Changing the Education Culture through Technology

Nouhad Rizek, Elias M. Choueiri

Changing the Education Culture through Technology

Nouhad Rizek[1]; Elias M. Choueiri[2]
Notre Dame University; Lebanese University, LAPS, WSO, IACTP

Key words: *Knowledge management and learning.*

Abstract:

> Technology has a potentially rich, but largely unrealised, role in teaching and learning. This role is defined variously by what the teacher has available, has had time to learn, or can find an appropriate use for, and by what students have access to, are familiar with, and are willing to use. In all of these ways, technology usually plays an adjunct role to others, more traditional modalities for teaching and learning, including lecture, laboratory, library, textbook, tutorial, and practicum.

> Researchers perceive problems arising from the significant cultural and organisational differences affecting the management and leadership environment of the modern higher education institutions integrating technology in relation to traditional higher education institutions. This present study describes and analyzes the culture effects in higher education organisations that are challenging the future pre-eminence of the use of technological tools in teaching in higher education. This study tries to explain that, in order to understand opportunities for change in higher education institutions, one must understand that the external environment is by far the most powerful source of internal change. The findings support the view that transformational leadership, collaboration and the classroom culture are three major characteristics of change in higher education institutions, where integrating technology is considered as a way to help the university to be a more effective learning organisation.

1   Introduction

Every person carries within himself or herself patterns of thinking, feeling, and potential acting which have been learned throughout their lifetime. Hofstede [1] defines culture as a collective phenomenon, because it is at least partly shared with people who live or lived within the same social environment, which is where it was learned. It is the collective programming of the mind which distinguishes the members of one group or category of people from another [2]. Hollins [3] defines culture as the underlying phenomenon guiding humanity. Hollins cites a definition of culture by Barrett [4], as "the body of learned beliefs, traditions, and guides for behaviour that are shared among members of any human society". Gollnick and Chinn [5] suggest that culture is a way of perceiving, believing, evaluating, and behaving. Culture has many different characteristics: culture is learned, not inherited; it is shared through values and behaviors; it is an adaptation of accommodated natural resources and environment conditions {5}; and it is a dynamic system which changes continuously because of new developments or new information.

The concept of culture came to education from the corporate workplace with the notion that it would provide direction for a more efficient and stable learning environment [6]. Higher

education (HE) institutions are learning organisations that provide explicit opportunities to reflect on and evaluate past actions and decisions [7]. Cheng [8] looked at profiled effective and ineffective organisational cultures. He found that educational institution culture correlates with teachers' attitudes toward their work in such a way that stronger educational institution cultures had better-motivated teachers. Although moral purpose is natural, it will flourish only if leaders cultivate it [9]. Fullan argues that moral purpose has a tendency to become stronger as human kind evolves. However, in traditional HE institutions, as in all learning organisations, innovation is introduced with difficulty. Teachers are, on an individualist basis, free to innovate within their own classrooms, provided either that this does not break the system's rules and regulations or that breaches can be protected from the knowledge of superiors. In pure collegial systems the institutional focus is supported by collaborative relationships through which members work together to implement any change designed to realise shared goals compatible with the institution's mission. The best teachers integrate the intellectual, emotional, and spiritual aspects of teaching to create a powerful learning environment [10]. Therefore, in an environment with strong organisational ideology, shared participation, charismatic leadership, and intimacy, teachers experience higher job satisfaction and have increased productivity. In order to stay updated in a fast-changing environment, everyone in an organisation needs to be learning continuously. An organisation that can learn invests in its capacity to embrace the future, because its members are continually focused on enhancing and expanding their collective awareness and capabilities, and on continuously improving the quality of what they do [11].

Organisational learning is facilitated in a climate of openness and mutual trust that allows people to embrace experimentation and change without feeling personally threatened. However, Goodman [12] acknowledges the complexity and difficulty of change in higher education institutions which do not have good mechanisms to read and adapt to environmental change. The quality of work relationships in an education environment has a great deal to do with the institution's ability to improve [13]. The degree of openness, trust, communication and support that staff share, encourages not only learning but also work satisfaction and improved productivity and performance.

Learning is also encouraged if the people live with integrity, openness, commitment, and collective intelligence [14]. The organisational culture in a learning organisation is based on shared responsibility, thus enhancing members' ability to understand interdependency [15]. In a higher education institution where staff members feel free to ask questions in order to enhance their understanding, and to question existing practices and structures, members' ability to understand interdependency is enhanced. They understand how their individual roles contribute towards reaching the overall vision of the institution. The only way of getting the best from academics is through leadership by democratic, participative structures with broad representative membership. In this sense, management is effective through facilitating and co-ordinating everyone's best efforts, and not through controlling.

Teachers must be skilful in building trust and establishing rapport with other teachers and administrators, dealing with organisational processes, managing their own work and building skill and confidence in others. Members of the organisation realise that they are part of interrelated systems working together to meet organisations' needs. The organisational culture is expressed through customs, traditions, ceremonies, rituals, norms, heroes and heroines that come to characterise each learning organisation. Culture is a constructed reality, and as such, demands

considerable thought, skill, integrity and consistency on the part of the leader to build and maintain in a way that connects all of the learning organisation community [16]. Clarifying the leader's role in building and maintaining organisational culture is but one aspect to be considered.

This study outlines three major characteristics of adopting change in HE institutions: hiring professional teachers to develop cultures in the classroom, developing collaborative relationships among teachers to develop updated-curricula and encouraging leaders to be transformational to deal with the change effectively. It starts by discussing macro cultures in HE institutions in the next section. Section 3 studies the organisational environment and leadership. Section 4 discusses the managing change and outlines strategies to manage it. Section 5 represents web-based higher education institutions. Finally, section 6 concludes with some observations regarding the integration of technology in social environment as well as in educational institutions.

