Intersections of the Public and Private in Education in the GCC

Conference Proceedings

Papers from the Second Annual Symposium of the
Gulf Comparative Education Society

March 16-17, 2011
Ras Al Khaimah, United Arab Emirates

GCES
The Gulf Comparative Education Society

SHEIKH SAUD BIN SAQR AL QASIMI
FOUNDATION FOR POLICY RESEARCH

كليـة دبـي للإدارة الحكوميـة
DUBAI SCHOOL OF GOVERNMENT

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In partnership with the Dubai School of Government and with support from the
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Introduction

With the generous support of the Sheikh Saud Bin Saqr Al Qasimi Foundation for Policy Research, and in collaboration with the Dubai School of Government, the Gulf Comparative Education Society (GCES) organized its second annual symposium on March 16 and 17, 2011. Entitled "Intersections of the Public and Private in Education in the GCC," the symposium was held at the Al Hamra Convention Center in Ras Al Khaimah, United Arab Emirates. It consisted of nine panels and 32 presentations, with both invited speakers as well as those who had submitted abstracts for presentation. The speakers came from a wide variety of countries, including the UAE, Oman, Bahrain, Qatar, Switzerland, England and the United States, and represented different voices in the education sector, ranging from policy makers, academics and researchers, to school providers and leaders, consultants and teachers.

The purpose of the GCES symposium was to examine the increasing influence of the private sector on public education policies and practices in the Gulf Cooperation Council (GCC), particularly in the context of access, equity, quality and accountability. Delivering the keynote address on new education governance partnerships was Prof. Susan Robertson, Professor of Sociology of Education at the University of Bristol, while the remaining panels addressed the following topics:

- Blurred Boundaries: Public and Private Schooling in the GCC
- The Role of the Market in Higher Education in the GCC
- Building Teacher Quality
- Addressing STEM
- Leading Policy Change
- Building a Knowledge Economy
- Privatization of the Education System
- Global Influences, Local Choices
- Innovation in Education

In addition, the symposium brought together over 100 participants working in a range of organizations across the Emirates, the Gulf states and beyond, all of whom shared an interest in comparative education in the GCC.

Following the symposium, presenters were asked if they would like to submit a 1000 – 3000 word paper on their presentation. This volume is the compilation of those who submitted papers. While it does not cover all of the presentations that were made at the symposium, presentation slides for all the presentations are available on the GCES Web site at http://gulfcomped.ning.com.

Dr. Natasha Ridge - President

Dr. Ali Ibrahim - Vice President

Samar Farah - Secretary

Cross Roads, Intersections, Departure Points: Locating Public and Private Projects in New Education Governance Partnerships

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Introduction

For more than three decades, important changes have been under way in the governance of education systems, as institutions, governments and international agencies promote more hybrid arrangements that involve new combinations of the state, the private sector, civil society and households in education. A wide range of terms have emerged to capture these developments, from Public-Private Partnerships to Multi-stakeholder Partnerships. These developments, however, have created a new set of challenges and posed new questions. How might we best understand the purposes, logics and outcomes of new governance models, when research in the field is polarized, highly contested, and piecemeal? What should be the conditions for private sector involvement in public education? And, how might we ensure that when these intersections occur, the public good nature of education is protected?

In this address, I will argue three points of departure are necessary in order to move the field along. First, we need to develop a *meta-language* in order to frame, map and assess these hybrid forms of governance, particularly those involving the private for-profit sector. Second, we need to outline a *normative basis* for judging the outcomes of the intersections between the public and the private. Third, we need to determine the affects of these new arrangements on *different groups* in society, particularly those with the fewest resources to realize choices. Before I address these "departure points," it is important that we remind ourselves of *how* we arrived at where we are today, *why* it is these debates are controversial in the education sector, and therefore why this conference is timely.

Education – A Complex Social, Cultural and Political Good

You will need little reminding that education is a unique and complex kind of activity, though this is often conveniently forgotten in accounts which see the sector as a services sector open to trade. In all societies, formal primary schooling is now legislated as a minimum entitlement, with a growing number of countries educating up to 50 percent of its population to tertiary level. Education is also a fundamental human right; as signatories to the UN Convention on Human Rights (1947), nation states are obligated to ensure its citizens have access to (free) primary education.

Education also plays a central role in the reproduction and transformation of societies. It shapes individuals' understandings of the world, as well as their trajectories and locations in the social hierarchy. Education is therefore a means of emancipation, as well as regulation (Santos 2004). It is for this reason that its place in the social contract between the state and its citizens is, and should be, contested. There is a great deal at stake for individuals and societies. Understanding the consequences of changes in the governance of education systems are therefore crucially important for the reasons I have outlined above. If changes in the governance of education alter the opportunity structures in a society in positive or negative ways, then we need to ask *strong questions* about the nature of those governance arrangements, and expect *strong answers* in response (Santos 2010).

"Cross Roads" - New Mandates for Education, Governance Challenges, and New Forms of Distinction

Mandates

One starting point in examining current intersections between the public and the private in education governance today is for us to look backwards; at the conditions, political projects, and transformations, which emerged from the 1970s onwards (Hobsbawm 1994; Harvey 2005), which are variously referred to as globalization, neoliberalism, structural adjustment policies, and so on. Whilst these are different though related phenomena, they nevertheless had in common the rolling back of the welfare state, the liberalization of national economies (especially in relation to finance capital), and—crucially important for our purposes—opening up public sectors like education to an array of new actors and their projects – from the private sector to civil society. Within this new governance agenda, education systems, institutions and subjects (the learner) around the world were being repositioned as key engines for building globally-competitive knowledge-based service economies. At the same time, there has been a strong campaign to advance access to quality education as a human right.

Governance Challenges

Whilst there is good evidence the "governance turn" to the private sector was driven, in part, by the fiscal crisis of the state, an outcome of falling levels of profitability, reduced income for the state, and demands by labour, this "turn" was also driven by disenfranchised groups within civil society whose own identity projects and access to redistribution had been heavily circumscribed by a bureaucratic, one-size-fits-all state.

And as some writers have noted, rather than a governance *turn*, we might view it as a "governance *return*." For as Wethenhall (2005; p. 23) argues: "It may well be that the clear distinction between public and private that the advanced western polities brought into the 20th century was a mark of the *maturing* of their state governance systems," and that the current state of affairs represents the retreat from that form of "state governance maturity" (ibid). Whilst Wettenhall is right, that there has been a retreat of the state from social provision (which some writers have called "destatisation"), it should be noted that the retreat from "state governance maturity" did not

mean a return to a world order as it was. This is particularly so in education, where for the first time, some intersections between the public and the private opened up the education sector to significant levels of activity by private for-profit actors engaged in a range of education activity from policymaking to provision.

New Forms of Distinction

A further set of dynamics were also at work in the education sector on the demand side, with greater competition for (more, higher social status) education credentials in order to secure a job in an increasingly competitive labor market. Brown coined two terms that are useful for our purposes—the ideology of "parentocracy" and the idea of a growing "opportunity gap" in education (Brown 2006).

So what does he mean by this terms, and why should we be concerned about these in relation to new forms of partnership in education? In short, these concepts help us understand why it is that families invest considerable amounts of resource—money, time, opportunity costs—in choosing particular kinds of education experiences, institutions, and augmenting experiences to ensure access to diminishing opportunities in globally competitive economies. These "demands" drive suppliers to respond, including the state.

Brown (1990; p. 66) argues that as education became more accessible, and more equitable—the result of expanded state provision, and state policy on equity of access and outcomes—a third wave in the socio-historical development of education in advanced western economies has become evident resulting in a move away from the ideology of meritocracy to the ideology of "parentocracy." By parentocracy, Brown means that "…a child's education is increasingly dependent upon the *wealth* and *wishes* of the parent rather than the *ability* and *efforts* of the child" (Brown 1990; p. 66). The defining feature of an education parentocracy is that it is not the *amount* of education that is received, but the social basis on which educational selection is organised. In other words, an education acquired in a high status private school, or a highly selective publicly-funded school (albeit it legitimated by policies such as school choice, or the value of "low-fee" schooling), or a highly selective university, has significantly greater social value than one acquired at a comprehensive school.

Parents become enrolled in this project – as the potential enablers of their children's futures. They locate themselves in the right local neighbourhood, particularly if this is the basis of state selection. They also spend considerable sums of household income on purchasing additional tutoring (subject disciplines, cultural activity, languages) through employing private tutors or enrolling their children in "cram" schools. Bray (2011) has called this "shadow schooling."

It could be argued that this also applies to low-fee private schools in India (Srivastava and Walford 2007). These forms of status goods ensure their child is engaged in a range of activities which in turn generate the marks of distinction which further ensure selection. These parentally-driven dynamics act upon the state, further loosening the state's hold on comprehensive education to new, more diverse forms of education provision where there is more control over the basis of social selection, and therefore the status basis of education goods. These status dynamics also further undermine the comprehensive sector, as those with resources move them into the status economy of private schools.

As the opportunity gap grows because of wider structural issues facing individuals access to diminishing opportunities in the labour market in the developed economies, families are under more and more pressure to not only ensure *more* education credentials are acquired, and that new forms of status and thus distinction are available to the middle and ruling classes to ensure education as a positional good.

New Forms of Education Governance: Intersections and Departure Points

Exit Privatisation Talk; Enter "Partnership" Talk

In this section I will now look specifically at the intersection of the public and the private in education, and the way in which they have are tied together by the use of term "partnership." The idea of "partnership" has come to dominate education governance talk. The important question for us is why, what work does the idea of "partnership" do, what forms of education activity do they enable, and what are the outcomes?

From the mid 1980s, the notion of partnership attracted a great deal of attention. However it was Kouwenhoven's (1993; p. 124-29) Dutch case studies in the early 1990s, attempting to offer an antidote to the preoccupation with commercialisation and marketisation, that took governance in a potentially new direction—away from the market and what was widely viewed as the discredited "privatisation" and "structural adjustment programmes" of the World Bank, toward a model of governance that valued trust and partnership. Contract relations without trust were also viewed as problematic from a governance point of view, largely because of the high costs associated with developing pre-specified contracts, auditing, compliance, and so on.

Linder suggests that the rebirth of the "partnership" notion also reflected larger changes in the ideological and conceptual landscape of governance – such as Blair's modernizing government in the UK, the re-engineering of government in the US through management, and the collapse of the artificial binary of public and private that had, for so long, been naturalized. In combination, this opened up public discourse on the distinctive nature of institutional realms, stimulated new ideas about social orderings, and emphasized structural dimensions such as flexibility and innovation—reinforcing partnership ideals (Linder 2000; p. 39). The idea of "partnership" enabled neo-conservatives, neo-liberals and also progressives to commit themselves to this new governance agenda.

Bovaird (2004; p. 206) points to the theoretical underpinnings which underlay the rise in prominence of partnership. He points to the work of economists like Oliver Williamson (1975), and work on markets, hierarchies and transactions costs analysis. Williamson argued that transaction costs were important, particularly where complex contracts were necessary. The high costs of various activities – such as designing, letting monitoring, and so on, meant that an organisation might be better at undertaking all of these *within* rather than *outside* the organization, unless relational contracts could be set up.

The *strategic management literature* also began to emphasise partnerships in the form of joint ventures and consortia in order to minimise the risk for the parent organisation. Risks to an organisation might include insufficient cultural and contextual knowledge to ensure the

success of the initiative in a new environment. The strategic management literature identifies at least three ways in which partnerships might be useful: to generate (1) economies of scale in providing a service; (2) economies of scope, so that each partner exploits their own capabilities more fully; and (3) opportunities for mutual learning. This literature suggests that when strategic cooperation is maximized, the partnership may be in a position to gain a competitive advantage against other rival partnerships. According to Bovaird (2004; p. 208), the strategic management perspective laid the basis for the emergence of the good governance paradigm in the 1990s (cf. Kooiman 1993, Rhodes 1997).

The good governance paradigm was critical of the excessive attention to *efficiency* as the sole criteria for determining "value" for money, a feature of NPM. Instead, it focused on *effectiveness,* the development of a meta-strategy within which the decisions of the actors could influence each other, and on spaces for organisational experimentation and risk in order to generate capacity to resolve "wicked problems" in society.

Of course, if "partnerships" are regarded as a key vehicle for solving difficult problems, and not just an efficient means of delivery, with compliance only with what is specified in the contract, then whether the problem is better or worse, and how the "partnership" contributed (or not) to the solution (or not), must be central concerns of "good governance." Over-concern with "efficiency" can lead too quickly to actions that will damage reputations, such as unfair employment practices, lack of transparency, diminished accountability—especially when commercial sensitivity laws are invoked—and human rights abuses.

Partnerships: A Discourse for All Seasons

So, what do we see in the global education landscape? The evidence suggests that "partnership talk" has disguised a range of activity – from straight privatization to those where trust and collaboration is a central outcome of partnership work. Despite the widely held view that the World Bank, a leading advocate of PPPs, had softened its harder-edged market-based policies and turned to partnerships, in reality it is difficult to see that this is the case. Recent World Bank policy and programmes, from the 2003 blueprint for the financing of primary and secondary education *Lifelong Learning for the Global Knowledge Economy to the 2020 Education Sector Strategy Report*, insist on public-private partnerships as the key mechanism for financing education, with families and the state (in a repeat of the old RoR formula) financing access to education through a combination of personal loans and development aid. Similarly, in *Mobilising the Private Sector for Public Education*, Harry Patrinos and Shohbhana Sosale (2007; p. 2) argue that we can make services work for the poor by contracting them out to the private sector.

It is the International Finance Corporation—a member of the World Bank Group—which has assumed the role of "spearheading the drive toward markets in education." In its 2001 *Strategic Directions* report (IFC 2001), it sought to expand its activities in the education sector. From 1995 onward, the IFC has funded modest, experimental projects intended to explore the risks associated with investing in education. Citing the growing demand for education by families and the economy, on the one hand, and improvements in access to primary and secondary education giving rise to the demand for tertiary education, on the other, the IFC went on to argue that *private education* should be developed, implemented, or reinforced in order for "…the developing

world to participate in the new networked economy." In the report, the IFC notes that "…its role was expected to become more significant and diversified as more individuals demand better quality and more relevant education" (IFC 2001; p. 1). From 2000 to 2007, the IFC provided $237 million in financing to 37 private education projects in 20 developing countries.

Over the past decade, the International Finance Corporation has also been working closely with free trade advocates like UK academic Professor James Tooley in funding research in poor communities in India, Africa and China, and Ed-Invest. According to Tooley, interest in private sector education is motivated by three major concerns. These are:

- the need to restrain public expenditure and to find alternative sources of funds for the provision of education;
- doubts about state intervention in the production of goods and services and the purported benefits of privatization applied to the education sector; and,
- the perceived threat to equity, access and social justice by private education (Tooley 2000; p. 30).

Tooley's argument, backed up by IFC funded "research evidence," is that there is currently a very significant percentage of education being delivered by private, unaided and mostly unregistered schools in both Africa and Asia, that this education is paid for willingly by the poor (as BoP consumers), that this education is of higher quality than in state-funded schools in similar locations, that pupils are performing better, and that this education is cheaper as teachers' wages are significantly lower. And he observes: "…private companies can help solve the problems of inequity because the prospect of profit creates an incentive to replicate high quality educational provisions" (Tooley 2000; p. 1).

In response to Tooley, Keith Lewin (2007) has argued that in a rights-based approach to education, as we see with EFA, it is the nation-state that is ultimately responsible for ensuring it acts as a provider of last resort. Lewin also argues that unsubsidized providers cannot serve the poor and the poorest if they must depend on the revenues from the communities they serve. A simple calculation shows that families might have to spend more than half of the family income on education. This would not only be untenable, it would also lead to practices that accompanied the World Bank's RoR analysis; the prioritization of some children in the family over others accessing education. So, while there are clear constraints on public expenditure at present, the long-term game plan must be to look at ways in which states can fund education, or manage the coordination of education as a public sector and public service.

A third kind of partnership is Multi-Stakeholder Partnerships (underpinned by the idea of learning networks developed by Harvard academic and UN Special Advisor John Ruggie) being advanced by the United Nations, and within the education sector through UNESCO and its affiliated institutions (IIPE). The transformation of the UN under Annan was also felt in the education sector of the UN. UNESCO thickened its relations with global firms and foundations. For instance, Cisco Systems and the Hewlitt Foundation are now major partners with UNESCO. In 2007, UNESCO announced that it would join forces with the WEF – and launched a new programme—*Partnerships for Education (PfE)*, "…a global coalition for multi-stakeholder partnerships for education (MSPEs), including the private sector, to advance progress toward the objectives of Education for All."

Its aim is to facilitate the development, synthesis, and dissemination of the tools, processes, and frameworks to help ensure successful multi-stakeholder partnerships in education. UNESCO and the World Economic Forum share the same commitment to education as a major force for sustainable development. Both believe that promoting multi-stakeholder partnerships (MPSEs), including the business community and the governments of developing countries, can significantly increase the capacity of these countries to meet the Education for All (EFA) objectives.

The Multiple Grammars of Partnerships

It is clear from these three examples that the discourse of partnerships is complex, as it is political, rhetorical and analytical. Conceptually, PPPs offer an umbrella concept that has the capacity to absorb very different kinds of governance activities, involving a range of actors, operating at a range of different geographical scales, for the local to the global. In other words, PPP is a semantic umbrella that, in effect, houses quite heterogeneous phenomena ranging from straight out forms of privatization, to contractually-driven partnerships, to more cooperative forms based on contract and trust.

Partnerships also range from policy design to policy coordination, resource implementation and resource management. The permutations of difference (actors, activities, scales), each with their own rationale, make this area a conceptual minefield. Whilst in the main the best way of proceeding is to examine each case empirically, to identify the logics, rationales and interests at work in the partnership, at the same time ensuring the case is linked to the wider political, economic and social contexts and rationale and contexts in which it is embedded.

