of teachers in his study wanted to add something personal to their curricular responsibilities, such as the moral aspects of teaching, and the “connecting” function of the teacher who instills love of school or a particular subject in the students.

On the cultural level, national cultural scripts, historical forces, school culture, social myths, public discourses, teaching context, and the general environment seem to shape, by and large, teachers' personal constructions and images of what it means to teach 'professionally' and what kind of teachers they want to be within their schools (Ben-Peretz, Mendelson, & Kron, 2003; Korthagen, 2004; Moore, 2004). Along the same lines, researchers from the emerging area of 'teacher identities' (e.g., Beijaard, Meijer, & Verloop, 2004; Nias, 1999) have noted that teacher identities are constructed both from what Day (2002) calls "the technical aspects of teaching," and from what Van den Berg (2002) observed as "the interaction between the personal experiences of teachers and the social, cultural, and institutional environment in which they function on a daily basis" (p. 579).

1.4 SUMMARY: TOWARD A CONCEPTUALIZATION OF PROJECT MANAGEMENT IN SCHOOLS

Following the particular characteristics of the school organization outlined above, some insights into project management in schools are illuminated here. First, as the school is seen as a loosely coupled system, dynamics of inter-professional collaboration and distribution of knowledge are unlikely to emerge naturally. Add to this the dominance of neoliberal notions in many educational systems nowadays (in the form of accountability, testing, and standardization), and the likelihood that a teacher will initiate an organizational project or an instructional one beyond their own class is scant. This raises the question of the 'start-up' phase more profoundly: who is expected and 'entitled' to initiate organizational and instructional projects in schools—the government, or the parents that pay the bill, or the teachers who are the most to be influenced by these projects? What are the chances that teachers who work most of their career in closed spaces behind closed doors will initiate projects?

Second, the planning phase, usually termed in schools as vision-building, is very hard to perform due to the vague and multiple educational goals, the uncertain nature of teaching, and the many variables affecting any instructional performance in school. After all, many aspects of the schooling process and the teaching-learning processes are influenced by a host of factors to allow a clear, predetermined planning process, unless the project is constrained to plain technical-administrative

aspects. This leads to ponderings such as to what extent educational, let alone instructional, planning is effective in schools? Can we virtually write a planning proposal for instructional projects that are characterized by weak cause–effect relationships? Can we control so many variables affecting project performance in schools due to the vague nature of educational engagements?

Third, one of the major difficulties faced by project managers is coordination and team management. This difficulty is strengthened in schools where the team members are used to working solely and independently; that is, their work outcomes are relatively disconnected to the work of others in the school. Add to this the fragmented structure of the school (e.g., departmentalization of work processes), and one of the questions project managers in schools might ask themselves is whether it is possible not only to create team collaboration, whose outcomes are inculcated by every teacher, but also to be able to supervise the team’s work when each team member is behind closed doors (i.e., in the classroom). After all, teacher autonomy derives largely from high levels of student diversity that make it necessary to respond particularly to each student. Therefore, the implementation of a certain project in every class and with every student is questioned.

Fourth, project management is an ever growing domain, by which organizations achieve their objectives. Despite the growing use of, and increasing research attention on, project management in different settings and organizations, the discouraging reality is that too many projects are failing to achieve their goals, in particular failing to sustain the basic planned triangle of projects: scope (performance), cost (budget), and time (schedule) (Meredith & Mantel, 2011). This so-called triple constraint was once a gold standard by which projects were assessed (Pinto, 2013). The importance of scope, cost, and time lies not only in their role in the basic project definition, but more importantly in the complex interdependencies between them, implying that modification in one of the parameters must be followed by the respective changes in the other two (See Fig. 1.1). Managing the trade-offs between each one of those parameters with the other two is one of the most challenging tasks in project management (Kerzner, 2013). For example, establishment of the new school library within one academic year, with 10,000 different titles relevant to elementary school, and a budget of \$100,000, might be challenging if the books are apparently 15 percent more expensive than the original estimate. This means that in order to achieve the project goals we need to either reduce

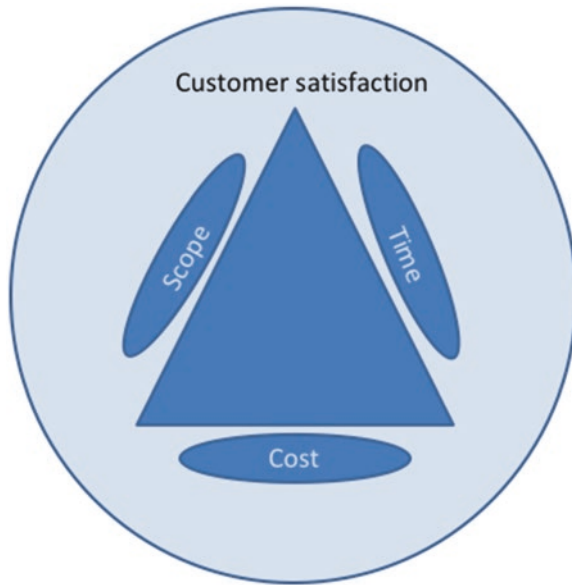


Fig. 1.1 Project constraints and school outcomes triangle (adapted from Meredith & Mantel, 2011)

the quantity or the quality of the books or postpone the project schedule in order to raise more money.

In addition, when discussing project management and project implementation it is important to note the significance of the fourth (later added) basic parameter of project success: customer/client satisfaction (Pinto, 2013). Dvir, Raz, and Shenhar (2003) claim that “there are many cases where projects are executed as planned, on time, on budget and achieve the planned performance goals, but turn out to be complete failures because they failed to produce actual benefits to the customer or adequate revenue and profit for the performing organization.” (p. 89). This parameter is of particular importance in the school environment and in the education system in general, as the ‘customer’ in our case is usually not easy to identify: it can be teachers for the organizational project, students as end customers of the organizational change, parents as the agents

paying directly or indirectly for the provided services, the local education authority (LEA) or district as a monitoring agent or several of them together, or society at large as an end customer that is supposed to invest resources into education as part of society's well-being.

In the education sector, the use of the word 'customer' for different stakeholders is overloaded with negative connotations and fierce critique over marketization, privatization, and commercialization of education (McLaren, 1995, 2005), which was originally (as claimed by many) supposed to be a public good, provided by the government to the citizens in an equal and fair way. The discourse on 'customers' positions the school and the education system into a quasi-market situation where ideological judgments are developed and sustained. Without dwelling on discussion of the ideological nature, it should be noticed that it is not uncommon that the 'customers' in schools are holding different or even contradictory expectations concerning the project scope and outcomes. For example, the students as customers of the school want to have less homework and to finish their day early, while their parents are worried about the competencies acquired in school and wish to increase the workload, as well as the length of the school day. The teachers aim for the best preparation of the students for the global and interconnected world, while the ministry of education and the state are worrying about the socialization of those future citizens to the nation and its local values (Goren & Yemini, 2015).

Finally, as the teaching–learning process is uncertain and vague, it is not easy to measure project success in educational institutions. Thus, the measurement and evaluation of a project's outcomes (to determine the termination of the project implementation phase) usually relies on a subjective interpretation by the project team, rather than on objective success factors. In addition, it is difficult to determine when (and if) the project succeeded, because many times the educational outcomes are seen only years after the action or intervention was taken, and it is intangible and susceptible to many personal views on education and learning.

As borrowing of principles and concepts that have been developed in the business literature have usually led to fierce opposition among educators and teachers, the chapters in this book will extend the insights and ponderings raised here to create a resource that speaks the 'educational language.'

1.5 PRACTICAL POINTS FOR PROJECT IMPLEMENTATION IN SCHOOLS

1. A project is a temporary organized effort intended to create a unique product or service in a school, and therefore the decision to launch a new project should demarcate its borders in time and scope from the first phases of the project planning.
2. Sharpen the distinctions between the new project and the school's routine; that is, the operation of teaching and learning processes in the school.
3. It is important to bear in mind that project management should involve the application of managerial skills and tools over time, without which the project's success is questionable. A manager should lead the project team toward the project goal and confirm its sequence in tandem over time.
4. It is a time to confirm whether there are sufficient resources for the project, as without them no project initiative can move to the implementation phase.
5. Make sure a team of teachers collaborating together in the project process can be established.
6. Talk with staff and stakeholders about the expected outcomes of the project and their potential values for the school to engender support in the project initiation.
7. Learn how the unique characteristics of your school and its environment could facilitate or inhibit the project implementation.

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Project Initiation

Abstract It is of particular importance to devote significant resources (in terms of time, different school stakeholders' involvement, and managerial attention) to the preliminary phase of a project lifecycle, and in particular the phases of project initiation and planning. This chapter will detail the basic characteristics of project planning in schools. Careful attention to this phase will allow minimization of risk and uncertainty during the project, and increase probabilities of success.

Keywords Stakeholders • Project planning • Risk management
• Success

The complexity and fast transformation of contemporary life foster the use of project management in different spheres and contexts, among them in education systems and within schools. With unpromising statistics on project success (literature mentioning that more than 50 percent of projects fail to be based on the basic requirements of scope, cost, and time) (Pinto, 2013), it is of particular importance to devote significant resources (in terms of time, different school stakeholders' involvement, and managerial attention) to the preliminary stage of a project lifecycle and in particular the phases of project initiation and planning. Careful attention in those phases will allow minimization of risk and uncertainty during the project, and increase probabilities of success (Pinto, 2013). In this chapter,

we will start with a description of the project lifecycle, outlining the prominence of the initiation phase and detailing the crucial points in project management of this phase. Afterwards, we will discuss the major project parameters (scope, cost, and time) which were first presented in Chap. 1. Then we will discuss the role of teachers and school principals as project initiators, or in other words ‘intrapreneurs,’ and detail the modes of project selection.

2.1 PROJECT LIFECYCLE

Project lifecycle refers to the similar path of phases that the project undergoes from origin to completion. The project birth is usually signified by the managerial decision to execute the specific project (ideally, decision undertaken after the process of project selection, and includes staffing, goal setting, and detailed planning). Project termination (whether at the end of the project or before—see Chap. 5) includes the wrapping up of all project-related activities and, if needed, measures aimed at institutionalizing the project within the school. Usually, a project lifecycle can be depicted through the level of time invested or the level of effort invested in each of the project’s phases (see Fig. 2.1). It is characterized by the slow

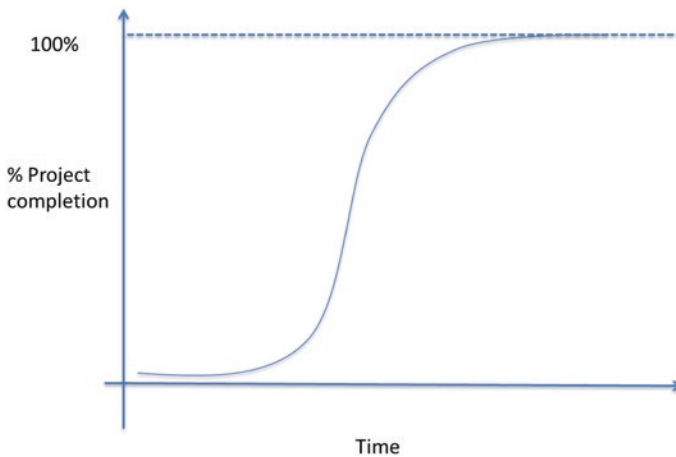


Fig. 2.1 The common S-shaped project lifecycle (adapted from Pinto, 2013)

start and slow finish and increased rate of completion at the middle of the project timeline.

Despite the relatively low percentage of actual project tasks that are supposed to be performed during the initiation phase, the project success depends largely on this phase, where careful planning is performed. This is the stage where institutional politics in the school should be specifically taken into account, together with the role of individual actors within the school's internal and external environment (Mullaly, 2015). In school, this would be the phase where agency and entrepreneurship of teachers, parents, pupils, and external agencies will take place, while usually the school principal will take the role of decision maker as to whether to continue with the planning process or bring it to a halt.

Figure 2.2 presents the same project lifecycle, this time with the y axis outlining the effort invested throughout the project. The level of effort steadily increases through the project lifecycle and decreases toward the project's termination.

Those are typical figures but it is important to note that there are projects that act differently through the lifecycle curve. During the project lifecycle, additional variables are likely to change as the level of risk will typically decrease and the level of budget use will change according to the project expenses.

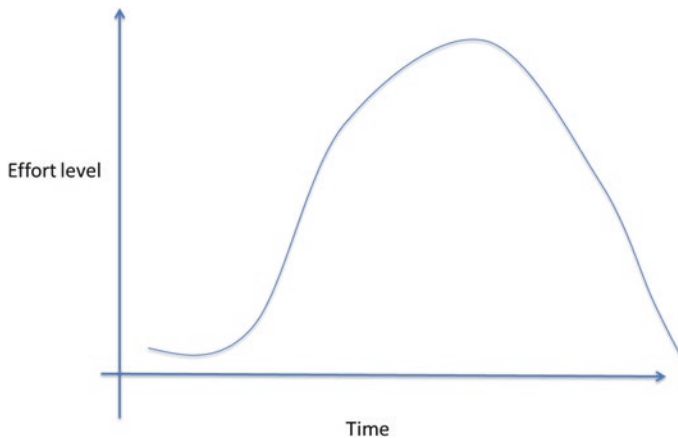


Fig. 2.2 Effort invested through the project lifecycle (adapted from Pinto, 2013)

This chapter will address the project initiation phase in particular, focusing on the role of school staff in initiating projects and acting as corporate entrepreneurs (intrapreneurs) and the school's organizational diagnosis to identify the school's needs and opportunities. It will end with a discussion on the models and the reality of project selection processes in schools.

Project management is an ever growing domain, by which organizations achieve their objectives. Despite the growing use of and increasing research attention on project management in different settings and organizations, the discouraging reality is that too many projects are failing to achieve their goals, in particular failing to sustain the basic planned triangle of projects: scope (performance), cost (budget), and time (schedule). This so-called triple constraint was once a gold standard by which projects were assessed. The importance of scope, cost, and time lies not only in their role in the basic project definition, but more importantly in the complex interdependencies between them, implying that modification in one of the parameters must be followed by the respective changes in the other two (see Fig. 2.3),

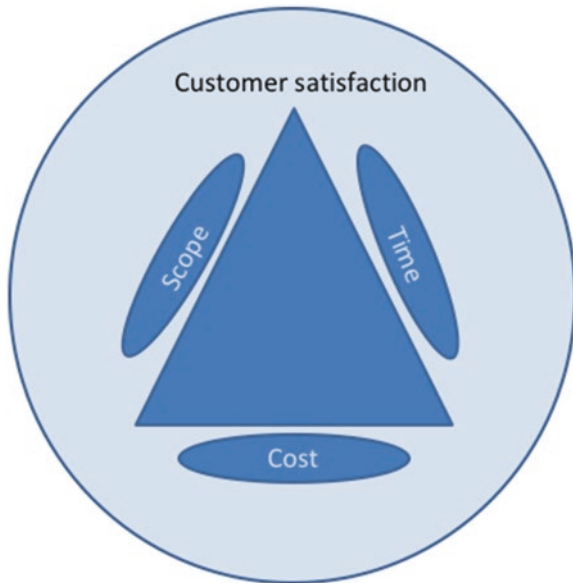


Fig. 2.3 Projects' constraints and schools' outcomes triangles (adapted from Meredith & Mantel, 2012)

the change in the length or slope of one of the triangles' sides will immediately lead to a change in the other two sides of the triangle. Managing the trade-offs between each one of those parameters with the other two is one of the most challenging tasks in project management. For example establishment of the new school library within one academic year, with 10,000 different titles relevant to elementary school, and a budget of \$100,000, might be challenging if the books are apparently 15% more expensive than the original estimate. This means that in order to achieve the projects goals we need to either reduce the quantity or the quality of the books or postpone the project schedule in order to raise more funding to pursue the original scope of the project.

In addition, when discussing project implementation, it is important to remember the significance of the fourth basic parameter of project success: customer satisfaction (Meredith & Mantel, 2012) or the project quality. Since this parameter might appear as a very vague feature in schools due to the multi-dimensional structure of power struggles between the different agents (Jacobson, Brooks, Giles, Johnson, & Ylimaki, 2007), during the phase of project initiation it is crucial to map all the relevant stakeholders who might count as beneficiaries of the project and to engage them through the initiation phase.

In the education sector, the use of the word 'customer' for different stakeholders is overloaded with negative connotations and fierce critique over marketization, privatization, and commercialization of education, which was originally (as claimed by many) supposed to be a public good, provided by the government to the citizens in an equal and fair way (Ball, 2007). The discourse on 'customers' positions the school and the education system into a quasi-market situation where ideological judgments are developed and sustained. Without dwelling on a discussion of the ideological nature, it should be noticed that it is not uncommon that the 'customers' in schools are holding different or even contradictory expectations concerning the project's scope and outcomes. For example the students as customers of the school wish to get less homework and to finish their day early, while their parents are worried about the competencies acquired in school and wish to increase the workload, as well as the length of the school day. The teachers aim for the best preparation of the students for the global and interconnected world but also worried about their work-life balance, decreasing status and social security, while the ministry of education and the state are worrying about the socialization of those future citizens to the nation and its local values together with the need to perform adequately on an international level. The press also plays a

prominent role here when covering educational issues, often shaming national performance, thus putting more pressure on all those involved (Yemini & Gordon, 2017).

There are many different ways to initiate a project in schools. Some projects are implemented through national or regional legislation, some are promoted by parent organizations, and some are brought into the school by philanthropic or even commercial entities. In each case, the process of initiation will start at a different stage and will be developed by the school's leadership team differently. Nevertheless, probably the most common way that projects are initiated in schools is by the school staff. Agency and entrepreneurship expressed by the school leadership team and staff are detailed in the next section.

2.2 TEACHERS AND THE SCHOOL LEADERSHIP TEAM AS CORPORATE ENTREPRENEURS

In many countries, such as the UK, US, and Israel, schools are currently exposed to increasing pressures for high achievement and performance, along with demands that they align with government standards and policies (Brooks & Normore, 2017). At the same time, due to decentralization processes, schools are gaining more power and autonomy than ever before. These two prominent trends expose teachers and school leaders to contradictory pressures that affect their actions and practices (Bush, 2003). On the one hand, they encounter institutional pressures requiring accountability for school outcomes according to prescribed regulations and standards, including the rigorous international testing regime, political pressures, and local contexts; on the other hand, following decentralization, school leaders gain the opportunity to extend their spheres of autonomy. The schools are thus influenced both by accountability demands in a top-down way and by autonomic actions of school staff in a bottom-up manner. Nevertheless, to some extent, schools enjoy discretion over their practices as long as they advance and improve student achievements. This enables school leaders to take advantage of the opportunities within their school environments to mobilize resources, promote new initiatives, and lead changes in their schools and communities.

School leaders must act as "resource investigators," whose activities foster new initiatives and find new support and funding required for school development and improvement (Earley & Weindling, 2004), while estab-

lishing commercial and entrepreneurial connections with diverse external agencies. At this point, school leaders move a step further to incorporate within their leadership role innovative activities that mediate and alter educational policy and establish new school arrangements. We can thus assume that decentralization and diversification of the educational system challenge institutional assumptions regarding school stability, compliance, and isomorphism and leave space for school leaders' agency and entrepreneurship, similar to the managerial role reported in non-educational organizations (Veenker, Sijde, During, & Nijhof, 2008). This agency within the schools is often expressed through projects, initiated by individual teachers, teams or school leadership teams, aiming to improve the teaching and learning processes within the specific local context. School principals and teachers thus often act as school entrepreneurs, initiating and promoting their initiatives, which usually are implemented as projects within schools.

Entrepreneurship is considered to be a driving force of change and innovation, introducing opportunities to achieve efficient and effective performance in both public and private sectors. Since the early 1980s, scholars have continuously approached this topic from different perspectives and disciplines (Shane & Venkataraman, 2000). The phenomenon of entrepreneurship is intertwined with a multi-faceted set of overlapping constructs such as management of change, innovation, and ecological and environmental turbulence. Although the definition and core concept of entrepreneurship is debated, researchers have indicated that entrepreneurs can be depicted as risk-takers, high achievers, and creative in their abilities to produce unique goods and services (Fernald, Solomon, & Tarabishy, 2005). Entrepreneurship can be regarded as one feature of extraordinary leaders in that their innovation or solutions to pressing problems carry some benefits (e.g., in economic terms).

Traditionally, entrepreneurship was associated with the private sector and for-profit business organizations, and their innovations are directed toward the marketplace. Therefore, it initially received marginal attention in public educational settings (Borasi & Finnigan, 2010). Further, schools are frequently perceived as resisting educational change, as expressed in their holding on to institutional regulations and norms, which hardly leave room for entrepreneurship. Therefore, as education is mainly a non-profit setting, different approaches to entrepreneurship can be found there in comparison with for-profit settings. As our discussion is focused on project management within schools, we will focus on intrapreneurship or

corporate entrepreneurship, meaning entrepreneurship occurring within the existing educational organizations (i.e., schools), and not involving the establishment of a new organization (Omer Attali & Yemini, 2017). In this context, school entrepreneurship can be defined as the “process whereby a vision of the entrepreneur that was designed based on the identification of a need or problem within the education system alongside an opportunity to resolve it innovatively leads to formulating goals and working to attain them in a manner that adds value, thereby influencing the immediate surroundings and the broader education system” (Omer Attali & Yemini, 2017, p. 155).

