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Educational Management Challenges for the 21st Century

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Abstract. While demands for large scale improvements in education systems increase worldwide, education system structures continuously fail to meet, or even make notable advancements, toward these demands. Inseparable from this problem is the very similar way in which education systems are managed. Educational managerial structures have become so universal, perpetual, and therefore, deeply ingrained in society, that they remain almost entirely unchallenged; this encourages the misleading, nearly unquestioned assumption that managers are not responsible for educational failures and that teachers are at fault. This paper argues that the core of most educational problems lie within current educational management structures. It calls for a complete rethinking and rebuilding of such structures in order to aid educational systems in reaching their full potential, therefore helping students within these systems fully develop 21st century skills and meet future global challenges.

Keywords: educational management, policy perspective, 21st century skills, key competencies, educational restructuring.

1 Introduction

As the world moves further into the twenty-first century, there is a seemingly universal perception that educational systems, at least in many developed countries, face serious, inextricable problems. At present, public interest and expenditure levels in education are generally higher than ever before. Nevertheless, despite the lofty aims of societies' leaders, and the innumerable efforts of committed teachers, today's educational systems are largely incapable of helping most students develop the skills, knowledge, and competencies needed to successfully confront the social and economic realities of our global times. As Victor Ordonez, former director of Unesco's Basic Education division asserts, "there is growing evidence that education structures, as they currently exist, have largely outlived the environments for which they were originally developed" [1]. Confronting this issue with the required depth

and scale is not the sole responsibility of teachers, as it falls well beyond the realm and reach of their duties. Rather, these issues are primarily the responsibility of those who manage¹ education at all levels.

2 Educational Management Shortcomings

In order to illustrate the limitations of current educational management practices, this section considers unsettling examples of wide gaps between intended educational goals and the resulting stark realities. These vast discrepancies between goal and outcome are essentially the result of widespread leadership and management failure. Extending far beyond what can be solved by individual efforts, they point to serious flaws in the very structure of the system, and likewise, serious consequences for students.

A first example is taken from the supranational partnership of the European Union (EU). Their 2009 report, *Key competences for a changing world*, states that, “While the EU benchmark for 2010 is to reduce by 20% the percentage of low-achieving 15-year-olds in reading literacy, this share has actually increased from 21.3% in 2000 to 24.1% in 2006” [2]. Thus, instead of reducing low achievement in literacy, policies have actually led to an increase in the number of low achievers. This is a particularly serious setback for the Lisbon agenda, that is, the set of interconnected policies aiming to make Europe “the most competitive and dynamic knowledge-based economy in the world, capable of sustained economic growth with more and better jobs and greater social cohesion” [3]. Consequently, up to this point, the EU has blatantly failed to reach this very fundamental educational goal.

The underperformance of national education systems, concerning one of their key priorities, seriously hinders progress concerning the eight key competences², which, according to the *European Framework for Key Competences for Lifelong Learning*, should already be firmly integrated into school curriculums. It is necessary to acknowledge that truly fitting these competency schemes in with the usual subject-based curriculum is not an easy task. Nevertheless, top-level school system administrators in many EU countries claim that curriculum adaptations harmonizing

¹ In this paper, the terms ‘management’ and ‘manager’, and variations, such as ‘managed’, are used to refer to the respective activities and actual positions of the broad range of professionals whose ideas and actions influence the goals, processes, budgets, teacher education, settings and structuring of educational relationships, as well as the type, amount and deployment of resources for the functioning of both schools and education systems. According to this definition, managers range from government leaders, to top-level education system officials, to district superintendents, school inspectors, principals, school administrators and, when applicable, department heads.

² Those competences, necessary for personal fulfilment, active citizenship, social inclusion and employability in a knowledge society, are: 1) Communication in the mother tongue; 2) Communication in foreign languages; 3) Mathematical competence and basic competences in science and technology; 4) Digital competence; 5) Learning to learn; 6) Social and civic competences; 7) Sense of initiative and entrepreneurship; 8) Cultural awareness and expression.

subject disciplines and competencies frameworks have already been carried out. Yet this “harmonizing” is not so straightforward for teachers, who face the daily realities of such changes, decided on and dictated in a far-removed, top-down manner.

