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Research and innovation in teaching and learning are prime topics for the *Journal of Instructional Technology and Distance Learning* (ISSN 1550-6908). The Journal was initiated in January 2004 to facilitate communication and collaboration among researchers, innovators, practitioners, and administrators of education and training involving innovative technologies and/or distance learning.

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Editorial

Books, Movies and the Internet

Stone tablets, hieroglyphics, papyrus and writing are part of ancient history. The term "Dark Ages" reminds us of the cultural and economic deterioration in Western Europe following the decline of the Roman Empire. Toward the end of the Middle Ages there was a Renaissance of art and culture. Gutenberg's printing press (1439) led to an unprecedented flow of news and information across Europe and surrounding countries. The Renaissance was a cultural and intellectual revolution that encouraged intellectual pursuits, social and political upheaval, and development of art and culture.

Affordable printing was a major catalyst for social change. It has stimulated social, education and industrial development through the centuries. Martin Luther made the bible accessible by translating it from Latin. The result was a dialog in many countries that led to reformation of the church. The discoveries of Christopher Columbus were motivated by a book on geography. The industrial revolution spurred invention and economic growth. The printing press facilitated widespread circulation of new ideas and the later scientific revolution.

The nineteenth century gave rise to telegraph and telephone, gramophone, electrical power, radio, photography and the motion picture. In the twentieth century, these launch a new kind of visual culture and significant social changes. According to Bela Belazs (1923) "The discovery of printing gradually rendered illegible the faces of men" and turned "a legible spirit and visual culture into a culture of concepts." Belazs postulated that the cinematographic camera, "Like the printing press, is a technical device for the multiplication and distribution of products of the human spirit; its effect on human culture will not be less than that of the printing press."

In the 20th century, television and electronic media emerged to complement, and in some instances replace traditional media such as film, gramophone and telephone. The interactive power of electronic networks to connect personal computers and cell phones to the Internet made it possible to communicate, search databases and access content in any media format anytime and anywhere.

The Internet serves billions of users worldwide. It is a network of networks that links millions of private, public, academic, business, and government networks of local to global Information resources and electronic mail through the World Wide Web. The internet is a virtual "Tower of Babel that enables business and social interaction and formation of virtual communities. The technology is ubiquitous. Any person can initiate a search or message from any point in the global network; everyone has the potential to access, interact, create, publish, distribute and consume media content. Newspaper publishing is being reshaped into Web sites, blogging, and web feeds. Open access to the internet is changing cultures, economies, and political systems.

The Internet enables creation of new forms of human interactions through instant messaging, Wikis, Internet forums, and social networking. These are facilitated through sites such as Linked-In and Facebook. The Wikipedia combines text, images, sounds and video with web-links, interactive activities, creative participation, and dynamic formation of communities. Web portals link to sites with related content or purpose. Although most websites are open and free, potential threats are posed by some governments and for-profit organizations. These will be discussed in the next editorial.

Resources:

Bela Balazs. (1952) *Theory of the Film (Character and Growth of the new Art)*
London: Dobson Ltd (Translated from Hungarian)

Kuhn, Thomas Samuel. *The Structure of Scientific Revolutions (3rd Edition)* University of
Chicago Press, 1962

Wikipedia Articles: Dark Ages, Renaissance, Gutenberg, Martin Luther, Thomas Kuhn, Thomas
Edison, New Media, Internet.

Editor's Note: This is not a paper about distance learning *per se*. It stresses the value of widespread, sincere, positive and responsible exchange of ideas, understanding and cross-cultural tolerance – an excellent basis for all education, distant or face-to-face. It discusses the need for a broad spectrum of skills for nations and people to be able to live side by side and collaborate effectively as members of the global community.

Psycho-Pedagogical Keys for Development of Emotional, Social and Civic Competence in an Educational Context.

Jacobo Cano, Francisco Royo Mas, Manuel Fandos Igado

Spain

Summary

The phenomenon of violence, in its different forms and varieties; the peak of aggravated nationalists and extremists; poverty; the different movements of migration; the role of religion, the perception of the deterioration of politics; the need for an impulse of associated movements; the need to adapt to roles that should confront the educational institutions and the social changes that are reflected in different unions between people, are some of the aspects that offer us a necessary framework to approach an emotional, social education and to educate the future citizens who will enable the construction of a supportive, fair, peaceful society, and where, freedom and equal opportunities are respected as fundamental rights.

The role and objectives of development of emotions and social and civic competence are analysed in a European context, stressing a need for multidisciplinary and collaborative work from the psycho pedagogical field.

It is necessary to indicate that the fields of orientation are diverse, on a personal, academic, professional, family or social level, with a perspective that we need to implement diverse programmes of intervention, in a preventive way, for education of individual students, aimed at the total educational community – opening up to formal, informal and not formal spheres related to emotional, social and civic competence.

Keywords: Learning, emotional, social and civic competence, psycho pedagogical intervention, school, roles of teaching staff.

Introduction: Context and Impulse of Education for Citizens

We are living in a changing world, dramatically dynamic, in which the role of education should become a capital asset in the politics of different countries. We are facing challenges and opportunities, difficulties and risks that should be evaluated based on fair and accurate measurement and that, above all, should be tackled with a preventative, collaborative, positive and multidisciplinary vision for the community.

The phenomenon of violence in its different forms and varieties; the peak of aggravated nationalists and extremists; poverty; the different movements of migration; the role of religion; perception of the deterioration of politics; the need for an impulse of associated movements; the need to adapt to roles that should confront educational institutions and implement social changes that are reflected in the different unions between people and aspects of the human condition that offer a framework to approach emotional and social changes for education to educate future citizens, who in turn will enable the construction of a supportive, fair, peaceful society, and where, especially, freedom and equal opportunities are respected as fundamental rights.

In this context, we find on a European level, at the start of the century, the Council of Ministers' Recommendation to the State members for education for the democratic citizens adopted by the Council of Ministers on the 16th October 2002, in their meeting with the Delegate Ministers, where this capital aspect is dealt with.

Three years later, the European Council declared the year 2005 as *the European year of citizens for Education*. On their behalf, the European network of information in education (Eurydice, 2005: 10) includes in the responsible citizens' profile aspects such as *the confirmation of the rights and duties; civic values like democracy, human rights, equality, participation, associationism, social cohesion, solidarity, tolerance to diversity and social justice*.

On a European level, we can confirm the growing need to include education for citizens in the values, democratic principles and social participation that we are indicating. We find a great diversity in the concrete goal of the proposals for the impulse in each one of the European countries (Eurydice, la Red europea de información en educación, 2005: 19).

On the one hand, we find in the proposal of the inclusion of education for the citizenship, similar obligatory, independent material in the majority of the cases, (in an initial level and in the most advanced level of secondary: Estonia, Greece, Cyprus, Luxembourg, Poland, Slovenia, Sweden, The United Kingdom; in the Czech Republic, Ireland, Latvia, Lithuania, Portugal, Slovakia and Romania, only in Inferior Secondary Education; and France, Austria, Norway and Bulgaria is the superior Secondary Education).

Secondly, we can check other proposals that are more closely linked in some form to the education for citizens in other areas that are more or less related. It is necessary to indicate that the education for the development of social and civic competence should not be exclusively focused on specific material, as in this way, the educational potential could be lost since the said competence can be found included in other areas. In Europe, we find different models in the sense that we are indicating: introduction to the scientific world in the French community of Belgium, the environment in the Czech Republic, Cyprus, the Netherlands, Hungary and Slovenia; regional geography and basic scientific-technical training in Greece, Latin in Spain, Latvia, Lithuania, Hungary and Bulgaria; health education in the Netherlands and Latvia; national history in Slovakia and social aptitudes in Iceland.

Finally, it is possible to consider the education for citizens or the relative training in this sphere as a transversal area, just as it was picked up on in the LOGSE (Organic Law of General Order of the Spanish Educational system), but, still able to be an interesting approach to the theory level. However, it runs the risk of not taking off in practice for lack of concrete tasks or for being too vague in taking on these challenges.

Further on, three important objectives are outlined that have already been considered on a general level considering the education for citizens (Eurydice, la Red europea de información en educación, 2005: 23). This allows us to raise a great range of possibilities and the importance of the field taken on for the development of the social and civic competence:

- a. First, to develop a political culture based on human rights, democracy and the role of social and political institutions, as well as to evaluate the cultural and historic diversity.
- b. To continue to emphasize the importance to develop values and attitudes within all the citizens in a responsible way, by focus on respect, on listening, and the resolution of peaceful arguments, within the social plurality.
- c. Finally, it is necessary to develop active participation of the students, concentrating on their involvement in school life and in their representative fields, to participate

subsequently in the construction of a fair society, from a political point of view and favouring equal opportunities.

In Spain, just as noted by Eurydice (2005: 56), the autonomous regions have improved the concept of citizens bound to solidarity, the intercultural understanding and the specific cultural diversity on a general level, although it is also true that the political and social debate about different ideological visions has increased and no agreement exists or a consensus between all of these approaches, but on the other hand, the diversity exists. However, being able to consider this diversity as a wealth in itself, it is necessary to make an effort, from our point of view, to achieve a consensus in the fundamental aspects, now that definitely, the last objective is in line with educating future citizens who will contribute in an effective and responsible way to the construction of a fairer society, where the value of coexistence is a right that everyone respects and holds.

If we focus on Secondary Education, in some countries, those in which education for citizens is offered as an independent subject in the curriculum, a special educational programme for teaching staff has been established for those that teach. The necessary support has not been formally defined, given that it spans from specific activities to economic help for concrete projects (Eurydice, la Red europea de information en education, 2005: 61). It is necessary, in this case, to increase the educational opportunities, not only on an attendance level, but from a point of view of the opportunities that the Information and Communication Technologies offer.

Educational Framework for Development of Social and Civic Competence

From the intervention of parents, as those mainly responsible for the education of their children, to the educational sphere (on a formal level, or not formal or informal) from the youngest to the oldest age, throughout an individual's whole life, the development of social and civic competence should now be dealt with as a priority, given that part of personal happiness and success in the construction of a better society is at stake.

Next we will have a brief overview of the Organic Law of Spanish Education (LOE, 2006) where we find in Article 1 the following principles that make reference to the material we are dealing with, within the framework of the values of the Spanish Constitution (1978), which will allow us to judge the importance that this aspect has:

- a) Equality, that guarantees equal opportunities, the educational inclusion and the avoidance of discrimination and act as a compensating element for personal, cultural, economic and social inequality, with special attention to those that are disabled.
- b) The transmission and putting in practice of the values that favour personal liberty, responsibility, democratic citizenship, solidarity, tolerance, equality, respect and justice, as well as that they help to avoid any type of discrimination.
- c) Flexibility to adapt education to diverse abilities, interest, expectations and needs of the students, as well as to the changes that the students and society experience.
- d) The educational and professional orientation of the students, as necessary means for achieving personalised education, which provides an integral education in knowledge, skills and values.
- e) The shared effort by the student, families, teacher, centres, administration, institutions and society as a group.
- f) Education for the prevention of conflicts and for the peaceful resolution of them, as well as non-violence in all personal, family and social spheres.

- g) The development of equal rights and opportunities and the promotion of effective equality between men and women.

Following that, the Spanish educational system would be orientated towards obtaining a series of objectives (Article 2) from which we choose the following:

- a) Plain development of personality and of the student's ability.
- b) Education of rights and fundamental freedoms, in equal rights and opportunities between men and women and in the equal treatment and non-discrimination of disabled people.
- c) Education in the exercise of tolerance and freedom within the democratic principles of coexistence, as well as the prevention of conflicts and the peaceful resolution of them.
- d) Education in individual responsibility and in merit and personal effort.
- e) Education in peace, respecting human rights, common life, social cohesion, cooperation and solidarity in towns as well as the acquisition of values that express respect towards human beings and the environment, in particular the value of green spaces and sustainable development.
- f) Education in respect and acknowledgement of the linguistic and cultural plurality in Spain and of cultural diversity as a rich element of society.
- g) The preparation for the exercise of citizenship and for active citizen participation in economic, social and cultural life, with a critical and responsible attitude and able to adapt to situations.

From three years in infant education, we select certain abilities that allow them to achieve their general objectives, just as is outlined in Article 13.

- a) Observe and explore their family, natural and social environment.
- b) Relate with others and progressively acquire elemental guidelines of coexistence and social relations, as well as train them in the peaceful resolution of conflicts.

From the primary education objectives (Article 17) we stress the following:

- a) Know and appreciate the values and rules for coexistence, learn to behave in accordance with them, prepare yourself for the active exercise of citizenship and respect human rights, as well as the pluralism of a democratic society.
- b) Development of individual and group work habits of effort and responsibility, as well as the ability to trust oneself, critical thought, personal initiative, curiosity, interest and creativity in the learning process.
- c) Acquire skills for the prevention and peaceful resolution of conflicts, which allows them to cope with autonomy in the family and domestic sphere, as well as in social groups that they relate with.
- d) Know, understand and respect the different cultures and differences between people, equal rights and opportunities between men and women and non discrimination of disabled people.
- e) Know and value their natural, social and cultural surroundings, as well as possible actions for taking care of themselves.
- f) Develop their affective abilities in all personal environments and in their relations with others, as well as an attitude against violence, and prejudice of any type towards sexist stereotypes.

- g) Encourage road safety education and attitudes that try to prevent traffic accidents.

As regards obligatory Secondary education, in Article 23 we find the following that deal with the topics more directly:

- a) Take responsibility for their duties, know and exercise their rights with respect to others, demonstrate tolerance, cooperation and solidarity with people and groups, practise in dialogue the reinforcement of human rights as common values of a plural society and prepare for the practice of a democratic citizenship.
- b) Develop and consolidate disciplinary habits...
- c) Value and respect the difference between the sexes and the equal rights and opportunities between them. Reject stereotypes that mean discrimination between men and women.
- d) Strengthen their affective abilities in all personal spheres and in their relations with others, as well as rejecting violence, prejudice of any type, sexist behaviour and resolve conflicts peacefully.
- e) Develop an enterprising spirit and self belief, participation, a critical attitude, personal initiative and the capacity to learn to learn, plan, make decisions and take on responsibilities.
- f) Know, value and respect basic cultural and historical aspects for yourself and others, as well as artistic and cultural heritage.