The innovative and creative role of intrapreneurs is organized around project initiation and then implementation, meaning results-oriented approaches, acting as an innovative remedy to a problem within the existing context that gains social legitimization and support. Battilana, Leca, and Boxenbaum (2009) pointed out two conditions of intrapreneurship: (1) initiating divergent changes that can be launched within the boundaries of an organization and/or within the broader institutional context in which an actor is embedded; and (2) actively participating in the implementation of these changes. Intrapreneurs must actively mobilize resources to implement their project. The change is not required to be a new venture or large in its scope, but it has to diverge from the predominant model that characterized the existing institutional environment. In sum, we can regard the intrapreneur as one that is seizing opportunities and mobilizing resources in order to transform and alter existing institutions (e.g., practices or rules) or creating new ones while gaining legitimization for their actions inside the organization.

In education, such changes can encompass school practices, standards, and policies (see Pacheco et al., 2010) in various areas such as: pedagogic (i.e., curricular content and instructional strategies with immediate impact at the classroom-level; organizational (i.e., practices and structural designs that do not directly affect classroom techniques or content); and social concerns (creating arrangements to solve social problems by pursuing opportunities to catalyze social change and/or address social needs in innovative ways and with a combination of resources). All those can be seen as projects initiated within schools to address specific school needs and/or to explore and utilize an opportunity identified by the school. In addition, projects in schools may be initiated by other stakeholders, namely parents (Yemini, Ramot, & Sagie, 2016) or external organizations (Kolleck, 2017; Yemini, 2017). In the next paragraphs, we will address the

process of organizational diagnosis in schools that is usually performed as a first stage of needs identification, which leads to initiation of entrepreneurial actions.

2.3 PERFORMING ORGANIZATIONAL DIAGNOSIS IN SCHOOLS

The birth of a project in a school can occur through various pathways and means, starting from an idea promoted by an enthusiastic parent, to the dream pursued by one teacher or school principal, and up to the decision made by an LEA, district, or ministry of education for all schools in the country or the region (Kolleck, 2014). In addition, projects can be brought into a school through partnerships with external organizations such as third sector entities, philanthropic bodies, and businesses (Sagie, Yemini, & Bauer, 2016). Basically, we can group the project initiation processes into two groups: those initiated by the school (including teachers, students, school principal, and parents) and those brought into school by external entities (including first, second, third, and fourth sectors). Usually, we refer to projects initiated within schools as developed by a bottom-up approach and those initiated externally as developed by a top-down approach, in the sense that the school itself is not responsible for the project initiation.

Decision-making processes within a school as to whether to choose implementing a specific project or to develop a unique solution for the emerging need usually occur through the rationalistic process of organizational diagnosis, which consists of a systematic process of data collection and analysis (Reddy, Kettler, & Kurz, 2015). A lot of methodologies exist to diagnose the organization, most of them originating from the disciplines of strategic management and organizational behavior. Those procedures can be implemented by the school staff, external advisors, or regulatory agencies. The advantages of internal diagnosis include the deep knowledge of the school and the well-established relations between the involved stakeholders. The disadvantages of the internal diagnosis include the possible biases that pre-exist within a school and the structure of the existing power relations, which may prohibit free and open discussion.

On the other hand, external advisors may bring into the school the spirit of innovation and openness but together with one-size-fits-all imported solutions. The timing of such procedures is also varied and can occur periodically (during the planning or during the assessment in each

academic year), in time of crisis (when the school's outcomes are in decline or the school's competition over students is mounting), in times of leadership change (new school principal entering the school environment), or due to other circumstances (for example existence of resources for organizational diagnosis or the district initiated the process of diagnosis in all schools in the district).

Most commonly the process of identifying, understanding, and prioritizing the school's needs in order to initiate a project within school, or in other words initiation of intrapreneurship, is performed through systematic analysis of the school's strengths and weaknesses, as well as of the school's external environment in terms of future opportunities and threats. This methodology, commonly known as SWOT, originated from the field of strategic management and it is extremely common as a key tool for addressing complex strategic situations by reducing the quantity of information to improve decision making. By listing favorable and unfavorable internal and external factors in the four quadrants of a SWOT analysis grid, school staff can better understand how strengths can be leveraged to realize new opportunities and understand how weaknesses can slow progress or magnify organizational threats. In addition, it is possible to postulate ways to overcome threats and weaknesses of future strategies (Helms & Nixon, 2010: p. 216) (see Fig. 2.4).

Usually, the weaknesses discovered through the process of organizational analysis are reframed into the needs that the school aims to fulfill by exploiting the opportunities (which are part of the basic definition of entrepreneur as a person who identifies and exploits opportunities) (Shane, 2012). For example, in Fig. 2.4 the process of organizational diagnosis is detailed for a specific school. This SWOT analysis presents a hypothetical school with a new principal who aims to initiate several digital pedagogy-based projects in the school. The internal factors (of positive and negative nature) are presented here as the school's strengths and weaknesses, including school staff experience and good physical infrastructure, coupled with the relative inexperience of the school principal and insufficient capacity for future growth. During the process of project initiation, SWOT analysis could provide an extremely useful tool for the identification of various opportunities where projects can be initiated, based on the needs of the school. Moreover, the examination of the school's external environment (opportunities and threats) might provide the leadership with a broader view of the needed project, as well as the possible perils of such an entrepreneurial act.

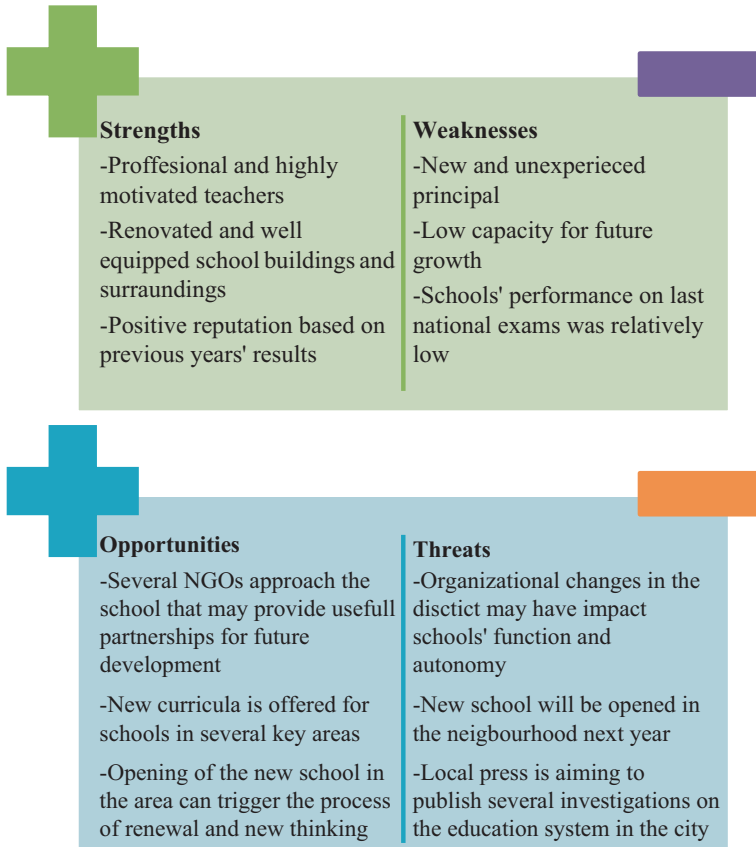


Fig. 2.4 Example of SWOT analysis at school level

2.4 MODELS FOR PROJECT SELECTION IN SCHOOLS

Schools nowadays are literally bombarded with opportunities and proposals to implement, or are engaged with diverse organizations, projects, and interactions (Sagie & Yemini, 2017). Parents, districts, the ministry of education, businesses, third sector organizations, and even students are full of entrepreneurial ideas that might be adopted by schools. Being heavily regulated and mostly outcome-restricted (usually by performance based measures) organizations, schools must carefully calculate the steps between

their will to bring innovation and passion into school reality and the capability for a multi-tasking and multi-goals reality that might harm the process of teaching and learning.

Not all projects that are eventually implemented in schools undergo rational selection pathways where different alternatives are considered and documented, and then decisions are made (Bhaat & Kim, 2017). This also happens in other organizations, but it is much more common in schools for several reasons. First, schools in many countries are working under various regulatory constraints where their autonomy to choose and implement projects is limited. Projects may be brought into school by external entities and schools may be forced to implement them even when project goals do not align with the school's needs, as identified in organizational diagnosis if executed. In such cases, national/regional initiatives are established and schools must implement them as part of the larger program, where usually resources are given to schools to implement the project, goals are settled, and sometimes schools are held accountable for the predefined results.

Second, even when the school has a choice, its project selection rationale is not necessarily aligned with the school's organizational diagnosis. In some cases, schools are invited to participate in a predefined project—here the NGOs, business firms, or communities are approaching the schools (Kolleck, 2017). The schools are not obligated to participate in the project as in the case of regulation, but they may choose to join the project due to the political or financial support gained through the interaction around the project implementation. Additional reasons for project implementation might be the competitive pressures faced by schools and the need to be attractive to stakeholders (e.g., students, parents, and school staff). In such cases, schools might undergo isomorphic processes and adopt similar projects (that other schools have) instead of focusing on their own unique needs, strengths, and opportunities (Yemini & Addi-Racah, 2013).

Despite the abundance of cases where schools are forced or pushed toward a specific project, it is important to address the process of project selection, when it is possible to implement. Research shows that too many projects in different types of organizations are created but never used by their intended customers (Meredith & Mantel, 2012). The school leadership team must be aware of different approaches to project selection, as well as of constraints on the real possibilities of selecting a project and on maximizing their influence to choose the best solution for their organization. It should be noted that the implementation of different

Table 2.1 Example of scoring model

		<i>Importance</i>	<i>Score</i>	<i>Weighted score</i>
Project A	Alignment with school's vision	3	2	6
	Cost	2	1	2
	Innovation	2	1	2
	Total score			10
Project B	Alignment with school's vision	3	2	6
	Cost	2	3	6
	Innovation	2	3	6
	Total score			18
Project C	Alignment with school's vision	3	3	8
	Cost	2	2	4
	Innovation	2	1	2
	Total score			14

approaches must be adapted to the specific organization, and the project portfolio should be managed carefully during the project initiation phase, but also later through the project lifecycle. We suggest that the project entrepreneur uses a template (see Table 2.1) as a first analytical tool during the initiation phase, before applying any of the selection models. This summary may provide the decision makers within the school with the needed context, within which the future projects can be aligned.

In addition, it is important to note that schools that engage in project initiation, including school entrepreneurship, are usually unique in their rationalization of a project's aims and the school's needs, which differs from business logic behavior (Sagie & Yemini, 2017). While project selection in the business world would be closely aligned to profit maximization (Pinto, 2013), recent research has shown that schools engage in entrepreneurship and projects for a variety of reasons.

Despite the growing interest in the phenomenon of entrepreneurship in education, a lack of a clear conceptual understanding of this phenomenon among scholars, policymakers, and educators challenges implementation of entrepreneurial changes in the educational system and the development of a critical discourse (Wiseman, 2014). Indeed, Sagie and Yemini (2017) revealed disagreement regarding the definition of entrepreneurship in education. Nevertheless, their informants (senior policy makers in the field of education) shared in common a reference to entrepreneurship in education in overall positive, associative terms, involving feelings, emotions, and obscure metaphors.

For example, in that study (Sagie & Yemini, 2017), one informant presented her definition of entrepreneurship in education as “everything that isn’t routine ... that adds adrenalin It’s the spirit, the soul you breathe into the education system.” Another informant said in this context that entrepreneurship is “part of living ... not even the finest and best regulatory policy would lead a system to a great place if the system leaves no autonomy for a teacher to do what relates to his passion and his love ... I made great efforts to promote entrepreneurship and sought to connect it to passion, to the things you love ... I believe entrepreneurship comes from a passionate place.” Another informant used similar terms: “entrepreneurship in education is that spark in your eyes ... it brought back to all of us the passion.”

This emotional discourse, with its extremely positive and uncritical nature, differs from that in business literature, which emphasizes innovation and proactivity, or in the case of education refers to entrepreneurship as strategies to improve education (Hess, 2007), or in other cases to provide students with additional value (Dal, Elo, Leffler, Svedberg, & Westerberg, 2016). Nevertheless, those informants in Sagie and Yemini’s (2017) study showed non-compliance to some extent by refusing to combine the neoliberal tendencies of accountability, outcomes-oriented teaching, and privatization with their views of entrepreneurship as a pedagogical, passion-driven process.

These emotionally-based definitions also relate to the difference between the discourse about entrepreneurship in the business sector and in the education sector. While the literature on the business sector offers various definitions for entrepreneurship, they all involve objective, measurable parameters (Shane, 2012). In contrast, entrepreneurship in education has taken an ‘emotional’ turn, referring to something obscure and intuitive that focuses on abstract notions such as ‘passion’ and ‘energy’ and metaphors such as a ‘spark in your eyes’ (Sagie & Yemini, 2017). We can say that in some sense such perceptions show non-compliance with a dominating neoliberal, financially-driven discourse toward emotional, agency-based definitions, similarly to what was found prominent within schools practicing education toward entrepreneurship (Leffler, 2009). The abundance of “soft definitions” (Leffler, 2009; p. 107) was acknowledged in the literature concerning entrepreneurship in education in relation to teachers and students. Thus, the use of project management methodology, and specifically the project initiation phase, can be regarded as an act of autonomy and agency undertaken by the school staff, and not imposed on schools through some sort of neoliberal agenda.

The choice of specific model for project selection should be made according to the following parameters: (1) *cost and time*—despite its very important role in the success of future projects, the process of project selection can't be too expensive or time-consuming, otherwise all available resources will be invested in the process of selection instead of the project itself; (2) *ease of use and flexibility*—the model should be understandable for school staff, easy for application and adaptation to the school's specific needs. (3) *capability*—it should be suitable for comparison between different alternatives and projects, suitable for applications of different parameters that are important for specific schools, and realistic (Pinto, 2013).

In general, several issues should be taken into account when selecting the project or developing a project portfolio. With regards to the cost, in business environments projects are evaluated according to cost/benefit models, but in the sphere of education it is not always possible to facilitate such calculations. This derives from the fact that in contrast to the business environment, where investment in a new project should be coupled with future financial revenues and the project can be evaluated on its return rate of revenues, in the education sector the investment in a project is generally expected to yield educational outcomes that are not easy to calculate in financial terms and especially with regards to the project timeline (Hess, 2007). Sometimes, we expect the 'return' in the capabilities of our students to become aware and emphatic twenty-first century global citizens and we invest in a project where they are supposed to develop such capabilities, which are not easy to measure. Nevertheless, the cost should be of course taken into account in the project selection process, and should be measured according to the availability of funding on the one hand and the expected outcomes in educational (not financial) terms on the other.

Usually, scoring models can be extremely useful in the decision-making process, especially models where weight can be attributed to each of the parameters. The most relevant parameters to consider include:

1. How many students (the proportion of students within the school) will be potentially affected by the project? This is an important factor that should be taken into consideration when promoting certain alternatives. The school should aim to benefit most of its students and thus one of the parameters that should be included is the proportion of students who eventually will be influenced by the project. Even projects that are aimed at a specific population of students (such as English as a Second Language Learners or students with special needs) should

be weighted on their broad outreach to most of the classes and to the maximum available students under certain categories and so on.

2. How close is the project aligned with the school's vision? Borasi and Finnigan (2010, p. 15) claimed that "the most clear-cutting theme across our six educational entrepreneurs is that all of them were driven by a particular vision or philosophy that was not only critical to their entrepreneurial initiatives but really shaped everything that they did and their 'way of being.'" The entrepreneurial actions of school leaders are motivated by their values, as a form of social entrepreneurship that goes beyond the incentive of financial profit, thus the project selection model must take into account the project's alignment with the predefined vision of the school. Yemini, Addi-Raccah, and Katarivas (2013) also found that school principals tailor their decision regarding which of their 'dreams' to act upon based, to a large extent, on their assessment of the likelihood of initiatives truly changing their school's practices, not only in the short term but also in the long term, thereby ensuring institutionalization of their envisioned changes.
3. To what extent is it possible to secure funding for the project's sustainability? This question is related to the project lifecycle and its possible institutionalization within the school after the project ends. The development and implementation of projects in schools requires significant investment of energy and resources. Sometimes school principals complain about the increase in 'projectitis'—the situation where schools are overloaded with different projects and commitments without clear alignment to the school's needs and vision. An important parameter might be the success or the failure of similar projects that were implemented in the school in previous years. Post-project analysis is a useful tool for future strategic decisions (see Table 2.2 for the suggested template for the project initiation phase). An additional and related problem here is the full utilization of the project's accomplishments after the project has ended. On many occasions, projects in schools are failing to continue after the end of the academic year and they are very dependent on a specific school leader (Eyal & Yosef-Hassidim, 2012), which creates difficulties if this leader leaves. In addition, projects are often, despite their unique nature, expected to become the norm in school organization. Thus, securing funding and managerial attention for the project's sustainability should be one of the most prominent factors considered in developing a project portfolio.

Table 2.2 Suggested template for the initiation phase

<i>Parameter</i>	<i>Description</i>
School name	
School vision (one sentence)	
School history (500 words)	
School structure (no. and background of students, teachers, management) (500 words)	
School budget	
SWOT	
Short description of five projects executed last year (500 words)	
Analysis of failure/success of one of the five projects	

4. How much innovation will the project bring to the school? Innovation has been one of the core elements in the definition of entrepreneurship since the earliest days of the discipline (Omer Attali & Yemini, 2017). Entrepreneurship as a phenomenon entered the field of education following significant global changes that affected the education system. As discussed above, schools today are required to cope with the new challenges and operate in a new reality that requires them to adapt to changes in their surroundings or risk losing their relevance and social legitimacy (Eyal, 2007). Along with the expansion of school autonomy, these new circumstances and challenges facing schools have introduced to school leadership teams a constant pressure to change and improve, making schools attractive to entrepreneurs. Innovation is the search for creative and unique solutions, or for new solutions to existing problems or needs (Morris & Sexton, 1996). Entrepreneurship is seen as a driving force for change and innovation, by creating options to achieve more effective performance in both the private and public sectors (Shane & Venkataraman, 2000). Addressing innovation as a core criterion for project selection signifies its relevance to the school's outcomes. As in the business world innovation is closely connected to productivity and value creation, this factor should also be examined in the educational contexts.
5. How many objections is the project expected to raise and among whom? This point refers to the school's organizational constraints and conflict management in projects during initiation, planning, and implementation phases. Managing a project is a complex and multi-dimensional process which requires many inputs from different people. Even when the project is relatively small and simple, involving an individual teacher and one class, planning and imple-

menting of the project may involve interaction with almost all the school's functions. It is almost impossible to manage the multiple interactions or to manage the project without conflict with and objections from different stakeholders. We will discuss conflict negotiation and leading groups in Chap. 4, but already during the selection process it is worth addressing the possible objections and maybe even selecting a project with less opposition.

To sum up the process of implementing the scoring selection model, Table 2.1 might be useful. The process of project selection should lead to a decision on implementation of a specific project, which then should be adequately planned (as described in the next chapter). It is possible that eventually no project will be found worthwhile for implementation. In that case, the process of project initiation should be executed again, with engagement with other stakeholders such as parents and pupils, which usually will provide the school leadership team with more diverse and sometimes innovative ideas.

2.5 PRACTICAL POINTS FOR PROJECT INITIATION

1. The traditional management functions of planning, organizing, motivating, directing, and controlling apply to project management and should be used during all phases of the project lifecycle, including project initiation.
2. Project initiation is one of the critical phases in the project lifecycle and good performance during this phase has the potential to minimize risks and uncertainty during the project, thus increasing the probability of project success.
3. It is important to incorporate standardized and acknowledged processes of project selection into the working routine of the organization.
4. It is important to foster entrepreneurial actions of school staff facilitated by autonomy; legitimacy for failure; and supportive infrastructure for project initiation, planning, and implementation.
5. Schools should perform an organizational diagnosis occasionally, identifying the school's needs, preferably before the project portfolio management.
6. The project selection process should include different school stakeholders, and if relevant other stakeholders, and address the criteria according to which the projects will be weighted.
7. Scoring models are a good fit with a school's reality and carefully weighting and scoring against each criteria and project should be

applied, remembering that simple cost/benefit relations are rare in education and when they do exist are usually misleading.

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Educational Planning and Its Unique Characteristics

Abstract The primary purpose of planning is to prepare a set of directions that will be sufficient for project implementation in a way that will ensure that the project objectives are accomplished. Research shows that investment in planning is positively related to project success. During this chapter, we will discuss and detail the process of project planning within the school context and we will provide specific examples and templates for each phase of planning.