Given the fact that all recent policy-making, planning, spending, and hard work has not, up to this point, been rewarded with the anticipated success, it is reasonable to suppose that this is not just a matter concerning individual teachers and specific schools alone. It is likely there is a certain level of failure on the part of those who manage these education systems.

The unintended and even counterproductive effects of massive external assessment in United States’ school systems provide another, however different, large-scale example of the inability of educational managers to improve learning in a significant way. The way K-12 education is mandated through the No Child Left Behind Education Act (NCLB) results in a system in which curriculum standards and standardized tests become the dominant forces of education. Schools feel compelled to devote their best efforts to teaching to the test, given that schools, teachers, principals and even district authorities face serious professional consequences in the event that students’ test results fall below the minimum established by unrealistic state-specific learning standards.

Under such circumstances, the logic of middle-management ranks (e.g. district superintendents, principals, and school department heads) is to seek short-term solutions. According to a report from the think tank *Education Sector*, “the scale of the NCLB testing requirements, competitive pressures in the testing industry, a shortage of testing experts, insufficient state resources, tight regulatory deadlines, and a lack of meaningful oversight of the sprawling NCLB testing enterprise are undermining NCLB’s pursuit of higher academic standards” [4]. This seems exactly the opposite of what was originally intended. The high cost of development prevents the creation of high-quality assessment tools that could adeptly measure higher-order thinking skills. As this same report states, testing experts say that “many of the tests that states are introducing under NCLB contain many questions that require students to merely recall and restate facts rather than do more demanding tasks like applying or evaluating information, largely because it’s easier and cheaper to test the simpler tasks.” A great deal of the management effort devoted to external assessment is in fact hindering the development of key competencies. Not to mention that the time spent in the classroom on test preparation and administration of tests takes hours away of valuable time each week from actual teaching and learning. This somehow makes the systematic testing of students a long-term ‘race to the bottom’.

These clear examples of widespread educational failures in the EU and in the U.S. are two of many that suggest that education systems are managed in ways that prevent them from delivering substantially more than they have so far. It can be argued that this, at least in part, is because education systems structure educational relationships in ways that ignore the individual, ruthlessly driving many students to a dead-end pessimistic view of their schooling. Many students drop out because they find themselves unable to take a positive role in an institutional setting that is largely incapable of responding effectively not only to the enormous diversity of students, but also to the demands of a world in constant change. This failure results in student indifference or even profound aversion for everything that is related to school, learning, and many other forms of culture.

The way in which education is commonly structured in many countries also negatively affects countless students that do not drop out; the internal workings of schools continuously impinge on the potential enthusiasm and commitment of a large percentage of the student body, which suffers from varying degrees of disinterest and apathy. Many students, even those who pass exams and receive good grades, experience a prevailing obligation to fulfil an imposed duty, far removed from their personal interests and expectations in life. They are also unable to receive adequate encouragement and support. In short, ordinary educational approaches come far from achieving what should be the ultimate goal of an educational system, which is to instil in students a desire to continue learning. Both students who reject the system by dropping out and those who accept it passively and without enthusiasm, lose the unique opportunity to enjoy their education, to use it in ways that help define personal goals and interests, to set the foundation for a broad and open vision of the world, to develop skills and competencies for life, and to feed the desire to live in an ethical, autonomous, and rational way.

All the considerations presented thus far refer to the inner workings of a system managed by a network of decision makers and administrators at a variety of levels. No educational system could function without their hard work and commitment. Nevertheless, the restrictions that the system itself imposes on its managers, as well as their all too common uncritical conformity to the imperatives of the system, makes it difficult for any deep-rooted, large-scale improvement to take place.

School systems structure educational relationships in ways that force managers to adhere to an internal logic that has remained virtually static and unchallenged in spite of significant change outside the educational sphere. Unresolved or even aggravating problems are dealt with within existing frameworks trapped dogmatically in the past. These frameworks fail to recognize and overcome the shortcomings of the system itself. As victims of tradition, routine, and high stake pressures, those who manage educational systems and schools often fail to contemplate that fundamental change is possible, much less that it is an absolute necessity in today's world. As long as the management of education continues to adhere to models, procedures, and guidelines that contribute to many of today's disappointing results and shortcomings, like those mentioned earlier, it seems likely that management jobs (and teachers' jobs as well) will be increasingly unrewarding and, moreover, that the expectation of real long-term improvement in learning and satisfaction will never be met.