2   Macro Cultures in Higher education institution

Abercrombie, Hill and Turner [17] argue that new members of a group have to be socialised into its culture. Therefore, organisations may contain various sub-cultures based on different groups, rather than a single organisational culture. There may be also multiple cultures in an organisation. A constructive approach in this direction is then to identify crucial issues that educators think are important for preparing teachers for cultural diversity. The interactive and context-driven nature of teaching requires educators to take into account the students' social-cultural environments in which their education occurs. Thus, macro-cultures are societal cultures where organisational cultures are nested within. Organisational culture refers to a collection of theories that attempt to explain and predict how organisations and the people in them act in different circumstances [18]. Schein [19] emphasises the influence of homogeneous and stable groups within an organisation which he considers as pivotal in determining strong or weak cultures and the 'character' of that culture.

A higher educational institution culture is based on the belief that college and university faculty members share a common view of the world and of scholarship and have similar understandings of the nature and purposes of higher education and the role of faculty [20]. Besides, each student brings to the campus special talents and perspectives, as well as challenges and needs. This diversity tremendously enriches the educational environment with students with different cultures. The most common use of the term refers to different ethnic or national backgrounds. This is often referred to as a "macro" culture.

The organisational culture is influenced by the macro-cultures, policy contexts and communities in which an institution is located [21]. Thus, organisational culture in higher education means that there is the shared connection between the goals of the academy and those of the individual. However, those goals are subjects for change. A new leader is able to change the culture of higher administrators, department heads, faculty, and students. An example might be a new president who wants faculty to spend more time on research with external funding potential or he or she may want to integrate technology in all departments. Besides, the culture of administrators may be different from that of faculty as it is increasingly difficult to find qualified candidates for presidential and other senior positions in larger colleges and higher education institutions [22]. Moreover, culture influences how people deal with conflict and with participation. According to Bond [23], the disturbance of interpersonal relations and group harmony through conflict can cause lasting animosity in some cultures. As a result, the society tends to avoid open

confrontation and assertiveness. In group context, this is manifested by teachers and head teachers tending to avoid open disagreement, with the leader's view apparently being accepted [24].

Organisational climate and culture are closely linked to creating a learning environment and improving learning opportunities in an institution. Wlodkowski and Ginsberg [25] propose an intrinsic motivational framework for a teacher that recognizes the importance of linking content to the cultural backgrounds of students as a way to enhance student involvement while maintaining their cultural integrity. An effective culturally responsive teaching should be characterized by the following: respect for diversity; engage motivation of all learners; create a safe, inclusive, and respectful learning environment; derive teaching practices from principles that cross disciplines and cultures; and promote justice and equity in society [25].

The higher education environment needs to be user-friendly, supportive of a community of learners, and to communicate caring and respect for every learner. In such an environment, learner growth and the potential of academics to stimulate that growth can be maximised [26]. A higher education institution that will succeed in achieving an academic excellence is one that creates the kind of learning environment and campus community that supports continuous learning of all of its members. Such institutions will, where necessary, take risks and design radically new approaches to embracing the imperative of change [27].

The question that needs to be considered is how higher education institutions can best cope with and prepare for the many uncertainties and complexities, and support learning for a future about which very little can be predicted [28]. The next section discusses the fact that transformational leadership is needed in changing academic environment, and that such leadership needs to be distributed in order to deal with the many diverse demands of higher education.

3   Organisational culture, leadership and management

Organisational culture and leadership and the relationship between them became a focal point for writings on educational institution culture. A wide range of organisational theories were adopted, some of which gained popular acclaim, some focused on organisational culture [19], some carrying the effective management label [29], some educationally based [30], some exploring the relationship between educational institution culture and change [31], and some studying the micro-politics of educational institution organisation [32].

Nevertheless, the success of a learning organisation relies on its organisational culture [33]. Impressive evidence indicates that healthy and strong learning organisation cultures increase students' motivation and achievement, and teachers' satisfaction and productivity. Schein [19] contends that the "bottom line for leaders is that if they do not become conscious of the cultures in which they are embedded, those cultures will manage them." He argues: "Leaders create and modify cultures. Culture creation, culture evolution, and culture management are what ultimately define leadership". Leaders need to conduct "the destruction of culture" and to reinforce the right kind of culture [19]. Schein's approach is deeper and more useful than many; he studies organisational culture from an anthropological perspective and explains the leader's role in shaping it.

Most people would probably agree that organisational culture is holistic, referring to a whole; it is

historically determined, reflecting the history of the organisation; it is related to the anthropologists' issues such as rituals and values; it is socially constructed; and it is soft and at the same time difficult to change. However, because of the important role of practices in organisational cultures, the latter can be considered somewhat manageable. Changing collective values of adult people in an intended direction is extremely difficult, if not impossible. Values do change, but not according to someone's master plan. Collective practices, however, depend on organisational characteristics like structures and systems, and can be influenced in more or less predictable ways by changing these [1]. Collective practices also depend on interpersonal relationships both inside an organisation and outside it. In learning organisations with collaborative cultures, staff and administrators work together for the good of students. Energy, commitment, and motivation are likely to be higher. Change and improvement will be conscious and collegial. Teachers' sense of efficacy and pride will be higher [9, 34]. Staff and administration can work together to build collaborative cultures. Therefore, the type of collegial relationships and the development of these relationships may represent the infrastructure of improvement and enhancement in any institution [35].

Blackstone [36] emphasises that academics in the higher education environment are just as important as those in senior leadership positions for the success of the organisation, as their intelligence, experience and skills are used to address external environmental challenges. The bottom line is that the leader is the primary culture carrier for the organisation," Schweitzer [37] concludes. "If the leader's attitudes and behaviors do not match the culture that you are intending to build, it will not work. The leader and the culture must be in sync."