Keywords Scope • Funding • Cost estimation • Budgeting • Risk planning

3.1 THE BASICS OF PLANNING AND ITS APPLICABILITY IN SCHOOLS

Planning is the most important step in project management, which leads the project toward implementation and achievement of project objectives. The primary purpose of planning is to prepare a set of directions that will be sufficient for project implementation in a way that will ensure that the project objectives are accomplished. Research shows that investment in planning is positively related to project success (Meredith & Mantel, 2012). Project planning on the other hand should not be over-performed, to the extent where the school is paralyzed due to complicated and

resource-consuming multiple planning activities. During the process of planning, the school leadership team and the project team have a chance to shape and sometimes reshape the project objectives and means and to detail the expected outcomes—all of this together with designing a detailed schedule for each of the project activities and assigning the necessary resources when and where needed.

Project planning is one of the most complicated phases of the project lifecycle, and it must be systematically managed, despite the fact that the formal phase of project implementation has not yet started (Pinto, 2013). This process usually includes the development of the project vision and long-term objectives, and then the breaking down of those into manageable units or mini-projects with clear objectives, well defined responsibilities, and measurable outcomes. This phase also includes team building, engagement with various stakeholders in order to accurately define the project objectives, and dealing with project funding processes. The major danger in project planning, other than the over-planning complications mentioned in the previous paragraph, is that many plans remain as plans and are never executed, thus wasting the energy and resources invested in planning, and evidence of organizational failure.

During this chapter, we will discuss and detail the process of project planning within the school context and we will provide specific examples and templates for each phase of planning. Systematic development of all planning phases will form the document that is in fact a project proposal. The project proposal should be submitted to the school leadership team, to the possible and prospective funders, and also widely distributed among the school staff and additional required stakeholders.

3.2 PLANNING SCOPE IN SCHOOL PROJECTS

A project scope, which forms one of the sides of the project constraints triangle, is everything about the project. It includes the specific aims of the project as well as the expected outcomes. The first step of planning is developing a structured breakdown of the planned project into defined parts, usually called Work Breakdown Structure (WBS) (PMI, 2017). In the school context, each part of the WBS usually comprises one specific objective, which is broken down further for different deliverables that should be accomplished through the project lifecycle. This process is performed in order to reduce the project's overall complexity to a more basic level. The WBS is also extremely useful to the process of planning, as it is

easy to see where and by whom activities should be carried out, and which resources will be needed in which phase. In addition, WBS usually can be used to prepare the responsibility assignment matrix, where all the school leadership team and project team are staffed according to the project objectives. Usually for each of the outcomes, the people are assigned who are responsible, need to be notified, need to approve, or provide support. In Fig. 3.1, an example of WBS in a school-based project is presented. The project’s aim, as may be defined by the school’s principal, is to foster the culture of individual agency within the school. This somehow wide and abstract aim is further detailed through WBS, by presenting a set of four concrete assignments (such as organization of a ceremony and development of mentorship program). Those specific tasks can be further detailed toward a list of specific deliverables that can be assigned in terms of staff, costs, and timeline.

In parallel to WBS, it is useful to develop a detailed project proposal (for a template, see Table 3.4), which will be used both for project evaluation and for presentation of the project to internal and external stakeholders, including funding agencies such as the ministry of education,

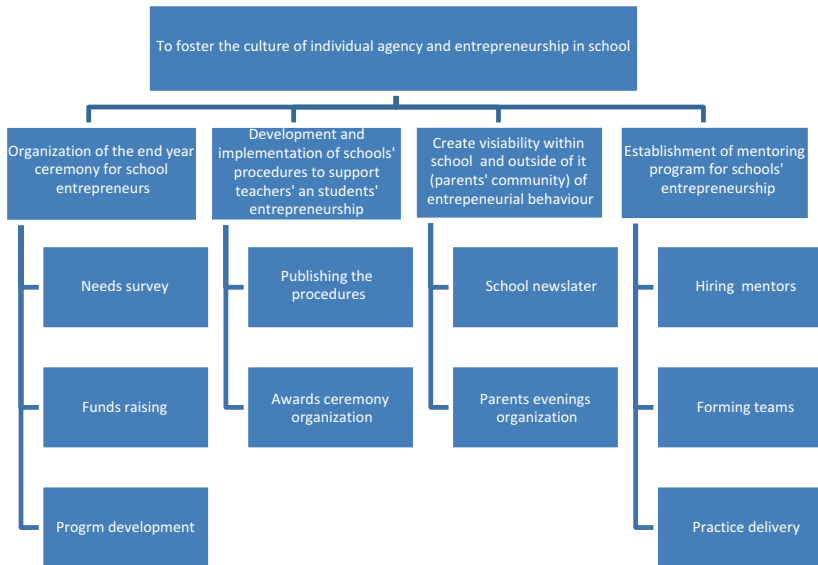


Fig. 3.1 WBS for a school project

Table 3.1 Scope presentation

	<i>Details of the specific project</i>
Project vision	
Long-term objectives	
Specific objectives	
Measurable outcomes for each of the objectives	
Project proposed users	
Additional stakeholders involved	

LEAs, and philanthropic foundations. As a first step in the development of the project proposal, it may be useful to develop an estimate of the project's scope. Table 3.1 depicts major items that might contribute to the presentation of the project to relevant stakeholders. In many cases, the newly assigned project manager, which typically would be one of the teachers in the school, will develop an initial draft of WBS and the project's scope description. To ensure proper planning and later implementation, it would be useful to discuss those features at teachers' meetings and seek input from parents, students, and other relevant entities.

3.3 FUNDING, COST ESTIMATION, AND BUDGETING OF PROJECTS IN THE PUBLIC SCHOOL SYSTEM

The discussion regarding budgeting is conceptually the hardest part of project management and implementation within schools. When we teach this subject to future school principals in our universities, the students usually claim at the beginning that cost-related issues are irrelevant to project management in schools. It is extremely common to hear statements such as “but my project involves only teachers from the school and materials that can be found in each class or brought to the school by the parents, so we don't need budget to execute the project.”

This common perception of school teachers and the school leadership team is deeply embedded within the culture of public education systems in many countries (Christ & Dobbins, 2016). The perception that money can't or shouldn't be involved in education is anchored into the school culture, as these organizations are driven by social mission, populated by individuals always ready to volunteer to promote the school (Somech & Oplarka, 2014), and the children usually participate in many projects

where their efforts are systematically unpaid and where the families of the children are engaged in resources' mitigation and recruitment.

Most organizational entrepreneurship takes place in an environment of severe resource constraint (Baker & Nelson, 2005). One of the most prominent components of entrepreneurship is the innovative ability to manage and promote activities within a context of limited resources (Eyal & Inbar, 2003). Baker and Nelson (2005) studied entrepreneurial firms working under resource constraints. In their words, entrepreneurs were able to “use things that for others are useless to create valuable resources.” They found managers to be entrepreneurial when they succeeded in ‘bricolage,’ meaning they refuse to succumb to circumstantial limitations and are able to create something out of nothing. Social entrepreneurs look for innovative ways to assure that their ventures creating social value will have access to resources, even when such resources are seemingly impossible to attain. Hence, social entrepreneurs are more likely to take risks to promote their vision, in an attempt to maximize social value (Dees, 1998). In a study concerning educational entrepreneurs, Yemini, Addi-Racah, and Katarivas (2015) found that school principals largely dismissed financial aspects of their projects. This point is shown in the interviews with entrepreneurial school principals when asked how they plan and execute projects in their schools (see Yemini et al., 2015 for a full description of the study). As was explained there by one school principal:

I don't have financial constraints. It is my hobby to raise money for the school. Even if I don't have enough, I start the project and try to get more. I write letters to foundations, the municipality, everybody. This is super important, but the money never stops me.

A school principal from the Palestinian-Arab educational sector, responded to an inquiry about the resources needed to fulfill his vision:

There is no problem with resources. If I need money, we go from door to door to raise money. All school staff is engaged. For example, for construction projects, if we just get the materials, the school teachers will work here in construction and in everything else needed.

Another school principal confirmed the same approach:

There is no such thing as resource constraints. Of course, you could always use more money. But we can teach and be entrepreneurial. The kids here need our empathy—this is for free ... if a teacher approaches me to tell me about her dream, I am not going to tell her, “we don’t have resources.” If the dream is worth fighting for, we will do it. (p. 534)

Educational entrepreneurship inherently suffers from lack of adequate resources to pursue its mission (Austin, Stevenson, & Wei-Skillern, 2006). Thus, entrepreneurs who seek to attract resources for the school are recommended to engage not only for-profit entrepreneurship, but also a robust network of contacts that will provide them with access to funding, management and staff, and other resources. To attract these resources, social entrepreneurs, like their commercial counterparts, must have a strong reputation that engenders trust and a willingness to invest in the social enterprise and its mission. Thus, while initiating and planning projects, school principals are more likely to act according to their vision, but at the same time they need to apply teamwork in the process, as a means to gain the necessary scarce resources. Their ability to succeed is thus highly dependent on their belief in their venture and their ability to motivate others to believe in it.

The application of project management within schools, however, can benefit from proper planning and budgeting procedures. With schools dealing with increasing budget cuts and constraints, and having finite physical as well as intangible resources to invest in projects, the project cost should be carefully evaluated, starting from the project selection process and through the process of project implementation and monitoring. The budget for each project and for each phase within the project should be articulated in advance and monitored throughout the project implementation phase. Even when all the expenses are solely based on internal resources, it is very important to estimate the project costs in order to monitor project progress. This can be based on school resources such as school infrastructure, teacher hours, parental assistance, and community donations, even if actual money is not passing from one pocket to another. All project costs should be planned and then monitored. Planning and monitoring costs is important to evaluate the project’s effectiveness, to compare different alternatives, and to pass the experiences gathered from one school to other schools (if the project costs are not addressed and calculated, the project will be impossible to implement in other schools or even the next time in the same school, if some of the now taken for granted resources are not available).

The issue of effectiveness will be addressed in detail in Chap. 6, yet should also be mentioned here in the context of budgeting. It is very clear for projects in the business sector that firms aim at maximizing the firm's value for the firm's stakeholders. This value is usually economic in nature, although it can also include other goals such as sustaining a firm's good citizenship image and environmental sensitivity. The value that the education systems deliver can also be treated as economic—the nation's strength and its competitiveness depend on the education gained by the future state's citizens (Hanushek & Woessmann, 2012). At an individual level, a student might want to acquire certain capabilities that will have a positive effect on their future earnings. Nevertheless, despite its possible economic implication, the education at school level has prominent and stable social value, committed through the basic constitutional rights in many countries and chaperoned by powerful intergovernmental agencies in others.

This social value is the basis of the difficulty of efficiency calculations related to projects within schools. The social value delivered and promoted in schools is not easy to translate into economic value, especially since the return of investment usually can be measured only years after the project completion and the value gained is almost impossible to attribute to one specific project or factor. This problem is not unique to schools and it is also common in different social entrepreneurship ventures (Austin et al., 2006). Nevertheless, the situation in schools is unique since in many countries schools are monitored and funded directly by the government, with a diverse amount of autonomy granted to the individual schools for their internal entrepreneurship (as was discussed in Chap. 2). Thus, projects in schools should undergo the process of planning and specifically budgeting, addressing issues that cost real money and issues that are funded by internal resources. The project budget should be prepared during the project selection phase, but in a less mathematical way than in projects in other spheres. Budget should be managed and monitored during the project with relation to the actual meaning of the budget and whether real money is moving from one place to another.

Generally speaking, two major forms of budgeting exist: top-down and bottom-up (Pinto, 2013). Those two forms are theoretical and rarely exist (especially bottom-up budgeting) in their pure form in organizations. The top-down budgeting strategy is basically performed in an assignment of a bulk sum, usually obtained by the project leader or dedicated to promoting specific aims of school leaders. While in the business world this form of budgeting is known as beneficial, due to vast managerial experience in

budgeting of past projects and due to the fear of the firm's management of over-estimated costs if performed by the subordinates, in schools the abundance of this practice is attributed at large to the severe budget constraints experienced by public schooling. In such situations, when the school leaders decide to promote a specific project, it is budgeted according to the money available, sometimes a long way from the actual cost of the project, again counting on the availability of other sources of funding such as parents and volunteers.

Bottom-up budgeting is based on the assumption that each of the individual tasks in the project is budgeted separately and usually the estimation is made by the teachers and staff from the project team itself and not by the school principal. In this method, the project budget is actually a cumulative aggregation of the costs of each of the tasks. See Table 3.2 for an example for bottom-up budgeting for a project with three specific aims.

There is an additional issue that should be addressed for both methods of budget planning. In general, projects are always at risk of being cut in part or in total due to organizational needs and constraints (PMI, 2017). In the education system and in schools it is not uncommon that money arrives into the school from unexpected sources during the school year. In such cases, projects might receive additional funding, and project budget

Table 3.2 Example of bottom-up budget planning for a school project

		\$
Specific aim 1	Teaching hours Materials Marketing	
Total specific aim 1		
Specific aim 2	Teaching hours Materials Outsourcing website development	
Total specific aim 2		
Specific aim 3	Teaching hours Materials Brochure printing	
Total specific aim 3		
Project management	PM hours Materials	
Total project management		
Total		

plans should be redesigned accordingly. In addition, in many cases additional budget if needed can be raised through the school's engagement with the community, business organizations, and third sector entities.

3.4 SCHEDULING THE PROJECT THROUGH THE SCHOOL ACADEMIC YEAR

It is difficult to transform the detailed and very developed area of project planning (with specific software, detailed calculations, and specifications) from big commercial or even governmental (where this area was originally developed) projects to the reality in schools. Project scheduling is a complex procedure that involves several different activities (Pinto, 2013). When we are talking about project scheduling, it is worth mentioning again the interdependency between a project's major constraints: scope, cost, and time. In other words, we may consider how long it takes to accomplish certain objectives, not as a single question but rather as a question that depends on the content and quality required (the scope) and the budget available. In other words, the scope, budget and time of the project are interdependent and we may decide upon the importance of each of them in our planning procedure. Thus the time is directly derived from the other two project definitions (the scope and the budget).

The basic objective of project scheduling is to acquire an estimation of time required to complete each of the activities and to form a network between the different activities, or in other words to establish the desired relationships that include sequential relations between the tasks in the project (PMI, 2017). It is recommended that the estimation of activities duration is performed jointly by project team members and school management, based on experience from previous projects, comparison with similar projects run in other schools, external experts' estimates, and common sense. It is extremely important to align the project schedule with the school year's special events and dates. This issue becomes even more important when external entities (that are usually not aware of the school year constraints) are involved in the project and may be puzzled by certain lags in project implementation around weeks with major school ceremonies (such as diplomas at the end of the semester, or winter holidays). The project completion date should also be carefully negotiated in line with those constraints, since completion after the end of the school year for most projects in schools would make the project irrelevant.

Basically, project scheduling is a conversion of WBS into a timetable addressing the details of project implementation (Pinto, 2013). The level of detailing in the scheduling can vary between projects, but it is good practice to develop a schedule for all major activities and then additional schedules for specific parts of WBS. There are several methodologies that can be deployed to develop a scheduling path, usually presented as a network of events with sequential relationships between the different tasks in the project (Meredith & Mantel, 2012). Usually in such a network, it is possible and useful to determine the critical tasks (the tasks that if delayed will cause a delay in project completion). While the list and sequence of activities should be developed through a proper collaboration between the relevant stakeholders (school leadership team, teaching staff, administrative school staff, parents, and pupils) according to the scope of the project, for each activity the duration should be estimated. Often, it is useful to establish three estimates, including the most optimistic, the most pessimistic, and the most likely estimate (in days, weeks, or months).

The most common techniques in project scheduling are based on methodology developed for huge research and development projects in the US navy in the middle of the twentieth century (Meredith & Mantel, 2012). One of the oldest but still very useful methodologies of presenting the project plan is the Gantt chart (Pinto, 2013). A Gantt chart provides a standard format for displaying the project schedule by listing the activities from the WBS together with the estimated duration of the activities and their sequencing. It shows the planned and actual progress of the project as displayed in bars against a horizontal timescale. For an example of a Gantt chart for a school-based project, see Fig. 3.2.

As we discussed earlier, many projects fail to meet schedule expectations. In order to calculate the project duration, it is common to use the Critical Path Method (CPM) (Meredith & Mantel, 2012). This tool allows the project manager to combat project schedule over-runs, by determining the earliest and the latest time for completion of each of the



Fig. 3.2 Example of a Gantt chart

project activities. By calculating the project's critical path (a series of activities that determine the earliest time the project can be completed), it is possible to map the activities that can be delayed without causing a delay in the project termination.

For each of the planned activities, we show the amount of time that should be allocated to complete it and in the previous row we outline the activities that should be accomplished before the specific activity starts. For example, the design of posters by the students for the school trip should take ten hours, but this activity can start only after the completion of the task that aims to contact the different organizations involved.

To calculate the critical path, a network diagram should be developed, based on the list of activities for the project that are usually presented through WBS. The first step in network creation is the decisions on the dependencies between the different project activities, together with the estimation of the duration of each of the activities. Then it is possible to draw a network, starting with a 'START' and followed by activities with no predecessors. To continue, next activities should be added according to the table. The network should thus be continued according to the WBS until all activities are mapped. Next, all activities with no successors should be arrowed to the project's 'END.' Table 3.3 presents WBS, and a sample network of activities, and the calculation of the critical path can be seen in Fig. 3.3.

After completion of the network based on WBS, it is possible to proceed to the estimation of the project duration and the determination of the critical path. The next step would be to add to the network the duration of the activities, starting from the 'START' of the network. To solve the network, or in other words to calculate the project actual duration, we would complete the earliest start and earliest finish times for each of the activities. See Fig. 3.4.

As can be seen, the longest path to complete the network is 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.1, 4.1, 4.2. This is the critical path for the project. Now it is time to determine the latest possible times (latest start and latest finish). If activity 4.1 must start only after the completion of activities 1.4, 3.1, 3.2, and 3.3, thus it must start after the longest activity—3.1, as already shown in the network. However, activity 3.3 can be finished before then, meaning it will have 18 hours of slack. Thus, by going backward through the network it is possible to determine the slacks (if there are any) for each of the activities (see Fig. 3.2). Activities 1.4, 3.2, and 3.3 will have slack, meaning they can be delayed (until their late start) without causing delay in the project length (see Fig. 3.5).

Table 3.3 Detailed WBS, as prerequisite for network development

<i>School trip</i>			
<i>Tasks</i>	<i>Responsibility</i>	<i>Precursor</i>	<i>Time</i>
1. Plan development			
1.1. Students survey	Geography teacher	–	10 hours
1.2. Collect information	Students representatives	1.1	20 hours
1.3. Contacting organizations	Secretary	1.2	20 hours
1.4. Print programs	Secretary	1.3	5 hours
2. The trip organization			
2.1. Organize food	Class teachers	1.3	8 hours
2.2. Organize refreshments	Secretary	1.3	5 hours
2.3. Organize night activity	Geography teacher	1.2	5 hours
3. Publicity			
3.1. School newspaper organization	Students representatives	2.3	20 hours
3.2. Parents night	Class teachers	2.3	5 hours
3.3. Posters	Students representatives	1.3	10 hours
4. The trip			
4.1. The activity	Class teachers and students	1.4; 2.3; 3.1;3.2; 3.3	22 hours
4.2 After activity analysis	Class teachers	4.1	10 hours

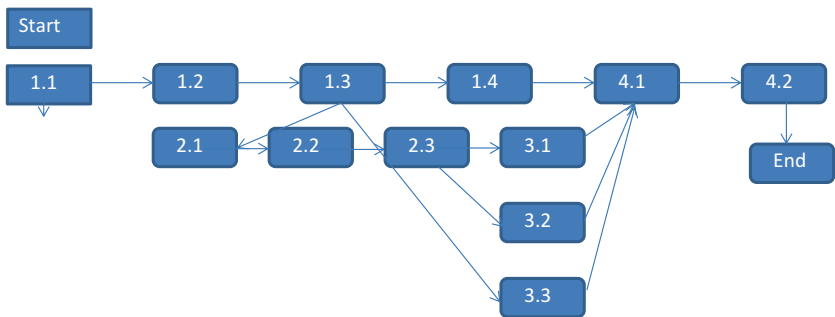


Fig. 3.3 Network of the project developed according to the detailed WBS

The project team can be creative in managing the project’s critical path by stressing each time a critical activity is involved (Pinto, 2013). Sometimes, critical activities could be perceived as of minor importance to the project team, but nevertheless when underestimated they could cause the whole project to be delayed. In addition, when a critical path is known, the project

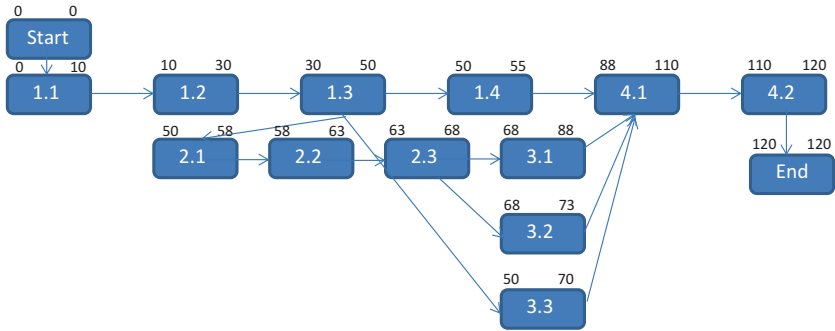


Fig. 3.4 Solving the network

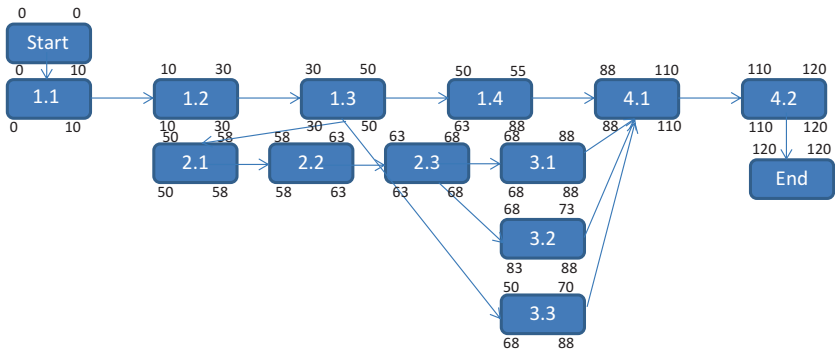


Fig. 3.5 Solving the network continuation

manager can use it to make schedule trade-offs, for example by adding resources to deliver an activity on the critical path faster and in that way shorten the project length. For example, the project of planning and executing the annual school trip involves different activities including printing and later distributing the school’s program. This activity could be delayed and not started at the earliest time possible without delaying the entire project.