Much of the appeal of partnerships which link, for instance, the public and private sectors, is its claim to the middle ground; between what were increasingly viewed as unfashionable nationalisation projects and their state monopolies on the one hand, and politically charged agendas surrounding privatisation projects that characterised neoliberal's roll-back (the state) policies in the 1980s, on the other.

The idea of a partnership *between* the public and the private mediates this relationship, with its inference that the positive attributes of each sector might be combined, whilst the negative attributes were in turn mitigated. Each sector was thus presumed to have a unique attribute arising from its fundamental mission or purpose. Rosenau describes the assumptions that are presumed to characterise each sector and therefore to make them.

For instance, she notes:

> *The public sector draws attention to public interest, stewardship and solidarity considerations….The private sector is thought to be creative and dynamic, bringing access to finance, knowledge of technologies, managerial efficiency, and entrepreneurial spirit…. The not-for-profit organization is strong in areas that require compassion and commitment to individuals…. (2000; p. 218)*

Whilst she goes on to argue too much is made of fundamental differences between the sectors, it is evident that these fundamental differences are presumed in that it is a partnership of differences;

when these differences are combined, it is assumed the outcomes are greater. In other words, different capabilities and interests can be combined to solve new and remaining intractable problems.

On the other hand, semantically, the idea of "partnership" brokers difference in such a way that two partners are presumed to be equivalent in their statuses, resources, capacities to mobilise power, and so on. Partners are thus assumed to be engaged in cooperative and mutually beneficial relationships of their choice, with authority, risks and benefits, equally shared. Whilst this might well be the case in specific contexts, such assumptions would need to be empirically tested.

It is important, therefore, to develop a meta-language that helps us locate partnership logics and outcomes at the level of interests, and in the rules of the game that they establish. Six distinct, but overlapping, meanings in *new* forms of partnership are identified by Linder (2000; p. 23-32) which help us in this task. The first form identified by Linder is *partnership as management reform*. The focus here is on the use of partnerships to change how governments' function (assumed inefficiencies), giving rise to efficiency gains. Here, government managers are expected to learn from the private sector, acting like business managers responding to competitive pressures. The core assumption here is that the skills the private sector have acquired—finding new markets, staying ahead of the game, enhancing productivity, and so on, can be learned by government managers through partnerships. So, rather than privatising government, government can learn to act like the private sector. Ball describes this as "privatisation in education, as opposed to privatisation of education" (Ball 2007).

The second is *partnership as problem conversion*; this refers to where partnerships are viewed as a solution to any problem in public service delivery. Here the state's problems are passed to the private sector to solve, as they bring their private sector "know-how" to the problem. An example is illustrative here, related to the education sector. The first is the UN and its use of partnership to secure sustainable development. Rather than pressuring the state to change (poor governance and accountability), it is assumed that the market will find the solution. Low cost schooling is a second good example here.

Third, partnerships are deployed to ensure *moral regeneration*: Linder (op. cit.; p. 29) argues that partnerships with the private sector accomplish what direct forms of privatisation cannot; it brings the subject into a relation with the market, orchestrated by the state (through partnership arrangements), in turn strengthening neo-liberalism as a particular kind of self governance (self-initiative, entrepreneurship, and so on).

Fourth, in *partnership as risk shifting*, the logic here is that it (in theory at least) spreads the financial risk across the partners. In the UK, partnerships for risk shifting emerged as a response to European legislation on public sector borrowing amongst EU member states. It assumes that the distribution of risk across the partnership is relatively equally shared.

A fifth logic is where *partnership* is a vehicle to *restructure public* services in order to reduce demand upon, and therefore growth, in the size and cost of the public sector, whose services were tailored toward the middle classes. Neoliberals and neoconservatives in the USA and elsewhere argued that interest group liberalism, particularly amongst an adept middle class gave rise to an overloaded government (Lowi 1979).

A sixth logic is *partnership as power sharing*: partnership in this final sense is promoted as

empowerment in that power is shared not only vertically (through processes variously described as devolution, decentralisation, and so on), but horizontally—especially in "policy" and "regulatory" matters where power has been concentrated in government. Partnerships as power-sharing (i) replace more adversarial, contractual relations with trust and cooperation; (ii) create a relationship that enables learning, shared responsibility and risk sharing; and (iii) assume that negotiation rather than litigation will resolve problems. This mode of partnering is often referred to as governance, or, when referred to in the international arena, as "global governance."

The Partnership Challenges Ahead: Intersections that Work for the Poorest

In 2006 I attended a major meeting within UNCTAD in Geneva, which have been tasked with examining whether "trade" and "access" to agendas might generate mutual synergies, especially through PPPs. My view at the time, and one that the OECD agreed with (see UNCTAD proceedings of the conference), was that all of the evidence we had (and there is not a great deal around) on PPPs in education (UK) was that it was extremely difficult to write contracts robustly enough in order to protect the public interest.

Since then we have seen more research produced on this issue in the UK and Europe (see report of the European Investment Bank – 2004). The research in the UK tells us that we had seen "commercial sensitivity" invoked by firms to remove their books from public scrutiny, and this was when they were in receipt of public funds. The comforting "regulator" in the last instance was constantly being violated.

There was little evidence, either, that PPPs have delivered either more efficient/effective services (e.g., better buildings for less), or that it has reduced the drain of education on the public purse. Instead, an analysis of the education industry by Stephen Ball (2007) charts, in considerable detail, not only an epistemic shift in the governance of education, but a litany of deals brokered, money squandered, contracts abandoned, and services not rendered.

This raised important issues for developing contexts where robust governance regimes are weak to non-existent. In other words, is difficult to see how the activities of local entrepreneurs or international firms might be regulated in ways in which it protects young learners and their families. Families who fail to pay loan replacements are vulnerable to pressure from debt collectors.

So what does the evidence to date tell us concerning For Profit Providers (FPP) in delivering access and equity in primary education, and therefore enhanced opportunities to meet the EFA goals? In a very recent review of a series of studies on FPPs, Pauline Rose (2009; p. 129) observes that in some cases FPPs do offer a better *quality* education, or that the parents believe this to be the case. However, evidence from India (Harma 2009) suggests that even in relatively poor communities, it is the better off in those poor communities who can afford fees, and then, fees for one child are likely to be 1/5 of the family's annual income.

But it is the regulation of PPPs and FPP which is particularly problematic. Whilst recognizing that parental scrutiny and expectations might be a useful disciplining tool, parents from very poor households cannot be expected to have sufficient expertise and authority to ensure the realization of uniform standards, attend to equity concerns, and so on. The question should be: "Why is it that governments are not able to deliver equitable and affordable state-funded,

-provided, -owned and -regulated education, and from there, what can be done about it?"

In a sympathetic review of the Global Education Initiative (GEI) published in 2007 for the World Economic Forum (on the Jordan, Rajasthan, India and Egypt initiatives), Harvard University Professor Tom Cassidy points to major issues surrounding ongoing monitoring and evaluation, sustainability and scalability, the need to recruit appropriate partners, acknowledging the value of local partners (p. 24), and moving from a "tendering" to a "partnering" mentality (p. 25). Cassidy also points out that many of the partner investors had an unsophisticated view of learning and the changes that might be required to bring this about:

> *Changing what goes on in schools, and particularly changing teaching practices in classrooms, is a much more complex and challenging undertaking that is going to take more time than partners often believe (Cassidy 2007; p. 26).*

At the global scale, and in the face of an absence of regulatory power--aside from norms advanced under the Global Compact such as Corporate and Social Responsibility (CSR), it is difficult to see why it is that the story might be any different to that at the national level. There is no scrutiny of activities, or attempts to verify claims (Gregoratti 2007). Nor are the regulatory mechanisms of the WTO and the World Bank, such as processes of dispute settlement and so on, capable of resolving these issues, given their very structure. Nor are they capable of advancing the interests of the developing countries, as Cutler (1999) and others have pointed out. Global market multilateralism in education advances in the face of a significant democratic deficit in terms of a politics of representation.

And Social Justice?

So how do PPPs in education fair in social justice terms. Clearly we cannot make sweeping, or broad, a *priori* judgments; that is, that partnerships are *per se* good, bad, or neutral. Much is dependent on how, and by whom, the key categories—public, private, partnership, and education—are created, represented and materialized; how they order social life; how they enable or disable participation in social life; and, how forms of accountability are established. But, as Jayasuriya argues (2008), when governance is now located in multiple sites, both the governance of education PPPs, and PPPs as a tool of governance over the education sector, become problematic. Who is the relevant authority? Who is affected by decisions of various governments, transnational firms, foundations, international agencies or consultants? From whom should those affected by decisions seek account? Is the managerial discourse on risk taking appropriate for the distribution of a public good such as education? Does managerial governance, with its focus on outputs and efficiency, pay sufficient attention to the complexity of education processes? Alternately, do stakeholder-driven approaches to education, as we see with Multi-Stakeholder Partnerships, have a sufficiently broad view of stakeholders (beyond the contributing organizations) to include publics, and how are these forms of education partnership made to account to a broader public beyond the stakeholders? In other words, stakeholder driven approaches tend to narrow the definition of what counts as public. Indeed, are these stakeholders sufficiently knowledgeable about education as a complex social good to ensure that the idea of a "public" space for debate and contestation is realised? These are important issues we must engage with, and create structures to ensure their realization.

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Linking Higher Education Reform to Labour Market Demand in the Gulf States: A Slippery Slope?

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Introduction

One of the most significant challenges for countries in the Middle East and North African (MENA) regions is coping with already large and still increasing youth populations. In 2007, more than 30% of the population in MENA was between 15 and 29 years of age (La Cave 2010). This has put increasing strain on education systems and the capacity of national labor markets to absorb graduates from both secondary school and higher education. The youth unemployment rate in MENA states in 2007 was almost twice the comparable overall global rate (La Cave 2010), and the economic problems since then have made the problem even more serious.

This paper explores problems with and prospects for reforming higher education in ways that improve graduates' employability in national labor markets in MENA, with a particular focus on Gulf states. It includes consideration of issues related to capacity of higher education systems, alignment of higher education with labor market needs, expansion of private sector employment in the region, and gender differences in both higher education enrollment patterns and labor force participation rates. Suggestions for policy changes that might guide higher education reform in the region are included.

At the outset, it must be noted that while there is a tendency to group the predominantly Muslim countries of MENA into one political-economic group, the countries of the Gulf region/Arabian peninsula differ in that all are hereditary kingdoms. Consequently, royal families control all of the key economic assets and allocation of positions throughout government. Most other MENA countries have authoritarian, though not royal, governments. Only in the past decade have many of these Gulf countries "initiated far-reaching economic reforms to improve the investment climate for the private sector" (World Bank 2008; p. 296). In part, this is due to fluctuating prices and looming depletion of petroleum resources in some Gulf countries.

Demand for Higher Education by Major and Labor Market Needs

As the youth population in Gulf countries has grown, secondary school completion rates have also been improving, thereby increasing the demand for higher education. Gross enrollment rates in tertiary education in the MENA region average just over 25%, but there are substantial

differences among countries, ranging from around 10% in Yemen and Morocco, to around 50% in Lebanon. The average MENA rates are about the same as the Latin America/Caribbean and East Asia/Pacific rates, but half those in Europe (World Bank 2008; p. 318). In every region, there is considerable variability by country.

In the Gulf countries, higher education is either free to citizens or very modest fees are charged. As the population has grown and secondary school completion rates have improved, many countries in the MENA region have increased the number of places in higher education to accommodate student demand, but national labor markets have not been able to absorb the growing numbers of graduates. Further, there is a continuing mismatch between fields of study chosen by students and projected labor market needs.

Gulf countries have a long history of importing labor, not just for unskilled jobs but also for professional and technical positions that cannot be filled because there are not enough home country higher education graduates in high demand fields. The United Arab Emirates (UAE), for instance, has one of the most aggressive approaches to encouraging foreign investment in the Gulf, but 80% of its population is comprised of expatriates. Most Gulf states remain highly dependent on oil revenues and have not developed very diversified economies (World Bank 2008). The capacity of governments in the Gulf to pay good salaries for jobs requiring higher education degrees has enabled them to attract expatriates for jobs that are not filled by citizens. However, most Gulf states also restrict citizenship opportunities for expatriates and limit the number of years they can remain in a country and be employed.

Across the MENA region, there is still a tendency for university students to major in non-technical fields that prepare them for government jobs—even when that means waiting for long periods after graduation to be employed—because of the attraction of relatively high wages, permanent employment, and associated social status (World Bank 2008). The attraction of government employment effectively reduces demand for majoring in scientific and technical fields, in which current and projected labor market needs are not being met by the supply of graduates from national tertiary institutions. In contrast to countries like China and Korea, in which more than 40% of university graduates major in science and engineering, comparable figures in Saudi Arabia and the UAE are just 14% and 24%, respectively (World Bank 2008; p. 21). In Saudi Arabia, more than two-thirds of higher education graduates major in non-technical fields, "while 70-80% of the jobs in the market and those that will be created in the 8th development plan will be in applied and technical areas" (Ministry of Higher Education 2006; p. 36).

Gender Differences in Higher Education and Employment

The World Bank (2008, 28) claims that in the MENA region, current gender "parity indices for secondary and higher education are not significantly different from the corresponding indices for Latin America and East Asia." However, while total enrollment figures for males and females in higher education may have reached parity (and in some countries, females even outnumber males), there are vast differences in the distribution of majors by gender. Women, for instance, tend overwhelmingly to major in primary school teacher education, and to a lesser extent,

secondary school teacher education rather than scientific or technical fields. While women's enrollment outnumbers men's when aggregated across all types of higher education in Saudi Arabia, almost three quarters of the females are enrolled in women's colleges preparing to be teachers, and women are twice as likely as men to be enrolled in distance programs (Ministry of Higher Education 2006). Further, women in Saudi Arabia are virtually not permitted to major in engineering or veterinary sciences (Ministry of Higher Education 2006).

With respect to employment, female higher education graduates are also significantly disadvantaged in comparison to their male counterparts. For a variety of reasons, average female labor force participation rates in 2003 reported by the World Bank (2008, 64) for MENA countries (25%) were much lower than for East Asia (41%) and Latin America (35%). In the most gender-segregated country in the Gulf, Saudi Arabia, just over 76,088 female graduates applied for 4,520 government jobs in 2006 (Ministry of Higher Education 2006; p. 37). This suggests there is a huge demand for employment by females in Saudi Arabia that the labor market, as currently structured, cannot accommodate. Wage differentials by major and gender in the Gulf also tend to be even greater than those reported for European countries (García-Aracil 2008).

Discussion

Linking higher education expansion to projected demand for highly educated workers is not a simple process. Government intervention does not always have the intended consequences, especially in the context of knowledge economies undergoing rapid change (Warhurst 2008). Universities are bound by tradition and slow to change. Externally driven approaches to reform may challenge discourses on the primary goals and purposes of a university education that also make change very difficult (Boden & Nedeva 2010).

Motivating students to want to exert the effort necessary to succeed in a science, mathematics, or engineering major can be a very difficult task, especially given the attractiveness of government jobs for which non-technical majors are acceptable. Further, expansion of capacity in science and technology areas is expensive in terms of both human and physical resource requirements. Filling additional professorial slots may require hiring expatriates due to shortages of well-qualified citizens that may compromise longer-term sustainability.

Efforts to link higher education more directly to projected labor market demands also require a fundamental understanding of the dynamics of local, national, and regional labor markets. This requires rigorous studies that have yet to be done in the Gulf region. Such studies, at the very least, are likely to verify the lack of diversification in Gulf economies and may suggest directions for government intervention as well as private sector development for the future.

Countries in the Gulf region have relied historically on government provision of higher education. Increasingly, the more affluent countries in the region (e.g., Qatar, UAE) are recruiting world-renowned universities to establish branch campuses in-country to serve their citizens. It remains to be seen if this approach to building capacity is sustainable over the long term. Most are also expanding private sector provision of higher education, more generally. This raises inevitable problems of quality assurance that must continue to be addressed.

Finally, governments might intervene in labor markets to take advantage of underutilized segments of the highly educated labor force, especially women. Opening technical majors and occupations to women would greatly enhance the capacity of countries to fill emerging positions in increasingly knowledge-based societies with citizens as opposed to expatriates. This is, of course, much easier said than done, given well-established patterns of gender roles that advantage men in the Gulf states.

The problems of transitioning traditional societies from petroleum-based to knowledge-based economies are formidable, especially in the light of political restiveness in the region. Those countries that manage this transition well will be in a strong position to weather the social, economic and political storms that are swirling about the region.

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Public or Private? Deciphering the Role of International Branch Campuses in the Arabian Gulf

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Introduction

The formal provision of higher education in the Arabian Gulf has proven to be a fairly recent phenomenon. The tertiary education systems throughout the region all began after World War II and grew very slowly. This slow growth was often due to a combination of a lack of demand for access to higher education and concomitant lack of interest of local rulers to invest in the sector. However, in the past two decades, the demand for advanced learning among local populations has increased and local governments have begun to recognize the importance of colleges and universities in sustaining the region's economy in a post-petroleum era. As such, many of the governments in the region have begun to invest more significantly in their higher education systems. In addition, they have used their large financial reserves and flexible regulatory frameworks to try new initiatives in educational development. One of those initiatives is the recruitment of foreign education providers to establish a presence and award degrees within their country. Rather than attempting to emulate the established systems in other countries, these governments have sought to have established institutions in other lands set up shop within their borders.

The development of international branch campuses (IBCs) is not a new phenomenon; although it has recently emerged as a significant aspect of the educational development policies of some governments in the Arabian Gulf. Globally, some current IBCs have been in operation for decades (Verbik & Merkley 2007, Lane and Kinser in press). As of 2011, more than 50 countries were importing IBCs, including many Middle Eastern countries such as Bahrain, Jordan, Kuwait, Qatar, the United Arab Emirates (UAE) and Yemen. In fact, the region has been one of the most active in recruiting IBCs, with the UAE hosting nearly a third of all known IBCs in the world. Three of the most well known importers are Abu Dhabi (UAE), Dubai (UAE), and Qatar.[1] Each of these governments has actively pursued the development of IBCs within their borders, but in very different ways.