From their point of view, it seems interesting to use the proposal by Marina and Bernabeu (2008: 31) in which they clearly expose the new fundamental factors related with the content of social competence:

- a. Awareness of social connections.
- b. Personal autonomy: responsibility, self-control, assertiveness and moral competence.
- c. Communication, understanding and empathy.
- d. Cooperation and collaboration
- e. Resolution of conflicts
- f. Pro-social feelings: solidarity, altruism, compassion, helpful conduct.
- g. Respect of everything brave.
- h. Political responsibility and participation.

As Marina and Bernabeu (2008: 29) indicate, content of social and civic competence are from various types: psychological and social abilities, values (ethic), habits (of thought, emotion and behavioural), reasoning (moral, analytical, systemic) and knowledge.

“Interpersonal competence understands all types of behaviour that an individual should control to be able to participate in an efficient and constructive way in social life, and to be able to resolve conflicts when necessary, both as an individual and as a group, in both public and private environments” (Education and Training, 2010, in Marina y Bernabeu, 2008: 27-28).

It is necessary for the same reason that each educational centre continues to enable opening to the neighbourhood and community, understanding in the widest sense, so that the students also learn by doing, experimenting and practising different actions in the specific construction of society, developing a new personal, emotional leadership, centred on the person, emphasizing the importance of an integral emotional education (Hué, 2008).

Contribution to Orientation and Development of Social and Civic Competence

We are seeing the importance that the development of social and civic competence has in the curriculum. We are aware that the teaching staff in general takes on an important challenge by tackling the said competence, given that just as Marina and Bernabeu stress (2008: 140), there are key elements:

- a. Awareness of collaboration in the construction of a better world, so that the students are happy and good people.
- b. Search for the practical dimension, mobilize for action and commitment.
- c. Favouring the resolution of conflicts in an appropriate way.
- d. Strengthen interdisciplinary education (Psychology, Philosophy, Economy, Law, History, etc.)

“The bond between the teaching staff and the Department of Orientation should be very strong, from the perspective of collaborative work. And furthermore, it is important to do an evaluation of the wide concept of orientation and diversity of environments, which, although they still risk being falsely defined, vaguely classified by task, role and functions, can be approached in a more or less direct way” (Cano, 2006).

For that, we are going to cite some references – without meaning to be exhaustive – that allow us to prove how the environments of orientation are diverse, on a personal, academic, professional, family or social level with the perspective of the need to implement diverse programmes of intervention, in a preventative way and for the integral education of the students, aimed at the whole educational community.

An individual’s knowledge is the fundamental basis for the development of a person, to the time that the orientation should be aimed at, in a practical way, resolving different existing problems in professional development or in any other life environment, given that it can affect them emotionally and, as a result, academically and socially. Along this line, García Hoz (1968: 193-194) establishes that personal orientation is «the process of helping an individual so that they have enough knowledge of themselves and the world so that they are able to resolve problems in their life».

From their point of view, (1995: 11) specifies the following about orientation, from where we emphasize the concept of freedom, dignity and responsible citizenship:

“ (...) it would be in essence, to guide, to drive, to indicate in a processed way to help people to know themselves better and the world that surrounds them; it is an auxiliary to an individual who clarifies the essence of their life, so that they understand that they have significance and with the right to freedom, personal dignity, within a climate of equal opportunities and acting in capacity of responsible citizenship, in both their working activity and their free time”.

Bisquerra (1996: 152) has indicated the psycho pedagogic orientation as “(...) a continual helpful process, in all of its aspects, with the aim to improve the prevention and the human development throughout life”.

Goldman and Newman (1998) continue showing that in an orientated quality teaching practice will have as its horizon, amongst others, the following aspects:

- a) Develop leadership, self esteem and group work skills for the students.
- b) Increase the involvement of the students in the improvement process of the school.
- c) Encourage critical thought for the creative resolution of problems.

- d) Develop skills for relations with more than one person.
- e) Increase student responsibilities, decision making ability and participation at school.
- f) Train the teaching staff, families, students and community in general, so that the process of quality leadership promotion expands within the community's schools.

From their point of view, Vélaz (1998) specifies that the orientation is a mix of knowledge, methodologies and theory principles that are based on planning, design, application and evaluation of the preventative, understanding, systematic and continued psycho pedagogic intervention, which is aimed at people, institutions and the community context, with the aim to enable and promote integral development of individuals throughout the various stages of their lives, with the involvement of different educational agents – for orientation, tutors, teaching staff and families – and social agents.

Benavent (2003: 54) defines the most ambitious psycho pedagogic orientation form as «a multi-disciplinary scientific field, applied and prospective, which objective is to offer innovative and efficient help for human self-fulfilment».

We agree with Santos Guerra, where the prologue of the Santana manual (2003) confirms that the orientation function is paradoxical as it deals with a solvent action, that tends to disappear, becoming progressively unnecessary. It tries to achieve that the person is more and more independent, freer and independent, as is observed with a very close link with the development of social and civic competence. It concludes indicating that the orientation is not about creating obedient and conforming people, but rather the contrary. This point of view compliments that it is a good type of orientation that is more and more unnecessary for whoever needs help to start something or at a determined moment.

In this sense it is necessary to review if this impulse of the development of civic competence, as we said above, is also in the orbit of informal and non formal teaching. An example in this sense is the notable effort that companies dedicated to education, training and working training. Master-D¹ represents an example in this respect, which from its own point of view is a company which: «we advise, prepare and train people so that they triumph in the achievement of their personal and professional goals»², an effort that is perfectly aligned with the vision that we are studying here, of a role of a leader and which in this company has substance in its own intervention model: the P8.10 system³.

Finally, it is necessary to remark how some people contemplate the orientation with scientific discipline; other as a concept, like service or like professional practice, in the line of the liberalization and flexibility that we previously mentioned. In any case, it seems relevant to stress that the orientation should be conceived as a technical and psycho pedagogic intervention: because professionals with specific techniques carry it out, supported by knowledge, also techniques, derived from some scientific knowledge, coming from different fields like Medicine, Psychology, Sociology, and Pedagogy. It tries to personalise and optimize the educational process of each student, procuring a better development of their academic, personal and professional possibilities, just as García Nieto explains (2004: 40).

¹ The Master-D Group is a company dedicated to distance learning based in Spain, leader in the sector since its creation in 1994 and is currently made up of more than 70,000 students and which offers educational services to more than 30,000 new students each year (over the last five years) and has more than a thousand employees and presence in Portugal, Greece, Brazil and China.

² Visit: [http://www.grupomasterd.es/pdfs/pec/CAT_PEC\(01\).pdf](http://www.grupomasterd.es/pdfs/pec/CAT_PEC(01).pdf).

³ Visit: <http://www.grupomasterd.es/el-por-que-de-nuestro-exito/modelo-metodologico/>

Conclusions

Education in a formal environment, not formal and informal overlap, coexist and complement each other in order to tackle the development of skills linked to the social and civic competence.

In order to improve and integrate the development of social and civic competence, it is necessary that they come to an agreement, enable a consensus and dynamize the collaborative work, on a local, national and international level, between the educational authorities, the different educational authorities in any of their levels that they offer to the whole educational community, foundations, centres of educational investigation, non governmental organizations and social agents.

The challenge of evaluating the degree of achievement in the long term still exists, not only for the content of the conceptual level in material for civic education, but rather above all, those that make reference to the attitudes and the procedures and ways to act in everyday life.

The key is, on the one hand, to find possible relations between the specific culture of a centre of an educational community, as regards the type of relations that are established, its organised structure and the different ways to resolve conflicts and everyday situations, and, on the other hand, the influence that the integration of education for citizens could stem from the curriculum and in each individual centre. Nowadays, more than ever, it is necessary to develop schools with mechanisms for democratic participation within each one of the members of the said community.

It is essential to encourage respect for religious beliefs in education for citizens.

We consider that a close collaboration is necessary between the educational system, open to a community dimension, and at the same time, involving families, as these are fundamental to successfully bring about the integral education of citizens in the future.

Finally, it is necessary to indicate that the environments of orientation are diverse, on a personal, academic, professional, family or social level with the perspective and the need to implement diverse programmes of intervention, in a preventative way and for the integral education of students, aimed at the whole educational community.

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About the Authors

	<p>MANUEL FANDOS IGADO Ph.D. is the Public Relations officer in Master-D. He has been Head of the Educational Innovation, Product and Mastervision Departments in Master-D. He has a PhD in Psycopedagogy by the University of Huelva; a Graduate in Educational Science by the UNED and in Clerical Studies by the Pontifical University in Salamanca (Spain). Dr. Fandos is a Graduate in Theology by the Regional Centre of Theological Studies in Aragon and in Teaching by the University of Zaragoza. He has a Postgraduate course in Adult Education and is a teacher for teachers and a free time monitor and is a member of the research team Agora, which is included in the Andalusian research plan (HUM-648).</p> <p>He has been head teacher in several public schools, and worked as a continuous training consultant in the Teachers and Resources Centres of Ejea de los Caballeros, Calatayud and Juan de Lanuza de Zaragoza (Spain) and psychopedagogue for the Spanish Ministry of Science and Education.</p> <p>Manuel Fandos also worked as an associate teacher in Manchester University (England) and a university teacher of Experimental Teaching, New Technologies and Methodology and Didactics. He was Head of the department of Experimental Teaching in Fono-Leng Aragon (an Institution which is a member of Manchester University). mfandos@masterd.es</p>
	<p>JACOBO CANO ESCORIAZA Ph.D. Is Lecturer in the Department of Educational Sciences, Faculty of Education, University of Zaragoza, Spain. PhD with distinction in Psychology from Universidad Complutense de Madrid. Head of the University Diploma in Design and Development of Socioeducational Programmes. He has been a school counsellor and a family therapist.</p> <p>Undergraduate teaching: Degree in Teaching, Degree in Psychopedagogy</p> <p>Postgraduate teaching: Master in Lifelong Learning in Multicultural Environments, Master in Teacher Training, Master in Systemic Family Intervention His main research lines are related to guidance, family intervention, school community and communication skills. jcano@unizar.es</p>
	<p>FRANCISCO ROYO MAS is participating in Doctoral studies in Psychology at University of Salamanca, and University of Jyvaskyla, Finland.. He is Associate teacher at the Faculty of Education., University of Zaragoza; School Counsellor and Psychologist in Primary and Secondary Education,. Colegio Don Bosco. Zaragoza; Teacher in Secondary School. Subjects: Ethics; Education for Citizenship and Human Rights. Colegio Don Bosco. Zaragoza ; Children Psychotherapist; Consultant and Counsellor of Studies to youth pepole and universitarian pupils. Service offered by Council and University of Zaragoza; Teacher of Teachers and Adults about different subjects: Hyperactivity (ADHD), Self-esteem, Social Skills, Conflicts resolution, Learning strategies; and caborates with N.G.O. "Setem". Training volunteers of summer working camps. fraroyo@unizar.es</p>

Editor's Note: In distance education, much control of the education process is transferred from teacher to the learner. The learner must exercise self-discipline to manage and schedule his/her own learning activities, to work alone, and to interact with their teachers and fellow students via email and the Internet. Sometimes it is possible for students to cluster and physically meet in groups. But for most students, distance, complicated schedules, and family and work responsibilities, make it necessary for them to work alone. These students are the focus of this paper. Critical support should be planned to support learning, enhance motivation and self-discipline, and realize their potential.

Isolation and Control in Distance Education: The Case of the Ghanaian Student

Samuel Kofi Badu-Nyarko

Ghana

Abstract

The establishment of Distance Education at the tertiary level has been fully embraced by universities in Ghana. Its operations focus on the programmes of the University and support for the student learners. Distance learners are bound to face various challenges including methods of learning, adjustment and management of time. Although Distance Education has been found to be cost effective and attractive to many people of different backgrounds, many students are not able to cope with this new industrialized form of learning. The distance learners are regarded as independent, self-directed and self-motivated, yet they face the problem of isolation as they study under most trying circumstances alone and at their own pace. They are separated by distance and geographical location.

The lecture looked at the dynamics of isolation in distance education, the theory of transactional distance as postulated by Moore (1981) and how Ghanaian Universities are providing tutorial and other support services to bridge transactional distance and reduce the degree of isolation. Furthermore, emphasis was placed on the forms of control existing in the operations of the programme in Ghana. This study established that in Ghana, institutional and social controls dominate over learner control and that the Ghanaian student is not completely isolated.

Introduction

The concept and practice of distance education in Ghana at the post-secondary level has been given greater attention lately. Distance learning is growing rapidly in African universities and colleges. Governments are actively exploiting this new mode of transacting knowledge. The practice of open and distance education has brought in its wake great challenges to the fields of education, psychology, educational psychology and social psychology. These challenges are manifested in the notion that distance education is a multi-faceted discipline. As a discipline its clientele are numerous and curriculum quite distinct.

Distance education has been seen in many dimensions from structure, operational capacity and institutional linkages and collaboration. According to Parraton 1994, distance education is an educational arrangement where teachers, and/or students, work apart from each other, from the regular place of learning, for part or all of the regular school week.

Other writers like Holmberg (1986) and Badu-Nyarko (2000) likened it to the relationship between the learner and the instruction rather than the facilitator and learner. For instance, Holmberg indicated that distance education is based on non-contiguous communication and wholly individual study. It can, on the other hand, be supplemented by face to face teaching, laboratory exercise in groups. Badu-Nyarko (2000) summed it up thus:

it is a teaching learning process in which the learner and the tutor are separated from each other but mediated by the learning material and other intermediaries like the media and technologically-based educational systems.

Distance education therefore in its purest sense relates to “what you learn, not where you learn it” (Innovision’s Canada: Distance Education Part 2, (<http://www.ivic.ca/distance-educ.html>))” Such a statement has been given greater impetus by experts in the distance learning arena, in which areas of greatest concentration of effort revolve around the technical, pedagogical, economic and political aspects of the concept. However, relatively little attention is being paid on the profound implications on the emotional, sociological and psychological well being of the key players –the humans involved – teachers, students, families and communities.

Hara and Kling (2006) states that “Recent cutting-edge technology, such as the World Wide Web and online conferencing systems, enable universities to implement distance education to reach a diverse population and to provide open learning environments 24 hours a day 7 days a week.” This has brought about a new form of “a critical pressure point for challenging the dominant assignments and characteristics of existing traditionally organized universities in the 21st century (Hanna, 1998).