Additional methodologies involve looking at the project’s constraints, under the premise that each time in each sequence of events there is only one weakest link which could be treated (for more information, see Goldratt’s *The Goal* and *Critical Chain*) (Pinto, 2013). In many cases, estimation of the critical chain involves removing buffers (additional time

added to different activities just in case it is needed) and using those buffers when and where they are mostly needed in the overall vision of the project.

While planning the scheduling of the project, especially in projects implemented in schools, it is worth acknowledging what is called ‘student syndrome’ (Rand, 2000). Student syndrome in project management is a term used to highlight the ever increasing practice of leaving a lot of work until the last moment, while originally working at a very relaxed pace. To avoid or minimize such practices, collaborative team work is needed, together with responsible project monitoring (as discussed in Chap. 6).

The final aim of project planning is to materialize the project in the school, through collaboration and engagement with all the relevant stakeholders. Thus, the written project plan is a useful template for future school projects, as well as for the monitoring and evaluation procedures. A template for a project planning document presented in Table 3.4 constitutes a concise summary of project planning, combined with some details regarding the educational context in which this project is to be implemented.

Table 3.4 Project plan

<i>Executive summary</i>	<i>Short summary for each section of the plan</i>
Theoretical background	The rationale of the project usually relies on academic research, its capability to answer the school’s need that arose during the organizational analysis
Field analysis	Description of similar projects in other schools, description of similar needs and other solutions to them
Planning	Project vision Project specific goals Project long-term goals Measurable outputs and outcomes for each of the goals Project’s intended population Planned Gantt chart Planned budget Risk assessment
Sustainability and institutionalization	Explanation of if and how the project’s outcomes or activities will be sustained and institutionalized
Bibliography	

3.5 RISK PLANNING

As stated by Meredith and Mantel (2012), “it is never too early to begin managing risk”. As a matter of fact, initial risk assessment should be addressed during the process of project selection, when risk associated with the project should be considered as one of the parameters in the selection process. After the selection and during the planning process more detailed risk analysis should be performed and introduced within the project plan.

When identifying risks associated with project implementation in schools, it is important to systematically screen the internal and external school environment, addressing each of the aspects within those environments with relation to the project’s successful implementation. This analysis may contain but is not limited to economic, cultural, legal, technological, and other risks (Pinto, 2013). The risks of the project should be identified and mapped according to their expected impact and expected probability. In addition, as an integral part of this process, a mitigation action should be planned for each of the identified risks. More detailed description of risk management will follow in Chap. 6, but for the sake of project planning it is important to map and to address the risk anticipated through the project lifetime and to develop contingency plans. Table 3.5 provides a useful template for initial risk assessment, where risks are mapped and graded according to their probability and possible impact on the school.

3.6 PRACTICAL POINTS FOR PROJECT PLANNING

1. The planning phase involves the systematic addressing of the project’s scope, budget, and schedule. Proper implementation of this phase is crucial for the project’s success.

Table 3.5 Initial risk assessment

<i>Risk</i>	<i>Probability</i>	<i>Impact</i>	<i>Mitigation action</i>
1	High	High	
2	Medium	Low	
3	Low	Medium	

2. Scope of the project is to be defined in close collaboration with the relevant stakeholders to include measureable outcomes. The scope should be further detailed according to the main activities to be performed and the responsibilities involved.
3. The budgeting phase involves decisions upon the strategy of budgeting (top-down or bottom-up) as well as negotiation with the school leadership team and external agencies over project funding.
4. The scheduling phase provides the project manager with the opportunity to monitor the project's process, and the capability to manage the project process by evaluating trade-offs between the project scope, budget, and schedule.
5. The planning phase is crucial to project success. This is also the time when risks and uncertainties should be addressed and planned.

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Project Implementation in Schools

Abstract The phase of project implementation refers to the efforts involved in directing the progress of a project against the project plan, intended to minimize the variances between the planned and actual progress. Inherent in this phase is change management and process inevitably taken by the project manager and team to meet the project goals and plan. In fact, project implementation encompasses educational changes on different levels that take place as the design and development of the project mature.

Keywords Collaborating • Change management • Project manager • Goals • Implementation • Development

The phase of project implementation refers to the efforts involved in directing the progress of a project against the project plan, intended to minimize the variances between the planned and actual progress (Taylor, 2008). Inherent in this phase is change management and process inevitably taken by the project manager and team to meet the project goals and plan. In fact, project implementation encompasses educational changes on different levels that take place as the design and development of the project mature.

Every project manager and team should engage, therefore, with issues related to educational change, such as what to change, where to change,

change strategies, change policy, work patterns and change, instructional changes, innovation, costs of change, school culture and educational change, how teachers change, what facilitates/inhibits change in school, and so on.

This chapter commences with the educational change processes embedded within the project, and analyzes the meaning of educational change, its factors, and process. Special attention is given to teacher responses to educational change, the role of the project manager as change agent, and change strategies. It then goes on to discuss the purposes and process of teamwork in schools and the role of the project manager as a team manager. Two sections deal with the marketing of the project internally and externally and the potential contribution of parents to project implementation and success. The final section focuses on the project budget and cost control.

4.1 MANAGING CHANGE IN SCHOOLS

The research on organizational change focuses on change and innovation, and seeks to understand them as objects of scientific study rather than in practical terms (Poole & Van de Ven, 2004). Notably, both change and innovation are a source of advancement and development for the school. But, as Ahmed and Shepherd (2010) noted, “innovation enacts change and is a series of activities that are carried out by a firm to lead to the production of an outcome namely the innovation itself” (p. 4).

Similarly, an educational project includes a series of planned and unplanned instructional and organizational changes during its implementation, performed by the project team and aimed at leading to the fulfillment of the project’s planned goals. The changes can originate from the project manager or be requested by the customer (Lock, 2007), that is, by a department in the LEA or ministry of education that initiated the project. Accordingly, planned change is consciously conceived and implemented by knowledgeable actors, such as teachers, education counselors, middle managers, and principals, while an unplanned change may or may not be driven by human choice (Poole & Van de Ven, 2004). In this chapter, we focus on planned changes only.

Another typology of change that merits highlighting in the context of educational projects refers to first-, second-, and third-order changes. First-order change occurs when a specific change is identified and imple-

mented within an existing way of thinking (Bartunek & Moch, 1987). In contrast, second-order change occurs when the change requires lateral thinking and questioning, as well as an upheaval in the core assumptions that underlie the situation. Most of the educational projects enact first-order change and add something new to the school in a well-defined structure or procedure. Yet, as we will show in this chapter, educational projects corroborate mostly third-order change (Coghlan & Rashford, 2006). This type of change involves project members who learn the habit of questioning their own conjectures and standpoints and developing and implementing new ones.

To allow the project members to engage in questioning and developing new instructional and organizational structures, procedures, and techniques, the project should encompass a desired school change rather than an externally imposed one. The former refers to changes initiated by school staff or by external stakeholders and voluntarily accepted and adopted by school members, while in the latter teachers are typically required to make changes in themselves and how they do what they do to meet directives introduced by policy makers (Bailey, 2000; Fullan, 1991). In our view, though, an educational project that involves externally imposed changes might be incompatible with the values and professional beliefs of the teachers and leaders in the school, and in turn, fail to bring about any valuable product or service. For many people any change, let alone imposed change, represents uncertainty, lack of information, a threat to core skills and competence, a threat to power base, fear of failure, loss, increased confusion, unpredictability, and conflict. Subsequent to a mandated change, teachers usually become skeptical, passive, dependent; their ability to set goals, develop skills, or respond to feedback is affected; and they are discouraged from becoming engaged in improving their practice (Fullan, 1993). They may choose to leave teaching entirely and to start a new career or at least to shift the balance between work and family (Sikes, 1992).

As an educational project aims at improving teaching, learning, and schooling, it is very important to assess whether the changes inherent in the project are positively enhancing rather than threatening or destructive. To this end, much attention should be given to the management of the change process that includes several phases, from the decision to bring about change to the institutionalization of its outcomes.

4.1.1 *The Change Process*

Studies in the field of communication have shown that the circulation and adoption of new ideas within any social system take place according to a sequence of multiple phases (Collerette, Lauzier, & Schneider, 2012). Every phase is characterized by individual and organizational forces aimed at maintaining the status quo and forces aimed at bringing change.

To exemplify the complexity of the change process in educational projects, we turn to Schein's (1987) three steps model of change that expand Lewin's (1951) model of change. According to Schein, the change process includes three major stages. The first stage—unfreezing—aims at creating motivation and readiness to change. Accordingly, the project manager has to begin the journey by demonstrating a need for change in the school. To this end, Schein recommended surfacing school members' dissatisfaction by, for example, providing information about meaningful changes in the school environment that threaten the survival of the school in highly competitive environments. It is likely, though, that when the teachers are faced with data that show a gap between what is and what would be better, they are likely to be motivated by feelings of guilt and general anxiety to reduce the gap and take action toward changing their work habits or teaching methods to improve the schooling process. However, the project manager needs to make teachers believe that the project will not cause feelings of embarrassment, or loss of face or self-esteem, because they need to feel worthy and psychologically safe to join the project.

The second stage—changing—involves cognitive restructuring. This means that teachers need to see things differently than before, and therefore are expected to act differently at work. To accomplish this stage, the project team has to identify with a new model, mentor, or leader (probably the project manager) “to begin to see things from that other person's point of view” (Schein, 1987, p. 105). As a model, the project manager helps the team scan the environment for new and relevant information about the project (e.g., has this kind of project worked in other schools? Can we learn from the experiences of other schools that implemented a similar project?)

The final stage—refreezing—involves the integration of the change for school members and includes helping teachers and school leaders feel comfortable with the new administrative or instructional behavior that is required to make the project succeed. At this stage, project members need to try out the new behavior, get feedback, and be rewarded as a team, usually intrinsically (e.g., self-fulfillment, elation, professional growth).

Another stage model that project managers and teams might consider was proposed by Scragg (2010), who encouraged change agents to use it in order to support employees through the stage of transition. The first stage—ending—involves letting go of the old situation as a precondition to acquiring new skills and competencies required for implementing the project. Thus, as teachers affected by the project will have to adopt new ways of working, develop new teaching skills and attitudes, or question routine instructional and educational practices, they may find it hard to abandon old ways of working and skills they have invested significantly in developing. As we will see later on, this can cause negative reactions such as denial of the reality of change, fear, latent resistance, loss of professional security, shock, anger, and so on.

The role of the project manager is, therefore, to help the project team relinquish those old ways of working that are no longer needed and support them emotionally and with much sensitive understanding to their inner experiences at this stage. If teachers get stuck in this stage, the change seems to them too overwhelming, and if their feelings of loss are not recognized and given support, it can hinder change. This is exactly the time for inspirational leadership and a display of enthusiasm (Have, Have, Huijsmans, & van der Eng, 2015).

In the second stage—the neutral zone—the project team finds themselves between the old ways of working and the future state. The project is being implemented and the teachers may feel confused and uncertain about the proper practices and behaviors required in the project and what actions they need to take in order to achieve its goals. Very quickly, the teachers learn they can no longer rely on old skills and some of them may feel unconfident and develop feelings of helplessness. At the same time, implementing the project in their school and classrooms may allow the project team to be critical of the proposed project. This is an opportunity to engage in dialog about ways to improve implementation. Moving through this stage means that the project team has successfully negotiated this transition and is prepared for the new demands placed on it.

The third stage signals a new beginning. The project team has successfully moved through the earlier stages and is more likely to be committed to the change, identifies with new instructional or organizational ways of working, and is enthusiastic for the initial outcomes (e.g., positive feedback from parents). But, to assure institutionalization of the project, school leaders ought to recognize the need for additional resources, further guidance, emotional support, and empathy with teachers who now have addi-

tional workload due to the change in their work habits. In some sense, however, the last stage virtually ends the process of ‘transition’ that takes place when individuals leave behind the old ways of working and adjust to new demands as a result of change.

4.1.2 *The Facilitators of the Change Process*

Having discussed the main components of the change process, we move now to analyze the factors moving the change forward; that is, enabling the project team to implement the project effectively. Among the major facilitators indicated in the research on educational change are an experience of pain or dissatisfaction with the present situation (such as low student achievement, low morale in the staffroom), a perceived discrepancy between what is and what ought to be (such as low participation in school events), the existence of external pressures to change (such as pressures from a parent association to pay more attention to anti-drug education) (Coghlan & Rashford, 2006; Fullan, 2016). It is likely, though, that the project manager has to arouse some kind of dissatisfaction among the teachers and assert that things are not going well ‘in our school’ and, therefore, there is a need to implement the project. Moreover, when teachers feel no need for change, they are unlikely to embrace the major idea inherent in the project. In this case, the project manager has to monitor the external environment and see the need for change sooner and more clearly than the majority of the teachers (Hallinger, 2003).

Two facilitators of much relevance to educational projects merit highlighting. First, successful planned change requires a well-formulated educational vision, whose appeal does not lie in reason, yet many teachers (and parents) might feel emotionally and professionally connected to it. The vision influences the project team and the teachers who are destined to implement it in their classroom through symbolic appeals that index fundamental values. However, the vision should not remain on an abstract level; it should provide guidance within the school itself and ensure trust and respect for teachers, pupils, parents, and any environmental constituencies. According to Have et al. (2015), a guiding vision should involve coherence founded on reality, credibility and challenge, stakeholder satisfaction, leadership involvement, and public visibility. It is then expected to allow the setting of concrete goals and support communication patterns along the change process.

The second facilitator refers to the development of emotional commitment toward the change and trusting relationships among the staff. Thus, because change involves giving up work practices in which considerable energy and time has been invested by the individual, change is entwined with emotional components that pertain to how people experience the change (Poole & Van de Ven, 2004). When these emotions also include strong emotional commitment toward improving students' well-being in school and student achievement, it is likely the teachers will foster the change more effectively. Good project managers can make sure they observe the emotions associated with the project implementation and understand how they influence functioning.

4.1.3 *The Inhibitors of Change*

There is a wide variety of factors (i.e., barriers) that are likely to lead to a negative assessment of the project in its implementation phase. Many of these barriers can stem from some components of the school culture or from the complexities of the change process involved and how it is managed (Calabrese, 2003). Others stem from the difficulty in moving teachers from their old pedagogical practices toward the establishment of new and different professional views (Fullan, 2016). Effective change involves complex processes operating at individual, organizational, and systemic levels that might be inhibited by fundamental difficulties in changing professional beliefs (Le Levre, 2014). Some barriers are of much relevance to project implementation in schools.

First and foremost, an unclear, ambiguous project plan that is not established or implemented with much thought leads to confusion at best, and to a lack of information about its 'right' implementation at worst. When the change charted in the project plan is unclear, the project team and teachers either lack sufficient knowledge necessary to perform the change effectively, or they face too much irrelevant information that creates an information overload. In both cases, those who are supposed to implement the project cannot fully understand the meaning of the project, nor its necessity (Have et al., 2015). A lack of sense of urgency among teachers is likely to dissuade them, resulting in very few actions, if any, toward the change.

Furthermore, the absence of a guiding framework according to which the teachers and project team are supposed to work (e.g., a lack of clear vision or change strategy) might result in fixation and failure. Add to this

a lack of discussion across the school about the detail of the project agenda and its implementation, and one may not be surprised, as Woods noted, if negative emotion toward the project emerges among those who are destined to perform it.

In contrast, easy solutions, that is, a tendency to opt for the quick hit, whether or not under pressure, is also a failure factor (Have et al., 2015). In this case, a project manager who wants to quickly implement the project in the school without giving attention to a good diagnosis of the school's culture, structure, and environments, leads the project to failure. Such change would be similar to an English teacher that starts to teach non-English natives without knowing exactly what their current proficiency in English is. Under such circumstances, one may not be surprised if the project manager attempts to implement easy-to-understand changes that might be considered 'easy solutions,' but in reality are no more than myths and rituals. The project team will likely implement the change but the promised outcomes will never materialize.

A third inhibitor refers to a lack of control. When the project manager and team feel limited control over change implementation due to many unexpected interruptions or multiple external influences, they may develop a sense of frustration and helplessness which, in turn, leads to change failure. Some of them may feel it does not matter how much effort they make toward the successful implementation of the project, the outcome depends largely on other stakeholders. This factor is accompanied by teacher alienation that gives teachers a sense of marginalization at work and in turn reduces their motivation to engage in school change (Brooks, Hughes, & Brooks, 2008).

A fourth inhibitor is low trust and poor interpersonal relationships in the staffroom, which may also obstruct project implementation. According to Le Levre (2014), elements that inhibit effective change and improvement also include problems due to compromised levels of organizational relational trust. Poor relationships among staff make it very hard for them to trust each other, especially in times of change implementation when the teachers have to work as a team and collaborate together to successfully move the project forward.

A fifth inhibitor is the lack of commitment from the principal to the project implementation. As we indicated earlier, the project manager has to have the support of the school principal for the initiation and implementation of the project beyond formal approval; the principal, as the leading figure in the school, should believe in the necessity of the project

and its vital contribution to the school. Thus, a lack of commitment from the principal may not only result in limited resources but also in low incentives for teachers to implement the project in their class, or even in the termination of the project itself.

Finally, available time for innovation is a major barrier to successful change implementation (Fullan, 2016; Le Levre, 2014). This inhibitor is very relevant in our time, given the high levels of overload that principals and teachers have been experiencing during recent decades due to standardization, accountability, marketization, and other neoliberal reforms in education (Oplatka, 2017). Under these circumstances, it is hardly surprising that many teachers and educational leaders might perceive any project implementation as additional elements of work beyond the routine tasks in their work (Starr, 2011). Some of them may feel vulnerable and uncertain due to demands to perform numerous, sometimes contrasting, tasks simultaneously and respond to the project reluctantly, selectively, or not at all (Terhart, 2013). We develop this issue in the next section.

4.1.4 Teachers' Responses to Change

Generally speaking, teachers' responses to educational change (i.e., to the attempts to implement the project in the school) range from overt or covert adherence to old professional habits and skills to active resistance to change. To begin with the former, people cope with life's complexities by relying on habits or programmed responses that become a source that obstructs changes in times of change. Thus, teachers might respond to project implementation in an established and accustomed manner, a kind of response that might serve as a means of comfort and security (Mullins, 2005).

Changing teacher beliefs is a difficult aspect of educational change, as existing beliefs and practices persist, even though they are known to be ineffective (Parsons, Morewood, & Ankrum, 2016). This ostensibly irrational behavior might be accounted for by cognitive bias, psychological costs involved in acknowledging that one's beliefs, particularly those long-held, are in fact problematic, and the difficulty in questioning one's previous practices. For example, an educational project that aims at improving second graders' reading abilities through new educational technologies that substitute frontal teaching might be obstructed by teachers' difficulties in questioning their traditional teaching methods, even when student achievement in their class is low. Moreover, the teachers might feel their well-established working habits are threatened, due to the inconvenience

of studying new working habits, loss of autonomy, and adherence to organizational routines.

