

Living Books™
A culturally-sensitive, adaptive e-Education process

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Introduction

This paper describes an innovative and novel approach to teaching media and journalism in the United Arab Emirates. This methodology is transferable to other areas of the world. Living Books™ have been conceived as an interactive and dynamic learning tool that caters for students' preferred learning styles and is delivered in a form that are most appropriate for the audience's skills and background.

History

Zayed University was founded in 1998 to prepare female leaders to create the future of the United Arab Emirates (UAE). With campuses in Abu Dhabi and Dubai, total enrollment of this all-female university touches about 2,500 students who are being prepared to confront a rapidly changing, information and technology-driven world. The language of instruction is English, and most classes are taught in an English as a Second Language environment.

Targeted learning outcomes at Zayed include goal setting; managing complex tasks; using sophisticated technologies to communicate, learn and solve problems; and functioning effectively in the multicultural environments of the global society. The university's curriculum has been designed to reflect the UAE's need for graduates well prepared to enter the workforce and to assume a place of responsibility and leadership in the family, the community or the nation (*Academic Program Model*, 2001).

The country needs such graduates as it transforms its economy. A smallish place of approximately 3 million inhabitants, the UAE rests at the toe of the Arabian Peninsula and is bounded by the Kingdom of Saudi Arabia and the Sultanate of Oman. Roughly the size of Maine, in a little more than 30 years the UAE has evolved from an impoverished region of small desert principalities to a modernizing state with a high standard of living. Driven by oil and gas, the UAE 's vibrant economy had an estimated 2000 GDP per capita of approximately \$22,800 (in purchasing power parity) and Human Development Indicators

ranking it in the top portion of the Human Development Index (CIA, 2001; *United Arab Emirates Yearbook*; Human Development Indicators, 2001, p. 141).

The structure of that economy has undergone change in the last three decades, shifting from an extractive to a service-oriented economy in which Information Technology will bloom. This shift is the result of a carefully articulated government policy in which the country's future is viewed in terms of people not petro-carbons.

Percentage contribution of sectors to the UAE economy

Sector	1975	1980	1985	1995	1998
Agriculture	0.7	0.9	1.5	2.0	3.6
Crude oil	67.7	56.4	44.0	41.1	22.4
Manufacturing	0.9	6.9	9.2	8.7	12.4
Electricity and water	0.5	1.3	2.2	2.1	1.8
Construction	9.0	8.3	8.8	.84	9.4
Commerce, restaurants, hotels	9.3	9.0	8.8	10.1	13.7
Transportation, storage, and communications	3.0	3.4	3.8	5.5	7.0
Finance and insurance	1.6	3.5	5.1	4.2	6.7
Real Estate	2.5	3.8	4.9	6.2	10.5
Government services	4.8	7.0	10.5	10.9	11.8

Traditional culture has been *the* defining element of Emirati society and its economy. Culture, of course, is a learned, shared, compelling and interrelated set of symbols whose meaning provides a roadmap for how individuals should function in a particular society. The defining markers of that roadmap include knowledge, beliefs, art, morals, law, custom, capabilities, habit, and values that individuals acquire in their daily living. No one is born knowing how to decipher this map. They learn it at the hands of their parents, grandparents, and extended family.

In the United Arab Emirates, kinship and marriage count, and extended family networks wield enormous power in all aspects of life. Any prospective change in family structure and values, such as the function of women in that

family, will collide with tradition and heritage. For most, the rule of the family is the norm.

The grandmothers and mothers of the generation who now walk the halls of Zayed University traditionally managed the home and reared children. Many of those grandmothers and mothers are illiterate. As late as 1950, Dubai was a city of huts lining unpaved streets. As late as 1970, literacy rates in the United Arab Emirates hovered just above 20 per cent. Only a fraction of the mother's of today's students graduated from high school. The same applied to only a fraction more of their fathers.