One thing must be clear to distance education administrators and operatives. That their achievement and satisfaction of students in distance education congress is not significantly different than the achievement and satisfaction of students in traditional classrooms (Johnstone and Krante, 1996). Distance education therefore offers opportunities for students who cannot travel to a campus for their classes (Aggor et al, 1992).

Other issues regard distance education as a system of educational action determined by rational means-ends thinking where teachers and students actions are predominantly determined by technical rules. Many students fail because of their inability to cope with the reality of learning at a distance, while others drop out or pushed out by the institution.

Criticisms

Many feel that distance education results in diminished levels of interaction, which in turn leads to lower motivation levels and poor academic performance. This could be reduced through high motivation levels of students when students are given the choice of how to complete their learning activities by adapting to particular teaching and learning styles.

However, Distance education continues to face challenges and criticisms from faculty and its publics. These include lack of personal attention, boredom, outdated knowledge, lack of appropriate skills for work places and inappropriateness for a diverse population (Handy, 1998; Gardiner, 1997; Badu-Nyarko 2000).

Distance education dwells on projects and assignments as an element of end of term assessment. Many people who are disadvantaged, such as women, can take advantage of distance education to cope with family pressures, leaving them for school, assistance from spouses, overcoming emotions and thinking about the family while away. People can adjust their time, particularly workers, to learn in the evenings and week-ends.

Theoretical Framework

The transactional distance theory describes the pedagogical relationships existing in the environment “that have the special characteristics of separation of one from another and a consequent set of special teaching and learning behaviour” (Moore, 1991, p.2). It tries to define the nature and degree of separation of teacher and learner in the educational process

According to this theory, there are three key constituent elements of the transactional distance “dialogue, structure and learner autonomy”. Dialogue refers to the extent to which teachers and learners interact with each other (Moore, 1993). Dialogue describes the extent to which, in any educational programme, learners and educators are able to respond to each other. This is determined by the context or subject-matter which is studied, by the educational philosophy of the educator, by the personalities of educator and learner, and by the environmental factors, the most important of which is the medium of communication.

In his view, an educational programme in which communication between educator and the independent learner is by radio or television permits no dialogue. But today’s communication system tends to dislodge this as interactive radio and television now exist.

Structure is a measure of educational programme’s responsiveness to learners’ individual needs. It expresses the extent to which educational objective, teaching strategies and evaluation methods are prepared for, or can be adopted to, the objectives, strategies, and evaluation methods of the learner.

In a programme in which there is little structure, and dialogue is easy, interaction between teacher and learner permits very personal and individual learning and teaching. In this context who would experience greater dialogue?

Learner autonomy is the extent to which learners make “decisions regarding their own learning and construct their own knowledge based on their own experience” (Moore and Keersley, 1996). As dialogue increase, transactional distance decreases.

Isolation in Distance Education

Writers like Wedemeyer (1971) and Moore (1983) have critically assessed adult distance learners on the basis of their independent study. Wedemeyer for instance classified distance education in terms of the autonomy of the learner, distance between the teacher and the learner and the situational system.

Bates (1995) states:

There is an even greater myth that students in conventional institutions are engaged for the greater part of their time in meaningful, face-to-face interaction. The fact is that for both conventional and distance education students, by far the largest part of their studying is done alone, interacting with textbooks and other learning materials.

Moore (1981) independent study distinguished conventional formal education and distance education in terms of variables ‘distance’ or ‘apartness’ and autonomy’. He describes the conventional system by the expression ‘school environment’ which is characteristics by the classroom lecture or seminar and a setting in which the teaching and the learning activities are not only contemporaneous but coterminous as well. While other educational transaction which allow distance and autonomy constitute independent study whether open university programmes, correspondence courses, external degree programs or teach yourself programs.

The self-directed study as advocated by Knowles (1980) Knox (1972) and the student autonomy or independent study (Wedemeyer, 1971); and Moore’s study shows that autonomous persons are particularly inclined to distinct methods of learning and teaching, although it has also been found that distance students do not reject guidance.

Moore’s theory of independent study recognizes both activity of on-campus learners as well as the distance between off-campus student and teachers. He suggested a two scale typology in which the autonomy given to students by institutions would be rated as either extreme teacher-determined or learner-determined with regard to the selection of learning objectives, learning

activities and/or evaluation methods, in addition to rating the interaction distance between students and teacher according to the presence of dialogue and/or structure (Moore, 1983).

Holmberg, 1985's two attitudinal indices "support of student independence" may be relevance here. For example, under the attitude scale of "support of student independence" the main goal of teaching is seen to be giving students the capacity to solve problems. In this direction, it has been argued that it is very difficult in distance education to leave both goal decisions and the judgment of goal attainment to the students themselves and on the other hand, there are those to whom support of students is a social duty. This is what Holmberg, 1986:101 described as "student friendliness". This involves comments on students performance in a friendly and supporting way (Lewis, 1982:136).

Again, Smith and Small (1982) have pointed out that *independent study is not a sentence to solitary confinement*. They feel that too much concentration on the independence of the teacher leads to a delimitation of the learning process. As a result, the use of compulsory residential school, peer support networks and local study centres are established to encourage students towards course success.

Moore (1986) states that dialogue in the learning process, is the concentration between the teacher and student connected with the student's needs for learning. This type of concentration determines and modifies the actual intellectual and emotional capabilities that individual learners need to possess to participate in the learning process.

Overcoming Isolation

In order to create highly interactive learning environments between and among students, two strategies must be employed:

Communication

In order to maximize communication in distance education, opportunities must be created for student groups to communicate among themselves, simple group assignments at the beginning of the course that build upon subsequent assignments and become more challenging towards the end of the course; and heavy instructor involvement in group activities early in the semester with less involvement as time goes on.

Distance education employs contemporary technological developments to deliver information to students using new modalities. In the last decade, distance learning has expanded to include temporal and physical isolation. Today's distance learner may be an urban dweller with physical access to a polytechnic or university institution. The changing social fabric, with its increasing demand on individuals at work and decreasing support for individuals from the extended family has made time a highly valued commodity in the society. (Ruksasuk, 1999).

Distance education can save money, lower accommodation costs, give flexibility and capitalize on the information age. But the current emphasis on technology means that we should be thinking more about the impact on the people involved. Distance education is more effective when student, teacher and administer are involved in the learning and in the collaborative process (http://www.ivc.ca/distance_ed.i.html). (InnoVisions Canada).

Interaction in Distance Education

Lewin and Waddoups, cited by Twigg, admitted that "interaction" or group communication is not a simple topic. They discussed methods they had used to form groups (student-selected, topic selected, and instruction-selected groups).

Students-selected groups allow students who know one another or work in close proximity to work together on group activities.

However, students who are given the chance to self-select group members tend to pick friends or individuals they know which actually narrows their scope of learning, minimizing opportunities to share ideas with other kinds of students.

Some instructors allow students to choose a topic of interest and form groups based on the topic. Depending on the course content, topic-selected groups can produce a mix of interest among the group members or narrow their scope of learning as in the self-selected group. Instructors can also assign members to groups to ensure that each group has a particular mix of interests. While this grouping method can provide a wide range of expertise among its members, it can also lead to tension or personality conflicts.

Such groups provide a good opportunity for students to work with different students to minimize negative group dynamics. The different forms of social interaction can contribute significantly to a high quality learning experience.

Gilbert and Moore (1998) describe two contexts of interaction: the 'social interaction' between two or more people about the learning material; and the 'instructional interaction' between the individual and the learning material.

In effect, instructional activity possesses factors related to both teacher control of context delivery and learner control of processes that relate to the presentation of and response to instructional context.

For social interaction, the inter-activity between students and teachers and between students and students can sometimes have little to do with instructional learning, but can still help to create a positive or negative learning atmosphere. These interactions also provide feedback to and from students about progress toward instructional objectives. Some types of social interaction can directly foster instructional interactions. For instance, small group discussions in a class might have high social inter-activity at the same time that students are actively engaged in comparing opinions about content and objectives of the key courses (Gilbert and Moore 1998).

Social interaction as noted by Zhang and Fulford (1994) tends to have elements of inter-activity, flexibility, and bi-directionality that are not as frequently found in purely instructional interaction. The participants in a social interaction can start and stop, react and remain silent at will. Social interaction among adult learners becomes vital when it is closely linked to learning objectives.

In distance learning environment, one complaint often voiced by learners is that they feel isolated and unconnected (Hill, 1996, p. 76). One important component that may influence student success in completing a distance education course is the degree of interaction that is provided and available (Moore and Kearsley, 1996).

The instructor's attitude towards the students affects the student's academic progress and their level of motivation for continuing their studies (Knowles, 1980). Instructors with warm, positive attitudes are particularly necessary for students who have often endured hostility and alienation in previous educational expenses.

Dialogue is not possible in distance education situation without two-way immediate interaction, (Dolling, 1982, Sewart, 1993); so any misunderstanding or misconceptions may arise that thwart the student's continuation of the course (Knox, 1989). Therefore, education should begin with the beliefs of adults and relate knowledge to their particular perceptions. However, this is difficult to establish in distance education when course designs and media are developed ahead of time.

Another important aspect of interaction is the knowledge of individual progress. The students must know that they are achieving and moving towards individual goals and not wasting time in

the learning situation (Knowles, 1980). According to Knowles, (1980) keeping the individual moving towards the professed goals will also help to retain the adult in the learning situation.

Griffin further argued that accessibility to adult education means people will be enabled to take courses of their choice at regular intervals. This implies that these courses will be available when and where the distance learning methods can be enshrined in a system of recurrent education.

Students Motivation

The distance educator's mission, is to provide a learning environment that allows individual adults to interact with situations and events in order to acquire relevant knowledge and skills, gives adults an opportunity to practice new skills and behaviours and help adults to learn how to apply the behaviours in meaningful situations (Verduin and Clark, 1991). The motivations of adult students are highly tied to the value they place on an educational experience. Therefore effective characteristics and responses of students must be important to distance educators, just as they are to conventional adult educators (Keith, 1993).

Knox (1986) suggests that much of adults intentional learning activity is motivated by adults desire to move from their current proficiency level to a new proficiency level, any discrepancies between an adults' current level and desired proficiency level directly affect motivation and achievement in both learning activities and life roles. Thus, the three domains of educational objectives actually define the behavioural package that each adult possess. If distance education is to help adults gain new knowledge, then these must be given constant attention.

Verduin and Clark (1991) were of the opinion that educating adults at a distance seem to be a hectic task "but adults actually are continuous learners in an informal way as they adjust to the various role changes that confront them in life". Their assumption is that adults have the capacity to adapt to changes but can only do so when they have a strong commitment for success.

Adults are motivated to learn. They take studies at a given point to learn more about a subject. They are basically pragmatic learners who emphasize practical utility of the information learned, usually as it relates to their economic status and survival.

In distance education, learning is seen as an individual effort. Most adults vary greatly in their learning styles (abilities and disabilities). Adults' different rates of learning suggest a self-pacing distance education. Therefore, it seems difficult to limit them to any time frame in the learning situation (Knowles, 1980).

Current research in distance education shows that part-time students enroll in distance education when on-campus study conflicts with their work schedule or leisure time, minimal travel or financial problems (self-sponsored students). In this instance, time constraints motivate adults to learn at home at their own convenience. This evidence supports Gagne's study (1985) that adults prefer to study at their own pace and home rather than in class with other students. Distance education, therefore, offers students an opportunity to study and learn in a peer free environment. In essence, distance education is the only means through which the adult could be offered freedom of pace, individual study, self-planned learning while the organization provides guidance planning and feedback essential for continued student motivation, participation and course completion (Sewart, 1982).

Who Controls learning in distance education

Distance education provides for structured learning materials and the use of intermediaries – tutors, counselors, animateurs to assist learners in their use of learning materials. In distance education, three forms of control are identified – Learner control, Institutional control and Social control.

Learner control

Distance education allows students to control what they wish to learn, when they want and wherever they want. It also enhances its appeal to fit with busy schedules of people. A high level of learner control produces more positive attitudes towards learning.

Distance education therefore works in a more flexible and friendly environments leading to improved balance between students course work and their lives, and reduces stress and absenteeism. The student while controlling the learning can adjust his/her time to study, limits isolation, and improve social development. The pressure of submitting assignments on specific schedules is reduced if given the opportunity to establish a learning contract. (InnnoVisions Canada, 2007).

The effect of learner control depends both on the type of learners and or the type of control. Learners with weaker metacognitive skills will presumably show less control than metacognitively advanced learners.

Many learners show greater psychological response towards learning. Their persistence rests on how long they are willing to study. Where students are obsessed with anxiety and boredom less efficient learning is experienced.

Institutional control

In Ghana, Institutional control is the order of the day. The institution determines everything from orientation, tutorial time and days as well as dates for examination and graduation.

Tutor control is basically on productive learning time. Students' inability to respond to instructors may likely hurt their learning. The ability to know the profile of students is essential as outliers need to be helped. If certain students do not benefit from or need motivational effect of learning control, we can make their learning more effective by having the tutor select materials for them

Do we treat students as individuals? For distance education each student is special. They come from different homes, have different facilities, and attitudes towards learning. This calls for efficient learner support systems and services. Students who are not motivated will show attrition.

Studies have shown that tutor-controlled students perform better than learner controlled students at the distance.

Another area of control is student's choice of assignments. This not only increases student motivation but also increases students learning for activities the students choose to perform. Also older students are more sensitive to learner control and are highly motivated to learn as they are afraid of failure and rejection.

Social control

This is where the society plays a significant role in the life of the student. These include the family, friends, spouse and children.

Other forms of control include travelling time, cost of transportation and learning materials, use of internet facilities, absence of libraries, workload, accommodation cost etc. These limit the ability of students to actively participate.

The Ghanaian Experience

Studies in Ghana by Asamoah-Gyadu (2005), Manu (2005), Adra (2000), Nanor (2005) and Badu-Nyarko (2006) revealed that the Ghanaian student learning at a distance is not completely isolated. This is because apart from the modules (learning materials) given to them, they

occasionally interact with either peers or tutors during face-to-face tutorials organized fortnightly or on monthly basis. The transactional distance is shorted as they engage in their learning. These are revealed in the results below.

There exists poor communication link between students and the tutors and among learners. Many found the modules too technical requiring explanations. Once they are learning on their own they learnt them without any meaningful understanding of the text.