Senge [38] argues that leadership for deep change requires replacing the myth of the "hero leader" with the concept of leadership communities. These communities, he believes, enable the building of leadership capacity throughout the organisation so the organisation can continually adapt and reinvent itself. Teacher leadership can take many forms. It may include: (1) advocating the vision for staff development, (2) participating in learning organisation and district improvement teams to help determine goals and strategies, (3) conducting classroom and institution wide action research to determine if changes are improving the learning of all students, (4) mentoring new teachers, serving on peer review panels to provide support and assistance to new and veteran teachers, and (5) working on special assignment as coaches or instructional guides to provide ongoing professional learning for their peers.

Lambert [39] argues that leadership is about learning together, and constructing meaning and knowledge collectively and collaboratively. It involves opportunities to surface and mediate perceptions, values, beliefs, information, and assumptions through continuing conversations; to inquire about and generate ideas together, to seek to reflect upon and make sense of work in the light of shared beliefs and new information; and to create actions that grow out of these new understandings. Such is the core of leadership.

Effective leaders are committed to the success of everyone in the organisation, and involve everyone, so that individual members understand how the numerous parts of the organisation are interrelated and why every individual's work is an essential component for success. Members and groups within the organisation learn to understand that the decisions they make affect the entire organisation, and learn to take each other's interests into account. Decisions are made by all in the organisation. The increased involvement of members in making decisions leads to better

decisions, as people who work within the system have most insight into how it works and the changes necessary to improve it [40].

Thus, what is expected from leaders continues to increase [26]. Leaders are expected today to create learning communities in their learning organisations and to engage the broader learning organisation community in creating and achieving a compelling vision for its learning organisations, while serving diverse student populations [41]. The leader's role changes from authoritarian style to instructional. Leaders must steep in curriculum, instruction, and assessment, while they preserve their role of being the key persons in determining whether a learning organisation succeeds. Leader's responsibility for improvement lies in supervising, coaching teachers, and working with them on development plans that support real learning organisation improvement [42]. In other words, leaders should encourage constructive changes.

3.1 Distributed transformational leadership

Transformational leadership is value-driven. The leader sets high aims and purposes for followers, engaging them through inspiration, exemplary practice, collaboration and trust. Transformational leadership aims at responding to change quickly and at bringing out the best in people. Such leadership is change-oriented and central to the development and survival of organisations in times of environmental chaos when it is necessary to make strategic changes to deal with major threats and opportunities. It derives its power from shared principles, norms and values. Leaders, who encourage and support transformation share power, are willing to learn from others and pay specific attention to intellectual stimulation and to each individual's needs for achievement and growth [43-45].

People in different roles and at all levels of organisations are increasingly being called upon to all be leaders in their own right [46]. The particular characteristic of higher education institutions as knowledge-intensive organisations is good leadership which is usually naturally distributed across a team or workgroup. Therefore, the distributed character of leading in which the focus is much less on the leader as an individual, seems particularly compatible with higher education contexts [47]. The leader is conceived as first among equals and the characteristics of the group being led is carefully considered. The approach of dispersed leadership takes the spotlight off the heroic leader and the team is highlighted. The focus is on leading others to lead themselves, either through dispersal of power or through liberating team members so that their abilities can be fully utilised [48]. What emerges is more productive than simply good leadership from the top. Leadership is much more diffuse than is traditionally believed. It can be exercised at all levels within organisations and all participants are capable of practicing it in some way. By focusing only on the behaviour of senior people, one runs the risk of losing sight of those aspects of human behaviour in organisations that lead to effectiveness and consistently high quality. Especially in a higher education institution, which is knowledge-intensive and in which the quality of the institution is largely dependent on the quality of its human resources, it is not possible to excel by relying on good leadership at the top only. Democratic, empowering leadership involves power-with rather than power over, and the teams within such an empowered community become leaders themselves [47]. Thus, the management of the community is critical.

3.2 Managing the diversity

Valuing Diversity is recognising and respecting the value of human differences. Managing Diversity is creating and sustaining an environment where everyone can achieve his or her full

potential. Despite the substantial numbers of studies, little is known about what distinguishes between good and bad management [49]. Furthermore, there is little agreement about what constitutes, and is meant by, managerial and leadership effectiveness. Managing planned change is concerned with activities that are intentional and goal oriented. It seeks to improve the ability of the organisation to adapt to changes and to change organisation members' behaviour [50].

Barker [51] observes that "articles abound on leadership; however, few evaluate the impact of leadership and its effectiveness within the organisation", especially when it comes to higher education institutions. Consequently it is still the case, after many years of leadership research that little is known empirically about what differentiates between highly effective and less effective leaders and managers [52,53]. The difference between leadership and managership is debatable but it will not be discussed in this study.

Managing the diversity is one of the biggest challenges faced by higher education institutions [54]. Accepting the challenge of diversity implies, among other things, changing the organisational culture, re-conceptualising appropriate leadership styles, restructuring organisations, reformulating what constitutes good teaching, and developing staff and students to work and learn in an organisation that is very different from what it used to be [55]. Demands for better quality teaching and support services for students, accountability, transparency, quality assurance and cost-effectiveness are made by the state, the business sector and society in general. These demands have put increasing pressure on higher education institutions worldwide to demonstrate the value they are adding to the individual and to society as a whole [56,57].

4　Managing change and developing strategies

Educational institutions are influenced by the societal events constantly occurring around them [28]. Recently, several developments in the workplace, changes in student demographics, and the economic trends have been forcing educational institutions to change. The growth of knowledge in any field is rapidly outstripping any individual's ability to remain up-to-date. Knowing how to access information rather than memorizing information is central to coping with this rapid change. Growing numbers of students are working part-time while enrolled in full-time programs; current educational delivery systems do not meet their unique needs. Classroom space within colleges is fully utilised while at the same time enrolments are expected to increase. There is little or no money for expansion. Access to the Internet allows learners to take courses virtually anywhere in the world (accreditation is still a major consideration). Geographic location is no longer relevant; we are in global competition with all other educational providers on the Net.