The purpose of this article is to engage in a preliminary comparative analysis of the role of international branch campuses in Abu Dhabi, Dubai, and Qatar. Each of the rulers (or their agents) of these emirates has been significantly involved in the development of the IBC sector within their

[1] Abu Dhabi and Dubai are among the seven emirates that comprise the UAE. There is a national Ministry of Higher Education and Scientific Research that has responsibility for domestic higher education providers. However, each emirate has pursued its own developmental and regulatory policy in relation to foreign education providers (Lane 2010), and so each is considered separately in this article.

lands, and IBCs are a part of the public policy of each government (Lane & Kinser 2011, Lane 2011, Kinser et al 2010). In addition, IBCs have emerged as significant providers of higher education (both in terms of the number of institutions and the number of students served), warranting focused attention about the role they play within each arena. Because these institutions are not part of the traditional "public" system of higher education, they have been commonly classified as part of the "private" sector. However, the significant involvement of the respective governments suggests that these IBCs may have characteristics of public institutions. As Lane and Kinser (2011) found in their recent article, "Reconsidering privatization: the sometimes public nature of private activity," international branch campuses can fulfill very public purposes when viewed from the perspective of the host country, even though the home country may consider it to be a private activity.

Methods and Conceptual Framework

This study uses a comparative case analysis (Gerring 2006) to investigate the public or private nature of international branch campuses in Abu Dhabi, Dubai, and Qatar. Each of these governments has indicated that IBCs are part of their developmental strategies, but those strategies differ in important ways. A case study of each region was first constructed using data collected from interviews, policy documents, scholarly articles, and media reports. This study is part of a larger investigation of the global development of IBCs being conducted by the Cross-Border Education Research Team (C-BERT) at the State University of New York at Albany.[2] To date, the team has conducted site visits to more than 50 branch and home campuses in 15 countries.

Each case was analyzed using the private-public conceptual framework developed by Lane and Kinser (2011) to analyze the role of IBCs in Abu Dhabi, Dubai, and Qatar. This conceptual framework uses four of the five dimensionalizations created by Lane and Kinser to assess the extent to which an institution performs as a public or private entity. Lane and Kinser (2011) argue that the nature of an institution engaging in cross-border activities can differ whether one is investigating the institutions relationship with the home or host nation and their framework was derived to account for the relationship of the IBC to either the home or host government. For the purposes of this paper, the framework is used to examine the relationship between the IBC and host government.

Case Selections and Limitations of Data

This paper focuses on how a select number of governments in the Arabian Gulf have used international branch campuses as a means to develop their educational systems and how those IBCs fit within the existing system. The governments that are the focus of this study are Abu Dhabi, Dubai, and Qatar. Each of these states has utilized different strategies of recruitment and development of IBCs. To be certain, the governments have each used multifaceted strategies (some purposeful, some not) for the development of IBCs. Space limitations affect the construction of the paper in two important ways. First, only four of the five dimensionalizations of the Lane and Kinser (2011) framework are included: "Regulation" is not included here. While an important component to the development of any educational system, it is the other four dimensionalizations that provide greater evidence to the differences in developmental strategies among the governments. To the extent possible, issues of regulation are discussed in the other dimensionalizations. Second, the

[2] See www.globalhighered.org for more information about the larger project and to see data collected by the project.

space limitations of the paper prevent a comprehensive overview of each case to be presented, and the analysis section of the paper focuses on the dominant and most well-known strategy in each state. Each of these states has received a great deal of media and policy attention for their work this year. Specifically, Qatar is mostly known for Qatar Education City, though several IBCs exist outside of QEC. In Dubai, it is the Dubai International Academic City which has received the most attention and hosts the most IBCs, although there are three other free zones that also import IBCs. Finally, Abu Dhabi is home to five IBCs, but it is the relationship between it and New York University that has garnered the most attention over the last five years. For those interested in learning more about the different education sectors, in depth cases of Qatar and the UAE can be found in the following publications: Kinser et al 2010, Lane 2010, Lane 2011, Lane & Kinser 2011, and Stasz et al 2007.

Discussion

The following section is divided into four areas – mission, control, investment, and revenue - one for each dimension of the conceptual framework. The section on mission focuses on the purposes of the institution, particularly in relation to the host country. The second section analyzes the extent to which the government controls the IBCs. As IBCs, particularly those in the GCC, tend to be relatively young (less than 10 years old), the source of startup funding can provide some indication as to the intended purpose of the campus. The third section examines who provided the initial investment for the development of the IBC. As previously noted, IBCs assume a position that is somewhat between the traditional public and private sectors. Indeed, governments in the Middle East tend to be more actively engaged in the development of the private sector than elsewhere in the world (Levy 2006). This engagement results in the governments potentially having more control over private institutions than might be expected elsewhere. The final section addresses revenue generation to sustain the operation of the institution and the extent to which revenue comes from government subsidies or student tuition.

Mission

Table 1: Mission

	Serves a clear "public" mission as determined by the state	Mission is both public and private, as defined by institution and state	Mission is mainly to respond to student demand	Mission serves private interests of students, clients, and owners
Abu Dhabi		**x**		
Dubai			**x**	
Qatar	**x**			

"Mission" in this study refers broadly to the purposes for which the IBC was created and the goals continuing to guide the operation of the IBC. Specifically, mission is determined by examining a combination of data about the reason the government allows foreign education providers to exist within their borders and the reason the home campus opted to establish a campus in the foreign country. Mission also includes identifying who is being served by the IBC.

The IBCs in Dubai follow a mostly private model of development, in that they are primarily demand-driven, with their success or failure determined by the marketplace. In order to increase the number of IBCs within Dubai, Dubai International Academic City was created. This "free zone" allows for foreign education providers to be exempt from federal rules and regulations related to education (Lane 2010). In fact, a separate quality assurance mechanism has been established which was designed to insure that the IBC operates comparably to the home campus. This is a very different approach than that engaged by the federal Commission on Academic Accreditation (CAA), which includes provisions that educational providers offer a curriculum appropriate to the culture and custom of the UAE. Moreover, institutions select their academic programs primarily based on student demand, resulting in almost no humanities and social science programs being available (Kinser et al 2010). Finally, as noted below, the government provides almost no financial incentive nor does it direct the types of programs to be offered (except requiring that any program offered in Dubai also has to be offered on the home campus). Thus, the IBCs are left to succeed or fail based on the number of students they are able to enroll.

Both Abu Dhabi and Qatar have a more public mission than that seen in Dubai. At the other end of the spectrum from Dubai, the IBCs in Qatar Education City engage in a much more public mission (Lane and Kinser 2011). Here, the government, through its agent the Qatar Foundation, was very careful to select institutions and programs that would support the current or targeted economic pillars of Qatar. For example, Texas A&M brought their petroleum engineering program, Northwestern brought their journalism program (Doha is the home of Al Jazeera), and Cornell brought their medical school to support Qatar's efforts to become a media hub in the region. Moreover, as noted by Lane & Kinser (2011), the IBCs are not only expected to engage in workforce development, but also fulfill a public service mission to aid in community and economic development. The mission in Abu Dhabi seems to fall in between these two approaches. Through the support of Abu Dhabi, NYU-Abu Dhabi is one of the only liberal arts colleges in the region. It is helping to expand the educational offering of the region, particularly those offerings which would not otherwise be economically viable because of low local student demand. However, there is also an expectation that the IBCs bring in certain enrollments each year, and their ongoing operating costs are linked to the number of students they enroll. This also leads to an issue of access. While Qatar has very clearly stated that one of the purposes of the IBCs is to provide access to qualified Qatari students, to date there has not be a similar type of expectation made of the IBCs in Abu Dhabi and Dubai.

Control

Table 2: Control

	Publicly controlled: Can be altered or even closed by state	Joint control by public and institution	Non-profit, primarily controlled by institution	Private for-profit or controlled by private for-profit partner and institution
Abu Dhabi		**x**		
Dubai			**x**	**x**
Qatar	**x**			

Who controls the institution has a significant influence on the nature of the institution's operations. This dimensionalization ranges from an institution being controlled by the government to the institution being controlled by a for-profit entity. In between those two ends of the spectrum, an institution can be jointly controlled by the government and the institution, or could be run as a non-profit entity. The issue of profit is an important aspect of understanding control, as the need to generate profits often motivates institutions to engage in more private pecuniary activities.

In this dimensionalization, the IBC development arrangements cover the entire dimension. In Qatar, the universities retain control over the academic aspects of the IBCs. However, the Qatar Foundation has a great deal of control over the existence of the institutions, in that they decide which institutions can operate in Education City and which do not. Moreover, they own the premises in which the IBCs are located, and pay for almost all of the costs. As such, even though the institutions can make their own decisions, these other arrangements provide the Qatar Foundation a great deal of potential control over the institutions (including limiting the programs that they can offer). Abu Dhabi has a similar arrangement with NYU in that the government built the campus and pays a significant proportion of the IBC's costs. However, Abu Dhabi has not been as engaged in the development of the institution as Qatar, allowing NYU to select the types of programs to be offered. Finally, the government of Dubai has chosen to have very limited control over IBCs. Indeed, the developmental strategy of Dubai is based on exempting IBCs from federal regulations, and the local quality assurance mechanism is designed to ensure that the IBCs operate similarly to the home campuses and engage in very little local adaptation. Also, Dubai has a very different set of arrangements, in that some of the institutions are operated as non-profit entities, while others are either for-profit educational institutions or have partnered with private, for-profit development companies to assist with funding the endeavor.

Investment

Table 3: Investment

	All public investment	Mix of public and institutional investment	All institutional investment	Mix of institutional and private partner investment
Abu Dhabi	**x**			
Dubai			**x**	**x**
Qatar	**x**			

Under investment, the dimension ranges from "all public investment," which means that the host government has funded the entire start up cost of the operation, to "mix of institutional and private partner investment." In some locations IBCs partner with a private entity, which funds part of the startup cost. In between these two ends of the spectrum are options for the institution to fund the entire cost, or for the institution to share the cost with the host government.

In terms of strategy, there is a very clear difference between the approach taken by Dubai, and that of Abu Dhabi and Qatar. As noted earlier, in Dubai, the government has delegated the development of IBCs to the free zones. Each free zone has taken a different approach to the

development of IBCs. However, there is no evidence that the government of Dubai has provided any funding for the startup of the IBCs. In most cases, the funding has been provided through a combination of private partners, institutional reserves, and, in limited cases, loans from the free zone authority or development agent.

The approach in Dubai is in stark contrast to that in Abu Dhabi and Qatar. Both of the latter governments have provided the funding for the initial startup costs of the IBCs included in this study. This includes building the campuses, providing funding for initial operational costs and, in some cases, allocating additional monies to enhance the support structure located at the main campus in the home country.

Revenue

Table 4: Revenue

	All public investment	Mostly public, but some private "cost sharing" from students	Mostly tuition, but some public assistance to students	All private revenue: mainly tuition-dependent
Abu Dhabi	**x**			
Dubai			**x**	**x**
Qatar	**x**			

Beyond the investment costs needed to fund the start-up costs, all IBCs need additional monies to sustain their operations. This dimensionalization ranges from the government, in some form, providing a complete subsidization of cost, to the operational revenue being generated entirely from private sources, most often manifesting itself in the form of tuition. In between are two options that combine public subsidies with privately generated revenues (e.g., tuition). As noted by Lane and Kinser (2011), it is very unusual for IBCs to receive any operational funding support from the home campus. In fact, many governments forbid the use of public monies in the home country to be used to support cross-border activities.

Here, Dubai again evidences the most private sector-oriented approache to generating ongoing operational funds. As seen in Table 4, there is an "x" placed in both of the far right categories. This reflects a combination of funding patterns, primarily due to the large number of expatriate students enrolled in the institution. The primary revenue stream for IBCs in Dubai is through tuition. All campuses charge tuition and there is very limited financial aid except for Emirati students. As noted above, Emirati students are a minority of the enrollments at IBCs. In some cases, however, Emirati students can use the very generous financial packages from the government to pay for their schooling (although there are limits based on the type of accreditation/licensure, as noted in Lane, 2010).

In both Abu Dhabi and Qatar, the governments have subsidized the cost of attendance for most students. In Qatar, for those Qatari students who qualify to attend one of the IBCs in Education City, attendance is at no charge to the student, as it is included as part of the ongoing subsidization provided by the Qatar Foundation. In addition, the Qatar Foundation provides loans to students who are not Qatari, and the loans are often forgivable if the student works in Qatar post-graduation for a number of years.[3] In the case of NYU in Abu Dhabi, the IBC, through the assistance of the

Abu Dhabi government, subsidized a significant portion (in many cases the entire amount) of the cost of attendance for all of the students in the first class of students, regardless of nationality. According to the website[4], it appears that similar financial support will be provided again this year.

Conclusions

Common conceptions of IBCs suggest that they are an extreme version of privatization. Indeed, they are entities that exist outside of the home country, and provide limited benefit to the home country. However, this does not necessarily mean that IBCs operate exclusively as private institutions. The very nature of cross-border education means that there are at least two governments involved, the home and host governments. As such, the private or public nature of an institution needs to be evaluated in relation to both the home and host government. In this paper, I have analyzed the dominant educational import strategy of three governments in the Arabian Gulf. The evidence provided above suggests that each government has different expectations for the IBCs in their country. Dubai, following a strategy similar to that used for its business development, created a free zone that allows institutions almost full control over their operations, and in which institutions must compete with each other and other domestic institutions to enroll students. These institutions are very market-oriented, and much more private than the IBCs discussed in Abu Dhabi or Qatar. Indeed, the success or failure of the Dubai IBCs is largely based on their business plans and ability to attract students. Qatar exists at the other end of the spectrum. Though there is a traditionally "public" university, Qatar University, the government also pursued an active strategy to recruit and subsidize foreign education providers. The resultant IBCs can only offer the degrees approved by the Qatar Foundation, and are expected to aid in workforce and community development. Finally, the approach taken by Abu Dhabi in developing NYU seems to fall between these two approaches. The government heavily subsidized the development of the IBC, and provides generous financial packages for many of those attending the institution. The institution is also providing degree programs that are not directly linked to the local economic pillars. However, it retains a great deal of control over its own operations and its operating revenue is somewhat tied to the number of students that attend the campus. Moreover, at this time it serves very few local students, with most of its first class being recruited from outside of the country. Additional research is needed to better understand the development of IBCs in the Gulf region and the role that they play in the development of the countries in which they are located. What this paper does evidence, though, is that Abu Dhabi, Dubai, and Qatar have all adopted very different developmental strategies – the success of which will not be known for several years.

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[3] There has been increasing concern that Qatarization policies are making it more difficult for non-Qatari graduates to find work in Qatar.

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K-12 Education Reform in Qatar[1]

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In 2001, the leadership of the State of Qatar asked the RAND Corporation to undertake a broad-based examination of the nation's kindergarten through grade 12 (K-12) education system and propose a strategy for reform. This request was motivated by concerns that, in general, the 71,000 students served by the system in 220 single-gender schools were not being well-served: Students were leaving Ministry of Education schools without the academic proficiency necessary to achieve success in post-secondary education, or in the rapidly expanding Qatari labor market.

RAND's analysis identified key system strengths and weaknesses, most of which were already well-known. A key problem was the rigidity of the Ministry of Education, whose insular, bureaucratic structure discouraged innovation and limited communication, both within the Ministry and with stakeholders. The system was characterized by limited authority granted to school-level administrators and teachers, few options for professional development and support, and an outdated curriculum. Furthermore, no expectations for student or school performance existed, and accountability mechanisms for school and student performance were lacking.

Several previous studies had highlighted the very same problems. RAND's work was unique in that it offered multiple reform options and a clear path to implementing the chosen one. RAND recommended that the basic educational elements of a standards-based system be put in place that included clear curriculum standards that would define what students were expected to know and be able to do at each grade level, as well as an accountability system in which education data would be collected, analyzed and disseminated to the public. RAND offered Qatari leadership three governance reform options, ranging from a modified version of the current centralized system to a completely decentralized system of tuition vouchers provided to parents to use at any school. The Emir made the middle choice, selecting a decentralized charter-school-like system with independently-operated, government-funded schools that would agree to abide by a set of regulations specified in an operating contract.

[1] The authors' research has been supported by the Supreme Education Council of Qatar. Most of the material in this paper is derived from two sources: Brewer et al. (2007) and Zellman et al. (2009). Most of the discussion of the reform plan and the pre-reform context may be found in Brewer et al. (2007); information on the reform's early performance may be found in Zellman et al. (2009). Since these two sources dominate the text, they are not cited again; other sources are cited as appropriate. This paper is based on a longer article that appeared in Orient, January 2011. The authors appreciate the contributions of their colleagues and comments from seminar participants at the Gulf Comparative Education Society Annual Meeting in 2011 and the World Congress of Comparative Education Societies in 2010.

The reform emphasized four principles that had little precedent in government education systems in the region. Some of these principles would be implemented immediately; some would become operational over time:

- **Autonomy.** The new, Independent schools operate autonomously, subject to the conditions specified in a time-limited contract granted by the state.
- **Accountability.** Independent schools are held accountable to the government through regular audits and reporting, stakeholder feedback, and national student assessments aligned with new internationally-benchmarked curriculum standards.
- **Variety.** Interested parties (not necessarily educators) may apply to operate Independent schools, and diverse schooling options are to be offered.
- **Choice.** Parents are allowed to select the school that best fits their child's needs. However, choice would be very minimal at first because only a small number of Independent schools would open each year.

