

REFORMING THE HIGHER EDUCATION SYSTEM IN IRAQ: INTERNATIONALIZATION VIA DECENTRALIZATION

By

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ABSTRACT

In countries where higher education has largely been a state function, conservative bureaucracies are viewed as impediments to necessary development and change. Virtually everywhere, voices are raised to demand necessary reforms yet, in spite of these apparently common challenges, it remains true that policy-related education issues are framed by and 'spoken through' the particularities of distinct cultures and histories. The aim of this paper is to investigate the best approach to enhance the state of higher education (HE) system in Iraq so that it can be more competitive in this new age of education globalization. This paper outlines the present state of the Iraqi HE system, emphasizing its most relevant problems. In order to define the major problems that most of Iraqi universities and institutions have been suffering during the last few years and till this moment, the authors use four different images to examine these universities: as machines, as organisms, as brains, and finally as cultures. This would hopefully help us in defining some basic needs for these universities and also the expected barriers that we need to deal with when we try to achieve the required change. The authors also propose a double-sided strategy for addressing these problems: specifically, they consider both top-down and bottom-up approaches for rehabilitating the Iraqi HE system.

Keywords: Decentralization, E-Learning, Higher Education, Iraq, Private Teaching.

INTRODUCTION

In general, it is possible to describe the hierarchy of a higher education system to be composed of three main levels. At the center is the technical core of the whole system where professors are teaching and students are learning in their classrooms and laboratories. The second and middle level is the managerial level where administrators (such as department Heads, college Deans, etc.) are buffering and bridging between the other two levels. Finally, the outer level is the institutional level where administrators like university presidents and their support staff are dealing with the external institutional environment [1]. This is depicted in Figure 1.

A preliminary version of this work was presented in the Midwest Regional Comparative and International Society Conference, MI, USA, October 29-30, 2010.

The typical case in higher education is that the core loosely-coupled with the outer levels. This has many advantages, and it is often helpful maintaining the right goals for the whole education process. However, this loose-

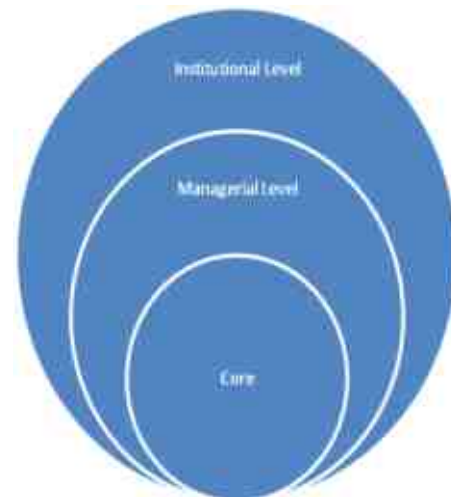


Figure 1. Hierarchy of Higher Education System

coupling also sometimes has disadvantages, e.g. faculty can resist pressures to update to more modern teaching techniques.

It is of crucial importance for all universities and schools to have well-trained lecturers and teachers for delivering courses to students. In order to achieve that goal, those lecturers and teachers must be enrolled in high quality

training courses focusing on modern theories and techniques in education. This also needs to be accompanied by giving an increasing consideration by administrators for teachers' continued professional development for promotion. In general, it is quite desirable for universities to reach some balance between teaching and research requirements. If universities want to give a priority to teaching, then they must reflect this priority in their tenure and promotion standards. An emphasis on teaching does not preclude an subsequent emphasis on high quality research; in fact, high quality teaching is a requirement and introduction into high quality research. There are three main dimensions of focus in a classroom. These are [2]:

- *Curriculum:* This dimension is concerned with answering the "What?" of teaching. In this dimension, there are three main areas to be highlighted, which are: Knowledge (the cognitive aspects of the material, and the ability of the student to understand and correctly recall them), skills (the practical, experimental, and behavioral side of the course), and attitudes (the affective side of the course). Teachers need to be able to create as positive motivational feelings as they can for their students during course delivery. Also, it is quite desirable for these emotions to continue after the end of the course.
- *Instruction:* This dimension is concerned with the "How?" of teaching. In this dimension, the lecturer considers various teaching methods and techniques in order to maximize the learning for all students.
- *Assessment:* This dimension addresses the "How much?" of teaching. In other words, it addresses the degree to which the instructional methods helped students achieve the curricular goals. Assessment should include: Formative assessment (which is done during the period of course delivery), and summative assessment (which is the assessment to be done for "gatekeeping purposes). One important aim of formative assessment is to help students check their understanding of the required material. Another aim is inform the teacher as to how she/he should modify their instruction before making a final "gatekeeping"

decision.

This paper presents an approach for enhancing the higher education quality in Iraq by introducing more decentralization into this highly centralized system. This present state of high centralization is a direct consequence of the socialist political ideology of successive Iraqi governments since about 50 years ago. However, as Iraq now is moving to be a democratic country, it is prudent to see actual consequences of democracy being reflected in positive manner on all social, economical, cultural, and educational aspects in Iraq. In addition, it might be worthy to mention that the general quality of educational institutions in the northern region of Iraq (Kurdistan region) is better than that of other parts in Iraq. The reason behind that is not just because they are in a better security situation, but also because they have some relative degree of independence (more decentralized) in making their own decisions in many detailed aspects of education. We consider this as a relevant strong evidence for the justification of the philosophy of "more decentralization" adopted in this paper.