Thus, educators must demonstrate a history of professional growth and development [58]. They should be aware of their role in social change and be able to justify to themselves the role they play. Innovations involve the erosion of older practices whenever it takes place, and educators should be sure that they want to erode these traditions before they encourage change [59]. So, educators retain control over content, standards, design, and assessment of student learning while giving up control of delivery of information.

Besides, the university culture provides a general identity for all faculties, regardless of disciplinary affiliation, and concerns three basic values generally shared by faculty members: (1) the pursuit and dissemination of knowledge as the purpose of higher education; (2) autonomy in the conduct of academic work; and (3) collegiality [60]. The first value, that of pursuing and

disseminating knowledge, requires faculty members to be knowledgeable and to convey their learning through teaching, inquiry, and publication. The second value, that of expecting autonomy, gives freedom to advance knowledge without interference, through such structures as peer review, tenure, and relatively independent higher education institutions. The third value, that of collegiality, provides mutual support, social interaction, and faculty governance [61]. An ideal academic community is a university in which the pursuit of learning, academic freedom, and collegiality are strongly valued.

Thus, managing change in a HE institution can be developed by adopting strategies to manage it. The strategies can be the classroom culture and curriculum construction.

4.1 Classroom culture

The class has a culture, or sub-culture, of its own. It has shared values, information, techniques, interpretations and meanings. The teacher has a central and critical role in creating a classroom that respects diversity and ensures the self-worth of all students as conditions essential for culturally responsive teaching. This framework shows the interrelationships between three levels of culture: personal, microculture, and macroculture. It considers the personal cultural identity as a pool of constructs, values, beliefs, and attitudes; many of which may be part of micro-cultural groups one may belong to. Microcultural groups are in turn influenced by the macro-culture. On the other hand, whatever the students learn is likely to be cultural in two senses. In the first place they share the understandings generated and sustained in their own classroom group. In the second, these understandings are also shared with certain groups outside the classroom, that is, they are part of the cultural currency of the broader society. On this view, the teacher generates and fosters a culture within his or her class. Furthermore, a classroom culture can be seen as an interface between two sets of cultures: the teachers and the students, and so an arena of conflict or contestation.

If the class is to make the culture its own, it must come to found its own social life on it. Therefore, the sub-culture of an educational institution must be seen in the context of the total culture of a society or civilisation [62]. Culture is a dynamic field within and through which individuals make contact with one another [63]. Within a class two types of culture are transmitted. On the one hand, predominantly social understandings may be inculcated such as morals, manners and attitudes to life. On the other hand, education may transmit the understandings which are implied in curriculum. Educators are responsible for controlling the experience of educational groups and for controlling and directing the learning of the class.

A study done by Steineke and Olsen [64] on Norwegian higher educational institutions discusses the management of the interface between formal knowledge production and the skills requirements of the local labor market. Anderson [65] argues that HEI-industry relations may include technology transfer programs, research parks as well as consulting. Thus, the most important form of knowledge transposition from the HEIs to their local environment follows from their production of university college candidates. The students' knowledge experienced in classroom, contributes to regional competence development.

Therefore, before introducing any new technology into classrooms, teachers must be able to justify its contribution [66]. In order to use IT constructively, educators may have to use technology when it helps them do their good work better. Moreover, no teacher or classroom

exists in isolation. Implementing technology is an issue for the entire educational institution. For example, the advent of network technologies and access to the Internet in educational institutions has brought attention to the need for learning organisation-wide technology planning. Thus, many organisations in recent times have changed their working culture to embrace such ideas as group working and self-management teams. As such, the introduction of group computing technology into an organisation, either business or educational, should be considered carefully [67]. Therefore, the purchase of classroom computers and presentation equipment does not guarantee the effective integration of technology into teaching and learning. Classroom management strategies, facilities design, and long-range technology planning are equally necessary to realise technology's potential for education. Classroom design allows the educators to plan classroom layout and technology resources for the effective integration of computer technologies into a university. Planning considerations are absolutely necessary if these technology expenditures are to make any real educational difference. They offer guidelines for long-range planning that seek to equip and empower teachers for technology-enhanced instruction.

Thus, the use of group computing as software solutions that enable groups to work together by using Information and Communications Technology (ICT) supports the collegial sharing. Such support leads to greater readiness to experiment and take risks, and with it a commitment to continuous improvement among teachers as a recognised part of their professional obligation. In this sense, collaboration and collegiality are seen as forming vital bridges between learning organisation improvement and teacher development [68].

On the other hand, teaching at higher education institutions is currently facing a number of challenging developments. Students have to adhere to tight study programs in order to graduate within fixed time limits, and the budgets of higher education institutions are under almost constant pressure [69]. In response to these developments, educators and educational institutions are in search of teaching methods, techniques and technologies that make teaching more efficient and effective. As a result, various forms of Information and Communication Technology (ICT) are often deployed. The potential uses of ICT in education range from providing analytical tools and eliminating distance barriers to replacement of repetitive tasks. In terms of teaching methods, collaborative learning in face-to-face settings has shown to be a highly effective learning strategy [70]. In contrast to more traditional forms of education where the primary interaction between teacher and students is where the teacher speaks and students listen, collaborative learning emphasises group or cooperative efforts among students and often focuses on the interaction between students themselves. This process helps students conceptualise, construct and initialise procedures and knowledge [71]. Also sharing information helps students deepen understanding. It is in this learning environment that ICT technologies such as group computing could enhance the educational process.

Therefore, collaborative technologies can support educational organisations in the creation of new relationships and in introducing new ways of working. These new approaches challenge the old hierarchical organisational structures and outmoded teaching approaches, which are not flexible enough to meet today's requirements. Baldridge and Deal [72] argue that to understand opportunities for change in higher education institutions, one must understand that the external environment is by far the most powerful source of internal change. Further, successful change, or successful implementation, is none other than learning, but it is the teachers in the system who are learning along with the students. Thus, the method adopted by teachers to learn and the

conditions under which they are most likely to learn, are useful for designing and carrying out strategies for implementation.