The major problems facing the students were isolation in the learning process, difficulty in managing their time to study, while encouragement is lacking especially among those in the remote and rural areas. In fact many of the students needed personal help to remain in the programme. It was also found that the students lack access to library facilities

Almost 60% of students in Nanor's study in Accra hardly contact their tutors or colleagues throughout the semester. Thus a low level of interaction was recorded in the study. In fact Torto 2000 found out that 53.4 % of part-time students in Accra learn in isolation while Badu-Nyarko 2006 found 68% of distance education students of Cape Coast University studying on their own. Many students therefore find it difficult to seek clarifications on lessons provided in the modules. This makes them have difficulties in understanding certain concepts and issues in the courses they are pursuing at a distance.

Also, 55% of students study 2 hours a day (Adra, 2000) and 47% between 2 and 3 hours a day (Nanor, 2005),

It was also found out that 82% of the students workload at school affects their learning (Nanor, 2005) while in Adra's case 67% were affected.

Also, 86% complained about inadequate library facilities while 61% found the delivery of study materials inadequate

Findings from Badu-Nyarko (2006) from four regions on 240 University of Education, Winneba and University of Cape Coast Students showed that they rely mostly on Tutorials where (91%) find it adequate and most appropriate to learn. Counseling services were not adequate to (76%) of the students with 78% not happy about the number of assignments and time of marking. On return of assignments 96% were not enthused about the delivery. Inadequate library facilities accounted for 82%.

Three quarters of the students in Adra's study were in the urban centres, have access to electricity, radio and television but not computers. They rely on private internet cafes.

Implications for the Ghanaian Student

- Effective face-to-face tutorial system with competent tutors well motivated to deliver is needed. This will entail explaining difficult concepts and issues interspersed with few quizzes.
- Regular marked assignments, detailing students problems or shortfalls, areas of strength and how to answer both multiple choice and essay type questions are advocated.
- A call for counseling students on career choices, subject selection, learning habits and styles while at the same time directing students to relevant information are necessary.

The study also provides evidence that the Ghanaian student need motivation to learn and excel. This is manifested in the fact that preparations of brochures describing study techniques, the setting up of residential course centres, the dispatch of audio-visual aids and the provision of quiet study rooms in public buildings, can all keep the student overcome his difficulties and improve dialogue.

Interaction is quite difficult in this direction but can be improved by allowing group project work, establishment of study circles and greater communication among students.

The use of the internet as a means of disseminating extra information rather than receiving assignments is necessary. Studies in Australian universities found out that interactive internet assignment-based over loaded tutors often working 24 hours on specific days.

In order to ensure effective distance education that will benefit the distance student, the institution concerned should establish flexible meeting schedules, examination schedules and organize regular seminars on the radio etc.

There is the need for extension of time in the programme as some distance learners are slow learners and may register late. In essence while on-campus students may use 16 weeks, distance students can use between 20 and 22 weeks, inclusive of examination dates. As a measure, distance education must have a clear and different policy from on-campus programmes.

Information flow is essential in Distance Education if isolation is to be broken or reduced and the transactional distance bridged. Communication, that is, two-way communication is needed to make students well informed about changes in programmes, policies and learning schedules.

The frequency of tutorials in the programmes have gradually limited the degree of isolation among students as they regularly meet to learn. However, time table constraints limits them to interact with tutors and peers.

Conclusion

Distance educators must remember that almost any adult can learn any course if given enough time and attention (Knox, 1986, Knowles, 1980), and that despite the high attrition rate often recorded, there is a place for distance education that allows adult students to set their own pace in distance study, a major characteristic in distance learning. In this situation, Knowles, (1980) depicted that it seems difficult to limit them to any time frame in the learning situation since some adults learn more slowly.

Occasional face-to-face tutorials can also be used to increase learner-to-learner interaction. Learners can work on assignments and team projects together by using group discussions and using e-mail for working on questions or assignment that are not of interest to the whole class.

Universities should explore resources for bringing people together, not as some critics of 'distance education suggest, for reinforcing their isolation, but to overcome isolation and provide enough self-control in distance education.

Mackeracher and Tuijnman (1996) remarked:

Educators should attempt to maintain a learning environment, which is free from threat, and assist learners to identify unlabeled fears and anxieties. Correspondingly, educators can work to enhance self confidence in learners by diminishing the possibility to fail or make grave errors and by reducing time pressure. Self pacing may be desirable method especially in instructing older adults because it usually guarantees that the allocation of time for learning is adequate (p.447).

Most distance educators are obsessed with overcoming the potential for students isolation and review interaction as a primary goal. Daniel and Marquis, 1979 states that *interaction connotes that activity within a distance learning system which brings the student into contact with other people and by independence meaning working alone*. The main aim of getting the balance right between isolation and interaction is to have good student motivation and completion rates, reasonable costs and quality learning.

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About the Author

Samuel Kofi Badu-Nyarko (Ph.D) is from the Institute Of Continuing And Distance Education, University Of Ghana, Legon.

Email: sbnyarko57@yahoo.com

Editor's Note: Many factors influence successful use of instructional technology – ease of use, acceptance by faculty and students, reliability and technical support, and quality of instructional design, communication and feedback, and overall effectiveness. This study focuses on student experiences with e-learning and Learning Management Systems.

Learning from Group Interviews: Exploring Dimensions of Learning Management System Acceptance

Muneer Abbad
Saudi Arabia / Jordan

Abstract

This study aims to identify some of the main factors that affect students' intentions to adopt e-learning systems. The paper reports the results of group interviews with students and tutors studying and teaching at the Arab Open University in Jordan. Content analysis was used to analyze qualitative data obtained from the interviews. The main categories used to analyze the data were derived from prior studies using the technology acceptance model (TAM) and the literature on IT systems' acceptance in general and in the specific e-learning domain. The main categories that were used to analyze qualitative data were ease of use, perceived usefulness, subjective norms, prior Internet experience, system interactivity, self-efficacy and availability of technical support.

Introduction

The Internet and the web offer new opportunities to restructure the learning and knowledge transfer environment. For example, Rosenberg (2001: 80) suggested that, "Internet technologies have fundamentally altered the technological and economic landscapes so radically that it is now possible to make quantum leaps in the use of technology for learning". Czerniak et al. (1999) stated that the new technologies in the twenty-first century have stimulated efforts towards shifting pedagogy from its conventional classroom-centered stronghold into a vibrant electronic web-based interactive learning environment. In addition, the advanced technology it uses offers distinct advantages to both educators and students (Banga and Downing, 2000). Many institutions of higher education now adopt web-based learning systems for their e-learning courses. However, there is a lack of empirical examination of factors underlying the student adoption of web-based learning systems (Ngai et al., 2007). Successful adoption requires a solid understanding of user acceptance processes and how to entice students to accept these technologies (Saadé and Bahli, 2005).

The Technology Acceptance Model (TAM) of Davis (1989) has set the basis for research in information and computer technology adoption and use (Gefen and Straub, 2000; Gefen, 2003; Stoel and Lee, 2003). TAM is an intention-based model that was developed specifically for explaining and predicting user acceptance of computer technology. Although the TAM initially focused on system usage in the workplace, researchers have employed the model to help understand website usage (Teo et al., 1999; Moon and Kim, 2001). Recently, technology acceptance has been applied to the domain of e-learning (Carswell and Venkatesh, 2002). The TAM posited the beliefs of perceived usefulness (PU) and perceived ease of use (PEOU) as the determinant factors for the intention to use IT (Davis, 1986). IT usage intentions, in turn, are assumed to directly influence actual use. The two variables (PU and PEOU) have thus been hypothesized to be fundamental factors of user acceptance of information technology.

Much research has addressed the antecedents of technology use (Mahmood et al., 2001), but the overwhelming majority of studies have focused on users in developed countries. Developing

regions of the world have much to gain from the Internet and IT in general, but have received relatively little research attention (e.g. Hasan and Dista, 1998) even though culture may influence technology use (Veiga et al., 2001). Jordan is witnessing rapid developments in information technology. It has convenient telecommunication facilities among neighboring countries and it applies the latest technologies in Internet services. Jordan was chosen by the World Economic Forum (WEF) in 2003 to serve as a pilot country for the initiative and to serve as a benchmark for development in other countries in the region (WEF, 2003). In addition, The WEF is expected to launch a global education initiative based on the Jordanian model to be implemented in several countries in the region and beyond, including Egypt, India, and Pakistan. The Arab Open University (AOU) was the first Jordanian university to adopt e-learning on a widespread basis and plays a critical role in e-learning development nationally. It operates in partnership with the UK Open University (OU) and uses a Moodle-based e-learning management system to deliver courses and support to learners.

The Technology Acceptance Model

Perceived Ease of Use and Perceived Usefulness

Davis (1989) stated that the goal of the TAM is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes, and intention to use computers. The TAM model (see Figure 1) posits that two particular beliefs, perceived usefulness (PU) and perceived ease of use (PEOU), are of the primary relevance for computer acceptance behaviours.

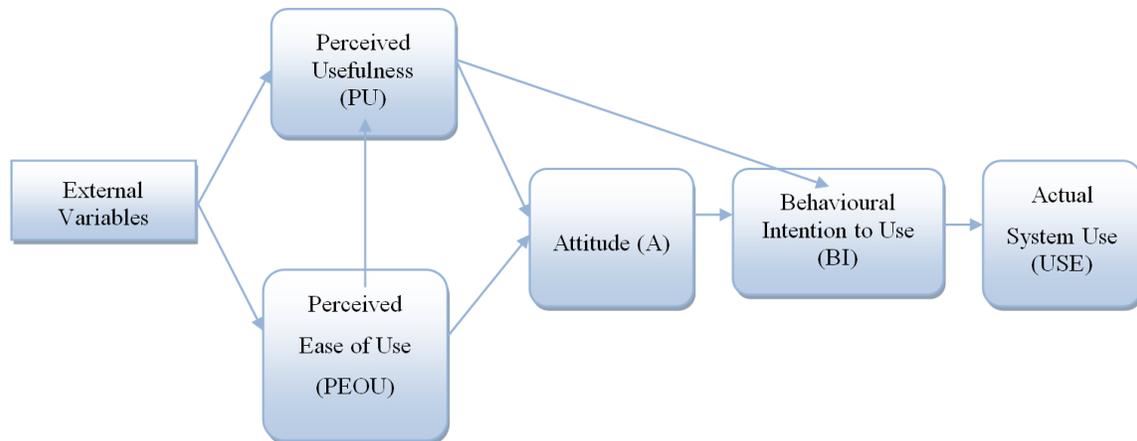


Figure 1: Technology Acceptance Model (TAM)

Perceived usefulness (PU) is defined as “the prospective probability that using a specific application system will increase his or her job performance within an organizational context” (Davis, 1986: 26). Perceived ease of use (PEOU) refers to “the degree to which the prospective user expects the target system to be free of effort” (Davis, 1986: 26). In the e-learning context, perceived usefulness refers to the extent that a student believes that use of the LMS will improve his or her performance.

However, perceived ease of use and perceived usefulness may not fully reflect users’ intentions to adopt a system, and researchers need to address how other factors affect usefulness, ease of use, and user acceptance (Davis, 1989). These factors are likely to vary with the technology, target users, and context (Moon and Kim, 2001). Selim (2003) used the TAM model to assess students’ acceptance of course websites as an effective learning tool. The results showed that course website usefulness and ease of use proved to be key determinants of the acceptance and usage of course websites.

Subjective Norm (SN)

Davis et al. (1989) believed that in some cases people might use a system to comply with the mandates of others rather than their own feelings and beliefs. Adler (1996) argued that social pressure could affect behaviour of individuals in varying degrees in different societies depending on the culture. In terms of technology acceptance, individuals from a collectivist culture may be predisposed to use computers because of the perceived social pressure from superiors and peers.

Empirical support for the relationship between social norms and behaviour can be found in many studies (e.g. Tornatsky and Klein, 1982; Venkatesh and Davis, 2000). Individuals can choose to perform a specific behaviour even if they do not feel positive towards the behaviour or its consequences. The choice depends on how important the individuals think that key referents believe that they should act in a certain way (e.g. Fishbein and Ajzen, 1975, Venkatesh and Davis, 2000). Recently, Lee (2006) found that the effects of subjective norms (SN) significantly influenced perceived usefulness. In the e-learning context, Kim et al. (2005) suggested that SN influences the learner's satisfaction with and motivation for e-learning. In addition, the SN was a significant prediction of students' satisfaction (Gunawardena and Zittle, 1997). Frith (2002) found that social factors enhanced students' motivation and satisfaction.

Technology in e-learning does more than just supplement traditional communication. Gay and Lentini (1995) argued that e-learning is built through conversations between the instructor and students or among peers using chat rooms, electronic mail, and discussion groups. Although the TAM is useful in determining factors affecting technology acceptance and use, it is not capable of examining the effect of user communication patterns. In this study, subjective norm refers to a student's perception of opinions or suggestions of the significant referents concerning his or her acceptance of an e-learning system (LMS) at AOU. This need not be an explicit statement or order from the instructors, friends, and/or family. The focus of the measurement was to examine how a student subjectively evaluated the thought of important referents in their decision process.

Internet Experience (IE)

Research studies suggest that prior experience is important in an individual's acceptance of IT. Additionally, prior experience has been found to strongly influence intention to use and usage of a specific system through perceived ease of use (Agarwal and Prasad, 1999) and through perceived usefulness (Jiang et al., 2000). As O'Cass and Fenech (2003) point out, when Internet users have accumulated sufficient personal experience via their adoption of computer technology, it creates a belief in their ability to use the Internet for learning purposes. Kerka (1999) stated that, in (online) distance learning, learner success depends on technical skills in computer operation and Internet navigation, as well as the ability to cope with technical difficulty. Conrad (2002) found that students who had more experience in e-learning courses were less likely to feel anxious about e-learning. Similarly, Arbaugh and Duray (2002) found that students who had more experience in e-learning courses were more likely to be satisfied with e-learning systems.