The remaining of this paper is organized as follows: Section 2 introduces the present state of higher education in Iraq. Section 3 introduces the broader context for the required reforms in higher education. In Section 4, several metaphors are used to define the most important problems in the Iraqi higher education system. Furthermore, an outline is given for the Iraqi Ministry of Higher Education and Scientific Research (MOHESR) proposal of a strategic plan to develop Iraqi higher education and for the promising reforming efforts in the Kurdistan-Iraq region. In Section 5, the authors present their proposed strategy for enhancing higher education in Iraq by doing reforms that allow more decentralization in the system. This is achieved by the simultaneous activation of both "top-down" and "bottom-up" approaches, which are respectively addressed in Section 6 and Section 7. Finally, Section 8 concludes the paper and suggests some future work directions.

Review of Iraqi Higher Education

When discussing an issue like higher education in certain country, it is quite important to take into account the

relevant peculiarities of that country such as history and culture. In this sense, we must establish some specific facets of Iraqi culture. Iraq is a nation with a history of several thousand years. About one thousand years ago, Baghdad was arguably the greatest city in the world. Given this history, it is not surprising that Iraq was a signatory country to the 1948 Universal Declaration of Human Rights and the 1970 International Covenant on Economic, Social, and Cultural Rights. Moreover, it is difficult to find another country that faced more severe circumstances of wars, sanctions, and occupation similar as Iraq over the last three decades.

In the beginning of the 20th century, the first modern colleges were established in Iraq. In the early 1970s, and in order to fulfill the country's developmental objectives, Iraq endeavored to reorganize and improve its educational system. In 1975 the government established the right to free education from primary to university level, although only primary education was made compulsory (1976: Compulsory Education Law). As a result, education was provided free of charge at all levels, and there was an increase in higher education students of 52% between 1975 and 1988 [3]. According to the United Nations Office of the Humanitarian Coordinator for Iraq, Iraq had one of the best education systems in the Arab world at the beginning of the 1980s. The Higher Education system, especially the scientific and technological institutions, met the highest international standards [4].

Unfortunately, a dramatic shift started in 1990 just after the Iraqi occupation of Kuwait when the United Nations Security Council imposed economic sanctions on Iraq. These sanctions included an almost complete trade embargo, barring all imports from and exports to Iraq. These sanctions did not just affect the education system. They affected all aspects of Iraqi life: infrastructure, employment, health, and the social fabric.

For the present time, governmental universities and institutions constitute about 85% of higher education in Iraq. There are now about 30 universities and a similar number of two-year technical institutes. The other HE institutions consist of various "private universities and colleges". These universities, institutes, and colleges are

distributed throughout the Iraqi governorates, with Baghdad having the largest number of them. In Iraq, the Ministry of Higher Education and Scientific Research (MOHESR) is responsible for the management, administration, and supervision of all universities and most of the technical institutions, while all elementary and secondary schools altogether with some mid-level institutions are managed by another ministry (the Ministry of Education).

The Broader Context

In general, higher education is expected to provide graduates with skills and abilities commensurate with the workforce demands of rapidly changing economies. As the authors have mentioned, higher education is often seen as dominated by faculties resistant to change, lacking in social relevance, and - as institutions - absorbing an increasing (and perhaps unwarranted) amount of societal resources. In countries where higher education has largely been a state function, conservative bureaucracies are viewed as impediments to necessary development and change. Virtually everywhere, voices are raised to demand necessary reforms yet, in spite of these apparently common challenges, it remains true that policy-related education issues are framed by and 'spoken through' the particularities of distinct cultures and histories.

For those of us seeking to understand and document appeals for higher education reform, the task is always to appreciate the distinctiveness of local/national articulations of these issues while also recognizing the structural commonalities that link global higher education issues. As has been often stated, 'all globalization is local'. In many cases, issues of higher education reform appear in the context of aligning limited capacity with expanding social needs, while creating or retaining quality. In many countries, capacity issues reflect the struggle to create and sustain a set of higher education institutions suitable to meeting the needs of population growth, the demands of increased global interdependence and the realities of emerging knowledge societies. In many countries such as Iraq, institutions of considerable age and distinction are being challenged to meet these internal demands while demonstrating their 'competitiveness' by exhibiting 'world

class' attributes. Behind this 'first tier', institutions of lesser status are expanding rapidly and new institutions are coming into existence, including community colleges, technical institutions and providers of online education. Rapid expansion of capacity (as tends to be the case in any organization) begets dual quality concerns: 'raising' the quality of older, traditional institutions to make them more globally competitive, and developing new institutions within acceptable quality guidelines. An additional complicating factor is the shifting target posed by 'quality' as its meanings and practical implications shift in response to changing social and economic situations. Creating effective higher education institutional responses to rapidly changing social and economic conditions is viewed as a particular challenge given the very strong developmental role government has played in creating the 'modern university'.