4.2 Curriculum construction

Collaboration and collegiality are promoting professional growth and they are also widely viewed as ways of securing effective implementation of externally introduced change [9]. Their contribution to the implementation of centralised curriculum reform is a key factor. Implementation means curriculum change. For teachers in classrooms, new materials are important, but are ineffective by themselves. Change also involves new behaviors and practices, and ultimately new beliefs and understandings. It involves changes in what people know and assume. Therefore, collaboration and collegiality bring teacher development and curriculum development together. Indeed, the failure of many curriculum development initiatives is attributable, at least in part, to the failure to build and sustain the collegial working relationships essential to their success.

A curriculum is brought to life in support of the social interaction that takes place in the classroom. Since the curriculum is regarded as a selection of culture, it must be seen in relation both to the social life of the classroom, of which it is the medium, and to the background of the culture of the society as a whole [73]. Therefore, one of the principal characteristics of higher education curriculum is a strong vocational emphasis. Traditionally, HE institutions have existed as autonomous institutions characterised by low levels of territorial embeddedness [65]. This is now changing, where HE institutions traditionally have been established in order to accelerate economic development in sparsely populated areas [74]. General educational effects may often be sacrificed to the desire to make the teaching in each subject an introduction to, and a preparation for, a later specialisation which is directed towards a vocation. Thus, the practical element in the curriculum can obviously play a part in the education of every student. The training and learning elements of a curriculum are controlled by the teacher. Now, the institutions of higher education are managing the interface between knowledge production and the local labor market.

Besides, the emergence, development and diffusion of information technology (IT) have changed society dramatically, into something which is now sometimes called the information society. IT makes it possible to collect process and transmit information much faster and more cheaply than before. The changes have had effects on the economy, production, services and society as a whole and are used in the area of education [75]. Faculty members and administrators should evaluate the curriculum and how it should be related to information technology (IT). Departments can design the curriculum for their majors according to their own distinctive approach, and students can choose the program that fits in best with their values and goals. Higher education institutions can design their core curriculum according to an overall educational philosophy. Because decisions about program philosophy and course content are made by the faculty, the contents of and boundaries between courses are flexible; they can be changed to suit evolving circumstances, not least the interests of the best students [76].

As a result, culture essentially implies standards or norms: so does curriculum. Individual action within culture gains its coherence from the standards or norms which underlie it: so does the action of the teacher in the face of the curriculum, since both the teacher as a transformational leader and the cultural sociologist are deeply concerned with the standards adopted by groups. Society expects higher education to link its curriculum more relevantly to social and economic

needs. Society also expects higher education to become more flexible in its courses and degree offerings in order to meet new educational needs. Rapid changes in the discipline areas of knowledge, along with rapid growth in the volume of the overall knowledge base, are fuelling a growing emphasis on life-long learning and learning to learn. Besides, students demand that higher education be at their door, not that they be at its door.

5   Towards web-based higher education institutions

This analysis views higher education as an open system with advanced learning as its core purpose. The system has evolved into a highly complex set of institutions that have organised to achieve this core purpose. Higher education institutions will change radically or perhaps even cease to exist in the 21st century. This achievement can be explained by leadership adaptation of a vision to new challenges, service oriented higher education institutions, on-line higher education institutions and simulating learning environment.

Adapting a vision to new challenges: A coherent vision specifies the particular values and beliefs that will guide policy and practice within the HE institution. Academics need to take part into the decision-making process and they should have a shared vision for creating an effective learning organisation [26]. The creation of a vision is not a static event, because the vision must change as culture changes. The transformational leadership enables the adaptation of a vision to new challenges to be more successful in building strong HE cultures.

Service-oriented higher education institutions: Leaders of colleges and higher education institutions must affirm their basic belief that these organisations exist to serve others, and they must do so by way of acts and deeds, not simply by intensifying their rhetoric. One example of services is by extending classroom tradition. The extended classroom connects learners who are separated from each other and the instructor through the use of educational technologies such as the web page of a course, which is available to anyone on the internet. The program and module web pages can provide students with everything they need to know such as the course outlines, regulations and procedures, independently of time, location, and distance, and allow for students to study together. Besides, WebCT, Blackboard, or any other tools, not only present information but also receive it. Such tools can handle information-giving task much more effectively than traditional methods [77]. They offer opportunities for students to learn through asynchronous interaction with each other and a faculty member [78]. Thus, technology has the ability to manage learning and administer programs as well as to handle large databases, for example information about the university, the department, different programs and modules. Besides, computer-assisted assessment can be used by posting multiple-choice testing on the material.

Virtual higher education institutions also called on-line higher education institutions: Growing demand among learners for improved accessibility and convenience, lower costs, and direct application of content to work settings is radically changing the environment for higher education globally. In this rapidly changing environment, which is increasingly based within the context of a global, knowledge-based economy, traditional higher education institutions are attempting to adapt purposes, structures, and programs, and new organisations are emerging in response. Organisational changes and new developments are being fuelled by accelerating advances in digital communications and learning technologies that are sweeping the world [79]. Growing demand for learning combined with these technical advances is in fact a critical pressure point for challenging the dominant assumptions and characteristics of existing traditionally-

organised higher education institutions in the 21st century. This combination of demand, costs, content application, and new technologies is opening the door to emerging competitors and new organisations that will compete directly for students and learners. The recent developments of the worldwide web, digital satellite technology, and new applications of virtual reality to build simulated learning environments are predicted to have particularly dramatic effects upon learning environments at all levels [12]. Higher education institutions are experimenting with improving accessibility to existing programs, designing new programs to take advantage of these emerging technologies, and marketing their programs to new audiences and in new ways. Completely new models for higher education institutions are being formed around the promise of virtual environments. Virtual Learning Organisation are ICT-supported university is an initiative of many institutions of higher education (traditional higher education institutions and higher education institutions for professional development). One of the aims of this initiative is to facilitate and support a transformation of higher education from supply-driven to demand-driven education. In this new education students actively learn, with interest and motivation, taking responsibility for their own learning [80].