RAND developed a detailed plan for implementing the chosen reform model that included three new government institutions:

- **The Supreme Education Council,** responsible for setting national education policy.
- **The Education Institute,** responsible for overseeing and resourcing the new, Independent schools; developing national curriculum standards in Arabic, English, mathematics, and science; and, providing teacher training programs aligned to the curriculum standards.
- **The Evaluation Institute,** responsible for monitoring student and school performance; designing and administering national tests and surveys; and operating a new national education data system.

A goal was set to open the first Independent schools (ISs) in fall 2004, which allowed little time to make required structural, policy, and operational changes. The Supreme Education Council and the Institutes were established by Qatari law in 2002, and guidelines for the ISs were created that would constitute the policies and procedures for operating an Independent school. In applying to open a new school, IS operators would specify grade levels, age range and gender; they were free to organize student learning and assessment according to the school's mission and goals. The schools had to implement the new internationally-benchmarked curriculum standards; participate in student assessments; submit an annual report; and cooperate with and participate in data collection activities. Independent schools developed their own budget using funds from the Education Institute provided on a per-pupil basis, and could spend these funds subject only to general financial regulations.

In spring of 2004, the Evaluation Institute tested every student in the Ministry schools, and students in many private schools, to document achievement levels before the reform's ISs began to open. It also surveyed all principals, teachers, and parents and most students in these schools. These tests and surveys were then upgraded and repeated in subsequent years. The first generation of twelve Independent schools opened in the fall of 2004—a remarkable accomplishment. Each year the number of ISs increased: By fall of 2010, the majority of government schools in Qatar were Independent schools.

Evaluating the Progress of Reforms

In 2005, RAND was asked to evaluate the implementation of the reform in the Independent schools. From November 2005 through May 2007, RAND conducted a case study analysis of 12 ISs and four Ministry schools. Data were drawn from extensive classroom observations; interviews with principals and administrators; and, focus groups with teachers, students, and parents. RAND looked for evidence that key school-level reform elements had been implemented, including student-centered classroom instruction, efforts to promote students' acquisition of analytic and critical thinking skills, implementation of the new curriculum standards, use of English in mathematics and science classes, and support for teachers' professional development. In addition, RAND used national survey data to compare school characteristics, teacher characteristics, and instructional practices in Independent and Ministry schools. RAND also analyzed student performance data from the 2005-2006 Qatar Comprehensive Education Assessment.

Study findings revealed that the reform had produced a number of positive effects during its short tenure:

Independent schools differed markedly from Ministry schools in their recruitment and professional development practices. Operators of Independent schools had considerable autonomy to direct teacher recruitment, hiring, and retention. However, these decisions were constrained by the introduction of targets that specify a minimum percentage of Qatari teachers; hiring was further constrained because Qatari teachers perceived ISs to be too demanding. Teachers in ISs more often reported that they engaged in professional development activities consistent with the expectations of the reform—e.g., focused on instructional methods, use of technology, curriculum planning, etc.—than did Ministry teachers.

The move to a standards-based curriculum produced both difficulties and rewards for Independent schools. The transition from relying totally on the Ministry's entirely predetermined course of study, to selecting or developing an instructional program aligned with the new standards, was not easy. IS teachers noted the enormous extra workload required for curriculum development. Nevertheless, IS teachers reported that they often used material developed with others in their school. Collaboration around curriculum and materials was cited by many as a positive feature of their work. Teachers in ISs were also much more satisfied with their school's physical environment and resources than were Ministry teachers.

Classroom practices in Independent schools were more student-centered than in Ministry schools. The reform design emphasized student-centered pedagogy, which puts student needs at the center of instructional practice. Such pedagogy typically includes varied instructional groupings such as small groups and one-on-one instruction along with whole-group instruction. Teachers in Independent schools were encouraged to promote higher-order thinking in their students by engaging their students in cognitive work, including comprehension, application, analysis, synthesis, and evaluation.

RAND's analysis indicated that whole-group activity continued to be the most frequent instructional format in both Independent and Ministry schools; there were no differences between the two school types in the use of whole-group instruction. However, IS teachers used one-on-one and small groupings with significantly greater frequency than did Ministry school

teachers. Independent school teachers also placed significantly higher cognitive demands on their students, more often asking them to demonstrate comprehension and application of new material, and to synthesize and evaluate knowledge, the latter something that Ministry teachers did not do at all. Overall however, demands for higher-order thinking were still relatively limited in both types of schools.

Students in Independent schools generally outperformed their Ministry peers, but overall achievement remained low. Standardized testing results indicated that students in ISs outperformed students in Ministry schools in English and Arabic. Similarly, IS students who took the mathematics and science assessments in Arabic tended to score higher than did Ministry school students. However, when assessed in English, IS students tended to receive lower math and science scores than did their Ministry peers, who were assessed in Arabic. But the higher performance of IS students must not obscure the reality that most Qatari students are performing poorly. Qatar's 2007 TIMSS performance puts it at or close to the bottom in international comparisons. Qatari students ranked 49th out of 49 participating nations in mathematics and 48th of 49 in science (Mullis et al. 2008, Martin et al. 2008).

Prospects and Challenges for Qatar's Education System

Qatar's K-12 education reform effort achieved important successes in its early years. As of SY 2010-11, there are 165 Independent schools serving about 80,000 students. In 2009, the Emir issued a decree that made the SEC the single national authority for government-funded schools (Emiri Decree 14, 2009). The SEC made the remaining Ministry schools "semi-independent schools" for a year until they converted to IS status. Nonetheless, policymakers in Qatar face a number of challenges and constraints in moving to the full Independent School Model, including poor student performance (described above), parental concerns about Independent schools, inadequate school and staff capacity, and limited parental choice. These challenges are described below.

Serious Parental and Public Concerns About Independent Schools

Early in the reform, the public began to question whether private operators should be allowed to earn profits for providing publicly-funded education. Parents worried, particularly in the first years of the ISs, that operators were skimping on the purchase of materials to increase their profits; they also worried that the lack of a single textbook, the hallmark of a Ministry education, implied lower quality instruction. The Education Institute responded to textbook concerns by developing a list of acceptable materials and asking ISs to either select materials on the list or justify others. The SEC responded to the concerns about profit by making all ISs non-profit in 2006 and by communicating positive messages about the reform's aims, design, and implementation (Supreme Education Council 2005).

Parents included in RAND focus groups expressed concerns that English was taking precedence over Arabic in Independent schools, and that their children might lose their facility with Arabic. In a number of newspaper articles, critics questioned the compatibility of the reform with

traditional Qatari values, citing lower priority given to Arabic language and religious education in Independent schools, and arguing that practices like charter schools were foreign to and therefore inappropriate for Qatar (see, for example, Al-Kubaissi 2008). The SEC continued to respond to these criticisms with positive messages about the reform (Al-Khater, October 4, 2005).

Limited Staff and School Capacity

Qatari men prefer other occupations to teaching, so most of the male teaching positions are filled by expatriates (about seven percent of male IS secondary teachers were Qatari in 2006). In the past, Qatari women have favored teaching as a career because of relatively short hours and a gender-segregated workplace. In the last decade, however, many more career opportunities have opened, and interest in teaching is declining among Qatari women. In 2006, only about 26 percent of female IS secondary teachers were Qatari; lower grades had a greater share of Qataris (Stasz et al. 2007).

To increase the share of Qatari teachers in Independent schools, the SEC established Qatarization targets after the reform's implementation. These targets have not been enforced strictly as quotas, but schools have been given additional financing to help them attract Qatari teachers, who must be paid considerably more than expatriate teachers.

Most of the Qatari and expatriate teachers in the local labor market are current or former Ministry teachers; many regard teaching in the ISs as unattractive given the longer school day and the need to develop or choose curriculum and materials and write lesson plans. Because operators make hiring and firing decisions, teachers feel they lack job security. Although ISs offer, on average, higher salaries than Ministry schools, many Ministry teachers in our focus groups viewed these higher salaries are insufficient to offset these IS disadvantages. Since 2007, the Education Institute has been trying to make IS positions more attractive by increasing IS compensation for Qataris and providing teachers greater job security.

The supply of spaces in high-quality government schools is not keeping up with demand; ISs and the best private schools have long waiting lists. The SEC has recently raised the IS classroom limit from 25 to 30 students to increase the supply of IS seats, and has launched two programs to increase other high-quality schooling options. A new voucher program, begun in 2008-2009, permits families to take public funding to private schools. Currently, a few families are receiving these vouchers; the SEC intends to expand the program in the future (Supreme Education Council 2010). The government has also sponsored a small number of branch campuses of elite international private schools. If they meet program requirements, these branch campuses can accept vouchers, which will encourage Qatari enrollments.[2] As of early 2011, three branch campus schools have opened; six other private schools participate in the voucher program. These new programs are promising, but will have to expand significantly to have a noticeable effect on demand for high-quality school places.

[2] In order to build national identity, voucher and branch campus schools must agree to include Arabic, Islamic studies, and Qatari history in their curriculum for students receiving government funding, although they are permitted to offer Arabic as a second language, which carries less stringent requirements. These schools also must have a current international accreditation, although there are plans for Qatar to develop a national school accreditation system in the future, which will allow schools to select either national or international accreditation.

Due to lack of high-quality school spaces, a key reform accountability mechanism—parental choice—cannot fully operate. Unmet demand reduces Independent schools' motivation to improve to avoid losing revenue when seats are not filled.

Conclusions

Qatar has embraced an ambitious reform strategy to overhaul a weak public school system. In the space of a few years, the country has put the fundamental components and mechanisms of its reform in place. The Independent schools have been established, and a sophisticated assessment and monitoring system has been designed and implemented; internationally benchmarked curriculum standards in four subjects have been developed and integrated into school-selected curricula. The reform has defined clear goals for K-12 education, and through monitoring, has established high expectations for real results. Much of the credit for these accomplishments can be attributed to the strong political will and substantial financial resources that have buttressed the reform from its very beginnings.

But such comprehensive change has not been easy. The reform introduced fundamentally new mechanisms to provide schooling, and has challenged the public's traditional views about the role of private actors in publicly-funded education. The SEC has tried to communicate the positive aspects of the reform, but debate about the reform and its achievements continues in the popular press. The supply of Independent schools and other high-quality school spaces has not kept up with demand, so market forces are not imposing accountability on school operators as the reform design intended. The SEC has also instituted a number of new policies that reduce operator autonomy and variety.

These challenges are likely to be echoed in other countries that attempt such comprehensive reforms. System-changing reform requires all stakeholders to examine and modify long-held beliefs, attitudes, and behaviors, and for reform leaders to anticipate dissatisfaction and deal with it in ways that do not threaten the reform. If the main source of personnel is the old system, reform leaders need to prepare to invest heavily in professional development to equip personnel with new skills. In addition, the new system will need a viable accountability mechanism to encourage performance improvements and discourage a return to old practices. Policymakers must monitor how well the intended accountability mechanism is functioning, and, if it is not providing sufficient impetus for improvement, must adopt other mechanisms that will better support the reform's goals.

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The "Knowledge Society" in the Middle East: Education and the Development of Knowledge Economies

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Knowledge production and development is readily recognized as one of the main drivers of economic development, and those who are able to make best use of knowledge will also be those who perform most effectively within globalized economic structures. National and global political discourse is increasingly making mention of the importance of developing "knowledge economies," and placing the production of knowledge societies at the forefront of national development policy. In terms of national development issues for central governments, the concern lies with attempting to understand what constitutes "knowledge," and once identified, how this can be assembled and delivered to local learners. For the purposes of this chapter, we view knowledge as sets of skills, understandings, expertise and mastery of information, gained both through formal and informal education. Knowledge, and a definition of what constitutes a knowledge society, is a slippery concept, much discussed and debated, with defining elements often set by local and cultural ideology. So, with an awareness of the need to keep notions of many "knowledges" in mind, this chapter will attempt to explore how knowledge societies are developing in the Middle East region.

Knowledge, transmitted traditionally through basic formal education, lifelong learning experiences, and informal educational settings, such as family and social environments, provides the basis for any fledgling knowledge based society and economy. Building the knowledge capacity among the local citizenry is the most effective, and productive, way for the states of the Middle East to develop capacity and position themselves in relation to the global structures of knowledge production and dissemination, both of which are becoming new areas of contestation among nations.

Such development aims are being embraced by governments across the Arab world, although progress continues to be slow, mired in regional and cultural considerations. This said, however, it is well understood by those in the region that successful economies and societies are those which are well positioned and able to exploit knowledge to gain higher levels of productivity and competitive advantage. Arab societies have always placed great value on education and knowledge, along with the formal learning process. For example, during the last millennium, the countries and peoples of what is now termed the "Middle East" were well advanced in terms of

social, economic, and intellectual development. The knowledge production that began in the region swept through Europe and Asia, fueling a renaissance in learning for these regions.

Before moving on to examine broadly the notion of knowledge societies in the Middle East, we must begin with a caveat: There is a tendency to discuss the Middle East from a homogenous stance, as if the region were in itself akin to a nation-state or single entity, without recognizing the heterogeneity of the countries in the region. As this chapter begins to discuss the regional issues related to the creation of knowledge societies, it does so knowing that it is painting the issue with a broad brush, and will attempt to relate to specific states and examples when these stray from the norm across the region, or allow deeper understanding of the issue.

The Middle East as a region is currently undergoing a period in which it is faced with a raft of social, political and economic challenges. The current "fascination" in the West with all-things-Middle-Eastern, is fueled, in part, by the media discourse surrounding high-profile regional conflicts (particularly in a post-9/11 world), the scramble to secure oil resources, the global aspirations of a strengthening Iran, the aggressive global self-branding of Gulf city-states, such as Dubai, and the ongoing Israeli / Palestinian conflict. What this means for regional governments is that they are increasingly juxtaposed with Western systems and placed in opposition to the economic, social and political norms of Europe and North America. This positioning in relation to, and often against, Western systems of governance takes place at differing levels; Western governments place themselves in the role of "others," some Middle Eastern leaders look to compete globally, often aspiring to embrace selected "Westernized" traits, and the populations in the region, especially the growing youth of many countries, look West, while recognizing the need to retain cultural identities.

One aspect of social and national development which is increasingly placed under the gaze of the global community is the educational infrastructure and development of the Middle East. Western notions of education, and the building of "knowledge societies," are gaining support in the region, yet local obstacles impeding the growth of educational capacity, which are not easily overcome. Several high-profile, and widely read, reports published by the United Nations Development Program have set in motion a period of regional introspection, and a desire, at least in the rhetoric of policy makers, to improve local and regional knowledge production and capacity. In 2009, the *Arab Knowledge Report* proposed ways to fill what it highlighted as numerous gaps in the educational capacity of the Arab world. This report came six years after the *Arab Human Development Report* (2003), which set out many of the problems faced by Arab states in developing education and access to wider notions of knowledge for the citizenry of the region. The clear link between knowledge and education as powerful drivers of economic growth, sustainability and productivity became apparent to leaders and policy-makers in the region. Both reports were widely disseminated by non-governmental agencies and academics, and touted as evidence that social policy needed to be reviewed, particularly in the areas of access to education and the development of local educational capacity. Coupled with many of the issues that were stated in the UNDP reports, there is an ongoing and prevalent perception in the region that Western educational credentials are seen as the key to entry into the globalized knowledge economy, and lead to higher status and reward, both individually and for nations.

The *Arab Human Development Report* posits a knowledge-based society as "one where knowledge diffusion, production and application become the organizing principle in all aspects of human activity: culture, society, the economy, politics, and private life" (p. 2). Such an encompassing social, cultural, political and economic role for education and the dissemination and production of knowledge is a lofty aim for any state or region. It is also generally agreed that human capital and high levels of educational attainment play a crucial role in developing knowledge based societies.

Yet the Middle East is far from attaining the ideal conditions that would allow for a society to develop a knowledge base and capacity. For example, Arab countries, as a whole, still have some of the lowest levels of research and development funding in the world (UNDP 2009). Regional spending on research and development averaged 0.2% of GDP, compared to a global average of 1.7%. The regional publication of books accounts for a mere 1.1% of the global total, with 15% of this output being religious texts. As a whole, the Arab world published fewer books than Turkey, and five times as many books are published in Greek, spoken by just eleven million people, than in Arabic, spoken by an estimated 220 million worldwide. The region remains an area of high levels of illiteracy, with more than 40% of Arab women unable to read or write.

These examples illustrate that the region, as a whole, is struggling to meet the conditions needed to be full and productive members of a global knowledge economy, with Arab countries, as a group, lagging behind other world regions in building knowledge-based economies and knowledge societies. In short, the Middle East has largely failed to keep up to date with today's knowledge-oriented world. As Starrett explains, "Muslim states have followed a different course to modernity [from the West], insisting explicitly that progress requires a centrally administered emphasis upon moral as well as economic development" (p.10).

Yet, there are moves in some parts of the region to address many of the imbalances and obstacles that are faced across the wider Middle East. Saudi Arabia, a regional powerhouse, global economic force and religious guide for the global Muslim community, the *Umma*, has decided to invest heavily in education and the production of knowledge and human development. According to recent data, the Saudi government spends 26% of non-military GDP on education. When compared globally, this is an incredibly high percentage, and when placed regionally, it is even more astounding. This investment by the Saudi leadership is due, in part, to counter growing criticism of the current educational system, in the country and in the wider region, that claims education is not creating a productive and committed workforce ready to meet the demands of a global economy. Coupled with a demographic time bomb, with 60% of the population being under 20 years old, and a projected doubling of the current population by 2040 to fifty million, the government has acted to prioritize education to meet national development goals and create an educated, knowledge-based workforce for the future. But this has come at a price, in the eyes of many conservative Saudis. Opening up the education system, and development aims, to the wider global environment has required a reassessment in the conservative social and traditional norms of society, in order to embrace globalization. This has led to a change in the attitudes and expectations of a new, younger, educated generation of Saudi youth.

