

UNDERGRADUATE LEARNING OUTCOMES FOR THE 21ST CENTURY AND ASSOCIATED PRACTICES: THE CASE OF THE COLLEGE OF EDUCATION AT KING FAISAL UNIVERSITY

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Abstract

The study focuses on higher education practices associated with learning outcomes for the 21st century, and the degree of their applications in the College of Education at King Faisal University, Saudi Arabia. The findings show that most of these practices are not implemented or are being administered at a low level. Accordingly, the study calls for a coherent action plan to address strategic goals and determine critical areas for improvement in the future.

Introduction

The number of Saudi universities has increased over the last ten years, from seven public universities to twenty eight, to accommodate the demands of Saudi citizens to attend higher education institutions. As a result, policymakers have increased efforts to make higher education as accessible as possible. Additionally, the quality of higher education has always been a concern; yet, there is still a need for higher education aims and outcomes for the new global century.

In recent years, the world has shifted and evolved in different aspects, such as politics, economics, and culture. In the report of The National Leadership Council for Liberal Education and America's Promise LEAP (AAC&U, 2007), for example, American higher education figures envision the United States in the 21st century to be disengaged from being a superpower and to be engaged with the global community both collaboratively and competitively. Accordingly, higher education institutions in the U.S. should prepare students for a global world through enhancing their international competencies and experiences.

In India, Chitnis and Altbach (1993) reported that there is a growth of an international market for educated manpower, and the challenge is to prepare Indian students with the knowledge and skills necessary to compete effectively in this market. The prospect of international competency is just as important in Latin America. Schwartzman (2001), in his report on world challenges in higher education, stressed that reduction of reliance on educational credentials in the job market, as well as the increasing need for competence and skills, should be the focus of educational institutions.

While it is true that challenges vary from country to country and institution to institution, and these specific challenges drive the higher education systems to act accordingly, prominent features may become apparent to envision higher education in a global context. For example, the Organization for Economic Co-operation and Development (OECD) has endeavored to assess learning outcomes on a valid international scale measure.

Nusche (2008) laid out an overview of higher education outcomes across OECD and partner countries. After reviewing a wide range of higher education outcome assessments in different countries, she proposed that a cognitive domain focusing on knowledge and skills is well established in Brazil and Mexico (such as the Brazilian ENC-Provao, ENADE, EGEL, and EGETSU). In addition to specific cognitive-domain outcomes, the U.S. examines generic skills (using tests such as the GRE) including verbal and mathematical reasoning, as well as capacities to use information. In Australia, a wide range of generic skills, such as critical thinking, problem solving, and written communication, is tackled (with tools such as the GSA and CEQ). In Canada and the United Kingdom, expectancies of higher education have strong ties with occupational competencies (see the YITS and DLHE).

It is evident that we live in a period of rapid change in higher education. Future priorities certainly imply challenges and a call for action; consequently, this study focuses on higher education practices reflecting the learning outcomes for the 21st century. Moreover, the study aims to determine the

degree of implemented practices associated with these desired learning outcomes in the College of Education at King Faisal University.

Context

The study of higher education in the 21st century is not a straightforward process; however, a prospective of its future evolution may be glimpsed through a review of related articles and reports. It is true that looking at these reports and articles may not give us all of the details concerning the future of global higher education, but it helps to articulate fundamental future trends.

Since 2007, King Faisal University (KFU) has taken steps toward reform to assure a higher quality of education and to become an accredited institution. Accordingly, the College of Education at KFU has to assess its current practices and align them with future trends in global higher education. Correspondingly, this study will complement the current assessment efforts at the College of Education at KFU and provide some enlightenment by answering the following questions:

1. What are the major practices that will shape the global learning outcomes of higher education institutions in the 21st century?
2. Are these practices endorsed in the College of Education at King Faisal University?