System Interactivity (SI)

Previous research suggests that system characteristics can influence the intention to use and usage behaviour of the system. For example, Davis et al. (1989) proposed that system characteristics exhibit indirect effects on usage intentions or behaviours through their relationships with perceived usefulness and perceived ease of use. Davis (1993) showed that perceived usefulness and perceived ease of use mediates the effects of system characteristics on usage behaviour. Bates (1991) noted that the main advances in distance education would come from technology that allowed increased learner interaction. Two types of interaction would be provided by a web-based learning system: instructor-to-student and student-to-student interactions. Palloff and Pratt (1999: 5) stated that "the key elements of learning processes are the interactions among students

themselves, the interactions between faculty and students, and the collaboration in learning that results from these interactions”.

Tools are used to facilitate interaction include discussion forums, chat systems, e-mail, and more recently, social software and desktop conferencing systems. Interaction can be asynchronous or synchronous. In asynchronous discussions, there is no time and space constraint for students to engage in discussions on diverse topics with facilitators and peers. The availability of interactive applications such as discussion forums and e-mail facilitates the interactivity. In the opinion of some, the asynchronous learning environment is the preferable method for fostering in-depth student-rich interactions (Bonk et al., 1998). There is also a significant relationship between interactivity and learning effectiveness. Poon et al. (2004) found that students' grades are highly correlated with students' interactivity. Hence, system interactivity is expected to be one of the factors that may affect students' adoption of e-learning systems.

Self-Efficacy (SE)

Self-efficacy is a belief in an individual's capability to perform certain behaviours or it is one's personal belief about his or her ability to perform certain tasks successfully (Bandura, 1986, 1997). With respect to Internet-related tasks, self-efficacy can be an important factor in considering whether or not a new process is adopted (O'Cass and Fenech, 2003). Davis et al. (1989) and Venkatesh and Davis (1996) suggested that self-efficacy is an antecedent of perceived ease of use and object usability. Compeau and Higgins (1995) also found that computer self-efficacy was a significant determinant of behavioural intention to use information technology. Dishaw et al. (2002: 1024) note that “self-efficacy constructs have been widely used in the educational literature to study academic performance”. Lu and Hsiao (2007) and Rao and Troshani (2007) used computer self-efficacy as a proxy for an individual's internal control in the IT usage context. Venkatesh and Davis (1996) found computer self-efficacy acts as a determinant of perception of ease of use at all times. Agarwal et al. (2000) found that self-efficacy is an important determinant of perceived ease of use.

In the e-learning context, self-efficacy is interpreted as one's self-confidence in his or her ability to perform certain learning tasks using an e-learning system. For example, students with a high sense of educational self-efficacy believe that they can study using an e-learning system while students with a low sense of educational self-efficacy may believe they cannot study using an e-learning system. A student who has a strong sense of his or her capability in dealing with an e-learning system has a more positive perception of ease of use and usefulness and he or she is more willing to accept and use the system. A student's self-efficacy affects her/his actual behavioural decision or intention toward the educational process as well as their specific educational activities.

Technical Support (TS)

Ralph (1991) defined technical support as people assisting the users of computer hardware and software products, which can include hotlines, online support service, machine-readable support knowledge bases, faxes, automated telephone voice response systems, remote control software and other facilities. Technical support is an important factor in acceptance of technology for teaching (Sumner and Hostetler, 1999; Hofmann, 2002; Williams, 2002) and in user satisfaction (Mirani and King, 1994).

Technical support from the university is essential to achieve significant success in applying information technology in learning. In addition, technical support is especially important in the beginning stage of technology adoption. Hadley and Sheingold (1993) noted the importance of day-to-day help with problems of time, space, supervision, operation, and access that must be addressed to accomplish successful information technology adoption in schools by teachers

through staff development and technical support. Venkatesh (2000) found facilitating conditions and external control served as anchors that users employ in forming perceived ease of use about information technology. In contrast, some e-learning projects that were not successful in achieving their goals did not have access to technical advice and support (Alexander and Mckenzie, 1998; Soong et al., 2001). If technical support is lacking, e-learning will not succeed (Selim, 2003). Recently, Ngai et al. (2007) extended the TAM to include technical support as a precursor in user acceptance of WebCT.

Methodology

Group interviews were conducted at the Arab Open University (AOU) in Jordan. The AOU has two main branches in the biggest cities in Jordan, namely Amman (the capital) and Irbid. Participants in the study consisted of undergraduate students who were taking the last lecture of the first basic computer literacy course. Three group interviews were conducted in the Irbid branch and three group interviews were conducted in the Amman branch. All the sessions were video-recorded for later analysis. Nine to twelve students per group and five tutors participated in the group interviews. Two of the tutors were working full-time and three of them were working part-time. All the tutors have more than four years experience in teaching using e-learning systems (First-class and LMS). Table 1 shows variables with regard to gender and school of students who participated in the group interviews. Table 2 shows the distribution of students' age.

Table 1
Distribution of Students' Gender and School

Student Groups	Number of participants	Male	Female	School
1	10	6	4	IT
2	9	5	4	IT
3	11	6	5	IT
4	10	5	5	Education
5	12	5	7	Education
Total	52	27	25	

Table 2
Distribution of Students' Age

Age	Group 1	Group 2	Group 3	Group 4	Group 5	Total
18-22	2	3	1	3	4	13
23-27	2	3	5	3	2	15
28-32	3	2	2	2	2	11
33-37	1	0	1	2	2	6
Over 37	2	1	2	0	2	7

As shown in Tables 1 and 2, 27 of the students were male and 25 were female. Three groups from the IT school (TU170 course) and two groups from the education school (GR100 course)

participated in the interviews. In addition, the sample covers different ages: 13 of the participants were 18-22 years old, 15 of the students were 23-27 years old, and the remainder (24 students) were over 27 years old.

The group interviews were semi-structured. However, there was an openness to change of sequence and forms of questions in order to follow up the answers given. A pilot test of the interview design was conducted with 10 students at AOU in Jordan. The time required for each session was between 60 to 90 minutes.

In this research, the categorization approach was used to analyze group interviews. This was compatible with the research goals and concerned with the main factors that may affect students' adoption of e-learning systems with an openness to add, delete, or modify the main categories. The interviews were categorized independently by two coders and their coding was combined. Several meetings were held with the coders to confirm coding and resolve disagreements.

All group interviews in this phase were converted into text by transcribing the recorded interviews and auditing the transcripts against the recordings prior to analysis. All the sessions were conducted in the Arabic language.

Quantitative and qualitative coding methods were used to identify the principal factors that affect students' adoption of the LMS. Categories were identified to classify the data within different categories. Categories were based on the factors collected from the literature and TAM model, namely: ease of use, usefulness, subjective norms, Internet experience, system interactivity, self-efficacy, and technical support.

Content analysis is a method that is used regularly to analyze qualitative data obtained from group interviews (Morgan, 1996; Merriam, 1998). Based on the indicators used in the literature, the main subcategories were given to the coders to explain the categories in much more detail. Accordingly, the coders identified the subcategories by grouping similar themes associated with the main categories.

Findings

In this section, the analyses of students' responses about the main factors that may affect their intention to use the LMS are described. Under each category, the coders identified subcategories by grouping similar themes associated with the main categories. A summary of the main categories and subcategories are illustrated in Table 3.

Table 3
The Main Categories and Subcategories of Factors

Main Categories	Subcategories
Ease of Use	Easy; clear
Usefulness	Useful; speed; performance
Subjective Norms	Colleagues' effect; tutor's effect
System Interactivity	Interactivity between students and tutor; interactivity among students
Self-Efficacy	Confidence; comfort
Internet Experience	Frequency of use; familiarity of use
Technical Support	Training; university support.

Additionally, the numbers of students who agreed or disagreed with main categories as factors that may affect their adoption of the LMS are summarized in Table 4.

Table 4
The Number of Students who Identified the Categories as being Important

Main Categories	Agreed	Disagreed
Useful	37	0
Ease of Use	37	5
Internet Experience	24	3
Technical Support	22	4
System Interactivity	21	8
Self-Efficacy	18	8
Subjective Norms	15	10

Perceived Ease of Use (PEOU)

Most of the students stated that the LMS was easy to use. The total number of students in all groups who accepted that ease of use of LMS is one of the factors that affects their intention to use LMS was 37 of 52 and the number of students who disagreed was 5 (see Table 4), and some students had did not give any comment in relation to this factor. Therefore, the results in general accepted that ease of use influenced students' intention to use LMS, although there were differences between the groups This varied from 9 of the 10 students of the first group agreeing (none disagreed) to 6 of the 12 students of the fifth group who agreed and 2 who disagreed. Additionally, the coders identified two subcategories of this factor according to the indicators used in the literature, namely 'easy' and 'clear'. of the system In the literature, easy and clear are the main important indicators used to measure the perceived ease of use construct (Davis, 1986; Venkatesh and Davis, 2000).

For instance, one student said that:

"I find the LMS is very easy to practice on, and I find out what I want from it"

Another student reported that:

"Because the LMS is clear, it motivates me to use the system and helped me a lot to learn"

Some students gave some indications about the relationship between ease of use and usefulness. As an example, one of the students said that:

"I am very happy with it. It is easy to take the information by practice, where things were not understood in lectures and that helped me to learn"

However some students believe they have to use a system even if it is difficult. For instance, one of the students said:

"Whatever the system is easy or not I will use it to submit my assignment".

Perceived Usefulness (PU)

In the e-learning context, perceived usefulness refers to the extent that a student believes that use of the LMS will improve his or her performance. Table 4 shows the results of the students' responses to this factor. The results in general support the idea that perceived usefulness

influenced students' intention to use the LMS. This varied from 8 of the 11 students of the third group (none disagreed) to 7 of the 12 students of the fifth group accepting and none disagreeing.

The coders classified the words and themes that students used to express their feelings and beliefs about this factor into three main subcategories (see Table 3), namely useful, speed, and performance. Most of the studies that have used the TAM model as a framework used these subcategories as main indicators to measure the perceived usefulness construct (Davis, 1986; Venkatesh and Davis, 2000). Students in this study referred to these indicators. For instance, one of the students explained how she got the motivation to study through LMS when she said:

"LMS is useful for me to see the announcements about each course. Also, I used the system to download the PowerPoint presentations".

Many students interviewed in this study noted the usefulness of LMS as the most important factor affecting students' intention to use LMS. Since the LMS helped them to accomplish their tasks quickly, practice for the exam and complete assignments, it had a positive influence on their use of LMS, as noted in the following comment:

"I can finish my tasks quickly through LMS, I visited the website regularly to complete assignments, and it also gave me practice for the actual exams and quizzes"

Another student stated:

"LMS is very easy and useful for me. I usually use LMS to learn and solve assignments"

External Factors

Without incorporating external factors, the TAM provides only very general information on users' opinions about the system, but does not yield "specific information that can better guides the system development" (Mathieson, 1991: 173). Several previous studies have shown that there are various external factors that indirectly influence the acceptance of technology through perceived usefulness and perceived ease of use (Davis et al., 1989; Szajna, 1996).

Students were asked whether they agreed or disagreed about some factors that make the system easy to use and useful for them. Table 4 shows that the main factors that may affect students' adoption of LMS through perceived ease of use and perceived usefulness were Internet experience, technical support, system interactivity, self-efficacy, and subjective norm. Additionally, Table 4 depicts how many of the 52 students agreed or disagreed with the five factors. This varied: 24 of 52 students of all groups agreed, and 3 disagreed that Internet experience makes LMS easy to use and useful for them; to 15 of 52 students agreed and 10 students disagreed that subjective norms make LMS easy to use and useful for them.

Table 5
Selected Representative Positive and Negative Comments about each Factor

Factor	Aspect	Comment
SN	Representative positive comment	I am very impressed; most colleagues used the system and motivated me to use LMS. They taught me how to use it.
	Representative negative comment	LMS is a great system but I feel that some tutors don't understand or know how it works.
IE	Representative positive comment	LMS is very useful. I am using my Internet experience to find what I want.

	Representative negative comment	I have access to the system in the university and I think it is a waste of time.
SE	Representative positive comment	LMS is easy and useful for me and I feel comfortable with it.
	Representative negative comment	It seems good but it is too hard to use.
SI	Representative positive comment	I found LMS very useful because I got answers from other students and my tutor to my questions on the discussion forum
	Representative negative comment	The tutors didn't reply even when I tried to send questions to them a few times.
TS	Representative positive comment	Staff is accessible at any time and they resolve queries and questions.
	Representative negative comment	There is not as much support and facilities from the university as I expected.

Under each main response category, the coders identified subcategories by grouping similar themes associated with the main category. Table 3 illustrated the main categories and subcategories for each factor. Two main themes are specified for system interactivity, namely the interactivity between students and tutors and the interactivity among students. Two main themes are specified for self-efficacy, namely confidence and comfort. For Internet experience, the main themes are the colleagues' effect and the tutor's effect. Finally, for technical support, the main themes are training and university support. Table 5 provides selective representative positive and negative comments from which the coders identified the main subcategories. Some examples are discussed in the following subsections.

System Interactivity (SI)

When students believe that the system provides for effective student-student and student-tutor interactions, they will be more likely to use the LMS. As one student stated:

"I found LMS very useful because I got answers from other students and my tutor to my questions on the discussion forum"

On the other hand, other students disagreed, they found the LMS was not useful because they did not get answers to their questions from either students or tutor. The students had to wait a long time to get answers, as one student noted as follows:

"The students and tutor didn't reply even when I tried to send questions to them a few times".

In general, the students commented that interactions with other students and their tutor in the LMS were beneficial for them.

Self-Efficacy (SE)

Self-efficacy is defined as "Judgment of one's capability to use what has been done in the past, but rather with judgment of what can be done in the future" (Compeau and Higgins, 1995: 192). If users are struggling, they may actually believe that the system is not easy to use and that the benefits of using the system in terms of performance are outweighed by the effort of using it (Pituch and Lee, 2006).

Two subcategories were identified to the self-efficacy factor, confidence and comfort. The system will be useful and easy to use when students have the confidence in their ability to perform learning tasks using the LMS. Some students commented on the confidence of using LMS:

“LMS is very useful because I can print the lecture notes, I can take the pre-quiz at home, and I can check announcements”.

Subjective Norm (SN)

Subjective norm is defined as an “individual’s perception that most people who are important to him/her think s/he should or should not perform the behavior in question” (Fishbein and Ajzen, 1975:302). Tutors can play a supporting role by motivating students to use the system and teach them how to use it. A student commented on this role:

“Our tutor motivates us to do the required assignments and I like working on LMS”.