Another example of a promising, high-profile, yet localized attempt to develop the conditions needed to promote education and knowledge can be seen in the "Jewel of the Gulf," Dubai. The

Emirate of Dubai, one of seven that make up the United Arab Emirates, is accustomed to being in the global spotlight, and actively markets itself as a global tourist destination, regional financial center, and the commercial heart of the Gulf Cooperation Council (GCC). Dubai is now setting itself up to be the knowledge hub of the region, with support from the Ruler of Dubai, Sheikh Mohammed bin Rashid al-Maktoum, who recently donated 10 billion dollars to establish a newly-formed education body. The driving force behind this new organization is to raise education standards at all levels as, according to Sheikh Mohammed, "There is a wide knowledge gap between us and the developed world in the West and in Asia. Our only choice is to bridge this gap as quickly as possible, because our age is defined by knowledge." Although the government of Dubai is making moves toward enabling local infrastructure to promote knowledge acquisition, promotion and diffusion, progress is slow, and has been hampered further by the current global economic downturn, which has severely dented publicly financed initiatives in the small Emirate.

Despite localized efforts, as seen in Saudi Arabia and Dubai, the Middle East region as a whole suffers from chronic underemployment and underutilized human potential, with the relatively wealthy Gulf States remaining reliant on imported labor, and poorer countries in the region experiencing a growing exodus, as the youth of these countries seek higher salaries or educational opportunities abroad. With many of the youngest and brightest leaving the region, favoring Western Europe and North America, the Arab world suffers from a chronic "knowledge deficit," creating a problem for states that want to create national individuals capable of taking up local jobs efficiently and effectively, and by doing so, become less reliant on a transient, imported workforce. Part of this deficit stems from the education systems that exist within the region. Although, generally, education is provided free to the national population, the problem lies not with access to education, but the quality and structure of government education systems. Vocational and technical education, the teaching of basic sciences, and an over dependence on the social sciences, means that new entrants into either the workforce or higher education lack many of the higher order thinking skills and understanding needed to push forward knowledge production and research and development in the region. Education systems that focus on developing and promoting creative thinking, technological competence, language skills, and "global awareness," are few and far between in the wider Middle East. Yet it is precisely these elements of educational development that are needed for individual states to grow and fulfill their aspirations as members of a global knowledge-based economy and society. As the World Bank report *The Road Not Traveled* (2008) stated, education systems and structures in the Middle East need to be examined and a new approach to reform implemented, if there is any chance to close the gap between the educated few of the region, and the internal and external labor demands that are increasingly compensating for the lack of national capacity.

Across the region, however, there are issues to be addressed if the aim of the creation of knowledge-based societies is to come to fruition. These issues are found across the region, and are not evident in all of the countries that make up the Middle East, but they are factors that influence much of what happens educationally. Firstly, illiteracy rates remain high in the region, particularly among women, and this is a stunting element on the path to knowledge growth and production. As women provide a crucial role in the workforce, addressing the low rates of literacy among this group should be high on the list of priorities. Next, access to education, especially at the lower and secondary levels, in many states is surprisingly low, with many students completing

a minimum number of years of compulsory schooling, yet departing formal education with little or no transferable skills and qualifications. This short duration of formal schooling results in neither an adequately qualified workforce nor higher order thinkers who can move the knowledge society forward.

There are challenges in the region when it comes to developing knowledge societies, yet these are countered by many positives that the Middle East holds when examining education and knowledge development. In many states, there is a will on the part of the leadership to improve educational access, development and attainment, which is pushing forward reform. In the region, it is culturally and politically beneficial to have the support of the leadership of the country, and once this patronage has been given, then the process can move on a lot more easily. The Middle East also remains a relatively wealthy region, which means that funding for education remains available, even for the poorer states, which benefit from a cultural tradition of sharing wealth and resources among the Arab nations. States such as Qatar, the United Arab Emirates, and Bahrain, have developed dedicated educational zones and areas that are promoting education, and developing knowledge hubs, with the introduction of research funding and grants available for those working in the country. These are beginning to stimulate local research capacity and knowledge production, albeit currently at a modest level.

The wider Middle East region continues to face a range of social, political, and educational issues that make predicting how the creation of knowledge societies will develop problematic and unhelpful. As anyone who has a slight interest in the region will know, there are regional and global issues, such as local political will and instability, shifting national development aims, and the current global economic downturn, that have an impact on support, funding, and reform of education, along with the role education has to play in helping the region move forward. Local and national funding priorities have altered in light of the current global economic downturn, affecting the region in many of the same ways that the rest of the world's economies have been hit. Education has always been a soft target for policy makers in tough economic times, and this can be seen to some extent in the Middle East. There is also still a regional issue with "brain-drain" which is proving difficult to reverse. With the region hemorrhaging its brightest and most talented, reliance on foreign expertise remains, resulting in a situation that is unsustainable and incompatible with building local capacity.

Yet there are still positive steps being taken. There are localized efforts to try and develop local research and development capacity, such as the creation of the National Research Foundation in the United Arab Emirates. As cultures and perceptions of education change, and society begins to look beyond mere credentials and gets to the heart of developing sustainable knowledge societies, through developing critical thinking from an early age, highlighting and valuing education, and ensuring rigorous standards in education, then the region will be well-positioned to move forward and take a leading role in contributing to the global knowledge economy.

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Technology Education is more than just Computers

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Government position papers and education reform documents regularly mention the need for an educated citizenry who are creative problem solvers and motivated with the requisite skills and knowledge that enable them to actively participate in a world that is becoming more global, fast-paced and technological. However, when most people think of "technology," they immediately think of computers, cell phones, digital media players and other high-tech gadgets - even though it is much larger in scope. Anyone visiting the UAE, even for a short time, recognizes this more-encompassing application and the impact that technology has on our lives. In this sense, to be "technologically literate," students need to know and experience much more than just computers.

In UAE public elementary and secondary schools, the subject of technology is not included beyond the narrow concept of computers - except perhaps as an occasional example used to illustrate a historical or scientific point in class. School curricula, facilities and limited instructional time provide little or no opportunities for students to work with a wider set of tools, materials and processes that enable them to apply creative practical problem-solving skills to real-world technological challenges.

In the UAE, where traditional attitudes regarding female and male roles may clash with more modern influences, the positive or negative attitudes students have toward technology have implications for their future participation in a technological world. In this manner, the experiences students receive in school can influence their attitudes.

To gauge students' attitudes toward technology in public and private schools, a nationwide study of Pupils' Attitudes Toward Technology (PATT-UAE) was conducted with eighth grade students. Data were used to compare their attitudes toward technology and (a) career options, (b) schooling required, (c) consequences of technology, (d) interest toward technology, (e) technology as an activity for both boys and girls, and (f) the perceived difficulty of technology. This paper will present the results of the PATT-UAE study (Volk 2009), as well as recommendations for curriculum reform to help promote technologically-literate citizens.

Technology, Engineering and Science Defined

Technology, engineering and science are distinct fields, yet they are often interrelated. Engineering uses the design process of identifying a problem, and then designing, testing and improving a solution to produce workable solutions. Technology can be considered the output of engineering and can be defined as "the modification of the natural environment to satisfy perceived human

wants and needs" (ITEEA 2007; p. 9). Science focuses on the natural world, with the output being knowledge. While engineering yields effective and workable technological solutions, it does not (often) pursue the scientific "why" (Pinelli and Haynie 2010).

For many educators and the public, there is often confusion over the terms "technology education" and "education technology." Technology Education is concerned with the broad range of technology, and contains areas such as engineering design, making, problem solving, technological systems, resources, and materials. Educational technology is involved with a narrower spectrum of technology, dealing primarily with information and communication technologies (ICT). Educational technology centers on the practice of using technology to improve the teaching and learning process (Dugger and Naik 2001).

Using a constructivist approach, student learning through technology education is not limited by their listening and observation, for other senses such as touch, taste and smell are a part of technology education content, methodology and experiences. In this regard, real technological experiences can help reach students who are disenchanted and uninterested in the routine of school classrooms and/or who do not do well with the abstractions of reading, mathematics and mental imaging.

Technology education offers many benefits, especially for young students. Children are naturally inquisitive and fascinated by building and taking things apart, and in a way children are informally engineering all the time. When these types of activities are encouraged through school lessons and activities, children develop positive links with engineering. Through problem-based learning and hands-on activities, children become comfortable with a variety of tools, materials and techniques as they develop their analytical and practical mathematical/scientific skills.

In secondary school settings, technology education enables students to tackle more difficult technological problems, quite often of their own choosing. Students at this age are also more capable of working in "engineering teams" for more in-depth projects, simulating the real-world work environment they will soon be experiencing.

Although recent UAE strategies, including the *Madares Al Ghad* (Schools of Tomorrow) and Abu Dhabi Education Council's model elementary schools, are now beginning to introduce technology education topics and activities through interdisciplinary math, science and English learning situations, the broad subject of technology education has been largely absent from public elementary and secondary schools. In contrast, private elementary schools often use generalist teachers, enabling thematic activities of longer duration to occur, thus allowing for more creative, problem solving activities of a hands-on technological nature. In private secondary schools, courses in design and technology (D&T) or technology education may be included to match graduation requirements outlined for their particular national or International Baccalaureate curriculum (http://www.ibo.org/).

One caveat about technology education: Just as the subjects of math, science and art do not have as a key objective the goal of producing mathematicians, scientists or artists, so too is technology education not focused on the vocational goal of developing technologists or engineers. It is different than the skills-based and employment-driven technical and vocational education found in UAE schools such as the Institute of Applied Technology.

The PATT – UAE Study

Given the (a) growing impact and influence of technology has on students' lives, (b) the recognized need to improve UAE schools, (c) the differences between public and private schools' curriculum and pedagogy, and (d) the important role attitudes have on students' further learning opportunities, a nationwide study of UAE Pupils' Attitudes Toward Technology (PATT-UAE) was conducted on eighth grade students in public and private schools (Volk, 2009). Because of length, only several of the findings are now presented.

The first PATT-UAE section contained questions for the student to answer about themselves and their family, including gender, age, parent's occupation, and career aspirations. The second section contained 58 statements about technology and used a five-item Likert scale, ranging from "Strongly Agree" to "Strongly Disagree." These statements were later organized under six attitudinal categories. Printed at the top of the questionnaire and read by the teacher administering the questionnaire was a definition and examples of technology being more than computers. The PATT-UAE instrument was also translated into Arabic, enabling participating schools to select the version most appropriate for their students. Table 1 presents a typical question asked under each attitudinal category. Note that some of the items are negative statements, requiring re-coding later during analysis.

Table 1: Sample PATT-UAE Question for Each Attitudinal Catagory

Category	Sample Question
Interest	I like to read technological magazines
Role Pattern	Boys are able to do practical things better than girls
Difficulty	You have to be smart to study technology
Consequences	The world would be a better place without technology
School Curriculum	Technology lessons are important
Career Aspirations	I would enjoy a job in technology

A total of 28 public schools were randomly selected from a list of schools provided by the Ministry of Education. Private schools were also selected, with the 20 invited representing the approximately 40 percent of students attending such schools. From this canvassing, 21 out of 28 (75%) public schools and 12 out of 20 (60%) private schools agreed to participate. The number of instruments completed (1868) found the sample size to be sufficient and suitably proportioned.

This study examined the following questions about Grade 8 students in the UAE:

1. Are there differences that exist between boys' and girls' attitudes toward technology?
2. Are there differences between pupils' attitudes toward technology among UAE public and private schools?

Data were analyzed by descriptive statistics and t-tests. Descriptive statistics were used for data related to demographics and were generally reported as percentages. Characteristics such as gender, age, the presence of a personal computer at home, and interest in choosing a technological profession, were compared with the six attitude categories using t-tests.

Results

Demographics and Technological Climate at Home

Table 2 presents the results of some of the information gathered on the technological climate in the home. Two questions asked students about their parents' occupations and how much it had to do with technology. While nearly 80 percent of private school students indicated "very much" or "much" for their father; less than 30 percent of students in public schools had this response. It was very surprising that nearly 30 percent of the boys indicated their fathers were not working, suggesting their fathers were either retired, or they considered non-government jobs—i.e, being self employed—as not working. Over 11 percent of the girls replied the same. Girls from private schools had lower interest in choosing a technological career.

Table 2: Cross Comparisons of Gender with Student Characteristics and Home

	Public Schools (in %)		Private Schools (in %)	
	Boys (n=449)	Girls (n=608)	Boys (n=411)	Girls (n=375)
Extent father's job has to do with technology				
Very much	9.4	13.2	24.1	29.6
Much	19.9	26.5	57.3	57.2
Little	22.6	28.3	15.6	12.6
Very little	19.9	20.7	1.9	0.3
Not working	28.2	11.3	1.1	0.3
Extent mother's job has to do with technology				
Very much	5.5	7.2	9.5	11.0
Much	6.6	8.1	11.9	18.5
Little	10.7	13.0	16.8	18.5
Very little	16.8	14.2	16.8	10.1
Not working	60.3	57.5	45.0	42.0
Will choose a technological profession				
Yes	63.4	61.9	64.8	50.9
No	36.6	38.1	35.2	49.1

T-test on Student Characteristics

For each type of school, t-Tests were conducted for five student characteristics and the six attitude categories of "Interest," "Role Pattern," "Difficulties," "Consequence," "Curriculum," and "Career Aspirations." The results for students in public schools are first presented in Table 3, and private schools are presented in Table 4. Note that the smaller the number, the more positive the students' attitudes.

Students attending public schools exhibited significant differences in seven of the 12 cells; with the characteristic of "choosing a technological profession" having significant differences across five of the six categories. Students not interested in choosing a technological profession had

less-positive attitudes for all categories except their perception of technology being difficult. For the category of "Technology is Difficult," it was the most negative for all categories, regardless if students wanted or did not want a technological profession. The characteristic of "gender" was interesting in that for the categories of "Role Pattern" and "Consequences of Technology," girls had significantly more positive attitudes toward technology than boys. It has been observed in other PATT studies conducted in other countries (Volk & Yip 1999) that boys generally have more positive attitudes than girls, except for the category of "Role Pattern" because girls believe they can participate in technology, while boys hold stereotypical attitudes about male/female opportunities. However, for this study, girls also had more positive attitudes for the "consequences" of technology, suggesting they may see the potential of technology for their own and country's future.

Table 3: t-Tests on Students Characterstics - Public Schools

Characteristic	Interest in Technology	Role Pattern	Technology is Difficult	Consequences of Technology	School Curriculum	Career Aspirations
Gender						
Boy (449)	2.32	3.00	3.09	2.27	2.38	2.41
Girl (608)	2.37	2.64	3.08	2.12	2.42	2.42
Significance		**		**		
Choose technological profession						
Yes (653)	2.21	2.75	3.11	2.09	2.24	2.17
No (376)	2.58	2.87	3.04	2.36	2.87	2.86
Significance	**	**		**	**	**
**p<=0.05						

As detailed in Table 4, students attending private schools had nine cells with significant differences. Girls had more positive attitudes than boys for the category of "Role Pattern," confirming the pattern observed from students in public schools and in other PATT studies. Similar to public school students, there were significant differences in five out of six categories for private school students not wanting to choose a technological profession.

Table 4: t-Tests on Students Characterstics - Private Schools

Characteristic	Interest in Technology	Role Pattern	Technology is Difficult	Consequences of Technology	School Curriculum	
Gender						
Boy (414)	2.36	2.65	2.65	2.29	2.35	2.40
Girl (375)	2.67	1.99	2.73	2.35	2.44	2.66
Significance	**	**	**			**
Choose technological profession						
Yes (440)	2.30	2.37	2.74	2.22	2.29	2.21
No (331)	2.79	2.33	2.64	2.44	2.65	2.97
Significance	**		**	**	**	**
**p<=0.05						

Discussion

The results of the PATT-UAE study illustrate several anomalies. For example, with PATT studies conducted in over 30 countries, attitudinal differences and patterns between males and females have been commonly found. Boys generally have more positive attitudes toward technology than girls, except perhaps for the category of "role pattern." Although the PATT-UAE study showed similar results for the category of "role pattern," all other categories did not follow traits of boys having significantly more positive attitudes than girls.

Conjectures can be made as to why this is the case for students in public schools. One possible reason is that the subject of technology is not commonly taught in schools, and if it is, it not likely to be a hands-on activity using tools and a variety of materials. Both boys and girls receive the same very limited exposure to the subject, and are then not influenced either way by the depth of content covered, types of projects done, encouragement given, or method of instruction received. Limited exposure to technology at home or having parents involved with technology may be another factor influencing students' attitudes.

As a group, public school students do not have attitudes as positive about role patterns when compared with students from private schools. For example, referring to earlier data from Tables 3 and 4, and using ANOVA, the mean response about role patterns from boys in public school is greater than from boys in private schools. The same applied for girls from public and private schools. Boys and girls from public schools also find technology to be more difficult than students from private schools.

This presents a conundrum for educators in the UAE. With gender stereotypes present and technology perceived as being difficult by students in public schools, how can the subject of

technology be introduced in schools to reduce such negative attitudes? Would more authentic, hands-on, problem-solving activities that utilize a variety of tools and materials help girls in public schools feel more confident about working with technology and their perceived participatory role? Or would such experiences then reduce their interest and career aspirations to levels that more closely resemble girls in private schools? For boys in public schools, would the introduction of technology education programs help motivate them for later academic and/or occupational choices? The potential for relevant and engaging curriculum to help address the high dropout rate of boys from UAE schools has been noted by Zuriek (2005) and Ridge (2009).

Three Options to Teach Technology Education

One option is to have technology education included as a stand-alone subject in secondary schools. More traditional technology education courses would include graphic communication, power & energy, or manufacturing, while others could be designed to match local context:

Sustainability: This course would cover renewable energy, sustainability and environmental topics. Students could design, build, test and monitor photovoltaic power and other systems, and their applications for a real situation. They could also work on a class project that examines and tackles a sustainability challenge. Field trips to Masdar City and companies that produce and install green technology would be part of this course.