Key Concepts / Literature Review

"College learning for the new global century" (AAC&U, 2007) is a key report that was issued to outline the premises and aims of 21st century higher education. In this report, the LEAP lays the groundwork of the contemporary college education that students should acquire to respond to future global challenges, based on extensive input from educators and stakeholders. It envisions America as being disengaged from being a superpower to become more involved with the global community collaboratively and competitively. Challenges will include: everyday living, economics, cross-cultural encounters, and global dependency. Thus, preparing for these challenges will entail acquiring:

1. Knowledge of human cultures and the physical and natural world.
2. Intellectual and practical skills including: inquiry and analysis, critical and creative thinking, written and oral communication, quantitative literacy, information literacy, teamwork, and problem solving.
3. Personal and social responsibility.
4. Integrative learning through applications of knowledge, skills, and responsibility to new and complex problems across subjects.

In addition, it would be remiss to discuss higher education in the 21st century without mentioning the report published by The Boyer Commission on Educating Undergraduates in the Research University (2008), which is believed to have had a lasting effect on higher education in America, and has broadened thinking about endeavors to improve the teaching/learning process. The report does not engage the issue of continuing dialogue about undergraduate content, nor the body of writings deemed to be the essential canon for the educated person; rather, it recommends ten process-oriented ways that higher education should be changed. These apply across disciplines and across a wide variety of institutions:

1. Make research-based learning the standard.
2. Construct an inquiry-based freshman year.
3. Build on the freshman foundation.
4. Remove barriers to interdisciplinary education.
5. Link communication skills and course work.
6. Use information technology creatively.
7. Culminate with a capstone experience.
8. Educate graduate students as apprentice teachers.
9. Change faculty reward systems.
10. Cultivate a sense of community.

To have an extended vision and look beyond the American system, the article "Global challenges and Chinese responses" is subscribed to the Chinese situation. The article has identified science and technology as two parameters in preparing Chinese students to work and to experience lifelong learning (Weifang, 1999). Indeed, the role of information technology in preparing Chinese students to work and to experience lifelong learning is well-documented.

According to Weifang (1999) the exponential growth in China is conditioned to a successful transition from knowledge to innovation. Looking at higher education institutions as knowledge-based institutions, universities and colleges have a major role to play in reshaping development in China. Thus, Peking University, along with other universities and colleges, has worked to combine teaching, research, and services to direct the development process of the new world economy of the 21st century (AEARU, 2009).

The nexus between teaching and research is not only a challenge for China, but also for other countries. China also shares a worldwide concern as world countries have become interdependent and more closely interconnected than at any other time in history. Close consultation, coordination and mutual cooperation in many international affairs have been already documented. From the war on terror to global challenges such as environmental change, the world has had to work together to manage global concerns and interests. Preparing students for a global society and incorporating global perspectives into experiential learning is also a challenge for higher education in China (AEARU, 2009).

While it is true that China and India are located in the same geographical region, the Indian educational system entails a historical piece that reflects the colonization of India by the British Empire since 1857. Even after India declared independence in 1947, the British educational system was well implemented from primary grades through higher education institutions. The emphasis on British/European culture and knowledge was so pronounced that higher education institutions never really encouraged a spirit of critical inquiry or independent thinking, which is vital to the advancement of knowledge and prosperous research (Chitnis & Altbach, 1993).

Nowadays, integration of research in learning and teaching science and technology for India's prosperity is a high educational objective. India's prosperity is also complicated by making education more relevant to market needs. In a global economy, there is a need to equip students with transnational competencies so that they can compete in the global market effectively. To meet these needs, international partnerships and networking for the advancement of knowledge should be considered. Consequent issues of ownership, partnership, accreditation, acceptability, and accountability need to be systematically functioning (Chitnis & Altbach, 1993).

In Latin American Countries, Higher education institutions have been inundated with an influx of students. While there has been a history in Latin America of accommodating students in governmental and private enterprises, determining the learning outcomes of these students is challenging. Employers are looking for more qualified employees. In fact, the job market is reducing its reliance on educational credentials, and requiring more competence and skills (Schwartzman, 2001). The acquisition of knowledge and skills to compete in the global market will not be subordinate only through national institutions, but also through a multitude of international entrepreneurs that will illuminate the new endeavors of the "education industry." It is evident that higher education institutions in Latin America need to strengthen ties with international institutions and institute alliances to broaden opportunities for students to be at the forefront of global development (Schwartzman, 2001).