3 The “More of the Same” Dynamics

Many education system authorities seem permanently trapped in a dynamic of “more of the same” principally focused on doing things better –improving current structures and processes– rather than doing better things, that is, new things that could potentially deliver more valuable outcomes. However flawed, public opinion, parents, and even teachers and other education professionals seem to share in this “more of the same” line of thinking. This is fostered by wide-ranging comparative studies of educational systems, which add a sense of competition, but skim over the real root of the problem by merely masking symptoms. It comes as no surprise that education

managers are prisoners of this mentality, when one considers that their thinking and actions have forever been ascribed to this “more of the same” management paradigm.

The “more of the same” mentality is shared by many teachers and their unions. For instance, more often than not, teachers’ unions place blame on high student-teacher ratios and a lack of support staff. Their solution is for more teachers to carry out their jobs in exactly the same way but with a few less students. No essentially new educational possibilities are obtainable with this line of thinking. However necessary smaller class sizes and classroom help may be, there is no seriously rethinking of existing teaching, monitoring, and evaluation methods to effectively meet students’ individual needs, engaging them in learning, and developing their key competencies, thus raising the expectations of every individual student.

Although the importance of a well-trained teaching staff is widely recognized, public opinion and education stakeholders often seem to consider that increasing teacher training requirements will solve many of the existing education woes. Again by asking for “more of the same” they disregard the fact that studies show that most in-service training does little to improve classroom teaching.

Likewise, many educational managers believe that merely providing schools with more computers is a solution to their education-related woes, as these measures are often seen as a way to shore up traditional expository approaches. However, this rather simplistic view of the role of information technology in learning disregards the fact that these traditional and highly transmissive methods often are at the very root of students’ rejection of education.

The “more of the same” logic is also apparent in the public call to increase schools’ accountability, often by requiring more external evaluation, without any hint of consideration on how this affects teaching and learning and, in particular, the development of key competencies. The previous example of increased testing standards in the U.S. shows that schools forced to succeed on external tests do so at the expense of learning experiences crucial for knowledge society development. On the whole, too many people, including education managers, seem to believe that greater accountability can be brought about by *more* student testing, *more* external control, and *more* inspection.

In the end, more money is continually sought to revamp old structures and to further refine underperforming routines, while at the same time increasing the complexity of the system and its bureaucratic requirements. The leaders and managers of education systems and schools themselves seem to believe that without more spending, education cannot substantially improve. Their mindset is such that it compels them to build on top of existing, steadfast structures and processes, instead of rethinking them. This is done instead of investing in research and development and consequently new approaches, which could overcome the fundamental shortcomings of the system. Captives of the “more of the same” logic, educational managers tend to see increased funding through unvarying techniques as the only way to improve education, thus preventing any real change and thus thwarting the prospective shaping of the future of education.

4 The Case for Key Competencies

The biggest problem with the “more of the same” approach to education woes is that it simply cannot cope with a world in continuous change. Trapped in the past, education management is unable to bridge the widening gap between education and society. As a result, the call for a complete redesign of education in order to best serve learners fails to gather enough momentum. Such a redesign should be one in which 21st century skills and competencies are profoundly and effectively integrated in education, reaching all students throughout the entire course of their learning. This is of uppermost importance given that the requirements that societies place on individuals are ever more complex and becoming increasingly so at a rapid pace. Throughout history, “what constituted an ‘ability to function competently’ has evolved to reflect the changing demands and expectations of particular societies and their prevailing systems of social and economic order” [5]. Nowadays, the social and economic order is characterized by globalization and information technologies, which significantly impact the knowledge, skills, and values that people need to ‘function in society’, imposing a pace of change faster than ever before.