6   Conclusions

Many higher education institutions will have difficulties capitalising on web-based course potential. First, they are not in the product marketing business with appropriate venture capital to support high-end Internet learning. Second, institutions don't have the creative development staff to support such venture. Third, higher education institutions are slow to react to market changes, for example how long it takes to get curriculum changes through the system [81]. Once the curriculum is in place, higher education institutions still face challenges from accelerating program growth, faculty shortages, and the increasing complexities of e-commerce business models and their supporting technologies.

The emerging global economy, characterized by the increased international movement of capital, products, technology, and information, is accentuating economic competition and means that students' knowledge and skills must meet international standards. Organizational downsizing, already common in corporations and government agencies, is spreading to colleges and higher education institutions. The implications of these macro-environmental changes are substantial. Educators need to rethink their basic assumptions about organizational structure and curricular programs. To better serve an information-age society, educational organizations needs to be transformed by requiring teachers to design and manage, not deliver, customized learning experiences that include many options, including stand-alone technology and opportunities to learn outside of school. Educational institutions must become self-transforming organizations to take advantage of what is known about learning and what is known about using technology to enhance teaching [82].

Educational leaders must change the existing culture and structure of their organisation by involving people throughout the organisation in a systematic and ongoing analysis to identify emerging or potential developments in the external environment that could affect their learning organisation's future. Binding the intellectual power of stakeholders (boards of trustees, faculty, staff, students) to identify signals of change, analyse the implications of these signals for the organization, and design actions in light of these implications, organizational leaders are able to develop and implement creative plans. Because these plans incorporate the thinking and support of the majority of stakeholders, they can transform the organizational culture and align it with

changing realities [83]. Leadership skills and ability must be refined and strengthened, particularly through training and professional development [84].

An issue of electronic university is what value is placed on the social and interpersonal interactions between students and faculty in a classroom. Students need to be able to interact socially and understand the differences between personal interactions (roommates, friends …) and business interactions (preparation of potential employees). Many educational experts believe that a new learning paradigm is being created with the integration of technology into learning organisations [85].

Higher education institutions are responding to external forces to produce innovation. Internal forces can also affect innovation, but do so in the shape of evolving disciplinary and professional cultures, over which institutional leaders and managers have limited leverage. Therefore, new models of higher education will emerge in the future. The models are designed to create a competitive advantage in a rapidly changing and growing marketplace. With rapidly developing learning technologies creating new possibilities for organising learning for adults, these models are both competing with and causing change in, the traditional residential model of higher education. Benefits of this new competitive environment include removing barriers to existing educational programs, responding more effectively and quickly to emerging educational needs, improving educational quality, and achieving long-term cost efficiencies. However, the challenge for teacher education is to produce teachers who can adapt technology to their needs before the technology makes learning organisations themselves irrelevant. This will enable the electronic community of teachers that could support and encourage long term professional development, from initial teacher education to continuing professional development, to be firmly established as a natural part of teacher's practices.

As a result, higher education institutions have to establish their priorities clearly often through planning but also by articulating their strategic direction in an explicit fashion.

REFERENCES

[1]   Hofstede, G. H.: Cultures and Organisations: Software of the Mind, London, McGraw-Hill, 1991.
[2]   Robbins, D.: Bourdieu and Culture, London: Sage Publications, 2000.
[3]   Hollins, E. R.: Culture in C. A. Grant and G. Ladson-Billings, (Eds), pp. 25-183, Dictionary of multicultural education. Phoenix, AZ: Oryx Press, 1997.
[4]   Barrett, J. A.: Culture and Conduct? An excursion in anthropology. Belmont, CA: Wadsworth, 1984.
[5]   Gollnick, D. M. and Chinn, P. C.: Multicultural education in a pluralistic society (6th ed.) Columbus, OH: Merrill, Prentice Hall, 2002.
[6]   Deal, T. E. and Peterson, K.: The principal's role in shaping school culture, Technical Report ED-325-914. Office of Educational Research and Improvement, Washington, D.C., 1990.
[7]   Bennis, W. and Goldsmith. J.: Learning to lead: A workbook on becoming a leader. Reading, Massachusetts: Addison-Wesley, 1997.
[8]   Cheng, Y.C.: Profiles of organisational culture and effective schools, School Effectiveness and School Improvement, vol. 4, no. 2, pp. 85-110, 1993.
[9]   Fullan, M.: Leading in a Culture of Change, San Francisco, Jossey-Bass, 2001.
[10]   Palmer, D.: Measuring contextual error in the diagnosis of alternative conceptions in science, Issues in Educational Research, vol. 8, no. 1, pp. 65-76, 1998.
[11]   Freed, J.E. and Klugman, M.R.: Quality principles and practices in higher education: Different questions for different times. American Council on Education, Series on Higher Education. Phoenix, Arizona: Oryx Press, 1997.

[12]   Goodman, P. S.: Technology enhanced learning: Opportunities for Change, Mahwah, New Jersey, Erlbaum, 2001.

[13]   Adler, N.: International Dimensions of Organisational Behavior, 3rd Ed, Cincinnati, Ohio: South-Western College, 1997.

[14]   Senge, P.M., Kleiner, A., Roberts, C., Ross, R.B., & Smith. B.J.: The fifth discipline fieldbook: Strategies and tools for building a learning organisation. London: Nicholas Brealey Publishing, 1994.

[15]   Sparks, D.: Designing powerful professional developments for teachers and principals, Oxford, National Staff Development Council, 2002.