At the other end of the spectrum, teachers may resist the change underlying any project implementation latently or proactively. As change means different things to different people and is a personal experience, teachers' responses to change depend on how it affects the pattern of understanding and attachments they have already constructed (Evans, 1996). In the case of externally imposed changes, teachers' perceptions of and reactions to this kind of change are usually negative, mainly due to natural anxiety and resistance when routines are disrupted. Likewise, resistance to change may arise when the proposed change seems to threaten job security or increase workload without commensurate improvement in reward (Mullins, 2005).

Resistance is often motivated by teachers' beliefs and principles that strongly differ from the types of changes required by the new educational project. The teachers' resistance may come in the form of strategic action against change, appearing to look as though they are implementing the project when in fact their energies are being drawn elsewhere. They may simply refrain from participating in discussions about the implementation of the project or from implementing it in their class *per se* (Gitlin & Margonis, 1995). Several common reasons explaining employees' responses to change appear in the literature.

Selective perception of the reality can result in a biased view of a particular situation due to an individual's tendency to perceive the reality subjectively rather than objectively (Robbins & Judge, 2012). For example, teachers influenced by stereotypes of unprivileged students might resist any project that attempts to improve their achievement due to their perceptions of these attempts as useless.

Fear of the unknown is common where individuals are confronted with the unknown and this can cause anxiety (Mullins, 2005). Thus, educational projects that include the implementation of new complex technologies or alternative teaching methods that are remote from common teaching methods in the school may lead to fear of the unknown. Teachers with a high need for security are likely to resist change because it threatens feelings of safety.

Threats to expertise, established relationships, and resource allocation caused by the new project may lead to resistance to change. For example, an educational project in the English department that includes the replacement of current teaching methods with new ones may threaten the expertise of senior English teachers, and in turn may undermine a long-established

power relationship within the school. Senior English teachers may feel threatened by loss of authority, power, and resources they previously received due to their expertise.

As teachers age they often become more conservative (Hargreaves, 2005), less willing to engage deeply in change than they had been earlier. For older teachers, eager to be rewarded for long years of intensive service to a school, such conservatism may take the form of adopting an attitude against a new project and doing the best they can to prevent it. They may form bands of veteran teachers who act against the project manager to thwart the changes initiated in the project.

Teachers' values and beliefs also play an important role in their responses to change. Kelchtermans (2009) argues that a teacher's personal interpretative framework critically influences their experiences with their work and their feelings about it. Thus, when a teacher's professional self-understanding does not fit the basic assumptions underlying the new educational project, they may resist its implantation in their school, let alone in their class.

Teachers' responses to change have been described also as a dynamic process by Rashford and Coghlan (1994), who presented four psychological stages of change. The first stage—Denying—commences when the data supporting a change are first brought into the organization. In the context of schools, this is the phase when the project manager presents the project, emphasizes its benefits, and charts the process of its implementation. Often, however, teachers simply deny any need for change in their work, asserting that it is either of no value or irrelevant to their work, or that the quality of their work is high and needs no change. Under these circumstances, denial must be treated cognitively by the project manager (e.g., discussions with the teachers about the situation in the school that makes it necessary to implement the project, the nature and strength of the forces driving change, the benefits of the project to teachers and students, the perceived impact of the project in other schools). Concurrently, the denial should be treated emotionally and the project manager should listen to the teachers' fears and concerns, involve them in discussions about the correct ways to implement the projects, and so on.

The second stage—Dodging—begins when the project is likely to take place because many teachers believe it is needed, but 'others have to change.' The teachers claim the project is positive and necessary but at the same time reject any change in their class. Unsurprisingly, anger is directed at the project manager, explicitly and implicitly, and teachers may physi-

cally attend meetings and training events but do not participate in practice, and in their passivity communicate unexpressed hostility and opposition. They might emphasize the shortcomings of the project or shift the action to a different focus. Here, the role of the project manager is to let the project team and teachers consult, listen to each other, and express their concerns.

In the next stage—Doing—the need for change has been acknowledged by most teachers and they focus now on issues of how, where, and at what cost the project should be undertaken. Thus, the project team diagnoses in this phase the forces driving and obstructing change, articulates specific goals, pilots the project in one class, and generates commitment to the project among stakeholders. The project manager should be alert to any controversy and disagreement regarding different diagnoses, negotiation, and bargaining within the team and dealing with conflict resolution and persuasion.

The last stage—Sustaining—is necessary to integrate the project into the routine patterns of work in the school. Successful projects are expected to undergo a process of institutionalization in the school, either in specific subject matters when the project focuses on new teaching methods, or in particular grades when the project focuses on civic education, for example.

4.1.5 *The Role of the Project Manager*

Although the role of the project manager has been discussed throughout the text, we still post several questions about this role: What does the leader need to do when managing change? What are the leadership tasks of the project management in the implementation stage? The project manager, as the leader of the project initiation and implementation, is responsible for leading the project team that plans, implements, and monitors the change underlying the educational project. Broadly, the project manager is responsible for performing the following tasks:

- *Establishing the catalyst for change:* The project manager's initial task is to diagnose the need for change in the school. As we discussed earlier, the motive for change among teachers might be a dysfunction within the school or a particular department; factors external to the school environment such as local politicians, parents, and businesses; or just a need to innovate old and traditional teaching meth-

ods. Thus, the project manager needs to communicate a shared need to change and innovate, and convince teachers why the project is necessary to school improvement (Collerette et al., 2012). This means communicating the reasons for change, how it will affect them, and what is expected of them. Put simply, the project manager should express enthusiasm and assure strong benefits at the end of the change.

- *Establishing the vision:* The project manager is supposed to lead the team in the complex process of articulating key objectives that need to be accomplished. This process requires changes in teachers' work attitudes and behaviors—an admittedly difficult step in any project implementation. To this end, the project manager should take on the role of mediator and change agent that integrates external mandates with internal purposes of the school members (Clement, 2014).
- *Mobilizing commitment of the team:* Implementing the project requires mobilizing the commitment of every school member affected by it. This is the time when the project manager should strive to establish coalitions in favor of the change, influencing teachers to accept the basic ideas underlying the project, as well as undertaking actions necessary to achieving the project goals effectively (Collerette et al., 2012). They should also pay attention to environmental constituencies, whose interests in the school might be threatened by the new project (e.g., parents, local politicians, corporations), and obtain their support in favor of the project.
- *Clarifying the project's objectives:* Although it is very hard to create coherent change process in organizations, the project manager should clarify its goals and specify the process of its implementation. The project manager's opinion about the situation in the school is very important in raising teachers' awareness of the need for the project and project managers should respect teachers' opinions (Collerette et al., 2012). In this respect, the project managers must not underestimate the impact of the proposed changes on teachers and students (Scragg, 2010). They have to display empathy with their concerns, fears, pessimism, and resistance, and gradually help them to overcome these undesirable emotions and invest their efforts in implementing the project effectively.
- *The need to monitor progress:* The project manager has to monitor how things are developing during the implementation phase. For example, it is very important to observe classrooms and school events

that are related to the project and to ask every member of the project team to report on their progress in the weekly project meeting.

Holmes, Clement, and Albright (2013) explored how two principals involved in leading change in an educational context exhibited various characteristics of effective leaders and found ample evidence that both principals worked actively to pursue the development of a long-term goal, inclusive of their staff, albeit encouraged and assisted by the research team in this process. However, in both cases, this process took considerable time and required the principals' patience as the staff worked through various options. This is the situation every project manager should expect to find themselves in, and therefore they should employ a wide variety of change strategies.

4.1.6 *Change Strategies and Project Implementation*

Our knowledge about success factors of educational change, a topic already discussed above, allows us to provide project managers and teams with some strategies to facilitate project implementation in their school:

Strategy I. Assess needs and problems seriously: Changes must take into account the organization's unique history, strengths, and weaknesses (Baldrige, 1975). Schools have traditions and patterns of working that have evolved over a long period and change cannot be implemented if these traditions and patterns are opposed to it. Thus, every change begins by an analysis of needs required in the school through the identification of incisive, critical minds on the staff, giving weight to those who think creatively, who know what they are saying, and who interpret and integrate their ideas so that they are translated into effective strategies of action. Likewise, as educational change is also influenced by external environments, some attention should be given to environmental constituencies' views of the current situation in the school and their needs. More specifically, the project team ought to identify forces that might inhibit the change and reduce their impact, and also the forces that might promote the change and help strengthen their impact in the school. Over time, the innovative forces are likely to become stronger and help in implementing the new project.

Note, however, that the project team might face barriers to effective diagnosis of the situation or problems, such as the 'captured' project manager who is a prisoner of their own pat diagnosis of what the school needs;

a tendency of team members to neglect the needs of the whole school; and diagnosing the symptoms of the problems, not the more extensive difficulty (Baldrige, 1975). Therefore, the project team should carefully and thoroughly diagnose problems before any change is undertaken.

Strategy II. A display of empathy with teachers: As change arouses feelings of fear, anger, and helplessness, the project manager should understand the difficulties teachers might face during the project implementation due to their need to replace old routines and practices with new ones. Furthermore, the project manager should be attentive to teachers' concerns and suggestions during the process of adjustment and transition and offer professional assistance, workshops, coaching, and so on, to support the staff cognitively and emotionally. In doing so, the teachers may feel confident enough to go on with the change and will be motivated to perform the project effectively.

Strategy III. Providing information and involving others: Giving information is the most traditional method of organizational change. According to Katz and Khan (1966), when coupled with other change strategies that motivate people to adopt new ways, information becomes indispensable. Information is used not only to reduce uncertainty and fear of change, but also to aid teachers in understanding what they are expected to contribute and in what ways, in order to help drive the new practices forward. Thus, the project manager can use several questions to encourage teachers to participate in the implementation of the project such as:

- How does the project renew our teaching methods in class?
- What are the 'proper' aims of the project?
- Is the project easy to follow?
- What potential benefits does the project offer to teachers and middle managers?
- Who should be in the project team?
- How can the team promote the project in our school?

In asking these questions, the project manager is likely to persuade teachers that the project is important, instructionally and administratively feasible, and politically acceptable (Baldrige, 1975). Likewise, information dissemination ensures that individuals have an opportunity to discuss how the new project is understood and what it is hoping to achieve.

Usually, involvement is related to teachers and parents. However, Zaho (2011) indicated that what we need is an educational experience that

engages students as change partners, so that they can co-design their own learning experiences, build on their strengths, and realize their own potential. The project team should involve students in the implementation of the new project to use their knowledge and experiences as learners to strengthen the benefits of the project to their learning. Likewise, students who have been involved in the project initiation and implementation are more likely to make efforts in its implementation stage and collaborate with their teachers to fulfill the project's objectives.

Strategy IV. Influence of the peer group: Involving teachers in the translation of the vision into concrete change in their work and working conditions is necessary for enhancing perceptions, expectations, and behaviors appropriate to the new project. However, merely attempting to involve teachers in the decision-making and implementation processes of the project is not sufficient for success, as there are a number of subtle factors that affect the outcome of peer-group involvement as a strategy for organizational change. Katz and Khan (1966) claimed that group discussion alone appears to have little effect on the group's acceptance of change. In fact, the group's norms and standards will hardly be affected unless the members are involved in making decisions and empowered to carry out those decisions. The project manager, then, has to pay attention to the values and norms dominating the school and address their efforts to emphasize that the new project fits these cultural scripts. Only then is the involvement of teachers in the project implementation likely to result in the expected outcomes.

Strategy V. Making the change concrete through training: Being able to make the change concrete is an important success factor for leaders (Have et al., 2015). To this end, the project team should participate in professional development activities that can play a key role in shaping teachers' perceptions of the project's vision, the actions needed to implement the projects in the class, the plausible barriers to implementing the project effectively in the school, and so on. Teachers in Kopcha's (2012) study reported that their mentor in the implementation of a technological change communicated the vision for using technology and helped them keep the technology working on a consistent basis.

A critical aspect of change implementation is teachers' willingness to take risks when changing their teaching practices, which is necessary in order to bring about effective educational change (Le Levre, 2014). Professional development training seems to be the way to increase teachers' willingness to take risks in changing instructional practice along the

implementation of the project. The project manager may use this training to help teachers analyze their current practices, learn more about the benefits they and their students might reap from the project, and discuss the ways to take risks rationally and moderately.

Strategy VI—overcoming resistance to change: While the previous strategies also aimed at preventing teacher resistance to change, we need strategies that aim directly at minimizing levels of resistance. Argyle (1967) proposed ‘the overcoming resistance to change’ (ORC) model, assuming that the success or failure of planned organizational change efforts are basically a function of the ability of management to overcome staff resistance to change of any kind (e.g., fear, misunderstanding) that exists just prior to, or at the time of, the introduction of the innovation. To this end, the project manager can use several tactics:

- Involve teachers in the planning of the project; a tactic we discussed earlier. It is assumed that teachers will initially be negatively predisposed toward the new project and hence will resist it, but when they are involved in its planning their resistance will likely decrease. Developing a team facilitates collaboration during implementation, aiding solidarity, and increasing feedback (Robbins & Judge, 2012).
- Develop positive relationships and trust among the project team to make every team member and teacher feel in control of the implementation process and confident enough to criticize ‘bad’ proposals, and suggest subjectively-held, more appropriate ones.
- Lead the project implementation fairly by emphasizing the reasons for change and the project’s positive outcomes if it is performed correctly.
- ‘Buy off’ the leader of resistance by giving them a key role in the project implementation and asking them to suggest a better solution for the situation.
- Select team members who are more likely to accept change based on the career histories of teachers in recent educational changes, the teacher’s age (Hargreaves, 2005), teacher commitment to students, personalities, and the like.

All in all, successful educational projects depend largely on the project manager’s ability to establish a highly effective team—the topic of our next section.

4.2 THE WORK OF THE PROJECT TEAM AND ITS SUCCESS FACTORS

It is widely accepted that team building is an essential part of any project implementation. The team is supposed to be involved in the planning and implementation phases in order to contribute to the development of the project checkpoints, testing, back-out criteria, and back-out time constraints (Taylor, 2008). More specifically, as high-performing teams operate at an extraordinary level (Katzenbach & Smith, 1993), it is the responsibility of the project manager to establish the project team in the initial stages of the project process, to better deal with the teachers. Developing relationships among teachers participating in the team is likely to accomplish remarkable project results (Resenau & Githens, 2005). Robbins and Judge (2012) provide an explanation for the high value of teams in project implementation: “A work team generates positive synergy through coordinated effort. The individual efforts result in a level of performance greater than the sum of those individual inputs” (p. 153).

Teams can make products, provide services, negotiate deals, coordinate projects, offer advice, and make decisions—characteristics that lead many business organizations nowadays to reconstruct their work structure into teams. In education, Dee, Henkin, and Singleton (2006) indicated that teaching teams had the strongest effects on organizational commitment, as teamwork might enable teachers to engage in issues that pertain to school mission, strategy, and environmental relations.

The implementation team consists of teachers, middle managers, and educators with the technical expertise necessary to expedite a change (Taylor, 2008). But, to perform effectively as a project team, the research on highly effective teams reveals a number of characteristics without which the project’s aims are unlikely to be achieved. Thus, successful teams consist of shared leadership roles, individual and mutual accountability, a specific team goal that the team itself delivers, collective work products, active problem-solving meetings, collective assessment of work products, and collective decision making (Smith, 2007). Thus, the research on highly effective teams reveals a short list of characteristics:

- *Common plan and purpose*: When the team focuses on a common goal or single product, its members know what is expected of them and where their efforts should be addressed (Smith, 2007). Clear goals of educational projects might be reading improvement, the

incorporation of a certain educational technology in civic education, involving more parents actively in classroom teaching, and so on.

- *Adequate resources*: Resources include timely information, proper equipment, adequate staffing, encouragement, and administrative assistance (Robbins & Judge, 2012). These elements are critical for the successful engagement of the team in the project implementation.
- *Leadership and structure*: Teams cannot function if they can't agree on whom is to do what and ensure all members share the workload (Robbins & Judge, 2012). This kind of agreement on the specifics of work and how they fit together to integrate individual skills requires leadership and structure. Thus, the responsibility of the project manager is to provide both task-oriented and human-oriented leadership styles to allow each team member to feel they are a part of the group, yet equal to the others in terms of work tasks and efforts.
- *Team composition*: Successful teams need people who have technical expertise, hold problem-solving and decision-making skills to identify problems, generate and evaluate alternatives, and make competent choices. Above all, it is not enough to have experts in a wide variety of areas in the team, but also people who can be attentive to others, able to provide and accept feedback, and hold good interpersonal skills. In this sense, the more professional diversity of team members the better team performance is expected; teachers and middle managers from different subject matters or education levels may come from different instructional views and thereby enrich the team's debates and lead to more effective solutions. Chrispeels, Castillo, and Brown (2000) found that teams need both good internal working relations as well as skills to work effectively with other groups in their schools. The teams in their study shared systematically and formally what they were learning with the rest of the staff in the school.
- *Climate of trust*: To work effectively and share ideas, team members need to trust each other and exhibit trust in their leaders. Interpersonal trust among team members facilitates cooperation with other team members and with the project manager, and bonds members around the belief that others on the team won't take advantage of them.

Thus, when the project begins, one of its manager's first tasks is to create a climate of trust in the emergent team and exclude teachers who might cause distrust and resentment in the team.

- *Performance evaluation*: Each team member takes responsibility for both their own work and the overall work of the team, and the team periodically reflects on how well the team is working and corrects the things that are not working (Smith, 2007). Gabelica, Van den Bossche, De Maeyer, Segers, and Gijsselaers (2014) revealed that when teams were repeatedly stimulated to co-reflect upon feedback delivery, in other words to process feedback, a beneficial effect was found on performance growth over teams only given performance feedback or not given any information about their performance at the beginning of their team experience. Thus, the project manager cannot rely on general feedback or peer evaluation, but also needs to encourage team members to reflect upon the project implementation and analyze the feedback they receive from external sources.

Likewise, and following our discussion of the characteristics of effective teams, the project manager is responsible for recruiting the right blend of teachers and middle managers for the project, and dealing with each team member's moods and skills to get the best out of everyone (Resenau & Githens, 2005). Only then can the project manager assign work packages to team members and establish urgency and direction, set clear rules of behavior, set some immediate performance-oriented tasks and goals, challenge the group regularly with fresh information, and give positive feedback and reward (Katzenbach & Smith, 1993). Teams need project managers who can facilitate their work (Chrispeels et al., 2000).

However, the project manager's ability to run the team effectively is influenced by several factors, such as the degree of commitment to the project's goals among team members, the dominance of some members in the team over others, time wasted by off-task talk, team-meeting scheduling difficulties, no clear focus or goals, ineffective decision-making processes, a lack of trustful relationships in the team, and so on (Smith, 2007). Note, however, that it takes time to build trust and teamwork, especially among teachers from different professional backgrounds who work in a 'loosely coupled system' and have got used to individualistic work habits.

4.3 MARKETING THE PROJECT IN SCHOOL TO INTERNAL AND EXTERNAL STAKEHOLDERS

It is not enough to run the project effectively; it is very important to make stakeholders familiar with the project and its benefits to the school. Therefore, the project manager/team should engage in marketing the project both internally (to other school members) and externally (e.g., parents, local politicians, district officials). To this end, the literature on educational marketing that emerged in the early 1990s can be of much help (e.g., Oplatka & Hemsley-Brown, 2012).

Over the last decade, a number of different concepts have been used by organizations to engage with their external environments, among them the ‘production’ perspective that assumed that buyers would favor products that are available and affordable. The ‘product’ approach is based on the assumption that buyers will purchase the products that offer the best quality and features, therefore the organization should focus on product development and improvement (Evans, 1995). In later years, the ‘selling’ perspective prevailed, assuming that consumers would not buy unless activities to inform and persuade them to do so were carried out (e.g., advertising and promotion) (Kotler & Armstrong, 1999).

In contrast, the marketing perspective holds that “the main task of the institution is to determine the needs and wants of target markets and to satisfy them through the design, communication, pricing and delivery of appropriate and competitively viable programs and services” (Kotler & Fox, 1995, p. 8). Several definitions have been suggested for the concept of marketing in education that were similar, by and large, to the definitions and conceptualizations of marketing in the context of business and service sector companies. A comprehensive definition of educational marketing is suggested by Kotler and Fox (1995, p. 6) who defined marketing as “the analysis, planning, implementation and control of carefully formulated programs designed to bring about voluntary exchanges of values with a target market to achieve organizational objectives.” Similarly, Davis and Ellison (1997, p. 3) defined marketing as “the means by which the school actively communicates and promotes its purpose, values and products to the pupils, parents, staff and wider community.” A slightly different definition was proposed by Pardey (1991, p. 12) who argued that marketing is “the process which enables client needs to be identified, anticipated and satisfied, in order that the institution’s objectives can be achieved.” A similar definition is alluded to by Evans (1995, p. 4), who

regards marketing as “the management process of identifying and satisfying the requirements of consumers and society in a sustainable way.” According to the marketing philosophy, the school is encouraged to carefully examine the needs of its clients and customers in order to meet those needs more precisely (Hanson, 1996).