To ‘function in society’ today’s citizens need to work with information, concepts and relationships. Such activities depend on higher-order thinking skills. They have to communicate and interact within a global technological infrastructure that requires a great deal of digital competence, creativity, and agility. They have to work in environments that are increasingly open, changing, complex and non-predictable. They no longer need to build on what was taught to them, but rather what was not taught. The organizational patterns of companies also evolve quickly. Beyond divisional structures and bureaucratic configurations, many of today’s most common forms of organization are dynamic and networked, and materialize through projects, joint-ventures, and partnerships. Educated individuals are asked to be competent, creative, entrepreneurial, and responsible, open to change and willing to learn and work in teams; all while exercising influence and building leadership. In sum, the bar has been raised dramatically in recent years regarding the profile of competencies, social skills, values and expertise necessary to function in society.

In recognition of such needs, a number of proposals of desirable competencies that should be developed by students during their schooling have been proposed over the last two decades. The aforementioned EU framework of competences has counterparts in many individual countries, in international bodies such the Unesco and the World Bank, in a large number of think tanks, educational, economic, and professional organizations, and associations like P21, ISTE, of NCREL/Metiri Group in the U.S., to name just a few. These frameworks emphasize the need to apply the knowledge that students already have and stress the importance of fostering learner autonomy, their capability of collaborating in heterogeneous groups, of communicating and working effectively by means of interactive systems, and of being able to think critically and creatively.

Some scholars have their own progressive view on key competencies. Harvard professor T. Wagner makes a compelling call for the seven “survival skills for teens today” [6] which every student should develop in order to be able to enter in the

labour market after high-school to continue his/her formal education.³ Those survival skills are based on the close relationships existing between values, attitudes, and competencies.

However, building a case for key competencies often encounters serious opposition when confronted with the realities of the evaluation systems currently in place. The U.S. implementation of its “No Child Left Behind” policies is a fitting example of obstacles to such change. For conceptual, economical, and practical reasons, and as a result of tradition, evaluation systems tend to focus almost exclusively on easily measurable skills and tiny bits of factual knowledge, which fit in with the compartmentalized structure of schooling, especially in the case of secondary education.

5 Schooling’s Closed Spaces

Throughout the world, educational systems are formidable social structures which resolve into a myriad of institutions moulded, more often than not, according to what Tyack and Cuban refer to as the “grammar of schooling” [7]. The rules of this ‘grammar’, which cause schools to be largely similar and predictable across countries, imply that the institutions established by societies to educate their youth are generally materialized in the three inherent spaces outlined in this paper: the organization space, the physical space, and the information space. These spaces are based on a divisional structure determined by disciplines or subjects. The current mindset establishes that teaching the designated subjects and grading students has by far higher relevance than the application of knowledge and competencies development.

The current way educational relationships are structured, while mandated by governments, is more a product of tradition and managerial convenience than an intrinsic requirement of educating all young people. What educational institutions suffer is similar to that which Zuboff and Maxmin discuss in their critique of industrial companies and 20th century economic organizations: “the priorities are stacked from the inside, in terms of transactional economics and also organizational narcissism. These priorities are determined through the lens of a narcissistic culture that has become so taken for granted that it’s barely visible” [8]. Educationally, this narcissism means that focus is placed on getting the transaction completed (or in educational terms, imparting the lesson in the classroom). The consequence of such a narrow focus on the transaction (or the lesson) is that nobody is really responsible for student learning, even less so in the long run. Another consequence is that the individual student has to fit into the organization, adapting his or her personality, behaviour, and expectations to the what, when, and how of the organization. There is no judgment of success outside these premises.

In many societies, surrendering personal interests, inspirations, and expectations for a vague promise of benefits in a far-off future is more and more untenable for a

³ Wagner’s seven survival skills are: critical thinking and problem-solving; collaboration across networks and leading by influence; agility and adaptability; initiative and entrepreneurialism; effective oral and written communication; accessing and analyzing information, and curiosity and imagination.

growing number of sceptical or disenfranchised students. Many students have priorities that do not match up with what school offers. Others simply do not believe in the hypothetical benefits of schooling, often due to disappointing experiences of older peers or family members in the modern job market.