The capacity/quality nexus in those societies with large numbers of university graduates condenses around providing enforceable norms of retraining for existing graduates and refocusing 'output' for the university system as a whole. Underlying this capacity/quality/reform tableau is the thorny issue of equity. Rapid, increased global interdependence has resulted in corresponding accelerations of economic and social inequality, massive population migrations (especially from rural areas to burgeoning cities), major changes in social and economic status, and pressures on prevailing cultural norms. Governments, particularly, are concerned with issues of growing inequality and the social, political and (perhaps) economic instabilities to which it is conducive. Increasingly both governments and intergovernmental organizations are looking to education as an answer to these iconic effects of global integration. Higher education is often seen as the capstone solution: an institutional response that will produce alignment among a complex set of social goals, from the creation of new intellectual capital, to the production of effective workforces, to the diffusion of effective 'ways of being' in this world of escalating change. Higher education 'reform' is shaped, of course, by the distinctive cultures and styles of national policy processes: policy may be policy, but how societies go about it can be radically different.

Almost every country, including the United States, is struggling to resolve these challenges to higher education and is faced with redefinitions of 'public and private higher education sectors'. The meanings and values imputed to 'public and private' have changed significantly over the past century, acquiring new meanings and currency as notions of market competitiveness ('liberalization') have penetrated these societies, be they historically state capitalist, socialist, developmental or developed states. Lodged somewhere within this distinction has been the notion of education (including higher education) as a public good - the idea that the state, through its institutions (whatever their shape and form), has both the need and obligation to create and support higher education for the benefit of larger public purposes. This notion itself, taking many specific forms, is derived from a variety of meanings that have been assigned historically to conceptions of the public good and public goods. It is proposed that the dynamics of increased global interdependence are working through societies in ways that problematize the prevailing distinctions between 'public' and 'private' in higher education, the 'goods' associated with public and private sectors, what these distinctions mean in concept and practice, and how these ideas are being worked through in the policy processes of various countries.

Given this global context, there are three main factors that we need to address: Decentralization, Privatization, and Globalization.

Decentralization vs. Centralization

"Decentralization, also called departmentalization, is the policy of delegating decision-making authority down to the lower levels in an organization, relatively away from and lower in a central authority. A decentralized organization shows fewer tiers in the organizational structure, wider span of control, and a bottom-to-top flow of decision-making and flow of ideas." (Wikipedia)

Socialization and centralization are what different Iraqi governments used to do since 1958 (The year in which Iraq changed from being a kingdom into a republic). In the last two decades, everyone in Iraq has begun to realize the danger of such high centralization of every aspect of the Iraqi system. Probably all of them realizing now that it was

possible to avoid some or all of the severe conditions they passed such as sanctions and wars if they had a more decentralized system where important national political and economical decisions could not be taken by one person or one very small group of "homogenized" people.

The same analogy can be applied to the higher education system in Iraq. Most of the faculty members now believe that the quality of education in Iraqi universities has been continuously degrading due to many orders and decisions taken by higher-level authorities (ministry and/or university levels) without listening to actual needs raised by scientific departments. However, this does not mean that all faculties will support doing the required reforms. The matter here is more than just complaining about some "bad" thing; the issue is the ability to make the whole way in the required change process reaching hopefully to the "best" situation.

Public vs. Private

Six forces are undeniably spurring the spread of privatization in higher education: the rise of an information-based economy, changes in demographics, an increase in public scrutiny, the advent of new technologies, the convergence of knowledge-based organizations, and a decline in public trust in government. Governors can help state postsecondary education systems respond to these forces by helping define academic quality and student achievement, eliminating overlap and duplication, ensuring accountability, and more efficiently utilizing the capacity of private providers of postsecondary learning.

In higher education, both categories of public and private institutions have their own advantages and disadvantages. In general, for any country, it is preferable to support and balance the effect of these both types of institutions such as to maximize the benefits of both for the society. However, the case in Iraq so far is different with about 85% of higher education is conducted by public universities and institutions. The reforms need to accurately address this issue by foundation of environment that encourages investment in private universities and colleges.

Globalization

There are four dimensions to globalization: (i) "a stretching of social, political and economic activities across frontiers"; (ii) "intensification, or the growing magnitude, of

interconnectedness"; (iii) "a speeding up of global interactions and processes as the development of world-wide systems of transport and communication increases the velocity of the diffusion of ideas, goods, information, capital and people"; and (iv) "growing extensity, intensity and velocity of global interactions that can be associated with their deepening impact such that the effects of distant events can be highly significant elsewhere and specific local developments can come to have considerable global consequences" [5].