Another student commented on the motivation from her colleagues:

“I am very impressed; most of my colleagues used the system and motivated me to use LMS. They taught me how to use it”.

Other students found the system good and useful but the tutors did not understand and know how it worked. As one student said:

“LMS is a great system but I feel that some tutors don’t understand and know how it works”.

Internet Experience (IE)

Prior Internet experience influences students’ perceptions of ease of use and usefulness of the LMS. The students can use their experience to find what they want from the system. Frequency and familiarity of use of the Internet are the main themes that describe this factor. A student commented on using his Internet experience to find what he wanted:

“I have good Internet experience, I found LMS very easy to find what I want”.

Another one said:

“I am not familiar with the Internet but I frequently use the system to learn and submit assignments”.

Technical Support (TS)

Technical support is defined as people assisting the users of computer hardware and software products, which can include hotlines, online support service, machine-readable support knowledge bases, faxes, automated telephone voice response systems, remote control software and other facilities (Ralph, 1991).

Training and university support were the main themes of this factor. Most students focused on the training because they felt that training was very important in the earlier stage. The following are some students’ comments on the usefulness of training and university support:

“Staff are accessible at any time and they resolve queries and questions”.

“I use the university system to download material and submitting assignments because the system of the university is quicker than the system I have at home”.

"If I need technical support in the evening, I have to go to the university to ask. There are no enquires by e-mail".

"I took a training course at AOU and that helped me a lot to understand and use LMS".

"I didn't take the training course; this course is just available in one branch Amman, because of that I have to ask before using the system".

"LMS could be easy and useful if all the students take training".

Tutor Interviews

The factor identified above was discussed with tutors who were working at AOU. The discussion started with the same general question that was asked of students:

"What are the main factors that may affect students' adoption of e-learning systems?"

Then, discussion moved to specific questions and issues about each factor. For instance, one of the part-time tutors said that:

"Part-time tutors usually access the system less than the full-time tutors because the part-time tutors have a full teaching load in their universities and there is no time to check and collaborate with students. While full-time tutors usually work frequently on the system and they are active with their students".

Thus, this tutor focused on the system interactivity factor and he did not have time to collaborate with his students as full-time tutor. On the same factor, another tutor said:

"There are no questions from the students because most of them are working and they don't have time to access LMS".

Discussion and Conclusion

The results showed that five external factors, namely subjective norms, Internet experience, system interactivity, self-efficacy, and technical support, could explain the students' intention to use e-learning systems, in addition to the main constructs of the TAM model (perceived usefulness and perceived ease of use).

The findings showed that self-efficacy is an important determinant of students' adoption of an e-learning system. This is consistent with that results reported by Venkatesh and Davis (1996). A student's Internet experience does influence perceived usefulness and perceived ease of use. This finding is consistent with those of Igbaria et al. (1995) that the level of computing experience had a significant direct influence on perceived usefulness and perceived ease of use. This study also showed that subjective norm had an effect on students' intentions and this result was consistent with the extended model of the TAM (TAM2) (Venkatesh and Davis, 2000). Students who had stronger subjective norms have greater motivation to use the e-learning system.

System interactivity is the perception of students of the system's ability to provide interactive communications between instructor and students and interactive communication among students. From the results, technical support (such as training and support) was found to have an effect on intention to use. This result was consistent with Ngai et al. (2007) findings. This showed the importance of user support and training in influencing the perceptions of students.

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About the Author

Muneer Abbad is from Effat University in Saudi Arabia.

Editor's Note: This is an insightful analysis of assets and difficulties, both human and technical, in adopting and supporting teaching and learning with Web 2.0 Technologies. Students use these technologies constantly for their personal communications and for information access. Faculty and instructional designers need to be aware of the potential of these media for teaching and learning, research and reporting, and for building learning communities. We must learn how to use them effectively to increase learning.

Teaching with Web 2.0 Technologies: Benefits, Barriers and Lessons Learned

Yun-Jo An and Kevin Williams
USA

Abstract

While Web 2.0 technologies are becoming ubiquitous in the everyday lives of students, many university instructors still have little or no experience with Web 2.0 tools. In addition, professors often use Web 2.0 tools in ways that simply reinforce their existing practices rather than using them to their potential. While there is a wealth of literature that discusses Web 2.0's potential for transforming education, there is little research that provides data-based guidelines. This study sought to provide a synthesis of key lessons that university instructors, referred to as "Web 2.0 experts", have learned from their various experiences in teaching with these tools. Fourteen experienced instructors participated in a Web-based survey. The findings of this study provide valuable insights and practical strategies for teaching with Web 2.0.

Keywords: web 2.0, benefits, barriers, lessons learned, technology integration

Introduction

In an attempt to transform teaching and learning, educators in diverse contexts are exploring innovative ways to use Web 2.0 technologies in teaching and learning. Web 2.0 has been one of the major topics in recent professional conferences and journals in the field of Instructional Technology. Today's students, many of whom are so called "*digital natives*" (Prensky, 2007), are making increasing use of Web 2.0 technologies in their daily lives. They also expect their professors to use information technology to communicate their knowledge more effectively (Kvavik and Caruso 2005; Thompson, 2007).

While Web 2.0 technologies are becoming ubiquitous in the everyday lives of students, they are still new to a majority of instructors, especially in higher education settings. Many university instructors still have little or no experience with Web 2.0 tools. Some professors use Web 2.0 tools in their teaching but often integrate the new tools into their old practices. As Tagg (2003) noted, technology can be used just as effectively to reinforce teaching-centered practices as it can be to create learning-centered environments.

There is a wealth of literature that discusses Web 2.0's potentials for transforming education (Alexander, 2006; Brown & Adler, 2008; Bonk, 2009; Downes, 2005; Thompson, 2007; Richardson, 2009). However, there is little research that provides data-based guidelines. Most studies exploring the use of Web 2.0 technologies in teaching and learning environments have been anecdotal in nature or in the form of case studies that focused on some specific aspects of learning and teaching (e.g., interaction, collaboration, etc.). Thus, this study sought to provide a synthesis of key lessons that university instructors, referred to as "Web 2.0 experts", have learned from their various experiences in teaching with Web 2.0.

What is Web 2.0?

Web 2.0 refers to “web applications that facilitate interactive information sharing, interoperability, user-centered design, and collaboration on the World Wide Web” (Wikipedia, 2010). Web 1.0 was read-only where Internet users went online to find information. It was similar to going to the library to find books. With Web 2.0, which is read/write, people have become active participants and content creators. They not only find information on the Internet, but also create and share content (Thompson, 2007). Downes (2005) described the emergence of Web 2.0 as a shift “from being a medium, in which information was transmitted and consumed, into being a platform, in which content was created, shared, remixed, repurposed, and passed along.” He also argued that the emergence of Web 2.0 is not a technical revolution, but a social revolution that enables and encourages participation through open applications and services.

Blogs, wikis, podcasting, social bookmarking, and social networking sites are some examples of Web 2.0 applications. These new technologies have allowed users to easily publish content online and to connect and network with people who share similar interest without regard to physical location. The use of tags particularly enables us to collectively categorize and find content easily. In a nutshell, Web 2.0 could be characterized by openness, user participation, microcontent, knowledge sharing, social networking and collaboration, and folksonomy (Alexander, 2006; Brown & Adler, 2008; Downes, 2005; Thompson, 2007; Richardson, 2009).

Web 2.0 in Teaching and Learning

As addressed above, Web 2.0 technologies have “blurred the line between producers and consumers of content and has shifted attention from access to information toward access to other people” (Brown & Adler, 2008, p. 18). The new Web 2.0 culture encourages students to reuse and remix resources as well as create new knowledge. Students take an active role in learning, rather than passively receiving information from instructors. Web 2.0 has the potential to create more interactive and powerful learning environments in which learners become knowledge creators, producers, editors, and evaluators (Richardson, 2009). Downes (2005), who coined the term “e-learning 2.0,” described the evolution of online learning application from a “content-consumption tool, where learning is delivered,” to a “content-authoring tool, where learning is created.” With Web 2.0 and other emerging tools, “learning will continue to shift from the mastery of instructor-based content to problems to be solved and products to be created” (Bonk, 2009, p. 369), and learning content will be “less static and more open for others to use, refine, distribute, and comment on” (p. 371).

Emphasizing a participatory culture, Web 2.0 technologies provide numerous opportunities for social interactions and collaboration among students, teachers, subject matter experts, professionals, as well as a host of others around the globe (Alexander, 2006; Brown & Adler, 2008; Bonk, 2009; Downes, 2005). They encourage and enable teachers, learners, and others to share ideas and collaborate in innovative ways. Also, these technologies force us to rethink the way we teach and learn and to transform our education practices so that we can support more active and meaningful learning that engages students in “learning to be” as well as “learning about.”

As Brown and Adler (2008) noted, Web 2.0 offers increasing opportunities for students to find and join communities of practice where they can “acquire both deep knowledge about a subject (“learning about”) and the ability to participate in the practice of a field through productive inquiry and peer-based learning (“learning to be”)” (p. 28). Indeed, Web 2.0 has the potential to create authentic, open learning communities where students can discuss a wide range of real-world topics and collaborate with people around the globe, instead of discussing pre-assigned topics with their classmates (Bonk, 2009; Brown & Adler, 2008; Downes, 2005).

Furthermore, Web 2.0 technologies facilitate personalized learning and enables the creation of personal learning environments that consist of a set of interoperating applications and support learning in diverse contexts, including learning from formal education, workplace learning, and informal learning (Attwell, 2007; Bonk, 2009; Downes, 2005). In personal learning environments, individuals can take control of and manage their own learning, reuse and remix content according to their own needs and interests, and interact and collaborate with others in the process of learning.

Methodology

Participants

In order to identify “Web 2.0 experts” in higher education settings, the first author contacted professors at a number of universities who were known to have considerable experience in teaching with Web 2.0 technologies. Some of them agreed to participate and also referred other university instructors who were experienced with teaching with Web 2.0 tools. As a result, fourteen university instructors participated in this study. The participants, consisting of 64.29% female and 35.71% male, were from a number of different universities in the United States. They ranged in age from 30’s to 60’s (31-35: 7.14%; 36-40: 21.43%; 41-45: 14.29%; 46-50: 21.43%; 51-55: 7.14%; 56-60: 21.43%; 61-65: 7.14%). The instructors had an average of 15 years of teaching experience and an average of 3.71 years of using Web 2.0 technologies in teaching. Web 2.0 technologies used by the participants include: blogs, Wikis, YouTube, social bookmarking, podcasts, webcasts, Facebook, Myspace, Flickr, Twitter, Skype, and Second Life.

Data collection

A web-based survey was used to collect data in this study. The survey was conducted from November 2008 through February 2009. The survey instrument included four demographic questions and 10 open-ended questions. The key questions include the following:

- Describe 1-2 ways you use Web 2.0 technologies in your teaching.
- What are the benefits of using Web 2.0 technologies in teaching?
- What are the barriers to using Web 2.0 technologies in your teaching?
- What instructional strategies or techniques have already worked for you? Please describe best practices in teaching with Web 2.0 technologies based on your direct or indirect experiences.
- What has NOT worked for you in terms of Web 2.0 technologies in teaching and learning?
- What would be effective ways to use Web 2.0 technologies in teaching that you have yet to try but are perhaps thinking about?

Data analysis

Qualitative data from the Web-based survey was analyzed using the constant comparative method (Glaser & Strauss, 1967; Strauss & Corbin, 1990). All responses were carefully read and reread and were coded and constantly compared to other data. In the process, some coded data was renamed or merged into new categories. A number of categories or themes were identified and were organized under three overarching categories that this study focused on: (1) benefits of using Web 2.0 technologies in teaching, (2) barriers to using Web 2.0 technologies in teaching, and (3) best practices and tips for teaching with Web 2.0 technologies.

Results

The experienced instructors who participated in this study reported how they have used Web 2.0 technologies in their teaching, what instructional strategies or techniques have worked well, what has not worked for them, what lessons they have learned, and so forth. The survey results provided insightful guidelines and tips for using Web 2.0 technologies in teaching. The discussion of results is organized around the following three themes: (1) benefits of using Web 2.0 technologies in teaching, (2) barriers to using Web 2.0 technologies in teaching, and (3) strategies and tips for teaching with Web 2.0 technologies.

Benefits of using web 2.0 technologies in teaching

The study results indicate that the major benefits of using Web 2.0 technologies in teaching include: (1) interaction, communication and collaboration, (2) knowledge creation, (3) ease of use and flexibility, and (4) writing and technology skills. These findings are consistent with what other researchers have reported regarding the pedagogical benefits or potentials of Web 2.0 applications (Alexander, 2006; Brown & Adler, 2008; Hartshorne & Ajjan, 2009; McLoughlin & Lee, 2007; Richardson, 2009; Thompson, 2007).

Interaction, communication and collaboration

Most participants believed that using Web 2.0 technologies in teaching helps build a sense of community, increases interaction and communication among the instructor, students, and other people, and promotes collaboration and resource sharing. The following are some comments by participants:

- I think, if used correctly, they can help develop a better sense of connectivity between students and teachers and afford students opportunities to connect and communicate with classmates and resources throughout the world...
- They reduce the distance between teacher and students.
- Students learn about new ways of collaboration.
- Students and teachers see learning as a more social process. It's not just the book and yourself; it's collaborative meaning making.

Knowledge creation

Half of the participants reported that Web 2.0 technologies enable students to “become creators of knowledge.” As one participant noted, Web 2.0 technologies give students “the opportunity to create content themselves instead of just listening to lectures,” and this supports active and student-centered learning in which students take responsibility for their learning. Several participants also noted that Web 2.0 technologies create an environment where a teacher becomes a facilitator of learning rather than a distributor of knowledge.

Ease of use and flexibility

A third of the participants reported that Web 2.0 tools are easy-to-use and flexible, explaining that using Web 2.0 tools does not require high-level technical skills. They also noted that while some of the traditional course management systems (CMS) are too static, Web 2.0 tools remove time constraints by providing a more flexible learning environment that is not inhibited by classroom walls.

Writing and technology skills

Several participants noted that the use of Web 2.0 technologies help students become more proficient in writing and in the application of technology. In addition to these four major benefits,

the participants also mentioned that using Web 2.0 technologies “helps teachers understand a little more about the world of their students,” and “motivates the students.”