Higher education in Japan shares some of the contemporary challenges facing other countries; however, there are some issues unique to Japan. Japanese institutions have, historically, observed the European model, which has caused many individuals to be less aware of their own country's history (Mitsuta, 1999). The dilemma of upcoming challenges will be how Japan preserves their elite higher education system while demonstrating practices modeled on Western institutions.

By the same token, the English language has been assumed worldwide to be the primary language for science and research, including influential resources such as the internet. Accessing the internet and keeping up-to-date with scientific research require the knowledge of English. For too long, Japan has

been known for translating content from English into Japanese; this effort is time consuming and will not be effective for much longer (Mitsuta, 1999).

Two of the challenges facing Japanese higher education in the future will be: (1) to promote the study of English as an international and scientific language, and (2) to maintain their national identity. Without addressing these challenges, Japanese higher education will have a difficult time attracting students from the outside world to their universities (Mitsuta, 1999).

In addition, the final report released by the Prime Minister's Commission (PMC, 2000) on Japan's Goals in the 21st Century revealed major global trends and challenges for Japan in the 21st century. The educational implications of such norms and challenges have been represented in the following: 1) Globalization: the needs to cope with the speed of developments, to participate in rule making and to empower individuals. 2) Global Literacy: the needs to obtain information, understand it, and express ideas clearly. 3) The information technology revolution: the needs to access, evaluate, and use information efficiently, creatively, and accurately through establishing technology infrastructure and software development. 4) Advances in science: the needs to enhance a growth in science under a prevalence of ethics and values.

Methods

The researcher has designed a paper-based survey that articulates practices lined up with higher education learning outcomes in the 21st century based on the review of prominent reports. A long list of higher education practices was created to reflect the 21st century learning outcomes. A careful analysis was then carried out to outline shared domains existing across the reviewed research studies and reports. As these domains evolved, the list of practices was revisited to assign each practice (which was supported essentially by at least two credible research references from the literature review) to a domain. To create the final version of the survey, the researcher consulted the faculty of education at KFU to assure that the practices were capturing succinctly the essence of the articulated domains, and to validate the survey items as they were acquainted to the practices.

The survey was checked then for reliability by two raters who work in the same department at KFU. Kappa's test of inter-reliability was used to assess the consensus between the raters and revealed an acceptable score to indicate agreement between them ($k \leq 0.7$). The final version of the survey was ready at the beginning of the first semester 2009-2010, and it was then forwarded at the mid of the semester to the College of Education at KFU to be completed by the department chair and faculty. Twenty-nine faculties from the four programs filled out the survey, and the answers were ranked according to a five-category Likert response scale with the following alternatives: (1) Very Unsatisfied (2) Satisfied (3) Neutral (4) Satisfied (5) Very Satisfied.

Results from this survey have been compiled with a review of program plans (the descriptions or representations of structures that program designers have proposed as a way of achieving purposes or goals of the program), course objectives, and course syllabi tasks. In addition, some results have been commented on by the report of the initial evaluation study team (IEST) appointed by the University's president in 2008.

Findings and Discussion

1. What are the major practices that will shape the global learning outcomes of higher education institutions in the 21st century?

The review of contemporary reports and related articles has yielded effective practices to represent learning outcomes for the 21st century in the following five clusters (Table 1):

- a) Research Skills
- b) Communication Skills
- c) Knowledge and Interdisciplinary Perspectives
- d) Cultural Understanding and Global Awareness
- e) Perceptions and Capabilities Recognition

The goals of these clusters are embodied through the adaptation and promotion of a set of associated practices (habitual acts that are acquainted as institutional norms). While some practices link directly to a single cluster, other practices could be folded into more than one cluster. Therefore, across-cluster practices are current conventions promoted by the researcher and the consultant faculty from KFU.

2. Are these practices endorsed in the College of Education at King Faisal University?

The responses to the existence of the above practices at the College of Education at KFU were transformed to average scores (Table 2), and they show that nine of the practices scored the lowest. Furthermore, Table 2 shows standard deviation (SD) scores, which indicate that some of these practices have divergent responses, while others have a good consensus.

Most of the low-scoring practices fall under the "research skills" cluster. Research, as a matter of fact, is not taught in undergraduate programs in the College of Education, though educational research is endorsed in the overall college vision. But the review of programs and course objectives does not indicate any research as part of instruction at any stage of the program (College of Education at KFU, 2009).