It follows that educational marketing is an indispensable managerial function without which the school could not survive in its current competitive environment, on the grounds that it is not enough for a school to be effective, it also needs to convey an effective image to parents and stakeholders. Marketing is considered to be a holistic management process (Foskett, 2002) aimed at improving effectiveness through the satisfaction of parents’ needs and desires, rather than just mere selling of products and services or persuasion of clients to buy a specific educational program. Thus, as the new educational project needs to be implemented effectively, its benefits should be marketed to stakeholders to increase the school’s reputation and competitive edge in the environment, on one hand, and to recruit parents to help implement the project, on the other hand.

In theory, schools adopting the ‘marketing orientation’ are more responsive to parents’ and children’s needs and desires and attentive to changes in the community’s needs (Lumby, 1999). The focus in these schools is parents and children, and their need satisfaction is of high priority and importance (Hanson, 1996; Pardey, 1991). Thus, the project manager who wants to follow the principles of marketing should move through several phases:

1. *Marketing research and analysis of the environment*: Before implementing the project in the school, it is vital to study the needs and desires of the school members and analyze the school environment (e.g., parents’ views of education, expectations of local politicians, the right norms of working in teams, and so on).
2. *Formulating a marketing plan and strategy*: The next step is to devise a marketing strategy for the project both internally (i.e., to teachers and students) and externally (i.e., to stakeholders). One type of strategy can emphasize the high quality of the project product, another the benefits of the project to the community, and the third can illuminate the changes that have happened in the classroom following the implementation of the new project elsewhere.
3. *Implementing the promotion mix*: All in all, the project manager should undertake some marketing activities to promote the project

in the school and in the community. For example, the project team/manager can present the project at open days and day visits, in school brochures, and in varied forms of public relations, all of which are common marketing activities in schools worldwide (Oplatka, 2007; Oplatka & Hemsley-Brown, 2012).

4. *Evaluating the marketing process*: Any activity undertaken by the project team should be evaluated to assess its efficiency and effectiveness. Questions such as to what extent the presentation at the open evening helped convince parents and teachers of the importance of the project to student learning, or how the project seen is by parents in the brochure, are examples of marketing evaluation.

Note, however, that the concept of marketing is alien to most school members. Foskett (2002) has shown that there is a wide range of interpretations of marketing among principals in high schools and confusion about its relationship to public relations, promotions, advertising, and external relations' management.

4.4 MANAGING PARENTS AND COMMUNITY

Arising from the previous section is the need for the project team to promote the project through, among other things, managing school–parent relations, due to the impact of parents upon their child's education and development. Good parenthood is characterized by a safe and stable home setting, discussions between parents and children, promoting education, fostering high expectations about the child's success in school, and so on. By engaging in educational activities with their children at home (homework, reading, modeling), parents communicate their expectations for achievement (Oostdam & Hooge, 2013).

Basically, given an increasing influence upon their child's learning in school, we understand as educators that we must involve parents in our new project to promote and motivate the students to take part in the project. However, the project must be culturally relevant to the parents and the school community; that is, the project should be compatible with parents' educational values, norms, and formal learning experiences. One should bear in mind, though, that teachers perceive parental involvement in terms of both collaboration and threat (Addi-Raccah & Grinshtain, 2016). Therefore, a project manager should use proper strategies to move

the team toward collaboration with parents, rather than considering them as a threat.

According to Panferov (2010), school communication strategies that proved to be helpful for parents were regular, multimodal (written and spoken forms), and ideally offered in the parents' first language. Similarly, Avisati, Gurgand, Guyon, and Maurin (2014) showed that when parents receive invitations and support from the school, their involvement increases, and pupil's behavior at school improves. Thus, the project manager might employ several strategies to recruit parents' active and passive support in the project:

- Written messages that convey the positive content of the project and provide student's voices of their experiences in the project. Email and WhatsApp allow the delivery of pictures, videos, and other virtual forms of messages to illustrate the project in practice.
- Establishing an open line of communication between parents of students who participate in the new project and the project team to respect parents' attitudes toward the project and trace their child's development. Personal interviews with parents about the new project can help improve it considerably and create a sense of collaboration between parents and teachers.
- Parents might be encouraged to take an active part in the project implementation and become good 'ambassadors' of its strengths in the community.
- Home visits are recommended when the community is composed of immigrant parents or minorities, to learn about their life views and educational perspective and include them in the implementation of the new project.

Several insights into parent involvement in the project merit highlighting. First, during the last decade, there has been a shift toward a joint responsibility of schools and parents in children's education. Oostdam and Hooge (2013) suggested a framework of active parenting that includes three different types of partnership: (1) A social partnership is directed at cooperation between parents and school with regard to extra-curricular activities; (2) a formal partnership is related to the involvement of parents in all kinds of institutional (e.g., parents' council) and non-institutional activities (e.g., organizing excursions); and (3) an educational partnership

is discerned as being focused on guiding, facilitating, and improving the learning process of children. Thus, the project team should first choose the type of partnership they desire to establish with parents, then invite parents to cooperate on the 'correct' implementation of the new project, take an active part in the project implementation, or guide the parents how to complete the learning activities inherent in the new project at home.

Second, Addi-Racah and Ainhoren (2009) found that the least favored school context is one in which parents are empowered more than teachers are. This mode of relations creates an imbalance of power which, in the teachers' view, undermines their work. Therefore, the project manager who invites parents to take an active part in the project implementation should be aware of the need to strike a balance between teacher and parent involvement, and prevent any sense of control of one group over the other.

Yemini, Ramot, and Sagie (2016) offer a novel framing for the specific type of parental interactions that can be mediated through the lens of 'intrapreneurship.' As more parents are taking on an active position within existing schools (Gofen, 2012; Horvat, 2011), and as parents become widely identified as an integral part of the school, 'intrapreneurship' is a term that can usefully describe and characterize such interactions, by unfolding such relations as corporate/in-house entrepreneurial actions. Thus, many times parents will initiate and even lead projects within schools, providing an important asset to the school. However, such an asset should be carefully managed to increase trust and collaboration among all the involved stakeholders. Yemini, Ramot, and Sagie (2016) claim that parental intrapreneurial ventures do not involve any form of non-compliance, rather, on the contrary, they take root in parents' deep appreciation for and partnership with the schools (and sometimes also the LEA), whereby parents proactively search for opportunities to bring change in an innovative and risk-taking manner. Parental intrapreneurship ventures become institutionalized through the profound personal 'chemistry' between the involved stakeholders, with the blessing of the LEA and the active engagement of school principals and staff. Moreover, such institutionalization occurs despite the fact that the various stakeholders frame the relations in different ways. Such relations nevertheless might be extremely conflictual in specific contexts and might be influenced by the existing power relations among diverse socio-economic strata. School

leadership must carefully address such assumed conflictuality to avoid distrust while working on projects with parents.

4.5 MANAGING THE PROJECT BUDGET

Educational projects cost a lot of money and budgeting and cost control are an integral part of any project initiation and implementation. The project team should start the budgeting with the amount of money (of time) expected to be required to complete a piece of work. Cost estimates are made prematurely, before the work performances and time schedule are fully understood and defined. Such cost estimates then must be redone or adjusted when the performance and schedule are set (Resenau & Githens, 2005). However, prior to the implementation of the project, the team should define predetermined fixed costs, realizing that perfection is not feasible when estimating costs in the budget.

When planning the budget, the project team should take into account the different sorts of costs. According to Taylor (2008), there are three types of costs:

1. *Direct costs*: These costs include labor (e.g., teachers in a particular department, janitor, or secretary), equipment (e.g., computer, books, overhead), services (e.g., travel), and fees that are directly chargeable to accomplishing the objectives of a project. Different hourly rates typically prevail for different seniority levels.
2. *Fixed costs*: Costs that remain constant on a total basis, regardless of production volume, and remain the same even if production temporarily stops (e.g., insurance, library maintenance).
3. *Variable costs*: These change according to the amount and nature of work performed, and include such costs as raw material expenses (e.g., sheets of paper for letters to parents, wages, or freight charges).

Estimating costs and schedules is not an easy task. In the budget, the project manager estimates the resource costs needed to accomplish the project activities, while in the implementation phase they allocate the approved budget to individual tasks or activities (Taylor, 2008). To guarantee that actual costs do not exceed the estimate, it is suggested that the cost estimate is made high (Resenau & Githens, 2005). It is important to involve the entire team in developing the budget, and consult with the

school principal and accountants in the district/LEA when estimating the costs.

The major element in the implementation phase refers to cost control that aims to ensure that no preventable wastage of money or unauthorized increase in expenditure is allowed to happen (Lock, 2007). In this sense, the project manager should control both expenditure and revenue to ensure that all possible income is recovered from the ministry of education, LEA, or parents. In fact, it is the responsibility of the project manager to ensure that expenditures are in accordance with the budget. Likewise, the project manager is expected to provide the principal with a report of costs and to use control procedures during the project implementation to ensure that the cost objectives are satisfied.

4.6 PRACTICAL POINTS FOR PROJECT IMPLEMENTATION

1. Focus on first-order change when planning the project, as second-order change necessitates much more than one project in the school.
2. Avoid imposing the project on teachers without getting their acceptance to participate in it first. In this way, teacher resistance to the project is minimized.
3. Present the project initiative to all school members and ask for their advice and recommendation for revisions. It is important to let school staff be involved in the decision to launch the project and in the project planning phase, to increase their commitment to its implementation in the school and in their classrooms.
4. Pay careful attention to the facilitators and inhibitors of change in your school and its environment, to prevent barriers during the project implementation phase that you could overcome in advance.
5. Employ the strategies of project implementation suggested in this chapter.
6. Pay attention to the building of the project team, in accordance with the successful factors of team development described in this chapter.

7. It is critical to market the project's strengths and benefits to all kinds of stakeholders within and outside the school to harness their support for the project and legitimate its purposes and expected outcomes.

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Project Termination

Abstract We will address different scenarios and reasons for project termination, follow the required procedures for successful termination, and address project institutionalization, sustainability, and assimilation within schools.

Keywords Termination • Institutionalization • Sustainability
• Assimilation

School-year routine is unquestionably one of the basic characteristics of the school environment, which deeply influences the way projects may be implemented in schools. Whether with regards to projects aligned in their implementation to the academic year in schools (holidays, terms, special events etc.) or with shorter-/longer-lasting projects, it is obvious that the project termination process should be examined within the specific context of the school year and its unique circumstances and challenges (Yemini, Addi-Raccah, & Katarivas, 2015). The uniqueness of project-based work arrangements is that in comparison to other types of work arrangements in organizations, projects are developed with the clear understanding that they are one-time finite assignments, which will be terminated after (or sometimes even before) the completion of the assigned tasks (Pinto, 2013). This uniqueness is important and it can even be measured as one of the parameters of a project's success; a project is deemed successful when it is terminated according to the plan—on

scope, on budget, and on time (Pinto, 2013). Nevertheless, sometimes a project that was implemented exactly according to the scope, budget, and time might be less successful due to changing circumstances (such as ministry of education regulations, parental complaints) or lower levels of satisfaction among the project's customers.

In schools, most of the activities and actions are performed with close alignment to the school year, starting in most countries at the beginning of September and ending at the beginning of the summer vacation (somewhere between June and July). The teaching and learning activities thus are planned strictly according to the school-year holidays, special events, and weekly workload. In addition, most of the work in schools is organized and executed by individual teachers within their classroom, with the common phrase that we can plan almost anything, but after the teacher enters the classroom and shuts the door, he/she usually has the autonomy to act according to their own plan and sense (Harris, 2003). Thus, project implementation and also project termination are found to be related to the capacity of the individual teachers to act autonomously, as well to the support of the schools' leadership team and infrastructure (Strong & Yoshida, 2014). Due to such complexities in the school organization, project management is even more complex there than in other contexts. In any case, termination of the project is a project in itself.

Termination of projects, either according to the plan or not according to the plan, is also more complex to manage in schools due to the uniqueness of school organization and the loose coupling of the system (Tyler, 1988), and this is the subject of the current chapter. We will address different scenarios and reasons for project terminations, follow the required procedures for successful termination, and address the institutionalization, sustainability, and assimilation of projects within schools.

This chapter focuses on projects managed within schools by the school staff and thus will not include discussion of issues with external agencies, such as staff dismissal, contractual, and legal issues. For additional materials concerning project management external to the school, readers should approach general project management textbooks, with two excellent examples being Pinto (2013) and Meredith and Mantel (2012).

5.1 WHEN AND WHY SCHOOL PROJECTS END?

Projects in schools are usually initiated, planned, and implemented during one school year. Due to the comparatively long summer vacation and the transformation of the main school audience (the students) between the classes each year, most of the projects target a specific scope that is perceived to be bound to the school's academic year. In an ideal situation, the initiation of the project and its planning occur during the summer break or even before, and the implementation starts with the beginning of the school year in tight alignment with the academic schedule.

The realm of the school, however, in most cases is far from ideal. Many schools are struggling with projects that are brought into schools by external agencies (including the ministry of education, LEAs, philanthropists, parents) after the beginning of the planned school year, or due to different constraints are initiated and implemented in the middle of the year or after its beginning, with poor planning and poor alignment with the school's existing activities (Yemini, Cegla, & Sagie, 2018). As we saw in the previous chapters, those projects are usually at higher risk of failure and thus early (unplanned) termination.

In general, the termination of projects within school can be organized within three major categories: (1) planned termination upon completion of the project's scope; (2) unplanned termination (due to the project's failure or due to the change in the school's needs concerning the project's goals); and (3) termination by institutionalization (when successful projects are absorbed into the school routine). In addition, a common situation is when a project is not ended by decision but rather remains in the school's portfolio, but has actually stopped its real existence in terms of budget, principal's attention, and common understanding among the project team. This happens for different reasons, including political inconvenience to cancel this specific project (funding received by the school to implement the specific project, interest in the project from the LEA etc.), or in situations when the project leader is not focused on the project (when, for example, the teacher responsible and passionate about the project is on parental leave).

The decision to terminate the project without achieving its scope is not an easy one. It is important to note here that the discussion of scope (i.e., project aims) should include not only the project aims but also the other two project constraints (the budget and the schedule) as well the fourth constraint, discussed at length in Chap. 1—the 'customer' satisfaction

with the project. Often, the decision to stop the project closely relates to failure in the other three constraints (missing deadlines, going way beyond the planned budget, or not receiving the acceptance of the customer/s). Additional reasons for unexpected project termination relate to the school's context: the ministry of education/LEA changed the curricula in a way that makes the project irrelevant; the new principal decides to address new priorities, the parents critique the project; schools in the area imitated the project that was supposed to emphasize the school's uniqueness as one of its major goals.

It is not advisable to use the project selection models in the stage of decision-making on project termination (Meredith & Mantel, 2012), because they might be heavily biased by the phase that different projects are found in the project lifecycle, and due to the high investment of time needed to collect the relevant information that is needed for the selection process. Nevertheless, during the assessment that should be undergone throughout the whole project lifecycle (for details see Chap. 6), several questions should be addressed that will allow school leaders to decide whether to terminate the project before the planned termination (see Table 5.1 for the assessment questions). Additional questions can be mapped per specific requirement.

Table 5.1 Assessment questions to decide on project termination

<i>Factors</i>
<i>External factors</i>
Changes in regulation/technology/legal issues that make the project's goals irrelevant
Change in anticipated project budget
Intense external objections
<i>Internal factors</i>
The project keeps missing the schedule
The project is way beyond planned budget
The project appears not to be useful in terms of the desired scope or customer needs (satisfaction)
The project leadership has left or continues to change, or the project team/leadership is not enthusiastic about the project's success
Further progress on the project is no longer possible
The team does not have the desired competencies or skills to execute the project
<i>Organizational factors</i>
The project no longer complies with the school's vision
The leadership team no longer supports the project
The school's main stakeholders hold severe objections to the project

The decision to terminate the project can't be based mathematically on a simple calculation of a certain percentage of positive answers to the detailed questions in Table 5.1, but questions proposed here can definitely serve as guidelines for this managerial decision. The major decision relates to the willingness of school leaders to invest the time and cost required at the specific point of time when the project is evaluated to achieve the project's objectives, given the project status and the expected outcome (Meredith & Mantel, 2012). However, it would be useful to implement a standard and well instilled practice of project termination that may provide value for the project institutionalization and for the planning and implementation of future projects as well (see Table 5.1).

5.2 TERMINATION PROCESS OF PROJECTS IN SCHOOLS

The project termination phase is one of the most important and most overlooked phases in the project lifecycle (Pinto, 2013). It arrives when the enthusiasm about the project has already evaporated, the outcomes have been or have not been achieved, the principal's attention is already somewhere else, and the project team is already busy with other issues. Moreover, in schools the projects usually end (whether intentionally or unintentionally) close to the end of the school year, which is usually an extremely overloaded period for the school staff (final exams, specific student problems, preparation for the end-of-year parties and ceremonies, imminent departure of the students for the summer vacation). All those are high maintenance activities and events for the school staff, leaving the process of project closure with limited attention and resources. Nevertheless, a structured and full procedure for project termination is a must in order to increase the full implementation of the achieved results and the building of organizational capacity within the school to deliver future projects successfully.

The project termination process is almost never an easy or quick phase (Shepherd, Patzelt, Williams, & Warnecke, 2014). It is usually loaded with personal and emotional difficulties among the project team and leadership, with organizational complexities which occur when most of the stakeholders believe that the project has ended and act according to this understanding, while in order to proceed with full and correct termination procedure, certain things are still left to be done. Moreover, when a project is terminated suddenly without previous signals to the coming termination (a sudden budget cut for example), the termination-related

activities are even harder to implement. The motivation at this stage is the lowest within the project lifecycle, but acknowledgment of the importance of this phase for the project and organizational well-being should not be underestimated. It is important to note that a structural and conscious phase of project termination is needed in any case for the well-being of the school.

A successful termination phase includes the following steps:

1. Decision on termination/decision on the accomplishment of the project objectives and thus termination of the project.
2. Announcement to all relevant stakeholders of the project termination, including teachers, parents, students, external partners and funders, regulatory agents such as LEA, district, ministry of education, and other bodies where relevant.
3. Application of termination procedure in terms of the project team, the budget, the deliverables, and treatment of other special features of the project.
4. Performing interviews and other assessment methods with project staff, customers, and other relevant stakeholders.
5. Preparation of the project's final report and dissemination of the project results.
6. Actions to ensure the project's sustainability and institutionalization if relevant.
7. Special treatment of issues of organizational memory and learning and special treatment of the project team and leadership.

Some comments should be added here on internal assessment performed by the project team: those meetings should be held according to clear and agreed rules based on minimizing mutual blaming and revealing in objective way events and problems within the project lifecycle. Such meetings are also important to clear the atmosphere within the project team and reshape the personal relations between the team members.

5.3 DEVELOPING A SCHOOL'S ORGANIZATIONAL MEMORY AND ENSURING PROJECT SUSTAINABILITY

According to Tubin (2009), once established, innovative practices in most schools experience an "attrition of change" and start to regress toward the mean and shift back to conventional directions. Thus, it is of high impor-

tance to enrich the school's practices with the knowledge, practices, and procedures developed throughout the project lifespan and to absorb changes if needed in the school's routine. Changes are not easy to implement in schools and resistance to change may be found to be severe, especially after the official termination of the project, when it is planned to sustain and fully implement the changes in question (Fullan, 2007). In such cases, teachers and school staff might face feelings of uncertainty, anxiety, and frustration, together with a decrease in common comfort and consensus over the school's direction.

Hence, project managers need to take human issues into consideration when introducing, and especially when trying to sustain, any kind of change initiative in schools. While we detailed some of these issues in Chap. 4, it is worth noting some specificities that might be especially useful for the project termination phase.

First, ineffective project closeout might occur due to the usually wrongly held belief that each project is unique and so context-specific that it is impossible to learn from its planning and implementation for future projects. This situation might be implicated by inefficient closing procedures, viewing them as merely a bookkeeping process (Pinto, 2013). Second, due to the structure of the school year, the summer vacation may force changes in school staff and allow the routine to be forgotten through the summer time. In such cases, school leadership should manage organized closeout and lessons learned sessions, to allow smooth transformation between the two school years.

The final report is a prominent document in the project lifecycle and it includes the history of the project, including project proposal, project implementation (what went well and what went wrong, what was done to solve problems), project results, and conclusions. It should include assessment of the project's performance, administrative matters, and recommendations for changing current practices (see Table 5.2 for details on the final project report). The project report should be submitted at the end of the school year to the school leadership team and be distributed to the involved stakeholders. In the realm of contemporary schooling, external agencies who were involved in project funding or other activities may also wish to take part in the project's conclusions and the decision upon institutionalization or termination.