Today, pressures on the cultural landscape of the United Arab Emirates are growing as the country moves towards a more diverse and modern economy in a globalized world. This movement has not been happenstance. It reflects the simple, clear and deep understanding of national priorities set by President His Highness Sheikh Zayed bin Sultan Al Nahyan, who has led the country since its formation in 1971. Fulfillment of his priorities have produced change, particularly with respect to technology and its widespread use. The United Arab Emirates has an IT-friendly society with favorable legal and infrastructure climates. The country has the most developed Intellectual Property law on the Arabian Peninsula and thus has the most favorable climate for protecting the rights of creators of expression (Walters, 2002). Reports describe it as one of the top 20 most-wired countries on earth, as the chart at the end of this paragraph shows, with a rating similar to the United States. Internet effects on business measures the extent that the Internet has improved firms' abilities to coordinate with customers and suppliers to reduce inventory costs. Highly-skilled IT job market refers to the availability of highly-skilled technology workers. Government online services measures the availability of online government services. Laws relating to ICT use measures the efficacy of laws relating to electronic commerce, digital signatures and consumer protection. The scores range from 1 – the worst – to 7 – the best. (See individual country tables developed by the World Bank Group <http://www.worldbank.org/>.)

Information technology climate

Country	Internet effects on business	Highly skilled IT job market	Government online services	Laws relating to ICT use
Bahrain	3.6	4.8	3.6	3.8
Kuwait	4.1	6.1	5.1	5.3
Oman	3.6	4.8	3.6	3.8
Qatar	4.1	6.1	5.1	5.3
Saudi Arabia	3.6	4.8	3.6	3.8
United Arab Emirates	4.1	6.1	5.1	5.3
United States	4.1	6.1	5.1	5.3

The direct beneficiaries of this communications technology and infrastructure are the current generation of Zayed University students. ZU students spend three times as much time on the Internet as they do reading magazines, newspapers, or books combined. They spend four times as much time on the Internet as they do shopping and twice as much as they do watching television. They even spend more time on the Internet than they do with friends. They check in on the Internet morning, noon and night; they maintain multiple e-mail accounts; and they chat with their friends into the wee hours of the morning (Walters 2002; Walters and Bailey, 2002).

They are the UAE's "Net Gens" – the Gen Zed, as we call them.

The Gen Zed

These Gen Zed are the first to grow up in the world of digital media. They know more about computers and technology than either their teachers or parents. These students use those computers beyond their capacities as glorified typewriters. They have been brought up as part of the constant flow of media imagery streaming from computers, televisions and movies and the temporality and myths of the real that imagery from those computers, televisions and movies posits. Storytelling in this temporal realm is episodic, repetitive and fractured.

This storytelling, unlike that of books, reduces attention span, leads to surfing from episode to episode, channel to channel and media to media.

This generation also has enjoyed the innumerable tools for do-it-yourself media inherent in the digital word. With computers linked to networks, these students produce, distribute, and exhibit images through a single system. The easy melding of pictures, sounds, text, and music has created a “desktop aesthetic” with which they are highly familiar and by which their life is informed.

The Gen Zed have developed an “interactive culture” which exhibits qualities that are increasingly divergent from that of their grandmothers and mothers. Surveys show that Zayed University students are striving for independence and autonomy. They have emotional and intellectual openness uncommon to the society at large. Many students post their innermost thoughts in a chat room and chat with strangers late into the night. This group is moving towards a greater social inclusion with technology. For them, the immediacy, interactivity and speed of the Internet has greatly accelerated the process of communicating.

To facilitate learning in a familiar syntax and temporal space for the student, Emirati educational institutions must provide customized and mediated solutions using the desktop ethic. In this way they can take advantage of the immediacy and interactivity of the Internet for Gen Zed students.

The Concept

The first volume in a new multimedia e-learning series entitled Living Books™ was *Media Writing One*, which teaches universally basic reporting skills. *Media Writing One* was created to fill the need for culturally-sensitive, technologically-appropriate, pedagogically-sound and locally-developed course materials for use by the College of Communication and Media Sciences in undergraduate courses at Zayed University.