[16]   Dimmock, C.: Designing the Learning-Centered School: A Cross-Cultural Perspective, London, Falmer Press, 2000.

[17]   Abercrombie, N., Hill, S., and Turner, B. S.: The Penguin dictionary of sociology (4th Ed). London, U.K.: Penguin Books, 2000.

[18]   Brown A.: Organisational Culture (Second edition). London, Financial Times, Pitman Publishing, 1998.

[19]   Schein, E.H.: The corporate culture survival guide: sense and nonsense about culture, San Francisco: Jossey-Bass, 1999.

[20]   Banks, J.A.: Cultural diversity and education: Foundations, curriculum, and teaching, 4th ed., Needham Heights, MA: Allyn and Bacon, 2001.

[21]   Busher, H and Barker, B.: The crux of leadership: Shaping school culture by contesting the policy contexts and practices of teaching and learning, Educational Management and Administration, vol. 31, no.1, pp.51-65, 2003.

[22]   Budd, John M.: The Academic Library: Its Context, Its Purpose, and Its Operation. Englewood, Colorado: Libraries Unlimited, 1998.

[23]   Bond, K.: Cultural influences on modes of impression management: implications for the culturally diverse organisation, In Giacalone, R. and Rosenfield, P., (ed.), Applied Impression Management: How Image-Making Affects Managerial, Newbury Park, CA, Sage Publications, 1991.

[24]   Dimmock, C. and Walker, A.: Developing comparative and international educational leadership and management: a cross-cultural model, School Leadership and Management, vol. 20, no. 2, pp. 143-160, 2000.

[25]   Wlodkowski, R.J. and Ginsberg, M.B.: A framework for culturally responsive teaching. Educational Leadership, vol. 53, no. 1, pp. 17-21, 1995.

[26]   Sergiovanni, T. J.: Leadership: What's in it for schools? London, Routledge Falmer, 2001.

[27]   Roberts, P.: Creating a learning community on campus. In R. Bamett (Ed.), Academic community: Discourse or discord? pp. 153-166, London: Jessica Kingsley Publishers, 1994.

[28]   Hargreaves, A.: School culture, school effectiveness, and school improvement, School Effectiveness and School Improvement, vol. 6, no. 1, pp. 23-46, 1995.

[29]   Torrington D., Weightman J. and Johns K.: Effective Management: People and Organisation; Prentice-Hall, 1989.

[30]   Weick, E.K.: Educational organisations as loosely coupled systems; in Westoby (Eds), Culture and power in organisations. Milton Keynes: Open University Press, 1988.

[31]   Sarason, S.: (1971), The Culture of the School and the Problem of Change, Boston, Mass., Allyn and Bacon, 1971.

[32]   Blase, J., and Kirby, P.: Bringing out the best in teachers: What effective principals do (2nd Ed). Thousand Oaks, CA: Corwin, 2000.

[33]   Yu, H., Leithwood, K., and Jantzi, D.: The effects of transformational leadership on teachers' commitment to change in Hong Kong. Journal of Educational Administration, 2002.

[34]   Peterson, K. and Brietzke, R.: Building collaborative cultures: Seeking ways to reshape urban schools, Oak Brook, IL: North Central Regional Educational Laboratory, Urban Monograph Series, 1994.

[35]   Kent, K. (1997) The importance of collaborative cultures. Reform Talk, no. 10, Comprehensive Regional Assistance Centre consortium, Region VI, 1997.

[36]   Blackstone, T.: Why learn? Higher education in a learning society. Higher Education Quarterly, vol. 55, no. 2, pp. 175-184, 2001.

[37]   Schweitzer, C. (2000), Creating a dot-com compatible culture, Association management, Vol. 52, no. 13, pp. 28-35, 2000.