Robotics and Control Technology: This course would utilize LEGO robotics hardware and software for students to design and construct robots in challenging situations. While annual competitions such as the Robot Olympiad, already being held in the UAE, could be a goal of students, it is the motivational, creative, programming and team-building attributes of the coursework that would be the greatest outcome.

There are several problems associated with including technology education as a separate subject. Most obvious is the requirement of a specialized lab and teacher. Another is scheduling, with the sheer numbers of subjects students need to master in school already a concern.

A second option that can be used to foster technological literacy and creative problem solving through hands-on engineering activities uses an integrative Science, Technology, Engineering and Mathematics (STEM) approach. "Integrative STEM education includes approaches that explore teaching and learning between/among any two or more of the STEM subject areas, and/or between a STEM subject and one or more other school subjects" (Sanders 2009; p. 21). Because subjects in upper grades tend to be more compartmentalized, a STEM approach may best be situated in elementary grades.

STEM curriculum also encourages students to be exposed to creative problem-solving situations that challenge and prepare them for further study and/or work. Such problem-solving situations would often require hands-on experiences with tools, equipment and materials. The engineering component of STEM emphasizes the process and design of solutions, instead of the solutions themselves.

The third option recognizes the value of a STEM approach, but concentrates the "T" and "E" in science, where a lab approach makes the use of tools and materials easier to incorporate. Supporting this notion of a STEM approach in science was Volk's (2008) UAE study on *Why Scientists Become Scientists: Factors Influencing Career Choice*. When asked how the school subject of science could be improved, it was overwhelmingly recommended by academics and graduate science students that science (a) should involve more hands-on learning, and (b) be made more applied and real. In this way, many aspects of technology and engineering education may be introduced as "applied science."

Conclusion

It would be naive to assume that the addition or continuation of technology education in schools is the sole reason boys and girls develop certain attitudes toward technology. However, to not include activities allowing students to explore their interests, work collaboratively on authentic problems, and develop skills and attitudes through enriched interdisciplinary educational situations is to deny them valuable learning experiences that may help them to actively participate in an ever increasing technological world.

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How Important in English in Elementary School?

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More and more school systems in the Arabian Gulf region are putting an emphasis on learning English in the early years of education, both prior to and during elementary school. This policy shift is having profound effects on the nature of elementary education, especially since many programs are beginning to adopt English-medium instructional approaches in which several subjects are taught through English rather than in the mother tongue. Unfortunately, the linguistic reasons for promoting English instruction at an early age are poorly understood, and many misconceptions about nature of second language acquisition by young learners persist. This paper will examine a few of these misunderstandings in the light of current research, and then review some additional factors that policy makers should take into account when making decisions about the priority that English language development should have in their elementary curriculum. Research on this issue is complicated by the fact that some of the effects of increased English in the early stages of education may not be apparent until much later in a child's education. Interest in early foreign language instruction is surging worldwide, but there is a lack of relevant research on its costs and benefits in the Middle East. The need to learn English in the Arabian Gulf is widely acknowledged, but the best age for starting English instruction is not.

Language Learning: Background Issues

At the outset of this paper, it is important for educators to recognize how difficult it is to disentangle related factors when trying to explain the relative effectiveness of different forms of child language learning, both in naturalistic and instructed settings. Administrators in particular may wrongly attribute students› successes (or failures) to age-related factors when in fact other psychological and social forces are actually more responsible (Moyer 2004, D. Singleton & Ryan 2004). Young learners may appear relatively successful because they can sometimes acquire a moderately native-like accent or use idiomatic expressions appropriately, but these accomplishments represent a very small part of the overall language learning task. There are some plausible reasons to consider starting English instruction as early as possible, but they have much less to do with human physiology than many educators realize. Johnstone's observations on the complexity of this issue are incisive. He states, "Policy-makers and teachers are never confronted by the age factor on its own. They have to confront large clusters of factors (including "age"), few of which can be easily controlled to safeguard the internal validity of experimental research studies (Johnstone 2002). If any one factor explains success in language learning, it is the total amount of exposure to the target language, not the initial age of learning. However, separating

these two issues is usually difficult when studying intact groups, since students who start early tend to be the ones who end up with the most overall exposure.

General Benefits of Bilingualism

English skills are so highly valued in the Arabian Gulf at this time that many Arab families are sending their children to English-speaking schools which have fairly weak programs for developing their Arabic language skills. The reasons for this demand for English are complex, but the requirements of employment and higher education appear to be endangering formal Arabic literacy development in some circles. It is beyond the scope of this paper to examine all the cultural issues affecting bilingualism in the Arabian Gulf at the moment, but educators need to realize that bilingualism has some fundamental benefits for students that have nothing to do with the utility of English itself. For example, research on early bilinguals indicates that bilingualism is associated with more effective controlled processing in children (Bialystok 2006; Bialystok, Craik, Klein, & Viswanathan 2004). The reasons for this are not understood well, but Bialystok has suggested that the interplay of two competing languages may enhance children's executive functions. Since language and thought are so intimately connected, it seems reasonable to conjecture that knowing two languages would foster some cognitive flexibility. Furthermore, if the two languages are relatively dissimilar (e.g., Arabic and English), the benefits might even be greater. Put simply, becoming bilingual is desirable solely on the grounds that it boosts children's intelligence slightly, regardless of which second language is studied and learned.

Time on Task

The fact that some children appear relatively successful at learning foreign languages (especially orally) has long been attributed to the notion that they have some physiological advantages related to memory, attention, perception, or cognitive plasticity. In linguistics and psychology, this proposition is typically referred to as the "Critical Period Hypothesis," which is a theory that our innate capacity for language learning is heightened during certain developmental stages (Muñoz & Singleton 2011). Current research has achieved some progress in refining this hypothesis, but much more work needs to be done since its predictions encompass a wide array of linguistic features (Rothman 2008). Much of the research is only remotely applicable to this discussion because it generally is based on studies of naturalistic learning (not classroom-based learning), and it typically compares adult learners to children (not early elementary to post-elementary). While there is considerable evidence that post-pubescent learners are less adept than children at acquiring native-like pronunciation in foreign languages (Moyer 2004), almost all the other predictions of the Critical Period Hypothesis are disputable based on current available evidence. The ability to speak standard English without a strong accent is admired in the Arabian Gulf, but the need for basing major curricular decisions on this specific outcome is dubious, since so many varieties of English are used in the Arab world.

When educators compare the linguistic progress made by children learning second languages in different programs and at different ages, they can easily confuse the benefits due to age, total exposure time, circumstances, type of input, etc. Even professional researchers are prone to mixing these effects, especially in cross-sectional research designs where groups are compared that are not truly equivalent. Marinova-Todd, Marshall, and Snow (2000) have identified three common types of misleading conclusions that researchers have reached in this regard. They are:

1. misinterpretation of the facts relating to speed of acquisition (underestimating time of exposure)
2. misattribution of age differences in language abilities to neurobiological factors
3. underemphasis on adults who master L2s to native-like levels (Marinova-Todd, Marshall, and Snow, 2000, p.9)

Regarding the first, researchers have tended to overestimate the speed at which children appear to be making progress in a language. In second language contexts, children may receive far more input than similar groups of older learners simply because they are patient and don't have other important things to do. Much of their learning happens implicitly when they are exposed to meaningful input and are not even consciously trying to learn a language. For example, it is very difficult to fully account for the ways that brief episodes of playground interaction or stimulating television commercials may be promoting language development, but a complete calculation of time on task needs to go far beyond the effects of classroom instruction alone (Singleton & Ryan 2004).

The second faulty type of reasoning mentioned above is especially relevant to proponents of the Critical Period Hypothesis, along with its popular corollary, the "younger = better" premise. Many research studies have examined this issue by comparing the progress made by children with that made by older learners after a year or two of immersion in countries where the target language was spoken. More recently, investigations have addressed this issue more thoroughly by attempting to account for the specific effects of different kinds of input and interaction. Contrary to the some interpretations of the Critical Period Hypothesis, this latter type of research has overwhelmingly demonstrated that post-pubescent learners are more successful than younger learners in terms of speed of acquisition. For example, a well-known study of Dutch immigrants found that those who were aged 12-15 years old were far more successful at learning Dutch than younger children who arrived at the age of six or seven (Snow & Hoefnagel-Höhle 1978). Of course, the study in question conflated the effects of classroom learning with naturalistic learning, but this would normally give younger learners some advantages because of their preferred learning styles. The fact that older learners outperformed them was attributed by the researchers to the innate cognitive advantages of maturation, especially with regard to learning the morphosyntactic properties of language.

The final problem in research in this area mentioned by Marinova-Todd, Marshall, and Snow (2000) is a tendency to ignore the fact that some older adult learners are remarkably successful at language learning in ways that would be precluded if physiological factors were determinative. Of course, wide differences may exist between the language learning aptitudes of different individuals, so it is unwise to make any generalizations based on the success of a few adults. Nevertheless, the fact that many adults have achieved high levels of proficiency in foreign languages is evidence in itself that physiological limitations are not as dominant as many believe.

The Nature of Early Language Learning

One of the complications of comparing the attainments of older and younger language learners is that the processes of learning differ for these groups. The types of input and output tasks that these two groups are capable of varies widely, especially since young learners are still developing

competence in reading and writing their first language. Older learners have the advantage of being able to draw on a much larger store of background knowledge than their younger counterparts, and they can explicitly study useful abstract conceptions about language (e.g., grammatical rules and patterns) in ways that early learners cannot.

Recent research has offered many insights into important qualitative differences between the learning processes of older and younger language students. A distinction between the roles played by procedural and declarative knowledge appears to differentiate the types of learning of these groups (Nikolov 2009a). Early language learning tends to depend heavily on memory and procedural knowledge, and this allows children to holistically learn unanalyzed chunks of language as they are embedded in communicative events. Later learning usually involves more explicit, declarative knowledge which is conscious and rule-based in nature. Both types of knowledge are useful for learners, but in different ways. For example, procedural knowledge seems more important in oral interaction, but declarative knowledge seems more necessary for high levels of grammatical competence and written production. The differences in these learning processes suggest that early language learning and performance are inherently limited in the ways they can contribute to some important long-term curricular objectives (e.g., acquiring academic language proficiency).

Key Decisions in the Language Curriculum

Since research on the Critical Period Hypothesis is inconclusive and hard to apply to school settings, the reasons for teaching foreign languages like English in elementary schools need to be based on factors other than the inherent abilities of the students. For curriculum planners in the Arab world, some of the key questions about foreign language learning include:

1. At what age should instruction start?
2. What types of language learning should be emphasized at different stages?
3. What types of teachers, activities, and materials are needed to support the desired learning objectives?
4. How will English development be integrated with and reinforced by other areas of the curriculum?
5. How should progress toward long-term objectives (e.g., mastering academic English for higher education) be supported in early stages of learning?

Of course, the answers to these questions are interdependent to a large extent. For example, the availability of teachers with suitable levels of English proficiency (Question #3) appears to be a limiting factor in the Gulf region that is constraining educators as they consider the other questions. Similarly, the lack of suitable material for helping non-natives learn a subject like science using English relates to Question #3, but influences decisions about Question #4. This discussion suggests that isolating one factor in the English curriculum is untenable, and the level of support provided for learners probably needs to progressively increase to maintain the achievements realized at earlier stages of learning.

School-based Research

While those who study the Critical Period Hypothesis are primarily interested in the neurological, psychological and linguistic aspects of the starting age question, an increasing number of educational researchers are examining this from a more pedagogical perspective. The recent surge of interest in early foreign language learning in the European Union has stimulated some high-quality research in that region that compares the achievements of learners who began their English studies at different ages. Applying those findings to elementary students of English in the Arabian Gulf countries is far more valid than using research results based on the naturalistic learning of immigrant children.

One of the most thorough longitudinal studies on the effect of starting age on language attainment was conducted by Muñoz (2006) in Spain. She carried out a wide variety of assessments after a specified number of hours of instruction for four groups of learners that differed only with respect to their starting age. Because instructional time was carefully controlled in the study, Muñoz was able to calculate the rate (or speed) of learning at different stages for different groups. The two largest groups in the study began learning a second language at the ages of 8 and 11. The older starters consistently outperformed the younger starters when they were compared after the same number of hours of instruction, and this was attributed to the innate advantages their superior cognitive development. She conclusively demonstrated that older starters learn most rapidly in the first 200 hours of instruction, but younger learners do so at a much later stage (after 726 hours of instruction). The positive effects of an early start appear to be cumulative, but the differences between these two groups at the end of secondary school were negligible.

The most important differences she observed between the older and younger starters related to the specific aspects of language development that required understanding and control of the rule-based or morphosyntactic features of language. For example, students who began learning at age 11 outperformed the early starters on cloze and dictation tests (possibly because of their cognitive demands), but their results on tests of speech perception and oral fluency were fairly similar. Her results on the comparisons of listening proficiency confirmed several earlier studies by showing that younger starters can catch up with later starters, but only after at least 700 hours of instruction. The researchers hypothesized that listening proficiency develops mainly through implicit processes, and younger learners seem proficient at this type of learning if the quantity and quality of input are appropriate. In contrast, some of the more abstract features of grammar and vocabulary seemed unattainable to learners until they reached age 12, regardless of the time they began their study. Although her study was extremely thorough in the way it assessed language development longitudinally, the effect of teaching methodology was not monitored explicitly in the study. Often formal classroom instruction lacks the type of repetition and recycling that characterize first language learning, and this feature of traditional syllabi might have disadvantaged the learners who started at age 8.

Starting Age: A Complex Decision

The work of Muñoz suggests that students who start learning at age 11 have comparable outcomes to those who start learning at age 8. This finding does not shed much light on the issue of which age is ideal for starting to study a foreign language. The starting age question requires a more multifaceted approach to goals of primary and secondary education in specific

contexts. For example, in some school systems, an early starting age is the most practical way to ensure that children attain a great deal of exposure to the target language by the end of high school. Nevertheless, the quality of early learning appears relatively weak with respect to the formal features of the language which are necessary for academic language proficiency and readiness for studying in English-medium universities, and these are common language goals in the Arabian Gulf region. With that in mind, increasing instructional time progressively for secondary students may be the most efficient way to reach certain desirable outcomes (e.g., an IELTS Band 6). Indeed, the Emirate of Abu Dhabi currently requires most secondary students to attend double sessions of English nearly every day for this very reason.

The work of Muñoz and others has demonstrated that arguments in favor of early foreign language learning are not tenable if they rely primarily on linguistic evidence, since those who start later generally learn faster. In their summary of relevant research findings on this subject, Singleton and Ryan (2004) observed that that gains of early starters were short-lived in comparison to later starters. In other words, later starters often were able to reach nearly the same level as early starters after just a few years, especially when they were mixed together in the same classes. From their perspective, the long-term positive effects of early L2 instruction are ambiguous from a linguistic perspective. There are clearly no harmful effects of early foreign language study on other topics (e.g., first language literacy), but the benefits of early learning may not always justify the costs involved. Educational planners need to consider a wide array of issues that bear on the demands of the entire curriculum before deciding to make early language study a high priority.

Accounting for Indirect Factors

While the linguistic evidence is somewhat weak, there are other types of reasons for early learning that are more indirect in nature which should be considered by curriculum planners. An increasing number of school systems are teaching secondary students some subjects through English-medium instruction, so getting students prepared for such classes is becoming a higher priority. In addition, early learning may be deemed desirable if it encourages students to have a favorable attitude toward other cultures (Singleton & Ryan, 2004), especially when this positive attitude makes students more likely to expose themselves to the target language outside of class (e.g., English television or websites). In such cases, a synergy between early instruction, early success, positive motivation, and extra input can accelerate learning in ways that are very difficult to predict or assess in normal educational planning or experimental research. The extent to which this kind of synergy is possible in the Arabian Gulf region will obviously vary from one household to another, so more qualitative research is needed to determine if early teaching and study of English can be a catalyst for further out-of-class language practice and development.

In her treatment of the starting age question, Moyer (2004) proposed that researchers need to consider important connections between social and psychological factors which could accelerate or hinder early learning. In her view, some early success in language learning might help children by giving them some confidence to interact using the target language. According the model she proposed, starting age and its related physiological phenomena (e.g., cognitive maturity) are just two of the factors that need to be considered when explaining successful learning. The other two major categories of factors are psychological ones (e.g., motivation) and social ones (e.g., willingness to interact). The interplay between these sets of factors is obviously very complex,

but it suggests that attaining high levels of language proficiency is dependent on factors that are beyond the scope of normal classroom instructional processes. In other words, the quality of school instruction probably only partially explains successful English learning, which differs considerably from other subjects (e.g., mathematics) where instructional time and quality is considered the primary factor leading to high levels of achievement.

Based on the foregoing, the potential for an early start in foreign language learning to lead to indirect benefits for the learning process seems quite plausible. Since English media and spoken English are becoming increasingly common in many parts of the Arabian Peninsula, some of these indirect factors could lead to helpful forms of additional exposure for certain learners given the right circumstances. A few additional issues should also be taken into account when planning successful early learning, foremost of which are the disposition of the teacher and the type of methodology used. Nikolov (2009b) claims that young learners usually form a strong emotional attachment to their teacher, so an early emphasis on high levels grammatical correctness may be counterproductive if children are not getting enough positive feedback. Similarly, a language pedagogy that stresses formal accuracy over meaningful input is unlikely to engage young learners. The role of methodology clearly requires additional research, since many teachers appear to be emphasizing the same types of language topics and activities with young learners that they traditionally used with older learners, albeit at a slower pace. Finally, Edelenbos and Kubanek (2009) wisely point how critical continuity in the language curriculum is: some of early progress in an area like vocabulary learning could be lost if it is not reinforced appropriately in subsequent years as different skills are developed.