Our students must be prepared to live, work, and successfully navigate a world that is more interconnected than ever before. Thus, teachers have the responsibility to support the development of new global skills in their students. It is well believed now that a good approach to globalizing learning across the curriculum is to view it as a pedagogical approach. Almost every course can benefit from globalizing the context of the course material, that global learning is a pedagogical approach to learning

Main Issues of Iraqi Higher Education

It is quite acceptable now to notify that all theories of management are based on implicit metaphors or images that enable us to understand and manage our organizations in distinctive and partial ways. However, whenever we use the metaphor in order to read or understand organizational life, we have to be careful of the fact that it always produces some kind of one-sided insight. Thus, any theory for studying organization or management, while can create valuable insights, it is also biased and incomplete. Giving this inherently paradoxical aspect in recognizing theory as metaphor, we can simply conclude that no single theory may give us a perfect understanding of such organizational issues. The only way is to explore the implications of different metaphors for situations that we want to organize and manage.

In order to define the major problems that most of Iraqi universities and institutions have been suffering during the last few years and till this moment, we will use four different images to examine these universities: as machines, as organisms, as brains, and finally as cultures [6]. This would hopefully help us in defining some basic needs for these universities and also the expected barriers that we need to

deal with when we try to achieve the required change. The following subsections contain the details of using each of the above metaphors.

Universities as Machines

This is the classical way of looking to organizations (universities) by imagining them as machines. Despite the fact that this view now is largely criticized to be so misleading especially in modern management, it still have some non-negligible strengths in some situations. Many people now are refusing to imagine universities as machines because this tends to underplay the so human aspects of a university. Universities simply are not rational and they need not to be so. However, the mechanical way of thinking is so ingrained in many people conceptions of universities such that they are not able organize or manage in any other way.

The strengths this mechanical view can only be appreciated in certain environments stable enough to ensure that university products (the graduates) are always appropriate in a straightforward manner and that the "machine" parts (faculty, staff, and students) are compliant and behave in the same way they have been designed to do. In fact, such environments are so far from being a reality in many places and especially in a country like Iraq though most managers there cannot imagine universities or colleges in any different style. Away from all these limitations, using the metaphor of machine can enable us to define the following problems in Iraqi universities:

- Unity of command principle is violated in a usual manner by higher authorities. For example, many university presidents sometimes try to be involved in doing some dean's or even department head's jobs whenever they have any conflict with that dean or department head. This weakens the performance of the whole institution by making people uncertain who they should obey. Such behavior also causes a direct violation to the scalar chain principle.
- Some colleges (indeed some universities) might have a large number of diverse departments and units such that they face many coordinating problems. This violates the principle of span of control in the classical management theory.

- Initiative is practically discouraged most of the time at different levels of the higher education system in Iraq. This can be noticed almost in all levels of the higher education hierarchy. For example, in the core level, it is noticeable that most teachers are lecturing most of the time and spoon-feeding is the dominant teaching methodology where students need to highly depend on memorization. Actually, this one of the most serious pre-college problems where spoon-feeding is also dominant in primary and secondary schools.
- It is quite possible to find many situation of unbalance between authority and responsibility. While higher level administrators are trying to decrease the authorities of lower levels, they are at the same time try to push more responsibilities on those.
- There is a big efficiency concern in most public organizations in Iraq. Universities are no exception. There is no accurate design for work tasks especially at the managerial and institutional levels. Yet worst, some significant jobs are not assigned to the best qualified persons. They rather usually assigned to people with good connections to administrators. In the core level, there are concerns related to old and inconsistent curricula, lack of modern lab apparatus, and poor libraries. These represent a deficiency in both task design and offering the required support for (teachers) task success.
- There is a deficiency in training programs in all levels. However, the most sever is the one in the core. Many faculty and staff members especially at some quickly changing disciplines such as ICT need continuous training on newer technologies and techniques. Despite that there are some training centers in Iraqi universities, but there are more than one concern about the quality and completeness of their programs.

Universities as Organisms

Using the image of organizations as organisms has had an enormous impact on the way we become looking and thinking about organization and organizational life during the last several decades. This metaphor brings attention on understanding and dealing with organizational needs and environmental relations. According to this point of view, we

can no longer continue to treat our universities as being closed systems. We should understand the outer environments and the possible patterns of their change in order to identify the needs of our universities to stay healthy and to survive. Inspired by this metaphor we can notice the following concerns in Iraqi universities:

- More than thirty years ago, Iraq had a very good higher education system. Unfortunately, that system have been continuously degraded during all these years by Iraq sever circumstances and by not-well studied modifications mainly for political purposes by higher authorities. The system has been declining all these years and it can possibly reach to the death state if we could not fix it again. This obviously needs people with high quality leadership skills to be in the most significant positions. For the time being, it is so hard to claim that this is the case in Iraqi universities.
- There were many dramatic changes in the environment in Iraq during the last several years, so it could be meaningless to keep trying to satisfy some goals that were inspired by the classical machine-look view of universities. The primary orientation should be given to survival in this competing world. Issues like international accreditation and quality assurance, work market, and the globalization of education must be considered in a more serious manner.
- Universities can be seen as interacting processes that have to be balanced internally as well as externally in relation to outer environment. However, here we can find another concern in most Iraqi universities where most of the faculty and students believe that administrators do not give enough attention to their actual needs. For example, the MOHESR in the last several years has been continuously asking faculty members to publish their research papers in internationally recognized journal and/or present their work at international conferences. Meanwhile, it is still difficult for most faculty members to obtain enough financial support from universities to do that.
- Viewing universities as organisms implies that different types of universities are needed in different types of environments. This also implies that different

approaches to management may be necessary to perform different tasks within the same university. Thus, giving the noticeable differences between different Iraqi regions, we can conclude that there two required steps in this direction. The first is to modify the Iraqi highly centralized higher education system to offer more flexibility and decentralization. Secondly, we should concentrate on designing more specialized universities that take into consideration the actual needs and diversity of the close outer environment. It is important to notice that most Iraqi universities now tend to be similar copies of each other with very similar colleges and scientific departments.