Research practice is not stated in either the programs' objectives or in any course objectives. The programs' plans are designed so that freshmen students register for general and prerequisite courses. None of these courses has any indicator that freshmen students work on researching any problems of interest (College of Education at KFU, 2009).

The IEST (2008) showed that, in general, limited grants and funds are offered at the graduate level across all university programs, and it is rare that a research fund and grants are awarded to undergraduate students. This study also found that funded research needs particular attention and an efficient systematic operation.

The College of Education has traditionally been a teaching college, yet the research spectrum has only been recently incorporated into the College's vision. The IEST (2008) has made three recommendations for action that may impact the adaptation of research at KFU:

1. Establish a Research Development Office for the commercialization of research.
2. Establish a fully-staffed, multidisciplinary Central Research Laboratory accessible to all faculty members with its own allocated operating funds. Consequently, recruit specific staff for this laboratory.
3. Encourage faculty to carry out multidisciplinary and experimentally-based research projects related to the national 5-Year Development Plan.

The 5-year Development Plan proposed by IEST may help cultivate a "culture of research" within departments that will ultimately address the links between research and teaching. "Faculty members, graduate students, baccalaureate students all bring their particular combinations of energy, imagination, experience, and accumulated knowledge to bear. The divisions that have been created between them are artificial and counter-productive and must be bridged for effective collaborations to occur" (Boyer Commission on Educating Undergraduates in the Research University, 2008, p. 33).

The results from Table 2 show that the "knowledge and interdisciplinary perspectives" cluster included three of the lower-scored practices. Yet one practice in this cluster was scored above "neutral," the practice which stressed the students' ability to capitalize on their knowledge across the departmental confines through courses in different areas. A review of the plans of KFU undergraduate programs reveals at least forty credit hours offered out of the primary subject of study. The IEST (2008) has pointed out that KFU is seeking to graduate students that are characterized by their full understanding of more than one scientific field and capable of making decisions using scientific concepts in line with ethical standards and social responsibility.

The three lowest-scored practices in the cluster of "knowledge and interdisciplinary perspectives" are interdisciplinary majors, capstone courses, and remediation sessions. The four programs implemented in the College of Education have a set of elective courses that set basics for some study fields and core courses to reflect a major of study. Each student has to fulfill a certain number of credit hours dedicated to a particular major. Thus, interdisciplinary programs as such do not exist; this has been pointed out by the IEST as an area which is lacking and that should be looked at more closely (IEST, 2008).

The need to prepare students with the necessary academic skills prior to the start of a program of study is evident. Looking at the four programs in the College of Education, it is clear that students should be furnished with basic skills in mathematics and writing. In the context of the College of Education at KFU, the admissions department is charged with meeting general requirements rather than fulfilling each department's competencies. The review of each program's plans indicates that they do not offer any preparatory courses prior to the start of any program; moreover, the stated objectives of each program do not even outline any specific requirements to determine an applicant's suitability to execute a program of study (College of Education at KFU, 2009).

While addressing fundamental skills is necessary at the beginning of a college year, ensuring that the educational experience is drawn together and the use of knowledge is capitalized in the last college year is also obvious. To correspond to this proposition, students need to be exposed to a capstone course. The objective of a capstone course (a class designed to assess cognitive, affective, and psycho-motor learning) is met through a practicum which students must complete at the end of the program. The plans of the four programs at the College of Education do not include any capstone courses or senior seminars that enable fourth-year students to reflect and integrate their college experience (College of Education at KFU, 2009).

The items embodied in the cluster of "cultural understanding and global awareness" were scored relatively low. One item, granting wide-spread internships throughout the program, was scored low (1.6), though the SD score was eminently high (.68). This indicates that the College of Education faculties at KFU seem to have diverse opinions of the existing students' internships. Even though the only designated internship in the college is carried out through the practicum at the end of the program, it is possible that some faculties integrate some internship activities throughout their courses. The IEST (2008) pointed out that KFU faces an upcoming challenge to integrate a dynamic system that allows updating program plans regularly to meet the needs of job fields. The team added that the correspondence to market needs should be made clear at national, regional, and international levels. Internships integrated into each program of study may help to strengthen ties to respond to job/market demands.