Although this problem is a concern for teachers who deal with students on a daily basis, it is primarily an issue that should be dealt with by educational management, without which no workable and general solution can be found. However, firmly installed in the comfortable mindset of the predominant grammar of schooling, educational managers are unable or unwilling to see themselves as perpetrators of the fundamental asymmetry that makes schooling, in its present form, fail. They need to promote student-centred or society-related considerations and to encourage more profound student learning, fostering the ability of these students to function in society.

5.1 Organization Space

Society generally agrees that a nation should decide what its youth should learn. Curriculum authorities define what is appropriate and relevant at every stage, set the learning pace according to age, and establish ways to control learner performance. This requires, at least initially, significant managerial effort. Many governments' emphasis on student acquisition of key competencies and 21st century skills has, up to this point, merely been superimposed on top of existing subject-based academic disciplines, since they are at the very root of school logic, organization, and power.

This subject-based division is very rarely up for discussion. Subjects or disciplines are an intimate part of the school culture and, for the most, define its organization. This is because subject-mandated divisions amalgamate knowledge and power. As M. Foucault pointed out in his critique of those divisions, power and knowledge are correlative and, "always found together in power-knowledge formations" [9]. The power of the institution over the learners is exercised mainly through this structuring device, which determines the organization of school processes, and even the very nature of what is understood by teaching and learning. School disciplines are therefore the axis on which education is organized. Such an organization blatantly disregards the possibility that the system could be based on other criteria, potentially more relevant for 21st century learners.

Academic disciplines are likely so far to be the best way to structure and organize knowledge, but this does not mean that they constitute the best way to introduce young people to knowledge while at the same time obtaining the most potentially valuable –and largely unmet– educational outcome: the joy of learning and the will to continue to do so. In this respect Howard Gardner wrote that "the understanding of the principal ideas in the various disciplines has proved much more challenging than most educators have believed....Most students prove unable to master disciplinary content sufficiently so that they can apply it appropriately in new contexts" [10]. In the same paper he argues that "few educators are willing to face the serious implication of the finding that genuine disciplinary understanding is rarely found, even among our most successful students." Some primary-level and most all secondary teachers were hired based on a certain specialization and expertise in one subject. They often tend to underestimate the difficulty for young people to

understand subject matter concepts. To some extent, teachers of different subjects compete with each other for resources, teaching time, and prestige. This fosters an isolated vision and ‘sanctification’ of disciplines reinforced by the prominent evaluation and grading mechanisms. However, this compartmentalization of knowledge does not foster the holistic development of the student.

The inflexible organization of schools (largely characteristic of secondary education) responds to this determined and intrinsic logic, with the disastrous result that nobody ends up taking full responsibility for the overall learning, skills acquisition, personal development, and orientation of every individual student. Discussions on the development of key learning competencies do not forcefully call for a profound rethinking of today’s radical subject-based school organization. It is hardly acceptable that important issues like the development of individual autonomy, communication and collaborative learning skills, application of knowledge, and even the values development associated with the intellectual comprehension of human issues and situations, are more often than not, in a no-man’s-land. Subject-based schooling tends to impose an instructional focus on decontextualized content and facts which are mostly evaluated through repetition. All in all, this takes the focus away from skills and competencies and is very damaging to the dissemination of such an approach. Development of key competencies requires a global approach that is at odds with today’s radical compartmentalization of knowledge in the organization space that has been inherited to a great extent from the 19th century, designed to respond to the needs and visions of that time. Overcoming the situation that has resulted from this preoccupation with the past, while at the same time, constructing fresh and sound approaches to education on a large scale, is an immense challenge for 21st century education managers.

5.2 Physical Space

Throughout the 20th century, school buildings were built with the oral transmission of knowledge and student control in mind. The classroom, the fundamental module of most any school, often built at the minimum cost possible, is by design, a closed and isolated space to impart lessons while keeping students in sight at all times. Actual classroom use normally follows an inflexible and task-unrelated timeframe marked by school bells, according to a bureaucratic arrangement of “time-period-teacher-group-subject-matter” blocks decided on by school managers. Usually frozen in its static 19th century design, the physical space of the classroom interferes with pedagogic objectives, methodologies, and resources, evaluation processes, and interactions between students and teachers.