Conclusion

Learning English in elementary school may offer children a number of possible advantages if the instructional goals and methods are appropriate for the learners' ages. However, these potential advantages have relatively little to do with the physiological capacity of prepubescent learners. In fact, the maturational stage which comes after elementary school is characterized by essential types of cognitive development that are necessary for formal language learning. While learners who start after elementary school have numerous advantages (e.g., efficiency of learning), those who start early are probably at least as successful given the right conditions. Early learners can have the pleasure of processing language much more implicitly and holistically than older learners, provided that the teacher, the course, and the materials support this type of learning. If early instruction stimulates out-of-class practice and learning, its benefits could multiply, but more research is needed to understand how social, psychological and environmental factors interact with cognitive ones and shape the early learning process.

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Two-Tier Science Testing: Is it Right for the Gulf States?

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Introduction

Multiple choice exams (MCE) are frequently used for academic evaluations throughout the educational system. The attraction of the MCE is mostly teacher-centered: It provides a fast, easy way to give some feedback to students, and it has the potential to cover a wide range of course content in a more or less objective fashion. For these reasons, MCEs are used not only in classroom instruction, but also as a determining factor in school admissions and even to evaluate the efficacy of teacher instruction.

As the MCE has become more widespread, a number of limitations have become apparent, particularly the conflation of test taking skills with content knowledge, and the difficulty of creative students being marked down for having greater insight than the test writer. The two-tier test was developed by Treagust (1988) to address these shortcomings in traditional multiple choice testing. A two-tier test is a pen and paper test with two parts. The first part is a traditional multiple choice exam (MCE), but always includes an option for none of the above/ more than one of the above. The second part is an open-ended question where students describe how they arrived at their answer.

Students arrive to science classes with pre-existing conceptions of natural phenomena, based on personal experience or as a result of informal adult explanations, but their conceptions are often at odds with consensus science. Direct lecture explanation may assist students in passing a pen and paper exam, yet deeper examination shows that many of these alternative conceptions persist (Yap 2004). In many classrooms, students are being taught using creative teaching approaches based on research that shows that this is the most effective way to overcome alternative scientific conceptions, as well as developing skills needed in a knowledge-based economy (Boo 2004). These creative pedagogical approaches are intended to increase innovative and lateral thinking in students (Boo 2005). However, when presented with a traditional multiple choice exam, creative students may see a valid interpretation unanticipated by the writer of the test. Ng (2004; p. 208) argues that, "While new measures have been put in place to spur creative learning in the classroom, old measures that suppress creativity have not been removed."

Another difficulty with traditional multiple choice exams is the likelihood of a false positive result. Many students are coached in a variety of test-taking strategies to increase the probability of guessing correctly, regardless of content knowledge. Strategies such as choosing the longest answer or choosing option c allow some students to artificially inflate their scores. The two-tier

test is designed to distinguish between guessing and knowing, because students are forced to articulate how they came to their answer (Treagust 1988).

As part of a larger educational reform movement, Bahrain Teachers College (BTC) has adopted many of the practices of the Singapore educational system (Ministry of Education Singapore, 2004). Two-tier testing is one of many teaching techniques being implemented, but its efficacy in the context of Bahrain is unknown. This exploratory study summarizes action research implemented by BTC student teachers in their primary school teaching practice.

Study Methods

This study included six primary classes in Bahrain Public Schools. The students were given two-tier tests on their current science unit content. This was not evaluated as part of their school grade. The results were then graded first as a traditional exam, then as a two-tier exam. The results were compared to see if the two-tier test actually helped laterally thinking students, as well as to distinguish guessing from knowing.

Discussion

As shown in Table 1 below, the two-tier style of testing resulted in slightly lower scores on average. There were many instances where students guessed the correct answer, but could not explain their reasoning. There were only a few instances where students presented a creative solution unanticipated by the test writer. Given these preliminary results, the two-tier test seems to be most effective in distinguishing guessing from knowing. However, given the time and energy a two-tier grading system requires, it is not clear that it is worth the extra effort. Similar results could be obtained simply by writing open- ended questions. For most students, this was their first two-tier test. Many were confused by the test structure, and often left the second tier blank. This made it difficult to distinguish between a student guessing and one who simply did not understand what the test was asking. This issue was further exacerbated by the use of memorization questions, for which students simply replied "the teacher told us" as their reason. I suspect most of these issues would be resolved with greater frequency of two-tier testing.

Table 1: Results of Two-Tier Testing in Six Bahraini Schools

Class Number	Traditional Grading Range	Traditional Grading Average	Two-tier Grading Range	Two-tier Grading Average
1	3-10	5.9	0-10	5.4
2	1-6	3.1	0-8	3.8
3	2-10	6.8	0-10	4.6
4	0-7	3.8	0-6	2.6
5	0-10	5.4	0-8	3.0
6	1-9	5.7	0-6	3.0
Average		**5.1**		**3.7**

Two-tier tests on science content were given to six elementary school classes in Bahrain. Two-tier style grading resulted in slightly lower scores.

Furthermore, there was some confusion about option E ("None of the above/ more than one of the above"). The intention of this option is to cover all possible answers, even those unanticipated by the test writer. However, some students interpreted this as saying the answer was both none and more than one of the above, simultaneously. This perceived paradox could be resolved by simply offering option E as "None of the above," and option F as "More than one of the above."

Because this study was implemented as part of student teaching practice, there were difficulties in comparing results. Each class was studying a different topic, so the tests were of variable difficulty. The two–tier tests were written in advance, so occasionally they covered material not yet explicitly taught by the classroom teacher. Due to time constraints, the tests were short, resulting in a small sample size of only ten questions. Finally, there was the issue of translation of English into Arabic. Many multiple choice questions hinge on precise definitions that can be difficult to translate exactly. All of these difficulties could be overcome with a more lengthy two-tier final exam covering all of the course content.

While the study itself proved problematic, it was a valuable experience in other respects. For many of the student teachers, it was the first time they had explicitly considered the limitations of the traditional multiple choice exam. As university students, they had by and large been successful academically, and therefore considered multiple choice exams to be objective. Most knew how to guess to raise their scores, but few had considered the possibility of creative solutions being marked incorrect.

Secondly, this project served as an introduction to action research. Next semester, the student teachers will develop and implement their own action research project. By going through this project together, they were able to collaborate on solutions to many of the issues inherent in education research. Hopefully, this will help them to think through an entire research project before implementing it.

Conclusion

Multiple choice testing is ubiquitous in global education systems. While it is useful in many respects, it has some difficulties accounting for creative responses and distinguishing guessing from knowing. The two-tier test was developed to address these issues. In this exploratory study, two-tier tests were given to six primary school classes in Bahrain. While it was successful in determining guessing from knowing, very few creative unanticipated responses were recorded. Given the extra time and energy a two-tier test takes to grade, it seems that simply asking open ended test questions would be just as effective.

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What Makes a Successful Public-Partnership? The Role of a Private Partner and its Contribution to a Modern Education System

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The Abu Dhabi Education Council (ADEC) is driving educational reform through a number of large scale programmes and initiatives focused on raising standards of P-12 education in Abu Dhabi to international levels. The Public-Private Partnership programme is essentially about producing well-educated citizens who will contribute to and sustain the social, economic, and political security and prosperity of the nation. By establishing high quality teaching and learning in schools, the aspirations and goals of the reform are more likely to be implemented and sustained over time. However, in order to achieve these goals ADEC actively sought partnerships with organizations with which they could be assured that the reform programmes and activities would deliver the results that they aspired to, that the programme would provide value for money, and that the changes would be sustainable in the longer term.

Taaleem-EdisonLearning (TEL) is an extremely successful operator working in partnership with the Abu Dhabi Education Council. Within five months, TEL produced data, on behalf of the partner schools, which showed improvements across a range of measures. By the end of the first year, all schools demonstrated remarkable improvement in standards of student achievement and attendance – the rate of improvement is being sustained and accelerating. Taaleem-EdisonLearning has a research-based method for school improvement which is proven to be highly successful in driving up standards of student achievement both locally and internationally, especially in those schools with challenging environments.

Forming the Partnership and Commencing the Change Process

In order to get the partnership established, it was important that pre-defined arrangements for the finance and the contractual expectations were agreed, as these provided the legal and regulatory framework within acceptable cost boundaries. It was also critical to develop a partnership that was based on the needs of the partner and ensuring value for money. Transparent quality indicators were developed to measure the relationship and outcomes between the learner, the provider and the funder.

At the heart of the reform is a commitment to educational change that focuses on student achievement and the school's ability to implement change. It is not a single event in time. Change

is a process – it is a transition from old ways to new ways, and it takes different amounts of time for different schools and different people to implement. Change is both personal and developmental – not all schools march together. Change can only occur in the hearts and minds of individual teachers, students and parents. Individual teachers differ in readiness towards new initiatives, as do whole schools faced with reform. In the early years of growth, schools can be expected to be at varying stages of understanding and comfort with the process of becoming an effective school. How each school uses the impetus of the external reform to develop and improve itself is up toit, but it is the only way that the reform will take root and become meaningful and sustained over time.

How each school moves towards quality outcomes for its students will depend on the extent to which the skills, aspirations and energies of those closest to the school can be harnessed and managed. Moving towards quality is based on the assumption that schools do have the capacity to improve themselves if the conditions are right. Schools themselves are responsible for creating their own community of learners inside, and Taaleem-EdisonLearning is responsible for helping to provide the conditions under which the processes and practices for creating such a community can flourish. This takes place through two curves of action leading to sustainable improvement.

The First Curve of Improvement

During the first curve of improvement, the TEL partner schools were involved in a range of initiatives related to improving individual leader and teacher knowledge, skills, confidence and understanding. During Year 1, the TEL team focused on creating the conditions for greater independence and accountability. Figure 1 below illustrates the six strands of the Taaleem-EdisonLearning approach.

Figure 1: The Taaleem-Edison Learning Approach

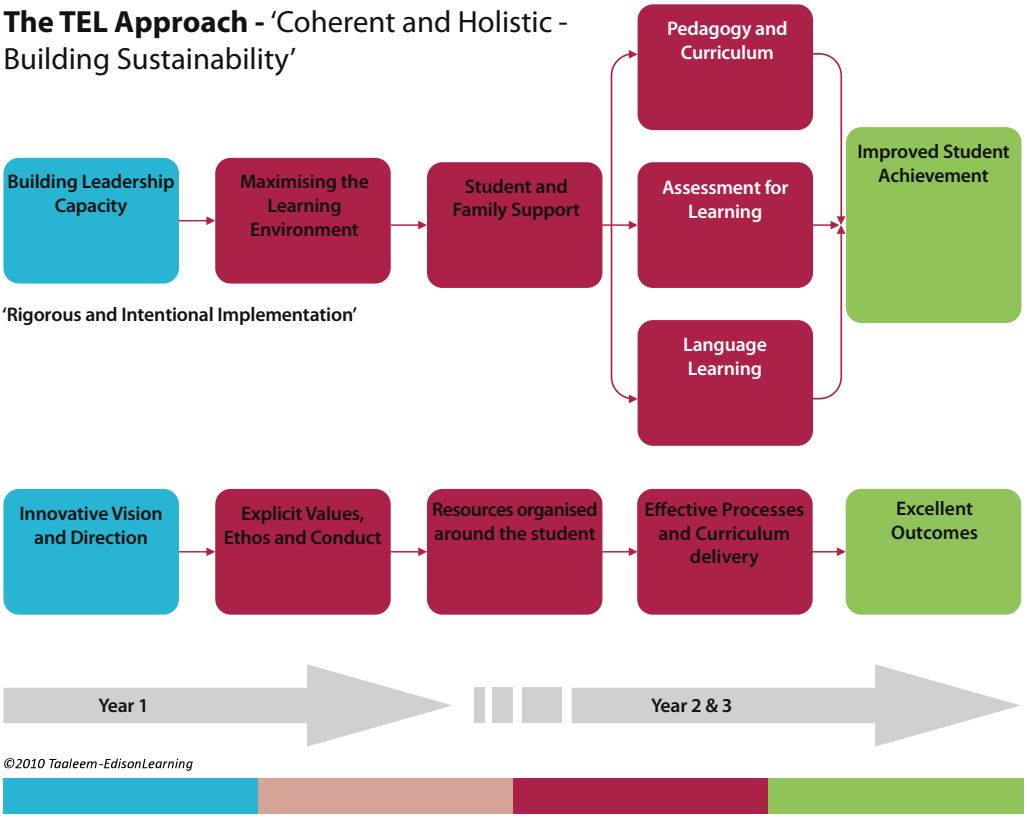
Figure 2 illustrates the layers of capacity building that are simultaneously implemented throughout both curves of improvement, but which are particularly critical during the first curve of improvement when the conditions for sustainable success are created.

Figure 2: Capacity Building

The unlocking of learning through partnership in action is accelerated through the capacity building methodology. During the first curve of the partnership, the members of the Taaleem-EdisonLearning team lead the change process; however, by the time of the second curve, the teachers in the school were taking responsibility for some aspects of the change programme. In order to successfully facilitate this, the TEL team "walked side by side" with the teachers and school principals. Towards the end of the second curve, the school stakeholders were able to lead their own developments with the support, coaching and mentoring of the TEL team.

Figure 3 illustrates how the Taaleem-EdisonLearning approach is implemented over the duration of the partnership.

Figure 3:



The Second Curve of Improvement

The Second Curve of Improvement is focused on building consistent and recognizable pedagogical and institutional improvement and sustainability. In order to achieve this, it is important that the teaching practices are reviewed to ensure consistency, based on the most effective strategies being used in the school and beyond. The importance of this process is to continually challenge students and increase opportunities which enable them to achieve their potential. Through simple time-related objectives, the pedagogy needs to move toward students becoming active and confident in their learning, and able to meet challenges through the empowerment of an active and effective teaching force which understands the processes of effective teaching. The most effective way of establishing a culture of effective teaching is to provide opportunities for teachers to reflect on their current methods and ask themselves questions such as "Why do I teach in the way I do?" or "How can I improve?"

The way to improve teaching is for teachers to reflect not on what subject material they should teach, but on how students process information when they are learning. In reversing the telescope to focus on how students learn, teachers will improve their teaching strategies to accommodate the different ways and speeds of student learning.

Ends Vs. Process

There can be a danger during educational reform programmes that achievement is identified as positive assessment results. This is an important factor, but skilling students to become active learners and with the strategies needed to sustain this into later life is equally important. These features need to become implicit in the developing pedagogy. An "ends"-related methodology based on test results will be insufficient to develop active lifelong learners. A "process" methodology will be essential to enable effective learning structures and skills to develop in each student to help them to meet their future challenges with confidence. It will be important for both students and teachers to be reflective.

Schools must engage in an epistemology of practice over time, always reflecting on the practice and skills of teaching. Initially, teachers will move students from a closed learning process, whereby learning is largely passive, to an active, problem solving methodology. The key to this will be through reflection and exploration. However, moving further still teachers will need to create their own school ethos and pedagogy. This is not a "received" process, but an evolutionary process based on full knowledge of the following:

- what students require to become effective learners;
- how students learn;
- how to plan variety and challenge into teaching and learning
- how best to teach the ADEC Curriculum; and,
- each student's strengths and weaknesses.

To enable this next stage of pedagogical development to occur, teachers as a body consider and reflect on what students need for the future—in other words, how to apply skills and knowledge and

- move to become reflective teachers using a range of strategies which enable students to become active learners;
- become problem solvers and creative in their practice to continually stimulate and challenge students; and,
- move from being problem solvers to problem finders and problem framers.

The TEL experience demonstrates that teachers become sufficiently confident to allow peers and colleagues to observe their teaching and then together to dismantle and reassemble the processes. For example, a question often asked is: "This lesson went well…but how could it be improved and what real situations could be explored to enable students to practice and hone their skills?" The beginning point is for teachers to reflect on their practices and actively research their current methods towards seeking out means which further challenge and empower students.

This is a proven yet ambitious, long-term strategy, designed to support schools that work in partnership with TEL to bring about a transformation in the culture of professional learning and development, and so build the capacity of the schools.

Case Study Extract

In science subjects, continuous assessment and project work has been introduced to challenge the pupils to conduct their own developmental work. This approach poses open-ended questions about the science the students have learned, and focuses on the skills of science they are developing through project work. Staff are now explicitly teaching a base of science skills that the students can practise during the project work to develop personal learning and thinking skills, instead of passively memorizing a large bank of facts without a practical application for them. Project work also gives students the opportunity to plan and organize their own learning, and formulate their own scientific enquiries. Students discuss and plan their work in collaboration with teachers, and have learned to conduct research using a wide range of sources, gathering information not only from books and papers but from the internet and television.

Students collect data, analyse and present it, draw conclusions, evaluate experiments, plan the next steps, and develop frameworks for thinking about topics in physics, chemistry or biology. In the later stages of the project, pupils practice and improve communication skills by presenting the results.

"… lessons and activities are well paced and structured, with a variety of tasks, students enjoy lessons and are learning. They remain engaged and motivated which adds to their levels of achievement."– Extract from School Monitoring Report conducted by independent agency on behalf of the Abu Dhabi Education Council.

The TEL experience demonstrates that teachers become sufficiently confident to allow peers and colleagues to observe their teaching and then together to dismantle and reassemble the processes. For example, a question often asked is: "This lesson went well…but how could it be improved and what real situations could be explored to enable students to practice and hone their skills?" The beginning point is for teachers to reflect on their practices and actively research their current methods towards seeking out means which further challenge and empower students.

This is a proven yet ambitious, long-term strategy, designed to support schools that work in partnership with TEL to bring about a transformation in the culture of professional learning and development, and so build the capacity of the schools.

Summary

A successful Public-Private Partnership is based on consensus about how goals, outcomes and processes that involve families and key stakeholders as well as staff and students will be implemented and quality assured. It demands a flexible approach that adopts an entrepreneurial mindset and adapts to changing conditions and resources. It is also key that improvements are communicated to a broad base of support, and that these maintain momentum in order to become sustainable.