Table 5.2 Final project report structure

Executive summary	Short summary for each of the report's sections.
Theoretical background	The rationale of the project usually relies on academic research, its capability to answer the school's need that arose during the organizational analysis.
Field analysis	Description of similar projects in other schools, description of similar needs and other solutions to answer them.
Planning	Project vision. Project specific goals. Project long-term goals. Measurable outputs and outcomes for each of the goals. Project's intended population. Planned Gantt chart. Planned budget. Risk assessment.
Project performance	Summary of major activities that were performed during the project, including organization and management of the project. Difficulties that arose and solutions that were implemented. The differences between the project plan and the actual implementation, and explanations for these.
Project results	Project results and results of project assessment and monitoring procedures. How the project's outcomes relate to the theoretical understanding established during the preliminary research on the organizational needs.
Project conclusions	Conclusions and future steps. Identifying systematic errors—lessons learned at different levels during the project implementation.
Sustainability and institutionalization	Explanation of if and how the project's outcomes or activities will be sustained and institutionalized.
Bibliography	

5.4 INSTITUTIONALIZING THE INITIATIVES IN SCHOOLS

An inherent dilemma exists in the process or the desire to institutionalize an entrepreneurial project, as the entrepreneurial nature of the project stands in direct contradiction to the established and conformed nature of the school institution (Omer Attali & Yemini, 2017). In the case of internal entrepreneurship in schools (sometimes referred as institutional entrepreneurship), the situation isn't any different. Often, entrepreneurial projects that are internally initiated and led by individual teachers are terminated by 'slow death,' where the following year the budget is signifi-

cantly reduced, the staff dismissed, and the project manager remains with the ideal vision of the project lifetime, which is never sustained. In such cases, this teacher might suffer from depression, low motivation at work, and problematic relationships with the rest of the school staff, accusing their colleagues of not assisting them in such a venture. In other cases, the school leadership team is keen to institutionalize the project, but the school routine is hard to change and the project goals are again slowly evaporated through the following year. Thus, projects that are being institutionalized often share some common characteristics, as was shown in Yemini, Katarivas, and Addi-Racah (2015), including a good fit with the school's mission and values, good team work, and good risk management.

The integration of a project into the so-called 'school DNA' often appears to be one of the project goals that is officially stated during the planning phase of the project. In other cases, a project implemented by an external agency (Hopkins, 2003; Yemini et al., 2017) aims to be integrated into a school's routine, sometimes including integration into the school's budgeting as part of such institutionalization. In any case, the institutionalization of the project should be discussed and decided on upon project completion.

As claimed by Meredith and Mantel (2012), students would often ask "Does anybody really use this stuff," especially with regards to formal activities to be undertaken upon the project completion. Some research showed a good correlation between the use of project management techniques and actual success of the projects, including project termination activities.

5.5 PRACTICAL POINTS FOR PROJECT TERMINATION

1. Upon the termination of the project (in cases where it was terminated after the aims were completed successfully), it is important to make sure that the objectives have indeed been accomplished and that the 'customers' are satisfied.
2. There are always important lessons to be learned from the project. Those lessons should be carefully identified, documented, and distributed to the relevant current and future stakeholders.
3. The termination of the project usually involves dealing with the varying emotions of teachers and other staff. Those issues should not be ignored by either the school leadership team or project managers.

4. The institutionalization of the project into the school routine should be discussed, mainly in cases where the project is proved to be successful for the stakeholders.

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Project Monitoring, Control, and Evaluation: The Unique Aspects of Projects in Schools

Abstract This chapter focuses on the process of evaluating the project success: first, briefly, in the broad context of the business and industrial literature and afterwards with reference to the unique aspects of educational projects executed in schools. It is important to note that a considerable portion of project management literature deals with strategies to increase the project success; however, we will not discuss this subject here, but rather focus on evaluation of project success. Next, we will present a specific aspect of the process of monitoring and control—managing the risks in projects—while emphasizing the unique characteristics of project management in the educational field, which in certain contexts requires a specific approach to this subject.

Keywords Evaluation • Industrial literature • Project success
• Risk management

6.1 EVALUATION OF PROJECT SUCCESS

Project monitoring, control, and evaluation refer to a process designed to create the organizational plan, system, or structure that will deal with the estimations required to ensure that the project meets its objectives. This process is usually exercised by comparing whether project implementation *is* with *where we planned it would be*, assessing the quality and the quantity of

the work using the available resources, and taking actions afterwards to correct any deviation from the plan (Heagney, 2016; Meredith & Mantel, 2011).

A general model for organizational control and evaluation developed by Pinto (2013) contains four components:

1. *Defining a goal*: Based on the project plan as defined in WBS (discussed in earlier chapters), the WBS should include all the work packages of the project, its deliverables, and so on, and create a visual picture of the project from the highest level to task level. For that reason, defining a goal based on the WBS is useful.
2. *Measuring progress*: Project managers need to define a system that will allow them to measure the progress of various activities in the project in real time. This system should provide information as quickly as possible. It must also explicitly define what needs to be measured or what in the project requires measurement (Pinto, 2013). For that, the project manager is required to identify the key factors to be controlled. In this context, the triple constraints (scope, cost, time) must be defined clearly, identifying the specific characteristics of performance, cost, and time that should be monitored.

The best source for identifying the items that need to be monitored is the project plan, which describes what is being done and when, the work packages, and deliverables in the project. The monitored key factors should contain results rather than activities (Meredith & Mantel, 2011). Another important aspect that should be addressed relates to defining the most appropriate times throughout the project lifecycle to obtain information that will enable the evaluation of the project's performance. In this context, we recommend linking the project's predetermined timeline to the milestones determined in the WBS. The information can be collected through both quantitative and qualitative measures and indicators (Globerson, Shtuv, & Zwikael, 2009).

3. *Comparing the planned performance with the actual performance*: When the project manager has the plan of action and a method for measuring the progress of the project, the next step is to compare the project's actual progress with its planned progress. Thus, the measurement process should chart progress and compare what actually happened with the planned program. A gap analysis refers to a measurement process that first defines the goals and then the extent to

which the actual performance is close to the defined goals. The aspiration is, of course, that the gap between planning and implementation be as small as possible. On the other hand, a significant gap between planning and implementation constitutes a warning flag.

4. *Taking Action:* Upon discovering deviations from the original plan, it is necessary to take certain actions to correct or reduce the deviations. Repair action can be specific or extensive, depending on the deviations identified. After repair action is taken, the cycle of evaluation and control begins again. Thus, indications of deviation from the original plan require a response leading to a new definition of the program, and a re-evaluation of a project progress. As such, project control and evaluation form a continuous and ongoing process of goal setting, measurement, correction, improvement, and re-measurement.

Meredith and Mantel (2011) emphasize a few characteristics that should be considered while planning such a system: The system should be sensitive and flexible, that is, it should be linked to real and updated events and changes and not just to the project plan, and should be able to respond to unexpected events in the implementation of the project; the system should be cost effective, that is, not exceed the value of control, useful and simple to operate, in a way that the information obtained would be useful. A system which provides a type of information which cannot be used to promote or improve the project is a system which will not help the project manager in managing the project monitoring and control process. In addition, the control system should operate in an ethical manner. Proper definition and implementation of such a system throughout the project lifecycle will ensure the achievement of the goals and the objectives of the project.

After discussing and highlighting the importance of conducting evaluation during the project implementation in order to ensure the success of the project, we focus now on the process of evaluating the success of the project. Afterwards, in the next sub-section, we will present this evaluation process with reference to the unique aspects of educational projects performed in schools.

The success of a project is considered to be the major element in the evaluation of a project (Baccarini, 1999). In an era where most work in organizations can be classified as project-based (Davis, 2014), and failures of projects have become a common phenomenon, the importance of

evaluating the success of projects has become undeniable. Evaluating project success provides the opportunity to assess the real effectiveness of the project and therefore is considered one of the vital ways to improve the effectiveness of project delivery. However, evaluating project success also bears broader, indirect, even hidden, contributions for the organization executing the project. For example, it has the potential to provide a learning opportunity for improving the performance of future projects, to identify project personnel who have high potential to become managerial leaders, to identify organizational strengths and weaknesses, and to improve the process of project management in the organization (Meredith & Mantel, 2011).

In general, when a project has been completed without meeting the criteria defined by the project manager for its success, it is considered a failed project. But what should be those criteria set for the success of a project and how should the project manager define them? In other words, what is the right way to measure the success of a project?

There is great complexity in defining what ‘successful project’ is. The fact that success may mean different things to different stakeholders involved in a project, and that projects are different from one another in their content, size, uniqueness, risk, and other various parameters, make it impossible to agree and define one set of criteria for measuring success (Mir & Pinnington, 2014; Westerveld, 2003). While much of the traditional project management literature has treated all projects in the same way, more recent literature views project success as a multi-dimensional category (Bryde, 2008) and recommends using a more project-specific approach while measuring success (Shenhar, Dvir, Levy, & Maltz, 2001). Consequently, various frameworks are available for measuring project success. In this sub-section, we will not present all these frameworks, which have evolved dramatically over the years (Davis, 2014; Jugdev & Müller, 2005) and are naturally dependent on the type of project and the industry, but rather those frameworks which we found relevant in relation to evaluation of projects performed in schools.

The standard and basic measures for project success are the three dimensions of the “golden triangle” (cost, time, and performance): meeting the project budget (compared to the planned budget), meeting the completion date (compared to the originally designated date), and meeting the project’s performance (compared to the planned performance) (Atkinson, 1999; Globerson et al., 2009; Walton & Dawson, 2001). This approach for evaluating the success of a project is based on relatively

simple parameters for measurement and therefore is simple and easy to perform, but nevertheless has been criticized in more recent studies as insufficient (Davis, 2014; Mir & Pinnington, 2014).

This point of view may be best understood in light of the fact that we all aware of some projects that were completed on time, met the performance requirements set for the project, and completed within the budget limitation and are nevertheless considered failures, and conversely, projects which have not met these criteria and are still regarded as successful projects.

Other common models for measuring project success recognize the importance of success as viewed by various stakeholders (Davis, 2014). While this approach has received special focus, it has raised difficulties when trying to develop a systematic model for evaluating success. These difficulties relate mainly to the complicated question as to who the relevant stakeholders are, and whose perception regarding the success of the project should be examined? Another difficulty relates to the question as to whether there is a collective agreement on what success means within groups of stakeholders (Davis, 2014) and to the fact that stakeholder needs are often difficult to measure (Mir & Pinnington, 2014).

However, the literature reflects a gradual agreement toward including customer satisfaction as an important measure in evaluating project success (Shenhar et al., 2001). Also relevant to our discussion in the next sub-section (focusing on evaluating success of projects operated in schools) is the approach for measuring project success offered by Shenhar et al. (2001). They identified four dimensions of project success: *Efficiency* (meeting schedule and budget goals), which can be assessed only in the short term, during a project's execution and immediately after its completion; *Customer satisfaction/impact* (meeting customer needs), which can be assessed after a short time, when the project has been delivered to the customer, and the customer is using it; *Business success* (commercial value of the project and market share), which can only be assessed after the achievement of a significant level of sales—usually after one or two years; and *Future potential* (market opportunities), a dimension that can only be assessed after a longer time, of probably two, three, or five years (Meredith & Mantel, 2011; Mir & Pinnington, 2014; Shenhar et al., 2001).

We find a special interest in this broad approach for evaluating project success suggested by Shenhar et al. (2001), as it perceives project success as a strategic management concept which should and may help linking project efforts with the short- and long-term goals of the organization as

a whole. In our opinion, considering both the long-term and short-term objectives of the organization is also important in projects performed in schools.

While success criteria should be agreed upon with the stakeholders before the beginning of the project, it is not difficult to evaluate during the implementation phase of a project if and when a milestone has been completed. A greater difficulty arises in the success measurement process when some elements are objective and some subjective. This situation requires reasonably standard measurement techniques if the measures are to be valid and reliable. In this context, interviews and questionnaire methods for gathering data should be used but must be carefully constructed (Meredith & Mantel, 2011).

6.2 EVALUATION OF PROJECTS IN SCHOOLS

Before addressing the subject of evaluation of school projects, we feel that it is important, inevitable even, to discuss briefly the broader context of evaluation in the educational field, which has gone through major changes in recent decades. With changing expectations in the roles of the schooling in the society, the administration, researchers, practitioners, and policy makers have become more and more interested in educational accountability (Normore, 2004). As part of the ‘accountability trend,’ there has been an increase in the importance given to evaluation of performance in education systems, both nationally and globally (Grek, 2009). Thus, the subject of evaluation—or more specifically high-stakes, census testing at the national level—has become an increasingly central domain of policy (Stevenson & Wood, 2014) and the major steering mechanism of schooling systems around the globe (Lingard, 2010; Lingard, Martino, & Rezai-Rashti, 2013), affecting schools, teacher practices, curricula, as well as student learning and experiences of school (Lingard et al., 2013). In their work from 2013, Sellar and Lingard focus on the rise of ‘policy as numbers’ in education. They argue that development of statistical categories that have been used around the world in the educational field, as with the OECD’s Programme for International Student Assessment (PISA), the International Association for the Evaluation of Educational Achievement’s (IEA), Trends in International Maths and Science Study (TIMSS) and Progress in International Reading and Literacy Study (PIRLS), have had considerable impact on national education systems throughout the globe, and have contributed to the creation of a global comparative measurement of

performances of national schooling systems and helped to create a global education policy field (Sellar & Lingard, 2013). According to Lingard et al. (2013), this policy is central to globalization and is tied to the constitution and proliferation of an audit culture of neoliberal governance and performativity. Thus, high-stakes testing and its effects can be seen as part of the phenomenon of ‘policy as numbers’ linked to other reforms of the state, including new public management and new forms of accountability, all set in the context of neoliberal globalization (Lingard et al., 2013; Ozga, 2009). For Novoa and Yariv-Mashal (2003), this is the way education governance works today, through comparisons provided by the ‘global eye’ and the ‘national eye,’ that is, through complementary global and national testing regimes.

While the issue of measurement of educational products has become a phenomenon of public education policy, there are critics of this policy. Lingard et al. (2013), for example, address the impact of test-based accountability and testing regimes and suggest the need for alternative, more socially just forms of evaluation. Another question, even more basic, raised in this context is whether education can be measured authentically. According to Gray (2013), the answer to this question lies in the basic question of what the purposes of education are. As he claimed, ultimately the purpose of education is that of finding meaning in life, and each person has to do that for themselves. Adopting this point of view regarding the purpose of education, leads to the question as to whether life’s meaning can be defined. In light of this purpose, the difficulties with measuring education using numbers are quite obvious. Criticism from another direction has been suggested by Campbell (2010), who claimed that achievement tests may well be valuable indicators of general school performance under conditions of normal teaching aimed at general competence. However, according to Campbell, when test scores become the goal of the teaching process, they both lose their value as indicators of educational status and distort the educational process in undesirable ways.

Thus, in the public discourse, a ‘good student’ is someone who has achieved high scores in exams rather than a student who is interested in many subjects outside the classroom, aspires to excellence, seeks challenges in life, social involvement, and so on. Likewise, a good school is one where the achievements of its students in international tests are among the highest in the country or region, and not one that sees itself as an educational

institution that provides its students with values, presents them with challenges, and contributes to the community (Nevo, 2013).

Once we have reached an understanding of the complexity of the subject of evaluation in the field of education as a whole, we can now approach the subject of evaluation of school projects specifically. This topic has its own unique aspects and challenges, as will be discussed below, but while dealing with the unique challenges of evaluation of school projects we should keep in mind the general complexity of the subject of evaluation in education, as discussed above.

While addressing the subject of evaluating the success of educational projects, it is important to note the inherent difficulty in measuring their success, due to the fact that as opposed to the business sector, in which success of a project is usually measured in terms of time or money, in educational projects the objectives often relate to processes of assimilation of values, change behaviors, or change attitudes, such that knowing whether or not they have been achieved takes a long time, sometimes years (Hess & McShane, 2016). Therefore, while defining the goals of a school project, we recommend defining both short-term goals that can be measured upon the completion of the project and also, as much as possible, long-term goals that will be measured later, in accordance with the nature of the specific project and its objectives. In any case, it is important to treat the subject of evaluation in education with sensitivity and wisdom.

The discussion on evaluating school projects requires us to return to the basic question of ‘what is evaluation?’ The answer is complex and different definitions may be applied to the term evaluation in education in the context of project management (Nevo, 1989). For example, some definitions focus on the extent to which goals are achieved and thus perceive evaluation as a process aiming to determine the extent to which educational goals are achieved (Tyler, 1950), some focus on evaluation as a process to provide information for decision making (Stufflebeam et al., 1971), some deal with evaluation as a process to determine the value of different aspects of a project (Joint Committee, 1981), and there are other various approaches (Stufflebeam, 2001). The differences in definitions naturally indicate the various functions of evaluation. An accepted distinction in this context is between a ‘formative evaluation,’ aiming at changing and improving an activity that has not yet ended and a ‘summative evaluation,’ aiming to provide infor-

mation in order to decide whether or not to continue the project in the future (Nevo, 1989; Stufflebeam, 2001). In this chapter, we will focus on summative evaluation, conducted at the end of the project in order to determine whether the project has succeeded or failed; determination which is crucial to the decision as to whether or not to assimilate and institutionalize the project within the educational organization. The aim of such an evaluation is to provide information about what the project has achieved or not achieved, and for whom, and thus to clarify the advantages and disadvantages of the project. Such an evaluation, designed to make decisions about the continuity of the program and provide information that enables organizational learning processes, is usually an evaluation that focuses on the results of the project, as opposed to a formative evaluation that is usually designed to improve the project (Friedman, 2005).

After clarifying the type of evaluation we adopt in this chapter, we would like to suggest a path for planning the subject of evaluation in the context of school projects. There is no doubt that schools do not spend sufficient time and effort on planning the evaluation process of projects. Very often, project managers (whether they are teachers or the school principals themselves) start projects without setting any clear success criteria or they start with poorly defined set of criteria. As mentioned above, evaluation is a process that draws its validity and strength from a systematic and structured research process that is chosen in the planning stage of the project. From our experience, while in the business and industrial sector evaluation processes are an integral part of the planning stage of any project, this is less common in projects performed in schools. Thus, while results of the evaluation have important and sometimes crucial consequences for people and the organization, especially schools, decisions regarding the continuity of a project in schools are often made on the basis of intuitive evaluation. For example, a short while ago a graduate student of one of the authors approached her and told her about a project she managed at the school where she teaches. The project, as she described, focused on an attempt to strengthen the interpersonal relationships between teachers and students in order to improve the motivation of teachers to teach and of students to learn. After she finished describing the project, the author asked her about its results. Did the project succeed? Her answer was that the project was amazing and had succeeded in an unprecedented way. When she was

asked how she knows that the project had succeeded, she replied that the student's eyes were sparkling when they talked about the project. In such a situation, it is difficult to stand behind the evaluation results.

Evaluation processes in our opinion should be considered as integral components in planning and implementing educational projects in schools. Starting a project without properly defining a monitoring, control, and evaluation plan may cause problems in the execution of the project and affect its chances of success, as well as it can damage the organizational learning process that can be produced for other projects. Since schools operate on the basis of projects, yet there is usually no particular function in schools that is responsible for evaluation. We propose here a model for formulating an appropriate evaluation program for school projects. The model is simple and easy to use.

6.2.1 *Stages in Developing an Evaluation Plan*

Since we perceive our proposed model as an evaluation rather than research, we will use here the term 'evaluation' rather than 'research.'¹

The first stage is a preliminary stage, but is required for formulating an evaluation plan tailored to the specific project's needs. In this stage, the project manager should answer two questions. The first question is: 'what are the objects of evaluation?' In other words, the question here is what is the project manager desires to evaluate, describe, and determine the quality of? Almost every educational entity can serve as an object of evaluation. The common objects of evaluation in the context of school projects are students, teachers, and the school principal. The answer to the question is derived directly from the goals of the project. For example, if the project deals with imparting life skills to students, the object of the evaluation will be the students themselves, and if the project deals with improving the motivation among teachers, the object of evaluation will be the teachers. It should be noted here that the object of evaluation is never the project itself, rather the specific factor it should evaluate in order to understand whether project goals have been achieved. The clear identification of the

¹For elaboration on the differences between evaluation and research see Boulmetis and Dutwin (2014).

object of evaluation is an important part of preparing the project evaluation plan (Nevo, 1989).

The second question is: ‘who are the evaluation ‘customers?’ This question concerns the fact that a variety of stakeholders are involved in the school system, such as students, parents, teachers, the school principal, the LEA, the national education system, and sometimes even external organizations such as NGOs, philanthropic foundations, and business organizations. If the evaluation is to be effective, it must be beneficial to the consumer/s. Evaluation can serve more than one consumer simultaneously; because different consumers can have different evaluation needs, it is important to identify in the early stages of evaluation planning who are the specific consumers of the project evaluation and define their evaluation needs (i.e., which success criteria is important to them) (Nevo, 1989). We should note here that there is no doubt that in the educational sector at the end of the day the final consumers are the students themselves, but sometimes the evaluation activities will not focus in the short term directly on the students. For example, if the project is designed to consolidate the teaching staff, it is clear that the important reason for consolidation among the teaching staff is to make them better teachers for their students. However, in such a case, we suggest that the evaluation process of the project will focus in the short term on teachers rather than students, and the examination as to whether teamwork has improved the learning experience or academic achievements should be conducted in the longer term.