Student learning and development is inhibited by classrooms that were not designed for student research, creative projects, cooperative work, or co-teaching. In many classrooms, there is hardly any breathing space for collaboration, development of competencies and skills, and application of knowledge. This commonly contained space prevents, or at least seriously deters, a symbiotic relationship between teachers and students, a relationship which would allow for the centrality of learners and a more supportive and individually-centred role for teachers.

Moreover, mostly for secondary school students, the physical design of classroom, and even of the whole school, represents a view of the world which is deeply ingrained in the past, a view that is static, dead, and irrelevant, inapplicable to students' out-of-classroom realities and own perceived futures. The impersonality and blandness of so many classrooms are not conducive to a positive relationship between the student and his or her learning. No profound, universal student development of 21st century skills seems feasible within traditional school designs which do not comprehend the necessary variety of individual and group working areas and that treat interaction as an unwelcomed aspect of learning.

5.3 Information Space

During the second half of the 20th century almost nobody foresaw that the information environment would transform so radically in such a short period of time. However, as Internet use becomes ever more common, neither curriculum authorities, school managers, or examination boards have been able to grasp the full implications of this “bouleversement” for the education of today's youth. The traditional concept of ‘school’, premised on teachers’ words and on a few books as exclusive sources of knowledge, must be completely rethought. There is no longer a need to base education around textbooks, workbooks, a few maps, and a dictionary. The Internet can provide endless student personalization and educational possibilities and has a potential that we have yet to fathom.

The stability of educational content is radically altered by the digital nature of information. Text becomes hypertext and integrates all media. Authorities are weakened and what was stable and true becomes unstable and uncertain. Administering the information space, which was an intrinsic part of teacher authority, is no longer under their control. This constitutes both a fracture of the old concept of knowledge authority and of a fundamental pillar of the school system, which requires a profound redesign beyond individual teachers’ capabilities.

However, too many students are still taught to think that by obediently advancing in their textbooks and passing exams, both of which exemplify a narrowly limited information space, they will be successful after graduation. As time moves on, this results less and less true. The promise that a diploma or a transcript full of high grades guarantees a good job is no longer valid. Now what is in demand in the working world are those jobs that are more creative and cognitively demanding, jobs that require innovative thinkers, social aptitude, international perspective, initiative, and the ability to process information while thinking outside the box.

6 “A Business Reflects its Manager”

Almost 40 years ago, in his work *The Mind of the Strategist*, the renowned business and corporate strategist Kenichi Ohmae wrote that “Management, after all, is people, and businesses are made successful by people, not by plans. Behind each success story in business are men and women who conceived the ideas, developed the strategies, and executed the planned actions.” [11] Without diminishing in the least

the importance of education's "line workers" (that is, teachers), this statement fundamentally applies to managers of education, who are ultimately responsible for schools, education systems, and their results.

It is time that such a crucial issue comes to the forefront of the education agenda, for there is very little that teachers can do to bring real change to institutional settings without able, forward-looking, supportive managers who act with vision, knowledge, and a commitment to profound change. As prominent management scientist W. E. Deming once wrote, "No amount of care or skill in workmanship can overcome fundamental faults of the system" [12]. This statement thoroughly applies to education, but these days seems mostly hidden behind a biased rhetoric about the uttermost importance of teacher dedication, training and accountability, which shifts the burden (and the blame) to teachers, while negating the responsibility of those on the other side of the coin, education managers. Deming also said, rightly, that "It's management's responsibility to look ahead, predict, change the product, ..." It is difficult to imagine why this principle should not apply to those who manage education, but, in fact, it is rare to find policy makers and top-level education managers who speak this language.

Innovative leadership is crucial for any sound and effective key competency strategy. Quality of education depends on the quality of its management. The opening up of organization space to genuinely make room for competencies in a subject matter-dominated context, the redesign of physical space for new types of learning, the rethinking of information space to make room to create and apply knowledge, cannot be delegated to teachers, hoping that they, with their sacrifice and best efforts, will solve or correct planning and management deficiencies.