Barriers to using web 2.0 technologies in teaching

The study revealed that the major barriers “Web 2.0 experts” have encountered in teaching with Web 2.0 technologies are (1) uneasiness with openness, (2) technical problems, and (3) time.

Uneasiness with openness

A number of participants noted that the open nature of Web 2.0 technologies is still new to many students. They reported that some students are very uncomfortable with the openness and are reluctant to participate in class activities that utilize Web 2.0.

... And the immediate and public nature of wiki collaboration made some of my students feel more self-conscious and a bit uneasy at times... These students preferred one-to-one teacher-student interaction more than public, peer-to-peer interactions...

Technical problems

Five participants reported that students who have older computers often have technical issues when using Web 2.0 tools. It was also noted that some Web 2.0 tools are “still a little primitive,” having technical glitches and might not work well with current course management systems. Several participants mentioned that universities do not provide enough technical support for faculty who are unfamiliar with Web 2.0 technologies.

Time

While Web 2.0 tools are relatively easy-to-use, it still takes time to learn and manage new technologies. Time was another barrier identified in this study. Several participants reported that learning new technologies takes time away from learning subject matter content.

Strategies and tips for teaching with web 2.0 technologies

Finally, this section provides a synthesis of key lessons the participants have learned from their various experiences in teaching with Web 2.0.

Do NOT introduce too many technologies new to students in one semester.

A number of participants indicated that using too many Web 2.0 technologies in one semester could lead to surface learning. They suggested that instructors utilize a small number of the tools adding more only as expertise is developed.

Do NOT use multiple technologies that do the same thing.

Several participants suggested that instructors should not introduce more than one application that does the same thing. It was noted that students must often manage several email accounts and forums, and a new technology, if used like an existing tool, simply creates management problems. One expert states:

Students and I also felt at times that Wiki space is just another forum to manage in addition to several email accounts, WebCT, and etc in this busy life. The fact that most of my students were working full time and had several email accounts and other "online message boards" to check added to that feeling.

Use learner-centered instructional methods.

It was noted that technology, by itself, cannot facilitate learning effectively. The participants in this study emphasized the importance of creating learner-centered learning environments. Particularly, they reported a variety of strategies for facilitating collaborative learning using Web 2.0 technologies. Examples of the strategies include the following:

- Using a wiki for collaborative writing projects
- Using a blog as a collaborative reflection space beyond personal journals
- Using a social bookmarking site for sharing resources
- Having students collaboratively create a podcast or YouTube video

Using peer evaluation

Build a sense of community in your classroom first before trying more public collaboration.

Web 2.0 is generally characterized by openness, social interaction and collaboration (Alexander, 2006; Bonk, 2009; Brown & Adler, 2008; Downes, 2005; Thompson, 2007; Richardson, 2009). Not surprisingly, several participants used Web 2.0 tools for inter-institutional collaboration. One reported that her students wrote a wikibook on learning theories in collaboration with students in another university. She believed that their inter-institutional collaboration was not very successful because the students' entry level knowledge and focus (research vs. practice) were different. She also mentioned that some students were overwhelmed by trying new technologies with new people. She contended that instructors "have to establish at least a certain sense of community first before trying more public collaboration and social interaction."

Provide appropriate instruction, tutorials, examples, and frequent feedback.

A number of participants emphasized the importance of providing in-class instruction, tutorials, and examples that teach how to use Web 2.0 technologies. They pointed out that Web 2.0 technologies are still new to many students, and support is needed when using them for learning activities and projects. On the other hand, it was also noted that instructors should help their students become independent learners in keeping abreast of emerging technologies.

We can teach them how to use the tools available today, but by the time they graduate from the U., there will be new tools and no one to teach them. So, right up front they need to learn how to find resources on the web to help them learn new technology.

Other tips for teaching with Web 2.0 technologies suggested by the participants include: providing clear goals and objectives for using Web 2.0 technologies, rewarding students for good contributions, creating an engaging and supportive environment, and showing YouTube videos to start or end class.

Discussions and Conclusions

Innovative instructional methods

Web 2.0 has the potential to provide more interactive and customized learning environments where students create knowledge, rather than passively receive information from instructors, interact and collaborate with those who have similar interests globally, and obtain opportunities to learn to become professionals in communities of practice. However, it appears that many teachers and instructors are not using Web 2.0 technologies to their potentials. Instead of maximizing the benefits of Web 2.0, educators often do the same thing with a new tool much like early distance education instructors who simply moved their course content to the Web without adapting the course and teaching methods to the new environment.

Instructors should keep in mind that Web 2.0 itself does not guarantee more effective learning and teaching. Simply adding Web 2.0 tools to our traditional teaching practice cannot realize the potential benefits of Web 2.0. New technologies can help us improve our teaching and learning only when they are used with clear goals and proper methods. Effective use of new technologies requires innovation in teaching methods. "Long-held learning beliefs and established educational methods must be reshaped in order to incorporate the benefits of Web 2.0." (Thompson (2007)

Faculty development

Participants in this study pointed out that universities do not provide enough technical support for faculty who are unfamiliar with Web 2.0. We agree that it is important to provide faculty with appropriate technical support. However, we believe that it is more critical to help instructors develop new ways of teaching that reflect the capabilities of the new tools and their potentials rather than simply teach them how to use the tools. Diaz (2001) emphasized the importance of pedagogy-based training, pointing out that most technology training focuses on certain technical skills but overlooks the application aspects. Further studies should examine expert instructors' experiences more in-depth, focusing more on pedagogical strategies, in order to develop more comprehensive guidelines.

Scaffolding

Students also require some support to effectively learn with Web 2.0 technologies. Today's students integrate technology in their everyday lives and are constantly connected to their friends, family, and various resources via technology. Therefore, it is easy to assume that they are technologically savvy. However, as Oblinger (2008) contends, "Not all students have computers, not all are skilled users, and not all want to use technology" (p. 18). This is consistent with the findings in this study. The participants noted that many students have technical issues with old computers, are not very comfortable with Web 2.0 technologies, and need instructions and examples on how to use them. In teaching with Web 2.0 technologies, instructors should be prepared to provide appropriate support and scaffolding. Providing step-by-step procedural guidance might be necessary in some situations, but, since instructors cannot provide tutorials forever, we believe that instructors should help their students find appropriate resources and teach themselves how to use technologies.

Openness

Openness and privacy is an important issue instructors should consider in using Web 2.0 technologies in their teaching. As addressed by the participants in this study, some students are not comfortable with the open and public nature of Web 2.0 tools, often preventing them from participating in learning activities. Openness is one of the key characteristics of Web 2.0 (Alexander, 2006; Bonk, 2009; Brown & Adler, 2008; Downes, 2005) and is expected to be increasingly reinforced in the future. There should be more research on this issue to help instructors effectively prevent potential problems and deal with students' uneasiness with openness.

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About the Author

Yun-Jo An, Ph.D.
Assistant Professor of Instructional Technology
Texas A&M University – Texarkana

yunjo.an@tamut.edu

Kevin Williams
Content Management Specialist
Texas A&M University – Texarkana

Kevin.williams@tamut.edu

Editor's Note: Global awareness is accelerating cultural changes in many countries. Emancipation of women has been active in European countries for over 100 years, and is now impacting nations in the Middle-East, Africa, and South America. Education of women is an important part of the process. Distance learning enables learning at home to be dovetailed with chores, child-raising, and other family responsibilities. It makes it possible for many more women to receive higher education and overcome obstacles of time and distance that would otherwise hinder their participation.

Obstacles Facing Yemeni Women in Pursuing their College Education and their Perceptions toward e-Learning as a Solution

**Ali Aljarrah Abdelmuhdi, David W. Stephen,
Maisson H. Bin Yahya, Maisa M. Aldumairi**

Jordan and Saudi Arabia

Abstract

This study aimed to determine the obstacles that face Yemeni women in pursuing their college education and their perceptions toward e-learning as a solution. With the cooperation of local authorities in Yemen, the study sample consisted of 195 Yemeni women holding the high school diploma, to whom a questionnaire was distributed 230; the response rate was high, with 86% of the 230 requested self-reports returned.

The results of study indicate that obstacles to higher education that face Yemeni woman include poverty, early marriage, children, husband and/or family's rejection, and issues of co-education (male and female) at college. The findings also indicate that there are positive perceptions about e-learning that may be a partial solution for Yemeni women who wish to pursue college education.

The researchers recommend that local agencies in both the public and private sectors in Yemen should work to build awareness about the importance of women's education and should continue to improve educational opportunities of Yemenis in general and women in particular. Moreover, the researchers recommend that more effort should be made to help Yemeni women understand their human rights in general and their educational rights in particular. The authors suggest that the Yemeni government could pursue these goals by recognizing the viability of e-learning and developing it as an important component of the Yemeni educational system

Keywords: e-learning, college education, Yemeni Women, perceptions, obstacles.

Introduction and Context

The authors feel a responsibility to describe their assumptions and bias up front since all the evidence we present clearly supports the use of e-learning for distance delivery of education. We endorse Sedig's assertion that an educated mother is better able to able to achieve her maximum human potential and raise her children to contribute to the overall development of their country and their nation (Sedig, 2000). The literature review and our findings support our belief in the efficacy of e-learning as a means to improve the delivery of education to the citizens of developing nations in general, and to women in particular.

Since women represent half the world's population and could represent half of the total productive labor force, we endorse the United Nations Development Program assertion that "it is necessary to seek cultural and educational institutions to train, prepare, and give full opportunity for woman to participate with thought and experience and practice" to develop themselves and

the nations in which they live (UNDP, 2007). In addition to advancement, education provides a means for women to protect themselves from exploitation.

We believe that human rights in the Arab world should be improved and that education, especially for women, a disenfranchised group, is a key to the advancement and development of each Arab county's human capital resources. We further believe that distance education and e-learning is a way to sidestep the social barriers that obstruct this advancement. We are optimistic that distance education, especially the use of e-learning, will move educational systems forward, especially in the most influential aspects that touch the women lives, and especially for disadvantaged or marginalized women who are otherwise denied formal education and developmental opportunities.

The authors must further reveal that we believe that the most significant obstacles to promoting educational opportunities for women are related to the customs and traditions operative in many developing countries in general, and in the Arab world in particular.

Perhaps most important to note is that we make some risky assertions about development and education in both developing nations and "the Arab world" and we compound these risks by generalizing those assertions to Yemeni women in this study. However, there is a dearth of information and research regarding education in the Arab world in general and Yemeni women in particular, so we must work with what little cumulative data we have. The primary authors are natives of "the Arab world" themselves and believe their perspective and generalizations are as accurate and as objective as possible.

When education contributes to the development of women, it has far-reaching and positive consequences for the societies in which they live. We assert that, by *prima facie* evidence, developing countries, including those in the Arab world, are in dire need of social and human capital development, human rights improvements, and access to all types of education. Education is a key to improving the welfare and status of Arab women and their families in general and Yemeni women in particular.

We paraphrase the United Nations Development Program's definition of "development" to be "the means of creating an environment in which individuals can develop themselves to the maximum of their ability in order to live their lives according to their interests and needs." A report of UNESCO (1996) indicates that "women's education is one of the best investments for the future. Whether the goal is to improve the health status of the family; or increase the number of children enrolled in schools; or even improving social life, the efforts of communities will succeed only through maternal education and improve the conditions of woman in general."

No inquiry of this kind can be free of such bias and assumptions and we hope that this study adds to the body of knowledge that will make further studies less speculative and eventually serve to improve the quality of life and living standards of people in developing nations, including those in the Arab world, particularly women, and especially women in Yemen.

E-learning and Women in Developed Nations

This literature review attempts to build a case for using technology as a means to develop and improve the status of women in developing nations and the Arab world. The advent and use of computer and information technology has had a profound effect on education at all levels and in all contexts. Beginning in developed countries, computer-based learning quickly spread throughout most all developed nations' educational systems and began to extend their out-reach to students beyond their traditional institutional and domestic borders giving education new, global boundaries and making developed nations' education accessible to underserved populations within and without their borders. Today, some form distance learning is a *de facto*

element of most curricula, whether it be in the form of ordinary e-mail or run to sophisticated virtual classrooms and full-scale online delivery of content. In this paper, the efficacy, ubiquity and acceptance of e-learning technology as a valid and useful educational tool is considered *prima facie*. Electronic delivery of education and access to the requisite technology presents pedagogical problems but, nevertheless, has indisputably become a major facet of education.

A study for the World Bank (2007) indicated that, in North America, the number of women enrolled in e-learning education delivery exceeds that of men. The study stressed that female students preferred to use the computer to communicate with teachers and other students. The study offers evidence that, in some cultures and contexts, some women prefer the privacy afforded by e-learning, which mitigates the feeling of embarrassment resulting from matriculating side-by-side with males. Joseph (1997) emphasized that e-learning can reduce the impediments of gender problems in higher education. Likewise, Teeter's (1997) study displayed that using the Internet motivates students to interact with each other through online debate and to collegially and cooperatively answer questions in their homework no matter what the gender mix in the online classroom. Students also confirmed that e-learning is fun and interesting, and that contributed to achieving desired educational outcomes. According to Dutton, et.al. (2002), worker-students prefer e-learning because it helps them to develop themselves as well as offers a way to create a balance between their studies, their work, and their families.

The World Bank study (2007) shows that women in the continent of Asia use distance learning to improve their income and to create jobs through which they can help their families and educate their children. In addition to developing their skills, strengthening their self-confidence, and learning new things, the study reveals that distance education and e-learning plays a major role in encouraging young women to enter the fields of science and technology. Dwaikat (2004) points out that e-learning encourage women to pursue and succeed in academic and scientific achievement.

E-learning also serves those faced with geographic isolation, as a study in Canada indicates (Andrusyszyn & Cragg, 2006). It details the success stories of nine women whose physical and social isolation resulted in missed job opportunities. E-learning served to educate and develop them and help them secure jobs closer to home. For these women, distance education solved a host of interrelated problems: they no longer had to travel long distances to work every day, which in turn improved their job performance and had positive effects on their multiple roles as mothers, wives, and members of their community. E-learning allowed them to reclaim their abandoned dreams to continue their education, develop themselves, and contribute to the welfare of their families and community.

We have seen that at-risk subgroups within developed nations can benefit from distance education and e-learning. If distance education and e-learning is an effective way to develop the educational levels for women and, by extension, improve the lives and human rights of women in developed and newly industrialized countries, then, in developing nations, it is rational to hope that the same educational initiatives would also do so.