The rest of the items in the cluster of "cultural understanding and global awareness" revolve around scaffolding inquiry in teaching and in internships, and casting real-world problems across curricula. In the college of education, inquiry and exposure to real-world problems intensively show students how historical, cultural, and ideological forces affect both individuals and nations and increase their awareness of international issues.

The review of stated program objectives does not stress the promotion of inquiry in any mode (guided inquiry, bounded inquiry, or open-ended inquiry) (College of Education at KFU, 2009). The programs' objectives have not been assessed since the programs were launched, which has led IEST to call urgently for a reevaluation of the strategic objectives of each program (IEST, 2008). The review of course syllabi offered in the College of Education revealed some assignments where there is an indication specifying inquiry-based teaching and learning. On the other hand, there is no proclaimed strategic plan to encourage inquiry in teaching through a culture of reflective practice among faculty and students.

In addition, integrating inquiry into internship was scored low with no response divergence ($SD = 0$). The only internship that is administered throughout the program is a teaching practicum. This practicum is carried out at the end of the program to help pre-service student teachers to develop the skills and knowledge necessary to become effective practitioners (College of Education at KFU, 2009). Almustafa and AboSaleh (2006) found that the evaluation forms adapted for the practicum are

constructed in accordance with the subject of the specialization, and they suggested other means of evaluation that could be incorporated into the evaluation process, including inquiry.

The cast of real-world problems across the curricula was scored above the "unsatisfied" level and less than the "neutral" level, with a low deviation in responses ($SD = 0.3$). The review of all course syllabi offered through the College of Education revealed no assignments in which students are confronted with solving real-world problems (College of Education at KFU, 2009). Such a practice may not be stated as a primary course objective; studies have acknowledged the challenge that college instructors face with the difficulty of creating such a learning environment in their classrooms (Ikseon & Kyunghwa, 2008).

The three items in the cluster of "communication skills" were scaled variously. The item that stressed "collaboration among students" was scored above "neutral" ($m = 3.1$, $SD = 0.7$). The review of programs and course objectives did not identify collaboration among students as a primary objective. Nevertheless, the syllabi allude to assignments and activities that promote collaboration among students including group papers, reports, and projects (College of Education at KFU, 2009).

The item that encompassed the reinforcement of communication skills was scored above the "unsatisfied" level ($m = 2.6$), and had a considerable deviation in responses ($SD = 0.56$). Communication encompasses a vast repertoire of skills that are crucial to several practices. Therefore, the surveyed faculties seem to have either inconsistent activities that focus on communication skills or they have no awareness of such activities. The review of all course syllabi offered through the College of Education revealed some assignments in which students essentially need to respond as a team; however, the courses' stated performance objectives clearly do not provide a framework for planning the type of coursework that consolidates communication skills (College of Education at KFU, 2009).

Communication skills also evolve as a result of institutional arrangements of seminars that stimulate students to engage in active discussions that not only open intellectual horizons but also allow for profound ways to communicate thoughts. The overall program plans do not entail any seminars at any study level. The periodic college report for the year 2007-2008 (College of Education at KFU, 2008) did describe some seminars that treated subjects not available within the college departmental framework, but these seminars were driven by faculty interests. Thus, it is clear that there is no strong messaging strategy being put together to reflect broad coherent goals in this area.

The five items in the cluster of "perceptions and capabilities recognition" have average and standard deviation scores. The item of tailoring programs to students' needs garnered controversial responses from faculty members who may be reacting from two different perspectives: faculty who are sensitive to what their students require and ask for, versus faculty who support what the institution deems necessary and takes action accordingly. Based on these probable premises, the four programs at the College of Education at KFU were established on the departmental and college perspectives; accordingly, students' needs are not well recognized. In respect to this, the IEST (2008) has urged KFU to establish a clearly defined system for the periodic evaluation of programs for which students' needs might be better addressed.