However, technology can help to tackle the unprecedented level of complexity. If in previous times it was not feasible to manage individual complexity, now technologies do exist to fully support the educational process of the individual learner, although many of today's education managers, having their imagination caught up in the concepts and procedures of the rigid organization space, fail to recognize such possibilities. Captives of a "more of the same" logic, many of them hope to attain better results by acting on the symptoms of problems with the conceptual, human, organizational, and financial resources with which they are familiar. Analyzing, defining and acting on the root cause of dysfunctions remains difficult and uncertain, and requires concepts and efforts of a very exceptional nature, which generally seem to go beyond managers' visions, aims, and perceived obligations.

Aside from this, the full potential of ICT in education will be liberated only when it is aligned with a new management logic devoted to fully supporting and empowering the individual learner, aiming far beyond the usual institutional imperatives. Twenty first century schooling should free itself from the limitations of earlier eras. This is not only a job for teachers; but also, and more so, it is a job for education managers.

Ohmae's insightful statement "A business reflects its manager" [13] justly summarizes the main thesis of this paper: responsibility for change lies at the top. Education, as generally practised today, is inseparable from the current mindset of its managers because they constitute the embodiment of dominant education norms and values. Until very recently, school and school system administrators were adept at exercising authority, derived mainly from their hierarchical position. The philosophy of 'command and control', inherent to closed spaces, likely produced adequate results

in the past, but certainly reveals its limits in advanced, democratic, pluralistic, and multicultural societies, in which skills and knowledge are the main drivers of economic success. A much broader vision needs to inspire those at all management levels.

To meet the educational needs of the 21st century, leaders in education, Ordonez says, “must look beyond budgets, faculty unions, facility expansion and maintenance, textbook production, and so on. They must instead embark on a constant search for new ways and new paradigms to meet the learning needs of students facing uncharted futures” [14]. Or, as Ordonez put another way, the task of true educational leadership is “to look beyond improving means to re-articulating existing ends”. This re-articulation of ends requires a critical view of the “more of the same” logic and of the deeply embedded asymmetry which defines schooling. This task requires establishing a solid foundation so that all students are able to develop key competencies. In order to move forward in this respect, just as crucial as excellent, innovative teachers are forward thinking, student-oriented, and fearless managers.

References

1. Ordonez, V.: The Changing Role of Leadership (or A Changing Leadership for a Changing World). In: Hershock, P.D., Mason, M., Hawkins, J.N. (eds.) *Changing Education. Leadership, Innovation and Development in a Globalizing Asia Pacific*. CERC Studies in Comparative Education 20. Springer & Comparative Education Research Centre – The University of Hong Kong, p. 272, (2008)
2. European Commission: Key competences for a changing world. COM, 640 final (2009)
3. Lisbon European Council 23 and 24 March 2000. Presidency Conclusions, http://www.europarl.europa.eu/summits/lis1_en.htm#b
4. Toch, T.: *Margins of Error: The Education Testing Industry in the No Child Left Behind Era*. Education Sector Reports (2006)
5. Skidmore, P.: *Beyond Measure. Why educational measurement is failing the test*. Demos, <http://www.demos.co.uk> (2003)
6. Wagner, T.: *The Global Achievement Gap*. New York: Basic Books (2008)
7. Tyack, D., Cuban, L.: *Tinkering Toward Utopia: A Century of Public School Reform*. Cambridge, MA: Harvard University Press (1995)
8. Zuboff, S.; Maxmin, J.: *The Support Economy*. Viking (2002)
9. Edwards, R., Usher, R.: *Globalisation and Pedagogy. Space, Place and Identity*. Second Ed. Routledge, p. 54, (2008)
10. Gardner, H.: How Education Changes. In: *Considerations of History, Science, and Values*. Suárez-Orozco, M.M., Baolian Qin-Hilliard, D. (eds.) *Globalization. Culture and Education in the New Millennium*. University of California Press (2004)
11. Ohmae, K.: *The Mind of the Strategist*. Penguin Books (1982)
12. Deming, W.E.: *The New Economics. For Industry, Government, Education*. The MIT Press (1994)
13. Ohmae, K.: op. cit.
14. Ordonez, V.: op. cit.