Media Writing One has lessons, assignments, and learning materials much like a standard textbook text. Unlike a standard textbook text, these e-learning materials were designed to:

- enhance the learning experience for today's students
- provide self-paced instructional tools for individual students
- make best use of available convergent technology: text, audio, still image and video
- create useful exercises for a technologically "convergent classroom."

Creation of the series began with three class surveys administered during the Fall of 2001 and the Spring of 2002. These demonstrated that:

- visual learning fits the way Zayed University students learn best
- a simple interactive HTML shell can be adapted to different subjects
- Islamic students can identify and work best with culturally-adapted examples
- a general learning framework can be expanded to countries and cultures by including local content.

The Project

Living Books™ have been conceived as interactive and dynamic learning tools based on the concept of utility (or customized as needed) computing. They are also designed to teach the multiple skills necessary in a converged newsroom. This means they can teach writing for newspapers or digital or audio editing for television, radio or the web. They contain animation, movies, audio, narrative, text, film, games and other media that make the learning process come to life in a way that standard text-based materials cannot. They are designed to work on laptop computers and are also deliverable over an Intranet or the Internet or on CD-ROMs. They let educational values drive IT, making any computer a more useful classroom tool.

Media Writing One helps a student develop reporting skills in an easy-to-follow and step-by-step process that is interactive and which students can use on their laptops. Each of five learning modules currently available develops individual listening, note-taking, thinking and writing skill sets.

One lesson module comprises taped interviews of UAE women of all ages and backgrounds. Compressed for delivery on a standard laptop via standardized software such as Real Player, these interviews have been carefully constructed to serve as source material for student research papers, interview assignments or ethnographic studies. They let a student walk through an interview by clicking on a databank of questions dealing with life, education, and family. Once clicked, an online video clip pops up with UAE women answering what has been asked.

Another lesson module simulates a traffic accident and includes interviews with police, medical personnel, academic experts and bystanders. It includes portable document formats of a report on traffic accidents in the UAE. The intuitive, step-by-step process enables a journalism student to "cover" an auto accident without stepping outside of the class room. All she needs to do is use her computer and the learning materials. It should be noted that university regulations make it difficult for Zayed University students to attend outside

events, in the way western students would be able to visit a court house or police station or other emergency service.

Other modules include covering a speech, writing a personality profile, and using numbers to practice "precision" journalism.

The laptop-oriented materials give students hands-on experience with activities and assignments that are difficult to create in "real time." These materials are utility-based and scalable, so that they deliver only those lessons that a teacher feels appropriate for a particular classroom audience.

The beta version will be tested in class during Fall term 2002 and will be prepared for release as a finished product in the Spring term 2003.

Project development

Development of the project included more than 30 faculty, staff and students across two campuses. Virtual teams of faculty and students across both campuses were built, maintained, and managed via mobile telephone, email, telephone and videoconferences.

Hardware and software featured readily-available products. Hardware included the Sony prosumer PD-150 camera and a Macintosh-based digital editing system using FinalCut Pro version 2.0, Adobe Photoshop and Microsoft Word. Unedited raw materials consisted of about 200 Gigabytes that were first edited for content and then compressed using Discreet Cleaner 5.0. Total size of the deliverable classroom materials rests at about 1.3 Gigabytes.

Budget for the project, which took six months from concept to beta project, was \$US70,000. Because this was a demonstration project, cost was allocated to two principle line items:

- 1) production costs, including professional video-graphy, html programming, and post-production video and audio work and
- 2) hardware and software, including a G4 computer and peripheral equipment and copies of FinalCut Pro 2.0 and Discreet Cleaner. These costs could easily be halved through economies of scale.