- One dangerous effect from outer environment in Iraq that must be buffered in some way is that many political parties and religious groups think that universities should be managed in a way that is beneficial to their ideologies and interests. Thus, they are affecting the selection of people for significant administrative positions.

Universities as Brains

This metaphor focuses attention to the importance of information processing, intelligence, and learning. It also proposes the possibility of creating "learning" universities. Indeed, when the brain is compared to a holographic system, the approach supply us with important insights for creating processes where the whole can be encoded in all the parts such that each part can represent the whole. This leads us to realize the possibility and importance of both decentralization and parallel-processing capability in universities and the whole higher education system. In accordance to this metaphor we can notice the following in the Iraqi higher education system:

- In order to build learning universities, we have to consider creating the capability of both "first-order change" and "second-order change" learning styles. The distinction between these two styles is important and it can be described using the combination of curriculum, instruction, and assessment (CIA) as an educational example. This is shown in Figure 2. In this example, first-order learning is the ability to detect and correct errors in instruction according to findings from

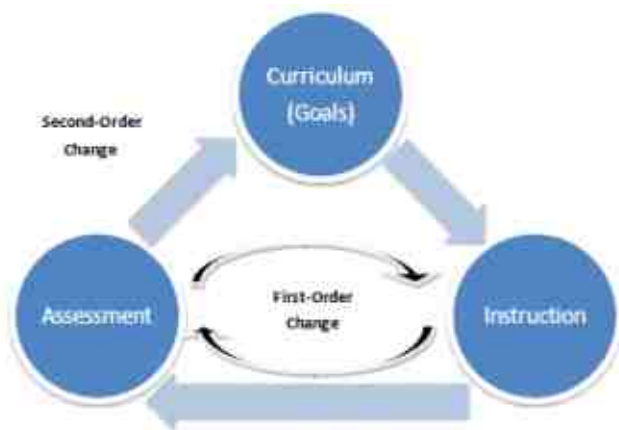


Figure 2. Single-loop and double-loop learning example

the assessment holding valid the assumption that there is no problem in curriculum. On the other hand, second-order learning relies on the ability to take a “double-look” at the situation by questioning the relevance of the curriculum. For this specific CIA issue, we can notice that we are facing difficulties in both learning style. Unfortunately, such difficulties can also be noticed in many other different aspects of Iraqi higher education. The difficulty does not come from the inability to anticipate change in the wider environment. It rather comes from the inability to question or challenge the operating norms and assumptions. This is a serious reason for the disability for adaptation in most Iraqi universities.

- The system seems to be immune to self-organization for several reasons. At first, many people are not believing in their universities supposed visions and values. Second, Iraqi universities are still late in fully exploiting the development in information technology and associated global networks to deploy appropriate information system to gain the benefits of decentralization and parallel-processing of holographic design. Here, two basic issues need to be addressed, which are the insufficient present e-learning strategies and the weak international coordination. Finally, there is an obvious lack in the necessary requirements for team work.
- Iraqi higher education system lacks the required “intentionally-designed” redundancy necessary for creating a shared decision-making system, which is

very important approach in exploring some issues from multiple perspectives. It quite possible to face decisions of crucial importance that are taken (almost) by a single person. The issue of lacking the required redundancy can also be noticed in the skills and mind-sets within universities, where most employees are only trained (or supposed to be trained) to do very specific jobs. Thus, administrators usually face many difficult bottle-neck situations due to this inflexible and serial-processing work style.

- Finally, it could be useful to again stress that the present state of the highly-centralized Iraqi higher education system represents almost a contradiction with implications and principle of holographic design.

Universities as Cultures

This metaphor brings focus on the values, ideas, beliefs, assumptions, and other patterns of shared meaning that influence organizational life. Every aspect of organizational life embodies social constructions and meanings which are necessary to understand organization operation. The culture metaphor emphasizes the fact that it is possible to create or shape universities by influencing the ideologies, beliefs, values, assumptions, and other social practices that guide and affects people. This is very crucial to our understanding of change in universities. Inspired by this image for universities, we can notice the following in the Iraqi case:

- Despite the fact that we can find some unqualified teachers and a minority of some other corrupted teachers in Iraqi universities, it is important to keep in mind that the Iraqi culture is very sensitive to the issue of reputation and hence most people do not accept to be connected in any way to corrupted people. However, we can notice that the MOHESR instead of identifying such corrupted teachers and take the required legal actions against them, it continuously stress (usually before the final examinations every year) that all faculty members should submit three groups of questions with their sample answers per each class to their department. Then, the department randomly selects one group of them for assessing students and ignores the other two groups. MOHESR thinks that in this

way they prevent corruption. However, it is obvious for everyone that this solution practically has no value. More seriously, this causes implicit negative reactions by many other faculty members. This is just one example of many actions that do not consider the culture issue in an appropriate manner.