The cluster of "perceptions and capabilities recognitions" connects to the shift of the 21st century to the digital community and is reflected in the integration of the use of computers to aid learning. This item was scored "unsatisfied" ($m = 2$, $SD = 0.37$). This dissatisfaction could have resulted from faculty members believing that computer-assisted instruction is not a practice the College of Education has subscribed to, or they may have not believed in the outcomes of the practice itself. The review of syllabi does include assignments which revolve around computer-aided learning; however, such assignments may be integrated in different ways by individual faculty members. Recently, the university launched a promising program to promote the diverse and rapidly expanding spectrum of computer technologies that assist the teaching and learning process. Yet, no proclamations could be addressed with strategic goals (College of Education at KFU, 2009).

Implementation of mentorship is also an institutional practice that was suggested to reacquaint students' perceptions and expand their capabilities. This item was scored as "unsatisfied" ($m = 2$) and interestingly the responses were in good consensus ($SD = 0.25$). In respect to the College of Education at KFU, mentorship does not exist within a planned context. However, limited supplemental

interventions are available as requested (College of Education at KFU, 2008). A well-known type of mentoring program involves matching freshmen with alumni; nonetheless, students graduate from the College of Education having no means of further contact with recent students. The IEST (2008) showed that KFU alumni do not feel they owe any particular allegiance to KFU. As a result, the IEST team called for the development of a significant Graduates' Alumni Office where a mentorship program can evolve.

Encouraging students to address thoughtful questions is an instructional norm to heighten students' perceptions and capabilities recognition. This item was scored above the "unsatisfied" level ($m=2.2$, $SD = 0.46$). The review of course syllabi offered in the College of Education revealed some assignments where students are involved in considering thoughtful questions (College of Education at KFU, 2009). The instructional role has a teacher-centered legacy in which teachers ask thoughtful questions that require students to think and elaborate.

The Boyer Commission Report (2008) promotes a faculty reward system in which teaching excellence becomes a multifaceted construct based on underpinning students' perceptions and taking the maximum advantage of enabling their capabilities toward cultural expectations. In this respect, Table 2 postulates that the highest score ($m= 3.6$) was associated with the practice of offering incentives for faculty with innovative teaching methods. The IEST (2008) laid states the need of a fair and transparent policy for bonuses and incentives awarded to involved and innovative faculty members. Accordingly, the president of KFU has instituted a faculty reward system in which teaching excellence is a primary criterion. Moreover, one current policy is to encourage faculty to integrate technology to aid instruction. Each faculty member who incorporates the WebCT software to generate an entire course online or to complement a classroom-based course is entitled to a laptop computer.

Conclusions

The purpose of this study was to provide an update on future learning outcomes of the 21st century, and to determine the alignment of these outcomes with associated practices within the College of Education at King Faisal University. The results showed that most of these practices are not being implemented or are being administered at a low level. Research was apparently not an integrated component of the four programs implemented at the College of Education at KFU, even though research skills are postulated primarily in 21st century learning outcomes. As a result, KFU should determine critical domains for improvement and establish clear goals and strategies to be fostered through a carefully constructed, coherent action plan.

Influential and strategic reports that are revitalizing education in the 21st century to meet local, regional, and international needs should be mirrored in Saudi university practices. Such reports and studies should be released systematically by the Ministry of Education to communicate its strategy to the universities and build a culture of awareness about regional and global needs.

With respect to the Gulf region, the Arab Bureau of Education for the Gulf States (ABEGS) should continue monitoring events in member countries as well as in the international arena, and include regular projections of higher education developments. The GCC universities should cooperate with the ABEGS to compare policy experiences and identify good practice on domestic and international levels. In addition, the committee of education boarded in the Cooperation Council for the Arab States of the Gulf (CCASG) should project educational insights that correspond to common GCC needs and embrace global education norms. These insights should be communicated to GCC universities to guide decision making.

In addition, the Arab Gulf countries should share a strategic vision that addresses future learning outcomes to fulfill regional and global norms. National frameworks of quality assurance and accreditation in higher education should be geared toward that perspective. In that sense, the Gulf universities will ensure institutional practices that are associated with valid quality educational experiences and qualifications. Additionally, in the context of global job market, stakeholders need to have reliable information on the value of particular higher education institutions. Graduates from the Gulf Arab States universities will be in competition with citizens from other countries, especially in the private sector that is internationally oriented and sourced to generate job opportunities for the future.