A successful partnership is also one in which the role of the private partner is not seen as a bolt-on entity in its own right, but as an agent that enables the public partner to develop solutions unique to its context, needs, aspirations and starting points. Successful partners are able to do this with pace because they not only bring research and expertise, but they know how to present it in a way that adds value to the goals of the bigger picture. They can do this because their approaches develop ownership and excitement about what is achievable, as well as capacity, rigour and accountability – key ingredients of a successful partnership and of reliable interdependency which can lead to sustainable outcomes.

The experience of Taaleem-EdisonLearning demonstrates that there are three elements to effective partnerships, which lead to sustainable outcomes:

- These are developed, more effectively, by conceptualizing a desired equilibrium between the relational and contractual approaches which stabilize the platform from which the partners launch and develop that partnership.
- A key element has been to ensure that the teachers become better instructors or effective practitioners, and that there is a strong drive to develop quality and consistency in the pedagogy across the school, and that all of the teaching is focused on improving standards of student achievement and outcomes.
- School reforms rarely succeed without effective leadership, both at the level of the partnership and at the level of the individual schools, so that they are able to achieve universally high outcomes by developing and implementing mechanisms to ensure that schools deliver high-quality teaching to every student. As a result, the development of leadership at all levels (within, between and beyond the partners) is the third and critical component.

Case Study Extract

Through partnerships with government schools, Taaleem-EdisonLearning has an aim to enhance Abu Dhabi's vision of a world class education system and enable it to become a reality.

The TEL team supports schools and enables them to foster the kind of creativity and critical thinking the 21st century demands, by offering new models for curriculum implementation and teaching methods, building capacity and encouraging collaboration.

Fundamental to the TEL approach is a clear progression in development of skills, and a strong emphasis on adaptability and cooperation resilience, thoughtfulness, and respect. This helps create a culture in which students learn how to become successful learners, confident individuals, and responsible citizens.

TEL utilises educational research and best practices from excellent schools around the world. These are combined with Abu Dhabi's unique culture and heritage to ensure that all students make progress and improve the standards of their achievement, in partnership

with principals, teachers, parents, the students themselves and the local community. The unique TEL approach ensures that developments and improvements are embedded into the values and culture of the school and are sustainable in the longer term. All capacity building directly helps to achieve student learning goals and support student learning needs. Improvement work is collaboratively planned and evaluated, differentiated to teachers' needs, supported in a range of ways by the TEL team, and aligned to the school's SIP and the Abu Dhabi Education Council's performance measures.

A key priority for TEL is the development of leadership team in each school. TEL advisors work closely with each school's principal so that the overall guidance of the school's staff is clear and consistent.

"The lead advisor has been in post since the end of December 2009 and the relationship between him and the principal, based on mutual trust, is remarkable. The pace of change is rapid and has been very challenging for many of teachers but, because the leadership is so strong, they are willing to work hard."

"The in-house training model and sharing of good practice is having a positive impact on student learning. Teachers are willing to practice new strategies learnt on training sessions and implement them enthusiastically. Lesson planning is informed by exemplary teacher assessment practice. Lessons are accordingly well matched to the differing learning needs of the students."

– Extracts from School Monitoring Report conducted by independent agency on behalf of Abu Dhabi Education Council

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Education 2.0: Using Social Networking Tools to Promote Teacher Professional Development in Ras al Khaimah

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Introduction

This paper presents the case of the Ras al Khaimah Teachers Network and 21st Century Teaching and Research Program. The case study illustrates how social networking tools and ICT courses have been used to promote ongoing teacher collaboration, sharing of best practices and skill development. The paper concludes by providing some policy recommendations for education stakeholders on the ways in which such ICT-based professional development programs can be promoted.

Vision

In fall 2009, the Sheikh Saud bin Saqr Al Qasimi Foundation for Policy Research approached Bon Education about collaborating on the creation of a teacher professional development initiative in Ras al Khaimah (RAK). The vision of the Foundation was to create a program that would

- facilitate a forum (face-to-face and virtual) by which RAK educators and school leaders can collaborate, share knowledge and support one another;
- improve the quality of teaching in RAK through the exchange of ideas, experiences and research;
- disseminate best practices in education from global thought leaders to the teachers of RAK;
- provide RAK educators and school leaders with tools and strategies to take advantage of the vast educational potential of the Internet; and,
- break down cultural barriers that exist between government and private schools and build an education community in RAK committed to improving education for all children in RAK, regardless of language, country of origin or socioeconomic status.

The collaboration began with needs analysis research, followed by the creation of a pilot program in the spring of 2010. The program has continued to grow and develop since then.

Research

To better understand the professional development needs of RAK educators, Bon Education and the Al Qasimi Foundation administered a survey to 145 teachers across nine schools in December 2009. The organizations also conducted face-to-face focus groups with 30 English and Arabic speaking teachers and five school principals at that time. Participating schools were selected to complete a survey, and focus groups were formed because they formed a representative sample of the variety of curricula programs offered throughout RAK (e.g., UAE Ministry of Education, British, Indian, IB, etc.). Surveys and focus groups addressed the following issues:

- Classroom Challenges—What key challenges do RAK educators face in the classroom?
- Professional Development (PD)—What types of PD opportunities would RAK educators like to participate in?
- Digital Literacy—What is the level of digital literacy of RAK educators? What are RAK educator attitudes towards using digital media (Internet, blogs, podcasts, social networks, etc.) in the classroom?
- Research—Do RAK educators consult education research in preparation for their lessons? What are RAK educator attitudes towards participating in classroom-focused action research studies?

Survey and focus group feedback led to a number key take-aways. In particular, the top challenges RAK educators faced in the classroom were 1) lack of parental engagement and support (41%), 2) lack of student motivation (35%), and 3) need for professional development (27%) and strategies for differentiating instruction (27%). Top PD requests included training in 1) education technology (52%), 2) curricula development (38%) and 3) classroom management (32%).[1]

In terms of digital literacy, many teachers used Microsoft PowerPoint (72%), Word (57%) and the Internet (54%) with students in the classroom, but almost none had experience working with Web 2.0 tools such as blogs, wikis and podcasts. Furthermore, 80% of respondents reported using technology with their students weekly (49%) or daily (31%). Nearly all survey participants had access to computers in a labs or computers in their classrooms. That said, 52% of participants stated that their school had inconsistent Internet access or none at all. In terms of comfort with the Internet, 46% of participants claimed that they were somewhat comfortable with using Internet-based technologies, 35% were very comfortable and 19% were not comfortable.[2]

With regard to questions about education research, 64% of participants claimed to occasionally read research about recent developments in education, 29% said they regularly read such research and 7% said they never read such work. Many participants expressed interest in being a part of education research studies; 42% of respondents stated that, depending on the topic and time commitment, they would consider participating in research to better understand what teaching

[1] Survey participants could select multiple responses for questions related to challenges and professional development wants. Percentage represents number of respondents that selected answer/total number of respondents (N=145).

[2] Survey participants could select multiple responses for questions related to what digital tools were being used in the classroom. For all remaining survey data mentioned in this document, participants could select one answer for each question.

methods and materials to use with their students. 37% were interested in leading a study and 21% were interested in participating in a study. Focus group data mirrored survey data responses.

In addition to surveying teachers, school administrators were also invited to focus groups. It was clear from these focus groups that should future programming be developed for administrators, it would need to focus on distinct tools and strategies regarding issues such as parent engagement, digital literacy and research from teacher programming. Overall, data confirmed that teachers in RAK were keen to participate in PD initiatives sponsored by the Foundation, and that education technology programming would be a good place to start.

Programming

As a result of the initial needs analysis, Bon Education and the Al Qasimi Foundation focused on two key PD initiatives.

The RAK Teacher's Network (http://www.rakteachersnetwork.ning.com), an online social network, was created in January 2010 to enable RAK teachers, administrators and Ras Al Khaimah Education Zone[3] decision makers to share resources (such as videos, documents, links and photos) for themselves, students and parents. The platform was also created to enable collaboration and discussions around any future PD courses offered by the Al Qasimi Foundation.

The 21st Century Teaching & Research Program, a series of semester long blended (face-to-face & online) courses, was created to give teachers (and later principals and Education Zone decision makers) practical experience around using ICT tools to promote teaching, learning and research. Courses were divided into five modules, with each module containing three hours of face-to-face instruction, as well as five to ten hours of homework and classroom-based practice.

Course topics for the 21st Century Teaching Program (started in spring 2010) included "digital natives" (research by Marc Prensky), International Society for Technology in Education standards and best practices (ISTE NETS), social networking, classroom blogging and podcasting, open education resources, and developing/teaching lessons that incorporate ICT into the classroom.

For the 21st Century Research Program (started in spring 2011), teachers had to apply in teams with a principal and/or member of the Ras al Khaimah Education Zone. Teams were then selected by the Foundation and asked to embark on a semester-long project that used ICT to address an area of high need within each team's school. Research program instruction focused on creating a vision for ICT within schools, basic research methodologies, Internet research, Google tools (collaborative documents, websites and survey applications), screencast tools, project planning, change management and how to write an education case study.

All courses were paid for by the Foundation. The Foundation recruited participants and coordinated course logistics (translation, location, food, certificates, etc.). Bon Education developed the RAK Teacher's Network platform and curricula, delivered the courses, conducted ongoing program feedback surveys and modified the curricula based on Foundation requests, participant assignment outcomes and survey feedback after each semester (spring 2010, fall 2010, spring 2011).

[3] The Education Zone is the local Ministry of Education authority that oversees the activities of public schools in Ras Al Khaimah.

To view a video about RAK Teacher's Network and 21st Century Teaching & Research Programs, visit: http://rakteachersnetwork.ning.com/video/ras-al-khaimah-teachers.

Impact

At the time of writing of this case study (May 2011), Bon Education and the Al Qasimi Foundation were just beginning to collect program impact data from participants in the spring 2010, fall 2010 and spring 2011 PD courses. The following impact data represents information collected from Google Analytics, course feedback surveys and anecdotal face-to-face feedback from program participants.

Between January 2010 and May 2011, the RAK Teacher's Network community grew substantially. In spring 2010 the initial 21st Century Teaching Program cohort joined the network (30 people). Since then, membership has grown to over 180 RAK teachers, principals and Ed Zone decision makers. The site has been visited 12,876 times, with over 3,500 unique visitors from 71 countries/territories, implying that the site's resources are not only being used by education stakeholders in RAK, but by people in other countries (in particular the USA, UK, Egypt and Saudi Arabia). The average visitor stays on the site for nine minutes and 29 seconds and visits 6.98 pages/visit, which means that users are not just visiting the homepage and leaving, but, rather, coming to the site to find resources and participate in discussions.[4]

Spring 2010, fall 2010 and spring 2011 course feedback surveys for the 21st Century Teaching Program revealed that teachers found making a classroom blog, teaching with blogs and podcasts, and learning to use open education resources (such as Curriki.org) to be the most useful course topics. Furthermore, between 92 and 100% of course participants each semester stated that they would definitely recommend the program to a colleague. Data from the 21st Century Research Program (started spring 2011) feedback survey showed that participants found their research projects to be beneficial to their own practice and school community. The most useful ICT tools learned during the course were Google sites and Screenr.com (a tool that enables users to create online screencasts of lessons). One hundred percent of end-of-course survey respondents said they would recommend the course.

Anecdotally, participants regularly reported seeing increased levels of student motivation and parental engagement as the primary benefit of applying course learning in the classroom. Furthermore, many expressed that using a classroom blog saved time by providing teachers, students and parents with one focal point for sharing homework, assignments and comments.

In terms of recommended modifications to the Program, participants in the spring 2011 21st Century Teaching Program requested future workshops on advanced classroom blogging techniques, as well as less homework (assignments were sometimes cumbersome, especially during assessment weeks). The 21st Century Research Program participants requested more time to complete their projects—three months was a very tight time frame.[5]

[4] Data from Google Analytics (January 1, 2010 – May 1, 2011).

[5] To see samples of the 21st Century Research Program projects visit http://rakteachersnetwork.ning.com/notes/RAK_Case_Studies?

Sustainability

In order to ensure program sustainability over time, a number of efforts have been made in the following areas:

- **Curriculum**—Curriculum has been codified into course books and trainer guides so that a variety of program participants and trainers can use the materials over time. Curriculum focuses on practical application of ICT tools, and participants discuss case studies of how schools around the world are using technology to promote teaching and learning.
- **Trainers**—The Al Qasimi Foundation and Bon Education select two program participants each semester to become teaching assistants the following semester. Then, selected teaching assistants are asked to become lead teachers of the program curriculum.
- **Assignments**—Both the 21st Century Teaching and Research programs require participants to turnkey learning to other teachers and/or students in order to receive a certificate.
- **Videos**—A series of refresher tutorials (i.e. how to blog, how to podcast, etc.) have been created in English and Arabic for visitors of the RAK Teacher's Network.
- **Documentation**—21st Century Teaching Program participants document their learning on their own classroom blogs, and on the RAK Teacher's Network discussion forums. 21st Century Research Program participants must document their projects in the form of digital case studies (websites) that include key details on the projects' goals, impact and sustainability, as well as directions on how to replicate the projects.
- **Program Development**—The Al Qasimi Foundation is working actively to provide new courses each semester that build upon existing courses and educator needs. The 21st Century Teaching Program was piloted in spring 2010, and continues to be offered every semester. The 21st Century Research Program was piloted in spring 2011, and will be offered again in the fall 2011. A RAK-Swiss Teacher Exchange and Research Program will be piloted in fall 2011.
- **RAK Teacher's Network**—Once a member of the RAK Teacher's Network, education stakeholders have ongoing access to all materials, members and discussion forums. Therefore, participants can continue to collaborate, share and learn from one another.

Recommendations

The avid use of the RAK Teacher's Network and continued positive feedback from the 21st Century Teaching and Research Program participants are encouraging signs that the program is a success. In order to build on the program's initial successes, it is critical that policymakers in Ras al Khaimah continue to support ongoing research about what school stakeholders need in terms of professional development and support, as well as programming that speaks to those needs.

The three challenges that program participants regularly share are lack of consistent Internet access, lack of vision and leadership when it comes to using ICT effectively in schools, and a need for technology-integrated curricula. Therefore, it is critical that the government work with local Internet providers to make sure schools have uninterrupted access to the Internet with

sufficient bandwidth, so that members of the school community can utilize the Internet without having to wait for slow up/download times. Furthermore, programming must be developed for school leaders so that they can learn how to use technology to tackle critical issues such as parent engagement, teacher support, student motivation and community 21st century skill development. Finally, ministries of education must begin purchasing and/or developing curricula with technology-embedded lesson plans, and provide ongoing training to teachers on how to skillfully use technology to add value to their own teaching practice and student learning, as opposed to using technology "for the sake of technology."

Conclusion

As the *Education for Employment: Realizing Arab Youth Potential* report (2011) points out, the working age population in the region is about to explode in size from the youth bulge. Therefore, it is critical that local governments and the private sector collaborate to ensure that there are adequate jobs and that youth are prepared for such jobs. At present, both employers and young adults are frustrated with the status quo. Surveyed companies complain that only a third of new employees are actually equipped with the language, knowledge, and skills required for their jobs. Students want educational institutions to provide training programs in tune with the modern workplace. As a result, there is a clear need and demand for more relevant K-12, university and workplace training programs in the MENA region.

Initiatives such as the RAK Teacher's Network and 21st Century Teaching and Research Program are critical because they help teachers (and, in turn, students) develop the skills (such as information literacy, global outlook, collaboration, critical thinking and research) that will enable them to be lifelong learners and productive members of a rapidly changing society.

References

International Finance Corporation. (2011). *Education for Employment: Realizing Arab Youth Potential.* Retrieved from http://www.e4earabyouth.com.

About the Dubai School of Government

The Dubai School of Government (DSG) is a research and teaching institution focusing on public policy in the Arab world. Established in 2005 under the patronage of HH Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai, in cooperation with the Harvard Kennedy School, DSG aims to promote good governance through enhancing the region's capacity for effective public policy. The School is committed to the creation of knowledge, the dissemination of best practice and the training of policy makers in the Arab world.

About the Gulf Comparative Education Society

Founded in 2008, the Gulf Comparative Education Society (GCES) was formed to enable academic, professional and educational discourse, from a comparative stance, with a focus on the Arabian Gulf region. The GCES aims to:

- contribute to the development and improvement of teaching standards at all levels in the region;
- increase the dissemination of knowledge about international research and best practices practice from a comparative stance; and,
- promote action research and cross collaborations across the Gulf.

The GCES is a non-profit society and a member of the World Congress of Comparative Education Societies. http://gulfcomped.ning.com

About the Sheikh Saud Bin Saqr Al Qasimi Foundation for Policy Research

Based in the Emirate of Ras Al Khaimah in the United Arab Emirates, the Sheikh Saud bin Saqr Al Qasimi Foundation is a government foundation that was established in 2009 under the patronage of His Highness Sheikh Saud bin Saqr Al Qasimi, Crown Prince and Deputy Ruler of Ras Al Khaimah.

The goal of the Al Qasimi Foundation is to enhance the development of Ras Al Khaimah and the U.A.E. through generating a comprehensive body of analytical studies relevant to priority issues in the region, and to foster research collaborations between the Ras Al Khaimah government and the international research community.

The Foundation has two broad functions: to inform policy making by commissioning high quality research, and to enrich the local educational outlook by providing educators in Ras Al Khaimah with the tools to make a positive impact on their own society. By offering scholarships to doctoral candidates and faculty members, the Foundation encourages high quality researchers to delve into important issues facing the UAE, with a primary focus on the priority issue of education policy. It has awarded its first three scholarships in the past six months, and begun to aid their research into the gender gap in education, the development of disability policy in the region, and the quality of faculty in higher education institutes.

The Foundation also seeks to empower the resident population of the Emirate by offering training to teachers to improve their classroom instruction. It encourages using action research to dissect and solve local problems, and using technology to enhance the effectiveness of lesson delivery, with the ultimate goal of raising the standard of education Emirate-wide, one classroom at a time.

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