- Due to the sever circumstances that Iraq have passed during the last years, many people in universities and other organizations have developed some kind of culture of survival behavior. This culture is based on reflecting the good picture of everything to higher levels by burying any existent problems. Thus, many reports that are submitted to administrators are showing the picture they want to see even if it is not real. Yet worst, some administrators are even not willing to see the real picture. Thus, and with many years of such behavior, many people reach to a state of even not seeing system problems. In accordance, they do not believe in the necessity of change. Indeed, many people are afraid for supporting any change because they believe this can be dangerous to their positions and jobs.
- One should arguably assume that there will be a resistant to any change in all the core, managerial, and institutional levels. This basically due to the fact that the required change do not only challenge actions and behaviors, but it also challenges people believes and assumptions. So, it is quite expected that the response to outer environment adaptation requirements such as international accreditation will be minimal as to fulfill reporting requirements. Thus, the cultural and social issue must be considered as significant in any plan for change.
- Considering the culture issue, there has been an important cultural change occurring during the last several years happening especially to students and other young people. They suddenly moved from a situation of semi-isolation from other countries in the world just before 2003 into much open environment with internet, mobile phones, and satellite TVs. They are now capable to compare the facilities and education programs offered by their universities to the facilities

and programs offered in other universities around the world. Thus, most of them are disappointed in some way or another as a result of this comparison. Unfortunately, they have very limited freedom to express themselves in a correct way. Therefore, we can notice some aggressive behavior of some of them against universities and available facilities. Many of them are keeping feel uncomfortable and unsatisfied. This represents an inherent internal resistance to faculty and administration actions and limits success possibilities all the time. This notice can also be inspired by the organism metaphor. However, it is quite possible to make a great benefit from these deep feelings stored by students if we could convince them that we are serious in doing noticeable enhancements in our programs, teaching methods, labs, and other facilities.

Miscellaneous

It is also possible to roughly describe all the above mentioned problems by relating them to every one of the three levels of higher education hierarchy (the core, managerial, and institutional levels). It is obvious that some of these problems can be related to more than one level at the same time. In this case, we need solutions that approach such problems in all related levels. Indeed, considering the general situation in most Iraqi universities in the recent few years, it is not difficult to notice that in most curricula there is an amplified concentration on knowledge aspects upon other issues of skills and attitudes. This concern is directly reflected on the instructional side in classrooms so that lectures are usually delivered in a spoon-feeding way with minimal student interaction. Off course, a similar remark can be noted for assessment where most of the overall mark percentage depends solely recalling of theoretical aspects.

The concern of insufficient focusing on the development of student skills might be partially justified by the lack of modern laboratory apparatus in most scientific departments and the difficulty of arranging high quality off-campus training due to the general unstable situation in Iraq. However, it seems that there is no acceptable way to justify that so many teachers are giving just a little focus onto the issue of attitudes.

National Strategic Plan for Higher Education

Unfortunately, it seems that the severe conditions of sanctions, wars, occupation, and instability still have negative consequences on the educational system in Iraq. Most Iraqi universities and institutions are not capable to fully recover for many reasons. We can divide these reasons into two main categories in accordance to the ability or disability to (fully or partially) control these reasons or factors. Thus, we have controllable and uncontrollable reasons. The most important of the uncontrollable reasons are: violence, security situation, and weak infrastructure. Controllable reasons include: the existence of no strategic plans, inefficient administration, unsystematic style of management, non-transparency, corruption, the existence of no actual quality assurance, and finally the weak international coordination.

Such a complex situation of relatively continuing degradation of the whole educational system in general and higher education in particular must stimulate the minds to develop a revolutionary strategic plan not only to stop this degradation but also to start an accelerated enhancement and development of the education sector to reach the level of international recognition and outstanding.

In 2009, MOHESR announced a proposal for the "National Strategy for the Development of Higher Education and Scientific Research 2009-2013" [7]. This strategy proposal begins with declaration of the general philosophy and main objectives of higher education in Iraq (MOHESR mission and vision). It includes a planning and implementation schedule for the period 2009-2013 that is divided into nine broad lines. The broad lines or main directions covered by this proposal are: student enrolment, curricula, ICT, funding, quality assurance, international relations, scientific research, education management, and required laws and regulation.

In general, the above mentioned proposal is promising. However, it has to pass many discussions on several levels before it can reach the required maturity to be considered as road map for all relevant parties. The main concern about this plan is that it did not explicitly consider the issue decentralization in an obvious way. The good news is that

we are witnessing relatively advanced and good HE reform experimentation in the Kurdistan-Iraq region [8]. This ongoing effort so far has well emphasized issues like internationalization, globalization, and decentralization. The success of this promising reform effort will definitely be helpful and stimulating for other regions of Iraq.