While all competitors may cherish global learning outcomes, the Gulf Arab States graduates should show more credibility in acting globally, regionally, and locally.

References

- Almustafa, A., & AboSaleh, K. (2006). Reality of supervision of teaching practice at the College of Education, King Faisal University. *KFU Humanities and Management Science Journal*, 7(2).
- The Association of East Asian Research Universities [AEARU]. (2009). Review of AEARU Activities in 2007-2008. Retrieved 29 August, 2010, from: http://www.aearu.org/pdf/brochure_2009.pdf
- Association of American Colleges and Universities [AAC&U]. (2007). *College learning for the new global century: A report from the National Leadership Council for Liberal Education and America's Promise*. Retrieved October 19, 2009, from http://www.aacu.org/advocacy/leap/documents/GlobalCentury_final.pdf
- Boyer Commission on Educating Undergraduates in the Research University. (1998). *Reinventing undergraduate education: A blueprint for America's research universities*. Retrieved 10 November, 2009, from <http://naples.cc.sunysb.edu/Pres/boyer.nsf/>
- Chitnis, S., & Altbach, P. G. (Eds.). (1993). *Higher education reform in India: Experiences and perspectives*. New Delhi: Sage Publications.
- College of Education, King Faisal University. (2008). *College of Education Annual Review Report*. (unpublished materials). King Faisal University, AlHassa, Saudi Arabia.
- College of Education, King Faisal University. (2009). *College of Education Study Plans and Coursebooks*. (unpublished materials). King Faisal University, AlHassa, Saudi Arabia.
- Ikseon, C., & Kyunghwa, L. (2008). A case-based learning environment design for real-world classroom management problem solving. *TechTrends*, 52(3), 26-31.
- Initial Evaluation Study Team [IEST]. (2008). *The initial self-study for KFU*. Retrieved 21 August, 2009, from: <http://www.kfu.edu.sa/ar/Deans/Development/Pages/QualityUnit.aspx>
- Mitsuta, A. (1999). "Universal problems and national realities: Japan in comparative perspective." In P. G. Altbach & P. M. Peterson (Eds.), *Higher education in the 21st century: Global challenge and the national response*. Institute of International Education, Research Report no. 29. Washington, D. C.: Council for International Exchange of Scholars.
- Nusch, D. (2008). *Assessment of learning outcomes in higher education: A comparative review of selected practices*. Retrieved 21 April, 2010, from: <http://www.oecd.org/dataoecd/13/25/40256023.pdf>
- Schwartzman, S. (2001). *The future of education in Latin America and the Caribbean: Seventh Meeting of the Intergovernmental Regional Committee of the Major Project in the Field of Education in Latin America and the Caribbean 2001*. Retrieved 20 November, 2009, from: http://www.unicef.org/lac/future_of_education_in_LAC.pdf
- The Prime Minister's Commission (PMC) on Japan's Goals in the 21st Century, (2000). *The Frontier Within: Individual Empowerment and Better Governance in the New Millennium, Final Report of the Prime Minister's Commission on Japan's Goals on the 21st Century*. Retrieved 22 April, 2010, from: <http://kantei.go.jp>
- Weifang, M. (1999). "Global challenges and Chinese responses." In P. G. Altbach & P. M. Peterson (Eds.), *Higher education in the 21st century: Global challenge and the national response*.

Appendix

Table 1.

Domains and Associated Practices

Cluster	Practice
Research Skills	To integrate research in instruction
	To offer grants and funds for undergraduate research
	To devote equal efforts for teaching and research
	To engage first-year students to research a problem with faculty and graduate assistants
Communication Skills	To consolidate communication skills
	To promote collaboration among students
	To administer seminars* for students throughout the program study
Knowledge and Interdisciplinary Perspectives	To offer collective courses in different areas
	To allow for customized interdisciplinary majors
	To incorporate a capstone course* in the program
	To offer remediation classes* to assure program readiness
Cultural Understanding and Global Awareness	To manifest inquiry in teaching
	To grant wide-spread internships throughout the program
	To base internships on inquiry

To embody real world problem-solving across curricula

Biographical Note



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