E-learning and Women in Developing Nations & the Arab World

Maguire (2001) points out in her study entitled "Gender, information technology, and developing countries that "women's access to technology and training is one of the most important requirements for the participation of women in the global knowledge economy. Therefore, attention should be given to encouraging women to deal with technology and to provide opportunities for them." She also notes that "women in the developing countries in particular face some problems in accessing technology, and so it is important to provide opportunities for them to deal with the technology, as providing enormous potential will improve the status of women."

Information and communication technology has an effect on women's development (Alfrih, 2005) through "a change in ways of thinking and dealing with the modern means of communication, which gives women a broad educational dimension, particularly as they were able to keep pace with technology" (Khalil, 2004).

E-learning has advantages that can transcend social barriers that women face in pursuing traditionally delivered education. In a published interview with the regional director of the forum for African Education in Kenya, Faith Macharia says that e-learning can support the education of women and girls by providing alternatives for access to information (Effat Alhindi Center, 2005). Bourlova (2005) study showed that adult students were seeking educational opportunities that were more appropriate for their circumstances so that they can reconcile their work life with family obligations. Despite the lack of desire to return to the traditional school, they found a solution in e-learning.

Mhehe's (2002) study conducted in the Tanzania Open University underscored the need for educational institutes to look for ways to enhance the educational opportunities for women, giving them "a real choice that can enable them to strike a balance between their social life and their studies" All would concur that e-learning has the advantage of allowing students to interact and learn in their leisure time, which gives students more control over their work-family-study schedule.

E-learning has the potential to help enable women to access information outside the schoolroom, such as information about their health and social status, and how to manage and administer other information that would improve their socio-economic conditions and their families (E-learning Africa, 2007).

Facts and Figures in Yemen

On the bright side, Yemen ensured the right of its citizens to education through the establishment of schools and educational institutions with the approval of free and compulsory basic education and the expansion of technical and vocational education. Thus, on a surface level, Yemen has pursued progressive human capital development strategies by targeting education. In addition, Yemen has worked hard to obliterate the widespread illiteracy in its population.

However there is a bleak side to the picture. A report by the Central Agency for Statistics in Yemen for the year 2006 estimates a total population of around 19,685,000 people, of which about half (9,648,000) are women. However, the report shows that 29% of the population aged 6-14 years is not enrolled in basic elementary education, and nearly two out of three of those out of school in this age group are young girls. At the secondary level, three-quarters (75%) of the children between age 15-17 have never enrolled in high school. Of these adolescents, four out of five are girls (83%) who don't go to school. In 2006, only 134,406 students graduated from high school (44,564 females and 89,642 males). Of these high school graduates, only one out of ten (13,605) had the opportunity to register for college. Extrapolation gets dicey here, but it is quite safe to say that less than one percent of the female population makes it to the college door, and the figure is much likely closer to one-tenth of one percent.

These figures support Abdullah's (2005) study in which he shows that the male children in Yemen have better opportunities to attend schools than females, and that the bulk of the children out of school are females. These are probably overwhelming understatements. No matter how the conditions are assessed, these observations clearly reflect the existence of an ever-increasing gap between the enrolment of boys and girls in school, at all levels, and especially at the college level. Despite the efforts by the Yemeni government to improve the educational system in general, girls' education remains in trouble and development is progressing slowly.

METHODOLOGY

Research Question:

The study addresses the following questions:

1. What are the obstacles or impediments that may prevent Yemeni women from continuing their college education?
2. What are the perceptions and preferences of Yemeni women regarding e-learning?

Limitations

1. This study was restricted to Yemeni women who successfully graduated from high school but had not enrolled in college.
2. This study is limited to a self report questionnaire completed voluntarily by a convenience sample of women in the Sana'a district in Yemen.

Study Sample

The sample consists of a convenience sample of 230 Yemeni women who graduated successfully from high school, but who have not continued on to college. A team of volunteers administered the questionnaire to 230 subjects; 195 (85%) completed the questionnaire, a highly robust response rate. The study questionnaire was distributed with the assistance of volunteers who are members of the Women's National Committee of Yemen, as well as some friends of the research team, to available Yemeni women in the Sana'a region who met the criteria for inclusion, high school graduates who, although eligible for admission, did not enroll in college.

Data Collection & Instrument

The researchers developed a questionnaire composed of three sections:

- Section 1 - General information about the subjects and their schooling.
- Section 2 - Impediments or obstacles that they perceived as impeding them from attending college.
- Section 3 – Perceptions toward e-learning as a solution for continuing college education.

In the developmental stage, the questionnaire was reviewed by five raters, faculty members at the University of Jordan with wide experience and keen interest in e-learning; the instrument was modified to reflect their constructive feedback and was subsequently deemed by them to have good content validity.

Results and Discussion

The data offer more opportunity for analysis than the summary presented here, but some of the key results, the most obvious ones, are presented below with brief discussion.

Section 1 - General information: Sixty-nine percent (69%) of respondents have waited more than four years without perceiving that they have the a viable opportunity to enroll in college.

Section 2 - Impediments or obstacles: Sociological issues were the most common obstacles to matriculation. Subjects were impeded from pursuing higher education mostly because of social pressures. The average number of family members was eight persons; many of the subjects were already married and some of these eight family members were their own children. The results showed a number of other obstacles that prevented these Yemeni women from continuing their college education. These reported impediments are summarized in Table 1 below.

Table 1
Obstacles that prevented Yemeni woman from college education (n=195).

Obstacle Type	Frequency	Percentage
High cost of the study	126	63%
Early marriage	118	61%
Having new babies	106	54%
Husband rejection	93	8%
Parents rejection	89	46%
Preoccupation with the housework	87	45%
Parents fear of society's perception toward working woman in an environment with the opposite gender	83	43%
Co-education (Male and Female)	80	41%
Family prefer to teach boys only	79	40%
Time	72	37%
Distance	69	35%
Fear of spinsterhood	60	30%
Parents refused outside work for woman	56	28%
Low scores in the general secondary exams	49	25%
Limited disciplines in the universities	43	21%
Decrease in the number of the public college	46	23%
Work	39	19%
Health problems	32	16%
Mismatch in the examination for admission to college	27	14%
Other obstacles	21	10%

A summary of Table 1 indicates includes the following observations:

First, the perceived “high cost” of education was one of the greatest obstacles to continuing a formal education reported (63%). We presume that this perception applies to the total “opportunity cost,” not just the cost of tuition and books. We presume that this opportunity cost includes the cost of lost income from going to school rather than working, and also includes a complex set of substitution costs of not being available to do non-financially rewarding work that a full-time housewife and mother would do to support the family, such as producing food and cooking, caring for children and other dependents, making clothes, etc., all as part of supporting other family members who are working to produce an income to support the family group.

Second, it is useful to combine the next most frequently cited impediments, “early marriage” (61%) and “having new babies” (54%). These seem to go hand-in-hand and these findings support what the researchers already knew: the National Commission for Women and the Central Agency of Statistics in Yemen (National Commission for Women, 2003) report that the large size of the Yemeni family is a barrier to the spread of education and community development and also results in a low standard for living. The lower standard of living would seem to compound the perceived high cost of college. An early marriage for girls is also associated with ignorance about birth control, which results in a larger family unit.

Third, it is useful to combine the next two most often cited impediments, “husband’s rejection” (48%) and “parent’s rejection” (46%). In the case of married women, it comes as no surprise that her husband’s attitude would mirror that of his parents’ (and his wife’s) in discouraging or forbidding her pursuit of high education. This may be related to the fact that most Yemeni

parents fear their daughters leaving the house alone; some parents even do not see any importance for college education, especially for a woman; and some believe that women should only be full-time house wives. Clearly, these women felt strong social pressures to fill traditional gender roles rather than to break the mold and educate themselves. These results are consistent with the results of a study by a centre in Sana'a Daly that shows that almost 47% of the families of girls surveyed did not care for the education of girls (Effat AlHindi Center, 2005). The results also support findings of the report of the National Commission for Women on the lack of awareness of the importance of education for girls (National Commission for Women, 2003).

Fourth, it is helpful to consider the next six obstacles as a sub-group of “husband-parent rejection.” Family authorities (parents and husbands) tend to dictate the role of these women: housework is the preferred role. We infer from our close understanding of the context in which these women live that family authorities tend to fear that a young woman is behaving inappropriately by mixing with men, co-educationally, outside the scrutiny of family bounds. This pressure is a strong disincentive for these young women to go to school. Forty percent (40%) of the women report that education is considered to be a boys-only endeavor by their family authorities. The impediments of “time” (37%) and “distance” (35%) can be considered a pair of variables that represent “absence from the home.” All six of these obstacles conform to the study of Mhehe (2002) in Tanzania of husbands who refuse to allow their wives to continue their college education, an attitude we assume extends to the parents, whether or not the woman is married.

Fifth, the two items, “fear of spinsterhood” (30%) and “parents refused outside work for women” (28%), may apply especially to the unmarried women in the study. Even if married, the respondents might have described their situation in this manner, projecting themselves into the role of an unmarried girl of marriageable age. If unmarried after high school, then her pursuit of college delays marriage further and, hence, spinsterhood is a threat, by definition. In addition to demanding early marriage, the Yemeni culture also promotes marriage-by-birth-order and an unmarried older sister places her younger sisters in a poor position since there is pressure for the elder to marry before the younger.

The impediments mentioned above appear to have the most profound sociological implications. The rest of the cited obstacles seem to fall into two categories, “personal issues” and “problems with enrollment.”

Taken together, none of the results are surprising. They seem to mirror findings of other researchers in other cultural contexts in which women’s education is problematic. For example, Burelova (2005) highlights some of the obstacles faced by adult women in Canada which prevent them from continuing their education, such as: work comes first, high financial costs, having young children, and health problems. Mhehe (2002) lists the obstacles and type of impediments facing women in Tanzania, and includes financial problems, lack of support from family or spouse, the work of women and their inability to reconcile their responsibilities at home and field, and the burdens of studying. Although the institutions are open to women, their policies make matriculation difficult because of their often observance of time and schedules, attendance requirements, absenteeism penalties and other seemingly reasonable institutions policies. Even in developed countries, traditional schooling is a poor fit for non-traditional students.

All of these findings are congruent to Evan's study (1995), who points out similar cultural barriers, similar physical conditions and difficulties, the same lack of support from family and spouse, comparable residence problems (living far from the educational institution), and similar obstacles imposed by the educational institutions themselves.

Section 3 –Perceptions toward e-learning: The subjects were asked whether or not they would favorably consider distance delivery of education, and if so, which delivery mode was a

preferable, online internet-based course or the use of direct television feeds to a site convenient to them. Seventy-eight percent (78%) reported a positive attitude about distance education. Seventy-five percent (75%) preferred e-learning through the Internet, and the remaining 25% preferred e-learning through direct television. Thus, we can safely assert that there are positive perceptions towards e-learning in this sample of women who are potential consumers of distance education. Online delivery is the clear preference.

Conclusions and Recommendations

The instrument demonstrated high external validity, concurring precisely with other previously published data.

The researchers believe that the observations in the previous sections are similar to most developing countries in general, and, given the cultural similarities, to most Arab countries in particular. In the norms and traditions of the prevailing dominant multinational Arab culture, the education of women is undervalued (Yemen is a good example), and when valued (Morocco is a good counter-example), considered less important than of that men.

The study supports the assertions of the authors that e-learning has an important role in the development of Arab women in general and Yemeni women in particular, as it can help them supplement their education or college training and offer them opportunities for new professions in the future.

The decline in the contribution of women in society's development in some Arab states, particularly in Yemen, can be ascribed to factors related to the lack of access to education, and the lack of adequate preparation to participate in public life. In spite of the large number of legal documents or the existence of laws mandating compulsory educational in many developing countries, despite lip service to the importance of fostering support for women and pledges to emphasize their role in national human capital development schemes, the reality is quite the opposite and little or no visible changes seems to be occurring in many developing countries.

The authors recommend the following:

1. It is crucial to raise the level of awareness of the importance of woman's education and its positive effects on childrearing.
2. The gap between women's and men's education should be addressed and attempts made to attenuate it.
3. The Yemeni Government should develop cooperation between colleges, civil institutions, and the business sector to offer e-learning technology and delivery at early stages (pre-college) of the education system. This will put technology in place and train teachers and students to use it so that it can be an effective tool at the college level, and also serve to facilitate vocational training and public welfare education initiatives.
4. Although the Yemeni government should do more to make education accessible to women like those in our sample, the primary obstacles are cultural. Yemen is a poor country. Even in a relatively wealthy country like Saudi Arabia, it may take only a year or three to build a state-of-the-art school; but changing the culture that feeds and supports it takes much longer. However, this does not mean that change is not possible, not does imply that people do not want change. The women in this study have a genuine desire to further their education and to better themselves and their progeny.
5. If it is true that social change begins on an individual level, then there is good reason to believe that e-learning, which allows private study, somewhat away from public scrutiny and social pressure, could be an effective tool to help the women in this study to pursue a college education and become positive role models for social change.

In conclusion, this study reinforces the assumptions and bias the authors admitted at the start. It is edifying to find that our perspective is supported by the data in this study. The authors are prepared to accept the criticism that we have crafted a study to prove our prejudices. We also leave it to the reader to assess the appropriateness of generalizing these findings and conclusions to other populations, particularly those populations that share a similar Arab culture. We are confident that this study adds some useful data to the scant body of academic literature on the state of women's education in the Arab culture of Yemen

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Abdelmuhamdi Ali Aljarrah received his Ph.D.(2000) Colorado State University Fort Collins CO with a major in Education and Human Resource Studies and an emphasis in educational technology and distance education. He has taught from 2002-present as Assistant Professor in the Faculty of Educational Sciences, University of Jordan in Amman.
aljarrah@ju.edu.jo

David W. Stephen is Assistant Professor at King Saud University, College of Languages and Translation (COLT) Riyadh, Kingdom of Saudi Arabia.
dStephenPhD@gmail.com

Maisson H. Bin Yahya is a Graduate Student in Curriculum and Instruction at the University of Jordan.
maisson2006@yahoo.com

Maisa M. Aldumairi is a Ph.D student in Curriculum and Instruction at the University of Jordan.
maisa_omair@hotmail.com