Work Market

Knowledge has become a key factor in economic development. This results in a change in the nature of work, shifting away from occupations rooted in industrial production to occupations associated with knowledge and information. Hence, the jobs of the future would necessarily require some kind of higher education qualifications [9].

Due to the unstable situation of Iraq during the last several years, the work market is not in a good shape in terms of recognizing and rewarding high quality graduates. For the time being, majority of graduates have to be employed by the government. Otherwise, the only alternative for most of them is to find any private job that is not necessarily related to their field of study. Indeed, public employment usually is based on personal connections rather than graduate qualifications. In order to enhance this situation, two steps are necessary to be taken in Iraq. At first, Iraq economy need to be better connected with international economy. Secondly, Iraq should be prepared to be more open for foreign investments. When the work market starts to recognize graduates quality, Iraqi universities will find themselves obligated to enhance their education programs. Indeed, with competition from international graduates, Iraqi higher education programs will be forced to become of international standard.

The Proposed Strategy

In this work, the authors adopt a strategy for addressing performing the required reforms in Iraqi higher education that is based on using both a "top-down" and "bottom-up" approaches. We need to activate both approaches simultaneously. Indeed, it is very important to maintain a high level of balance and coordination between them such that they can support each other.

When dealing with such a large-scale change issue, it is of crucial importance to correctly estimate the required time

for achieving an actual change. For the change in the Iraqi higher education, two important factors have to be taken into consideration in estimating this time. The first is the history of this higher education system and the related aspects. The second is the clear understanding of how the change in this system is connected to the possibility of doing a similar change in psychology of people and the culture of the whole Iraqi society.

Since 1958, successive Iraqi governments were used to keep trying to socialize every important aspect of life in Iraq. Starting from early 1980s, the Iraqi government was in a complete control on every detail of education in Iraq. Thus, we got this highly centralized and completely free (for students) higher education system.

We believe that the required change is the reforms that can make Iraqi universities and institutions of an international standard. Thus, we may estimate the required time for doing such a change to be no less than 20 years. It is possible to explain why we need to consider all this period of time using a metaphor of psychic prison [6]. Iraqis have based many years of sever circumstances that included wars, sanctions, and violence. In order to pass these circumstances, they developed many survival skills that enabled them to adapt to extreme environments. The positive side of this is that Iraqis generally are able to work and perform almost at all circumstances. However, one negative side is that many of them are either afraid of change or do not believe in it. In fact, since they lived in extreme circumstances for so long period, many of them have a strong believe that life in Iraq cannot be of much better quality in the future. Simply, they are accepting their life as it is because they are afraid from the worst.

We need to rebuild self-confidence and positive feelings again. We need to make people believe that they deserve much better life quality and that they can together make this life. We need to remind them that they have the potential and opportunity to do the required change. As usual, it is quite prudent to assume that younger people are more capable to accept the idea of doing change and making a difference. Hence, efforts should be more focused on students and junior faculty members. With continuous work along the time, accumulated effects will

be amplified and actual change can be achieved.

There is no pessimism in this argument. We are not talking about simple reforms. We are dealing with a complex case of out-dated highly-centralized and degraded-quality higher education system that many people involved with it even not capable to see its defects and weaknesses. We are talking about a kind of deep change that challenges people behavior, assumptions, and beliefs. Therefore, we have to highly appreciate time for our mission. The "top-down" and "bottom-up" approaches are described in the following two sections.

The Top-Down Approach

There are some factors that impose important effects for implementing the required reforms in higher education. These factors are either imposed by outer environments or they mainly need to be dealt with starting from institutional level. Among these to be discussed in this section are quality assurance and accreditation, private teaching institutions, students' fees, and entrepreneurial universities.

Quality Assurance and Accreditation

In spite of the fact that it is believed that most of higher education programs in Iraq are still little bit away from obtaining international quality assurance and accreditation certificates, putting these as requirements for Iraqi universities and institutions can be quite useful to properly define the best approaches, procedures, and mechanisms to enhance the quality of those programs.

Private Teaching Institutions

Given the present state of higher education in Iraq where about 85% of education is conducted by public institutions with highly centralized administration and management, it is justifiable to assume that a long time is needed to introduce a real change to such a system. However, one very helpful approach could be to establish more high quality private institutions. Such institutions would have better freedom and resources to adjust their programs to be of international quality. One very important issue to be emphasized here is that Iraq had some private universities and colleges since about two decades ago. However, the common problem for most of these private institutions is that their offered programs are of no better quality than the

peer public institutions. Hence, newly established private institutions are preferred to be highly connected (twinned) with some leading international institutions. In this case, we can insure that they can make a difference that is noticeable by society in Iraq.