Ideas development

Ideas for the project were developed using classroom surveys and focus groups of students and teachers. Students identified the following as specific desirables for educational materials:

- catering for visual learning styles
- cultural materials with which they could identify
- learning materials fitting their generation
- examples to help students visualize and demonstrate

Focused groups of faculty members across both campuses participated in applied creativity sessions using non-linear thinking to identify appropriate and sound methodology. One common need suggested by classroom experience was for self-paced materials. That was because of the uneven quality of high school education in the United Arab Emirates and because basic English language skills, a key predictor of success in all colleges across the University, were uneven.

Students were active participants as well as survey respondents. One major student task was to inspect learning oriented web sites while developing standardized criteria for examining functionality and graphic “look and feel.” Students explained what they liked (and disliked) about the functionality and graphic “look-and-feel” of individuals sites.

The primary finding woven throughout all primary research was that e-learning materials should be as simple as possible – as should all good communication. Experience of both student and educator demonstrated two principles:

- 1) that simple is generally better, and
- 2) that showing helps understanding

These twin principles stand on theoretical ground occupied by Occam’s razor, which states that any given model should “shave off” concepts, variables or constructs unnecessary for explanation. By doing that, the theory goes, the

model becomes much easier to use with less chance of introducing inconsistencies, ambiguities, or redundancies.

Several groups decided what should be shaved off for this pilot project. Independent study students and student focus groups identified the things that were important for functionality and design. They determined that quick download speeds, an intuitive interface, and simplicity of instruction were key. In terms of design, they decided that “chunking” information, high-velocity color combinations, and easy of navigation were critical qualities. These design and function criteria became an integral part of the project’s creation and execution.

The beta product

The Living Text™ that resulted from this client-centered development process advances the instructional method in several ways. It creates a learning environment that helps with processing; develops listening, reading, and writing skills; empowers individual learning; and makes for self-paced lessons

Media Writing One also maximizes the “affordances” of online learning. (Affordance considers what the medium offers, what it provides, what it furnishes, and what it invites.) For example, paper offers several common affordances. Paper is thin, light, porous, opaque and flexible. That means you can write on it, fold it and bind it. But paper can be problematic because it is an analog form in a digital world. Digital technology also offers several affordances. It is dynamic, keyboardable, and can manage large amounts of information. That means you can create interactivity and dimensionality while appealing to more senses.

Living Texts™ are digital “texts” designed for a digital world. They create a powerful combination of the best qualities of analog and digital for developing reading skills and for knowledge sharing. They develop reading skills by maximizing the best affordances of both paper and digital technology. They contain printed texts with lessons, examples, tutorials, hints, and instructions deliverable via pdf files. This printed text offers quick, flexible navigation through and around documents, permits reading across more than one document at a time, and interweaves reading and comprehension skill sets. Living Text™ also

makes the best use of affordances of digital technology for reading. These affordances include storing and accessing large amounts of information, displaying engaging and rich-text multimedia documents, and the capability of quickly (and dynamically) modifying or updating content.

Besides developing reading skills, Living Texts™ offers powerful combinations for knowledge sharing. The analog (or paper) aspects of Living Text™ permit “reminding” through physical sharing. They also enable creation of portable files, joint viewing through multiple hard copies and quick access to work-in progress files. The digital affordances allow for storing large amounts of information in a small space, widespread distribution possibilities, remote access to information store and flexible viewing and storing.

Lessons learned

Because authorship of these rich-text materials involves new skill sets, appropriate preparation is vital. What can be done is limited only by boundaries of imagination, but to reach those boundaries “authors” must be nimble and flexible, and be prepared to think outside the box.

Living Text™ and the future

Rich-text materials such as this pilot project can help create “distance education with a difference” across the UAE and the Gulf. They are engaging, self-paced, adaptable materials created in cooperation with the target audience. They are deliverable to multiple places at multiple times to multiple audiences. They are adaptable to different delivery systems and can be retasked or parsed in several ways.