[38]   Senge, P. (1999), The dance of change: the challenges to sustaining momentum in learning organisations, New York, Doubleday, 1999.
[39]   Lambert, J.: Building Leadership capacity in schools, Alexandria, VA: ASCD, 1998.
[40]   Cartwright, J.: Cultural transformation: Nine factors for continuous business improvement. London, Financial Times Prentice hall, 1999.
[41]   Pennington, P.: the Relationship of Leadership Practices to Culture, Journal of Leadership Education, Vol 2., no. 1, pp. 55-73, 2003.
[42]   Harris, S.: Behave yourself, Principal Leadership: High School Edition, vol. 1, no. 3, pp. 36-39, 2000.
[43]   Ramsden, P.: Learning to lead in higher education. London: Routledge, 1998.
[44]   Caldwell, B.J. and Spinks, J.M.: Beyond the self-managing school. Student Outcomes and the Reform of Education (Series). London: Falmer Press, 1998.
[45]   Bass, B.M. and Avolio, B.J.: Improving organisational effectiveness through transformational leadership. London: SAGE Publications, 1994.
[46]   Bergmann. El., Hurson, K. and Russ-Eft, D. (1999). Everyone a leader: A grassroots model for the new workplace. New York: John Wiley and Sons, 1999.
[47]   Knight, P.T. and Trowler, P.R. (2001). Departmental leadership in higher education. Buckingham: The Society for Research into Higher Education & Open University Press.
[48]   Kouzes, J.M. and Posner, B.Z.: The leadership challenge: How to keep getting extraordinary things done in organisations. San Francisco, Ca: Jossey-Bass, 1995.
[49]   Hamlin, R.G., (2002), Towards a Universalistic Model of Leadership: a comparative study of British and American empirically derived criteria of managerial and leadership effectiveness, Working Paper Series 2002, Number WP005/02, ISSN Number ISSN 1363-6839, 2002.
[50]   Robbins, S.P., (1998), Organisational Behaviour Concepts, Controversies and Applications (8th Ed) Prentice Hall International Inc, New, 1998.
[51]   Barker, B.: Do leaders matter? Educational Review, vol. 53, no.1, pp. 65-76, 2001.
[52]   Martinko M. J. and Gardner W. L.: Structured observation of managerial work: a replication and synthesis, Journal of Management Studies, vol. 27, no. 3, pp. 329-357, 1990.
[53]   Willcocks, S.G. (1992) Managerial effectiveness and the public sector: a health service example International Journal of Public Administration, vol. 5, no. 5, pp. 4-10, 1992.
[54]   Scott, P.: Leadership and Management: some thoughts from the UK. Kingston University, 2001.
[55]   Havenga, A.J.: Beyond affirmative action there is diversity. In: PRO Technida. Vol. 12. no. 1, pp. 9-17, 1993.
[56]   Altbach, P, G.: Harsh realities: The professoriate faces a new century. In P.G. Altbach, R.O Berdahl & P.J. Gumport (Eds.), American higher education in the twenty-first century: Social, political and economic challenges, pp. 271-297. Baltimore: The Johns Hopkins University Press, 1999.
[57]   Benjamin, R. and Carroll, S.: The implications of the changed environment for governance in higher education. In W.G. Tierney (Ed.), The responsive university: Restructuring for high performance Baltimore and London: The Johns Hopkins University Press, pp. 92-114, 1998.
[58]   Levin, B.: Improving educational productivity through a focus on learners, International Studies in educational Administration, vol. 60, pp. 15-21, 1995.
[59]   Ziguras, C.: Educational technology in transnational higher education in South East Asia, Educational Technology and Society, vol. 4, no. 4, pp. 8-16, 2001.
[60]   Barker, J. R. (1999), The Discipline of team work, London, Sage Publications.
[61]   Smith, T.: Changing University culture through promotion policies, In Frontier in Educational Conference, 1994.
[62]   Cheng, K.M.: Can educational value be borrowed? Looking into cultural differences, Peabody Journal of Education, vol. 73, no. 2, pp. 11-30, 1998.
[63]   Bush, T.: Theories of Educational Management, London, Paul Chapman, 1995.
[64]   Steineke J. and Olsen O.: Institutional management and the regional embeddedness of higher education institutions: collective learning in HEI industry relations in Norway, In Proceedings of HSS 2001 Conference, 2001.
[65]   Anderson, M.S.: The complex relations between the academy and industry – views from the Literature, Journal of Higher Education, vol. 72, no. 2, pp. 226-246, 2001.
[66]   Young, M. (1999), Knowledge, learning and the curriculum of the future, British Educational Research Journal, vol. 25, pp. 463-477, 1999.

[67] Hogarth, A.: Managing the social and cultural consequences of introducing groupware technology into the group learning environment, Education and Information Technologies, vol. 6, no. 3, pp. 193-204, 2001.

[68] Rosenholtz, S.: Teachers' Workplace, New York, Longman, 1986.

[69] Checkland, P. and Scholes, J.: Soft Systems Methodology in Action, London, Wiley, 1992.

[70] Nunamaker, J. F. et al.: Electronic meeting systems to support group work, Leadership and Management, vol. 20, no. 2, pp. 143-160, 1991.

[71] Vreede, D. J.: Group support systems for innovative information science education, Journal of Informatics Education and Research, vol.1, no.1, pp.1-11, 1999.

[72] Baldridge, J. and Deal, T.: The Dynamics of Organisational Change in Education, Berkeley, CA, McCuthan Publishing Company, 1983.

[73] Quicke, J.: A Curriculum for life: Schools for a Democratic Learning Society, Buckingham Open University Press, 1999.

[74] OECD: The response of higher education institutions to regional needs OECD/ Programme on institutional management in higher education (IMHE) OECD, Paris, 1999.

[75] Hanna, N. and Arnold, E.: The Diffusion of Information Technology, 1995.

[76] Ruddock, J.: Lawrence Stenhouse's vision of the teacher, the student and learning, 1997.

[77] Biggs, J.: Teaching for a quality learning at university. Second edition. Buckingham: Open University Press, 2003.

[78] Passey, D. and Samways, B.: Information technology supporting change through teacher education, London, Chapman and Hall, 1997.

[79] Walther, J.B.: Computer-Mediated communication: Impersonal, interpersonal and hyperpersonal interaction, Communication Research, vol. 23, no. 1, pp. 3-43, 1996.

[80] Dutch Digital University: Business Plan of the Dutch Digital University, 2000 (in Dutch), www.digiuni.nl, 2000.

[81] Cohen, E.: Challenges of Information Technology Education in the 21st Century, London, IDEA Group Publishing, 2002.

[82] O'Banion, T.: Gladly Would He Learn, On the Horizon, vol. 4, no. 1, pp. 3–5, 1996.

[83] Morrison, J. L., Sargison, A., and Francis, D.: Transforming a University to Meet the Challenges of the Twenty-First Century. In Donald M. Norris and James L. Morrison (eds.), Transforming Institutions of Higher Education. New Directions for Institutional Research, no. 93. San Francisco: Jossey-Bass, 1997.

[84] Varghese, J.: Organisational Leadership and the Roles for Educational Leaders, A Breakfast address for the centre for leadership and management in education and the professional development network. Griffith University, 2000.

[85] Von Holzen, R.: A Look at the Future of Higher Education. Syllabus, vol. 14, no. 4, pp. 54-57, 2000.

Authors:

1.   Ms. Nouhad J. Rizek
        Senior Lecturer, Computer Department
        Notre Dame University
        Zouk Mosbeh, Lebanon
        nrizek@ndu.edu.lb

2.   Dr. Elias M. Choueiri **(Contact Person)**
        Chairman, Business Computer Department, Faculty of Economics and Business
                Administration II, Lebanese University, Karm El Zeitoun, Lebanon
        President, Lebanese Association for Public Safety (LAPS), Lebanon
        Chairman, WSO's Highway Transportation Committee, USA
        WSO Liaison Officer to the United Nations
        Higher Education Director, IACTP, USA
        e_choueiri@hotmail.com