Once these questions are answered, it is possible to proceed to the second stage, which is developing a detailed evaluation plan for the project. This plan should include the following components:

Defining measures for success for each of the objectives defined in the project: The most appropriate criteria of success of a project are the project objectives. The degree to which these objectives have been met determines the success or failure of a project. In this context, it is important to determine clear and specific success measures for each of the objectives of the project separately. The question that the project manager should answer at this point is what will be considered as *success* regarding each of the objectives determined. In this context, it is important to distinguish between two types of success measures: performance measures and quality measures. Performance measures are technical measures in essence, and relate to the performance or non-performance of a certain defined action. A performance measure can be, for example, the execution of an eight-session motivation workshop for teachers. In other words, this

type of measure relates to the question as to whether the workshops were held or not, and does not relate to the question as to whether these workshops indeed improved the motivation of the teachers. However, quality measures relate to the question as to whether the purpose for which the workshops was conducted was achieved; that is, whether the workshops indeed improved the motivation of the teachers. A point to emphasize in this context is the importance of clearly defining the quality measures, in such a way that it would be possible to measure whether it exists or not. In the above example, a clear definition of the quality measure would be that 80 percent of the teachers reported an improvement in motivation following the workshops. Of course, in order to examine the success of a project, performance and qualitative measures should be used to the extent possible.

The next step is **defining evaluation tools** (data collection tools). Here, the question the project manager should answer is what type of data is required for evaluation and how the data required for evaluation will be collected. Qualitative data concentrate on verbal descriptions, document analysis, interviews, observations, surveys, and note taking. Quantitative data on the other hand are structured, hard data which can be described numerically, such as questionnaires (Boulmetis & Dutwin, 2014). Since the evaluation tools chosen by the project manager should be valid and reliable, we recommend that a project manager who has no knowledge of evaluation and measurement receives expert advice at this point.

The next recommended stage is **selecting the evaluation population**. The evaluation population (or sample) should be determined according to the success measures defined in previous stages for each of the project objectives. If, for example, we are managing a project aimed at raising self-image among youth at risk, a (quality) measure of success that can be determined in this context is that 70 percent of the youth participating in the project report that the project has raised their sense of self-image. If this is the success measure defined, the evaluation population should be the youth participating the project. If in the project we are managing there are many participants, we recommend using a sample (if so, the success measures should be defined accordingly). In that case, it is important to choose the sample carefully and methodically. A sample should represent the population from which it was chosen. In addition, collecting data from a variety of informants to obtain a comprehensive picture that reflects the diverse perspectives of those involved in the program can also be useful at this point. In the above example, teachers can be asked whether they feel

there is an improvement in the self-image of their students. It is important to note here that during the evaluation process, anonymity of the evaluation population or sample must be preserved in a way that will not allow disclosure of their identity.

The next step is **selecting the data analysis method**. The method should be selected according to the tools defined (whether qualitative or quantitative). It is important to determine the data analysis method at the planning stage of the evaluation program, as this may affect the manner and methods of data collection (Nevo, 1989).

In the last stage of the process, the project manager should **determine a timetable for conducting the evaluation** (the exact stages of conducting the evaluation). The timetable for the evaluation should be as detailed as possible (Nevo, 1989). In addition, if more than one person is involved in the evaluation process, it is recommended to note **who will be responsible for the evaluation process**.

Maintaining the above steps is necessary for a quality evaluation process and would enable creating a tailored ‘suit’ for each project. Table 6.1 is a suggested template for the planning of the evaluation subject, which summarizes the above steps and includes reference to the components we have specified.

The last stage after planning and implementing the evaluation process is presenting or reporting the evaluation findings. Some important comments in this context: the question of how to present the project evaluation findings is tied to the question as to who the consumers of the evaluation are, what their needs are, and what the goals of the evaluation are. In general, these are the questions the project manager should ask themselves before presenting the report: (1) Does the report present relevant and useful information to evaluate customers?; (2) does the report present practical recommendations?; (3) is the report fair?; and (4) does the report present accurate and reliable information? (Nevo, 1989). In

Table 6.1 Planning of the evaluation subject in the project

<i>Evaluation question (quality and performance measures)</i>	<i>Methods for collecting data</i>	<i>Population/ sample</i>	<i>Methods for data analysis</i>	<i>Schedule</i>	<i>Responsibility</i>
1.					
2.					

order for the evaluation to be of any benefit to decision makers, policy makers, and other target audiences, it must be written clearly and comprehensively so that it can be understood by its consumers and meet their needs, with the intention of making it a communicative and useful document for readers who are not experts in evaluation. In addition, we recommend that the report focuses on key findings and recommendations that have practical significance for the project being evaluated. Report of negative evaluation findings should be made without personal accusations while dealing with substantive subjects, problems, and issues, and they should be based on data that cannot be refuted easily (Nevo, 1989).

6.3 RISK MANAGEMENT

While in the previous chapters we discussed the process of monitoring and controlling the project, focusing mostly on managing this process in relation to the triple constraints (scope, cost, and time), in this section we present a specific aspect of the process of monitoring and control—managing the risks in the project—while emphasizing the unique characteristics of project management in the educational field.

The subject of risk management is at the heart of project management and, as will be explained below, is an important, not to say critical factor in the success of any project, including projects operated in schools, helping to decide which actions should be taken to minimize risks as much as possible. Hence, managing risks is one of the major responsibilities of the project manager (Eger & Egerová, 2016). Almost every project is executed in an environment characterized by uncertainty (Chapman & Ward, 2003), an environment that involves unexpected occurrences that may affect the project. The uncertainty can arise from various factors related to, for example, fundraising or funding, factors related to the project team, and many other factors, internal or external to the organization executing the project. This uncertainty is at the root of the need for risk management (Pinto, 2013). It is important to emphasize at this point that the subject of risk management does not seek to avoid those occurrences. On the contrary, we think that the greatest risk to a project is not taking any risks at all. Therefore, in the basics of risk management lies the understanding that risks exist, but that it is necessary to prepare for their occurrence and to plan, in the planning stage of the project, how to deal with them so that their occurrence will not significantly damage the project or result in its failure (Lock, 2014). An effective process of risk management significantly increases the likelihood of project success (Chapman & Ward, 2003).

Indeed, many researchers have found a positive relationship between project risk management and project success. In studies conducted by Salomo, Weise, and Gemünden (2007) and Mu, Peng, and MacLachlan (2009), for example, project risk planning throughout the development process demonstrated a positive effect on the performance of projects involving new product development. On the other hand, the absence of assessments of the occurrence of risks, and a lack of discussion on the issue of risk management in the project planning phase, significantly increases the chances of failure of a project (Cooper, 2005). It is clear therefore that risk management should be considered as an integral part of project management and moreover, should be placed at the top of the project manager's agenda when managing projects (Eger & Egerová, 2016). The importance of risk management in school projects is even greater, in light of the fact that unlike projects in the business or industrial sectors, which usually aim to maximize profits for the company or its shareholders, when we deal with education, most of the projects naturally concern pupils. Thus, failure of a school project can result in disastrous consequences (far beyond losing money or resources). For example, if we manage a project dealing with changing the method of instruction for matriculation, the failure of this project may naturally result in students failing in the exams that their future depends upon. However, despite the clear evidence showing the obvious relationship between effective risk management process and project success, it seems that risk management procedures are still not widely implemented, especially in the educational field (Teller, Kock, & Gemünden, 2014). Before presenting the recommended process for managing risks, it is crucial to explain what risk is in the context of project management.

The Project Management Institute defines project risk as “an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives” (Project Management Institute, 2008, p. 127). Another common definition is suggested by the Association for Project Management, defining risk as “an uncertain event or set of circumstances that, should it occur, will have an effect on the achievement of the project's objectives” (Association for Project Management, 2006, p. 156). The assumption in this context is that many events, whether external to the organization or internal, and outside of its control, can affect the project and its success. The difference between a failed project and a successful project does not stem from the fact that in the failed project problems arose and in the successful project no problems arose. The difference lies in a plan prepared in order to deal with problems as soon as they arise (Pinto, 2013).

Project risk management is the art of identifying, analyzing, and responding to risk factors during the project (Pinto, 2013). More specifically, it is concerned with attempting to identify all the foreseeable risks, assessing the chance and severity of those risks occurring, and then deciding what can be done to reduce their possible impact on the project or avoid them (Lock, 2014; Pinto, 2013). Risk management therefore requires scrutinization, in the planning phase of a project, of unexpected situations that are outside the control of the project manager.

It is widely accepted that risk encompasses both threat and opportunity (and therefore risk and opportunity are two sides of the same coin) (Teller et al., 2014). Thus, we view the process of project risk management as enabling an organization not only to reduce the negative consequences of uncertain events, but also to capture opportunities and maximize them.

Risks can occur at any stage of the project. However, at the beginning of the life of a project, which is characterized by uncertainty, both the opportunities and the risks are high because of the aforementioned uncertainty. On the other hand, the effects of the realization of risks are relatively minimal at the beginning of the life of a project (with relatively few resources invested in the project at this stage). In contrast, the further the project progresses and the more resources are invested in the project, the potential negative consequences of the realization of the risk become greater and the probability of risk becomes lessened. The reason for that lies in the fact that as time passes, there will be a greater value of work in progress (Lock, 2014; Pinto, 2013). In other words, risk that occurs late in the project can be more costly in terms of time and money than a similar risk event occurring at the beginning of the project implementation (Lock, 2014).

The above review of the subject of risk management is relevant in all aspects to educational projects performed in schools. For example, if a project aims to assimilate the use of technology in teaching methods, there is a risk that the teachers will not cooperate or will express opposition, or that the technology will turn out to be inadaptable to the existing school infrastructures or will be difficult to operate. Understanding the goals and essence of risk management enables us to step forward to describe common stages in managing risks with reference to the unique characteristics of the educational field. We will note in this context that despite the growing project work in educational institutions, there is still a lack of research in the area of project management in general and project risk management in particular (Eger & Egerová, 2016).

6.3.1 *Common Stages in Managing Risks*

In general, for the project manager, the risk management process involves asking what is likely to happen, and what is the probability of it happening and its impact? In this context, it is important to consider two aspects: the probability that an event will occur as well as the effect of its occurrence. A war, for example, can certainly threaten the success of a project, but the probability of its occurrence (at least in some countries) is low enough not to affect the project. On the other hand, the probability that a key player in a project will leave is reasonable enough, and its impact obvious enough, to include this risk reference in the project planning.

The next questions that should be asked are what may be done to reduce the likelihood and impact of such events? Which signs would indicate the occurrence of such events and what are the expected outcomes of these problems and the possible response to them?

More specifically, an effective risk management process should include, according to Pinto (2013), four stages: the first stage, which should be performed throughout the lifecycle of the project is known as **Risk identification**, and involves determining the specific risk factors which may reasonably have an effect on the project. Specific risk factors are those risks that are relevant to the specific project due to its nature, characters, and quality. The question that should be raised at this point is what are the typical or unique risks of projects managed in schools?

From our experience, the most common and basic risks of educational projects involve the issue of funding (financial risks). The lack of resources in the field of education and the difficulty in obtaining funding often make it difficult to manage projects in schools, and may put school principals in a situation where they have difficulty initiating projects or are forced to make changes to existing projects to adapt them to the existing (or lack of) resources. Fundraising for projects in the public education system is indeed very challenging, but inevitable. Yemini, Addi-Raccah, and Katarivas (2015) noted in this context that school leaders in the current era must act as “resource investigators,” searching for new initiatives and finding new support and the funding and resources required for school improvement, and they must investigate those resources while establishing commercial and entrepreneurial connections with diverse agencies outside the school (Addi-Raccah, 2006), and turning to external partners as a mechanism for securing facilities, financial resources, and expertise (Wohlstetter, Malloy, Smith, & Hentschke, 2004). In seeking to meet these objectives, principals

take risks inside the school and beyond (Yemini & Sagie, 2015). In other words, the search for resources itself bears special risks in the educational field. Thus, for example, a study by two of the authors showed that partnerships between schools and external organizations aiming to bring additional resources to the schools are considered as high-risk ventures, due to the fact that many of the projects in the education field involve a pro bono activity on behalf of the external agency, which may result in their lower commitment to the project.

Another risk particularly relevant in school projects is the lack of hierarchy among staff within the school. In contrast to the private sector, in which the hierarchy is clear and the project manager has a team that is formally committed to the project, in education, or more specifically in schools, the project manager is sometimes a teacher who does not have clear and defined powers in their capacity as such. This creates a special risk in the management of an educational project, since the project manager is often required to deal with objections from the teachers, who do not necessarily regard the project manager as a supreme authority and may refuse to cooperate in such a manner that might cause damage to the project. The fact that there are usually no clear incentives in the field of education (such as financial compensation) makes it even more difficult for the project manager to recruit and motivate the team to cooperate.

Other common risks in educational projects are legal risks, social risks, and political risks, which refer to risks in projects that are performed under complicated terms and conditions, whether in the regulatory context, social context, or political context. In many countries, including the UK and the US, schools are exposed to increasing external pressures for high achievement, along with demands to meet governmental standards and top-down policies (DiMaggio & Powell, 1983).

Theorists adopting the institutional perspective have traditionally regarded schools as being influenced by strong institutional pressures and compelled to conform to norms imposed by the formal central authorities (DiMaggio & Powell, 1983; Meyer, Scott, & Deal, 1992; Ogawa, Sandholtz, Martinez-Flores, & Scribner, 2003). At the same time, decentralization processes shifted the level of school decision-making authority from the central government to LEAs, and ultimately down to individual schools. Under decentralization policies, schools are gaining more power and autonomy (Nir, 2009), afford more diversity in school governance (Gibton, 2011; Goldring & Schuermann, 2009), and increase their dependency on their local environment (Addi-Raccah, 2006). Møller (2009)

has argued in this context that schools function in a hypercomplex society, in which they have to act as self-directed organizations that must manage their own affairs within the frameworks provided by authorities and they must be accountable to authorities.

According to Goldring and Schuermann (2009), school principals must cope with enhanced accountability demands, competition and school choice, and expectations for community engagement. Furthermore, school principals presently act as the focal point of more complex networks, agencies, and individuals, as compared with those before educational decentralization, and they are accordingly pressured into seeking new partnerships with various agencies and stakeholders in the community. As a result, public schools strive to meet government regulations and standardization of outcomes, following increasing governmental attempts to affect classroom and student experiences (Louis, Thomas, Gordon, & Febey, 2008). These prominent, complex, and contradictory pressures expose school principals and school staff to complex social, political, and legal pressures that affect their actions and practices.

A recent study regarding risk management processes in educational organizations revealed that despite that fact that school principals generally have experience in managing projects, they do not have sufficient knowledge and expertise in identifying risks and also lack support and guidance from local and regional authorities. Therefore, it is important for school principals to remember when managing projects that external environment (legal, social, political) could be another source of risks for educational projects (Eger & Egerová, 2016).

After presenting the special risks in school projects, the question which now arises is *how* to identify and determine those specific risks of the project. A common way to identify risks is to distinguish between internal risks and external risks. While the external context involves the world the relevant organization is operating in, the internal risks are those that lie within the specific organization itself: its ownership, budget, history, employees, operations, and so on (Sadgrove, 2016). Sorting the potential risks internally and externally is a good place to begin the process of identify risks. In addition, a brainstorming meeting with key actors involved in the project is another recommended way to identify potential risks (Pinto, 2013). In this context, it is important that the project manager encourages the participants to speak freely and raise any risk that comes to mind (Lock, 2014). Pinto (2013) also suggests using expert opinion if needed, conducting interviews with relevant parties who have carried out similar

projects, and relying on past experience. The presumption which underlies these suggestions is that using a single source to identify risks, itself bears a risk, because of the potential bias in any one person's viewpoint.

Another point that we would like to emphasize at this stage concerns the importance of accurately defining the risks. For example, two students of the authors initiated and performed a project in a prison on an empowerment workshop for prisoners. The agreement to carry out the project took time and was handled by those in charge of education in the prison, who themselves desired the project but were subject to many restrictions imposed on them, which created gaps in expectations between the parties while planning the project. In light of this, in their risk management plan, our students defined the risk as follows: 'the nature of the relationship with the prison managers.' At this point, we explained to them that 'nature of relationship' is not a risk and asked them to rethink the risk and redefine it in a way that would reflect the specific risks of gaps in expectations.

The second stage in the risk management process according to Pinto (2013) involves **analyzing of probability and consequences** of the risk. Here, we need to estimate the likelihood of the occurrence of each of the risks identified in the previous step and the potential consequence of the occurrence of each of these risks on the project (Pinto, 2013). This stage should be carried out in the planning stage of the project, but not just then. For this stage we recommend using the risk impact matrix suggested by Pinto (2013) for industrial projects (Fig. 6.1).

According to Pinto (2013), the third stage, **Risk mitigation strategies**, involves the actions taken to minimize the potential impact of the risk factors that may damage the project. These actions should be determined when planning the project and before starting to implement the project, even though they might change and be redefined during the implementation stage. As will be described below, there are four alternatives to addressing risks. The decision on each of the alternatives should be chosen in relation to each of the risks lying in the hands of the project manager (Pinto, 2013). The first strategy to address risk is to accept the risk—there are many things that can go wrong in any project. Part of them can be accepted if the understanding is that their effect on the project would not be serious (Lock, 2014). The project manager may consider ignoring those risks where the likelihood of their occurrence is small or the consequences of their impact minor. In this case, the decision to 'do nothing' is a result of reasoned and conscious calculation and not of low attention or negligence. Likewise, there are types of projects where certain

		Consequences	
		High	Low
Likelihood	Low		
	High		

Fig. 6.1 Risk impact matrix (adapted from Pinto, 2013)

risks are inherent and therefore must be factored in (Pinto, 2013). ‘Risk tolerance’ is a term referring to the amount of risk an organization is prepared to accept (Sadgrove, 2016). The second strategy is to minimize risk or limit the risk—there are occasions when project risks should only be accepted with safeguards or actions aimed at minimizing risks or their potential effect (Lock, 2014). In projects performed in schools, this is the common strategy to handle most of the risks.

The third strategy is to share risk—if a project appears to involve a high risk that might cause significant damage to the project, the project manager may wish to try and find a way to share the burden of risk with another partner as a joint venture and then the impact of the occurrence of that risk would be shared between the partners (Lock, 2014). In the above example, with regard to the risk of obtaining funding in the field of education, we suggest, for example, that a number of funding sources be found in advance, and avoiding reliance on one source of funding. The fourth and final common strategy to address risk is to transfer risk—some risks or part of them can be transferred to another party. The most

Table 6.2 Dealing with the first three stages of the risk management process

<i>Risk</i>	<i>Probability</i>	<i>Impact</i>	<i>Treatment</i>
Describe here the risk accurately	Describe here the probability of the risk occurrence (low, medium, high)	Describe here the impact of the risk occurrence on the project (low, medium, high)	Describe here the possible ways to treat the risk in a manner that will reduce its impact on the project

common way to transfer risk is by purchasing insurance (Lock, 2014). This strategy, unlike the other strategies described above, is not relevant in most projects performed in schools.

Below, there is a suggested table that can be useful for educational project managers while dealing with the first three stages of the risk management process described above (Table 6.2).

The last stage in the risk management process, *Control and documentation*, involves implementing the risk strategy, controlling it, and creating a knowledge base for future projects, based on what has been learned from the project (Pinto, 2013). It is important to develop a control and documentation plan to track the risks, the responses to the risks, and the outcome of these responses (Pinto, 2013). Documenting this information will help managing risks in future projects.

A study regarding risk management in educational projects indicated that school principals and project managers do not pay enough attention to the subject of risk management. Because risk management is critical to project success, this finding may be the key factor in explaining project failure. According to the study, it is evident that school principals and project managers need to pay more attention to project management risk in order to succeed in managing educational projects (Eger & Egerová, 2016).

6.4 PRACTICAL POINTS FOR PROJECT EVALUATION AND PROJECT RISK MANAGEMENT

1. Evaluation processes should be considered as integral components in planning and implementing educational projects in schools.

2. In the first stage of planning the evaluation process, the project manager should answer two questions; ‘what are the objects of evaluation?’ and ‘who are the evaluation ‘customers?’’ In the next stage, the project manager should define measures for success for each of the objectives defined in the project; define evaluation tools; select the evaluation population; select the data analysis method; determine a timetable for conducting the evaluation; and decide who will be responsible for the evaluation process.
3. In order for the evaluation to be of any benefit to decision makers, policy makers, and other target audiences, it must be reported clearly and comprehensively so that it can be understood by its consumers and meet their needs, with the intention of making it a communicative and useful document for readers who are not experts in evaluation.
4. The risk management process involves asking the following questions: What is likely to happen (probability and impact)? In this context, it is important to consider two aspects: the probability that an event will occur, as well as the effect of its occurrence. Risk management helps to decide which actions should be taken to minimize risks as much as possible.

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