Students Fees

One strong practical reason for the higher education system in Iraq to be such highly centralized is that public universities obtain almost all their funding from government. Remembering that education in Iraq is free in public schools and institutions at all levels, then it is not difficult to understand the sensitivity of talking about introducing some form of student tuitions and/or fees into public universities. In this direction, there are constitutional, political, cultural, and social obstacles that need to be overcome. A key issue here is convincing people about the importance of introducing a moderate quantity of such fees in public institutions. Some proposed argument points could be:

- Such fees should be moderate and comparable with average national person income.
- Iraqi universities are in a real need to find some other resources rather than government funding. Such fees will help the universities to enhance the quality of their programs.
- It is also possible to limit the way how universities will use such fees such that to be spent in some areas directly related to students services and benefits.
- Such fees will be quite useful to introduce the required degree of decentralization into the whole higher education system resulting in a great benefit of the programs being of international standard. This will enable Iraqi graduates to have better job opportunities in the national and international work market.
- Finally, this can give students more power to express themselves and to have more active role in the education process.

Entrepreneurial Universities

The entrepreneurial university is a higher education institution that is sensitive to the external demands of competitive and changeable markets and seeks ways to

transfer knowledge to products, goods and services, which have economic and social value. Entrepreneurial university is an organization in which faculty, staff, and students value innovations, creativity, share global vision and collaborate effectively to address the needs of the global society and help students to get prepared to succeed in the globalizing world. The entrepreneurial university occurs within a "triple helix" model of government, academia, and business interaction. The triple helix illuminates the recent and contemporary situation where market forces and the involvement of the federal government influence universities missions and their role to serve a wider population through contribution to economic and social development of society as a whole. In triple helix model, the role of the government is to guarantee stable interaction and exchange between industry as a production source and university as a source of new knowledge and technology. Trilateral networks and hybrid organizations emerge from the interaction among the three helices—academia, government, and industry. Etzkowitz emphasized that triple helix type of interaction between university, government, and industry is a key to "improving the conditions for innovations in a knowledge-based economy" [10].

The Bottom-up Approach

In spite that outer environment effects can be good leading force for starting change in higher education, the whole process of change cannot be really fruitful or fully successful without initiating a parallel process of change that begins from the core level. This is what we call the bottom-up approach. In this direction, we give an emphasis into three issues which are modern teaching techniques, e-learning, and globalization of the curriculum.

Modern Teaching Techniques

So far, teacher-oriented teaching approach mainly depending on lecturing is the dominant teaching methodology for most teachers in Iraqi universities. In the last years this approach have been much strengthened by two main factors, which are lack of supporting teaching facilities and the frequent cancelation of some classes due to security reasons. Thus, many teachers sometimes find

themselves has no choice to cover the course material but to deliver as much as possible of course material through lecturing. As a result, students have to mainly depend on memorization to pass their exams. In fact, it is quite possible to find some brilliant students who do not hesitate to mention that attending classes at their colleges is a "waste of time".

The whole situation should be changed as soon as possible by the actual adaptation of student-oriented teaching approaches and more relying on the development of student analysis and synthesis capabilities. In order to achieve this, the following actions are required:

- Teacher and instructors need to have sufficient training in modern teaching techniques. More important, they should believe in their importance.
- Colleges and departments should offer more facilities and technology for teachers and classes.
- Universities should no longer solely rely on research activity for scientific promotion. They have to give more importance for teaching capabilities in a quantified and qualified manner.

E-Learning

Iraqi universities need to deal with e-learning in two different levels. The first is the recognition of e-learning degrees. So far, MOHESR do not recognize any on-line degree. The authors feel that this issue with more relaxation via putting some conditions and requirements to enable the recognition of some on-line degrees earned from some respectful institutions. The second and may be the most important level is making more benefit from e-learning and e-technology in ordinary degree programs offered by Iraqi universities. This might include video conferencing, online and off-line lecturing, virtual labs, and distributed joint projects. In order to enable the use of these techniques, three main things are required:

- Re-building communications infrastructure
- Making such e-technology (both hardware and software) available
- Faculty and staff technology training

C. Globalization of the Curriculum

This is another important issue. The work of various scientific

and professional organizations worldwide to help higher education in meeting industry and global work market needs has become of important influences on several aspects of higher the educational process, including curricula design. The joint work of IEEE, ACM, and other organizations on developing guided lines for the curricula in computing degree programs is very good example of such activities.

Conclusion

In this work, the authors have tried to describe an approach to design and implement the required reforms in the Iraqi higher education such as to facilitate this system to be capable to produce graduates with an international quality. This is seen by us as a crucial need for Iraq in the next stage. The described approach takes into account various historical, social, and cultural factors that are relevant to both the present state of the system and/or to achieving the required reforms. The key concept of these reforms is introducing more decentralization into what used to be highly centralized public education system. Privatization, globalization, and e-learning are indeed some basic concepts that were considered in this work. After this paper that aims to present the general broad picture of the required reforming in Iraqi higher education, we are planning to extend our future work to consider in a deeper analysis different aspects of this complex issue.

Acknowledgment

This work was performed at Eastern Michigan University (EMU) while Dr. Sufyan Al-Janabi was there as a Fulbright Visiting Scholar. This program is directed by the US Institute of International Education (IIE). The authors would like to thank all people at EMU and IIE.

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