These new materials also offer challenges and opportunities. Rich-text authorship is unlike traditional authorship because it incorporates new technology. In a small marketplace, the burden of creation must remain with the scholars who create the materials because production costs might make such projects economically unfeasible. That means authors must either learn new

skills or creation must reside in authorship teams. In the latter case each member contributes specific technological skills.

These books offer potential pedagogical efficiencies and costs savings, along with new revenue streams to publishers. Pedagogical efficiencies include ease of change and customization. Cost savings include reduced “replication” costs and distribution costs, and elimination of all middle man (bookstore) costs. Besides traditional “book purchase” revenue, commercial possibilities include sponsorships with media, software, and hardware companies; licensing agreements; and module-based packaging for continuing education.

Advantages exist for students and educators as well. Students will find these materials engaging and intuitive, utilizing a combination of methods that will help them learn best. Educators will find that these materials help them with their educational task because students find them more attractive and because they facilitate self-paced individualized instruction. Lessons are utility-based, which means that a rich-text can be customized for each class room or for each student as educators pick and choose among the various modules in a “book.”

The on-coming knowledge age requires new forms of thinking and learning. Living Books offer an innovative and inexpensive way to help our students learn and develop.

References

Academic Program Model. (2001). Dubai, United Arab Emirates: Zayed University.

CIA. (2001). *The World Factbook 2001*. <http://www.cia.gov/cia/publications/factbook/>.

Human Development Indicators. (2001), p. 141.

United Arab Emirates Yearbook 1995. (1995). London, England: Planet Publishing Ltd.

United Arab Emirates Yearbook 2000/2001. (2001). Abu Dhabi, United Emirates: Trident Press Ltd. And Ministry of Information and Culture, Abu Dhabi.

United Arab Emirates Yearbook. (2002). London, England: Trident Press.

- United Nations. (2001). Human Development Report. New York, New York: United Nations. Downloadable as a pdf file at <http://www.undp.org/hdr2001/>.
- U.S. Department of State. (February 2001). Country Report on Human Rights Practices 2000 – United Arab Emirates. <http://www.unher.com/>. Also at www.humanrights-usa.net/repo45w/unitedarabemirates.html.
- Walters, T. (September, 2001). Learning Style Student Survey Fall 2001. Dubai, United Arab Emirates: Zayed University.
- Walters, T. (2002) Transitional Woman A Case Study of Values in the Context of an Arabic/Islamic Society. 4th Annual Paolucci Symposium, Lansing, Michigan, Spring, 2002.
- Walters, T. (February, 2002). Learning Style Student Survey Spring 2001. Dubai, United Arab Emirates: Zayed University.
- Walters, T., & Turk, J. (2002). Bounded rationality: A Roadmap to Communicating Meaning Connectivity in a Connected World. Fourth International Interdisciplinary Public Relations Research Conference. March 8-10, 2002, Business Sciences Division.
- Walters, T. (2002) Freedom of Expression in the UAE. Association for Education in Journalism and Mass Communication. August 7-11, 2002. Miami, Florida.
- Walters, T., & Walters, L. (2002). Values in the Workplace, Seventh Annual AUSACE/ BIMA International Conference. The Role of Media in Defining Arab Culture. Lebanese American University, Beirut, Lebanon October 31-November 3, 2002.
- Walters, T. (2002). Rokeach Revisited: Cultural Adaptations of Terminal Value Systems. Transformations in Politics, Culture and Society, Brussels, Belgium, December 6-8, 2002.
- Walters, T. (2002). A day in the mediated life of a Zayed University Student. Prepared for Association for Education in Journalism and Mass Communication, fall 2003.
- Walters, T., & Dawish, T. (2002). *IdeasLab*. Dubai, United Arab Emirates: DigitalArts, Inc.
- Walters, T., & Quinn, S. (2002). *Bridging the Gulf: Communications Law in the UAE*. Dubai, United Arab Emirates: Zayed University.

World Bank. (2002). *ICT at a Glance Indicators*. Washington, D.C.: World Bank.