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**Editorial**

# Exceeds All Expectations
**Donald G. Perrin**

What level of quality do we expect from our learners? Our graduates? Our colleagues? Our faculty? Advisors? Administrators? Followers and supporters?  There are a lot of words that influence us in resumes and personal recommendations that are not common in curriculum. Should these characteristics be part of what students learn in an educational setting? Which characteristics should be part of our educational goals?

**These are some of the desirable qualities we seek in learners and professionals:**

Passionate. Curious. Enthusiastic. Inspired. Idealistic. Mover and shaker.

Genius. Visionary. Creative. Imaginative. Innovative.  Problem-solver.

Scholarly. Talented. Gifted. Brilliant. Artistic. Knowledgeable, Well- informed.

Pioneer. Leader. Organizer. Coordinator. Manager. Director. Planner. Controller.

Charismatic. Compelling. Influential. Entrepreneur. Ground-breaker. Risk-Taker.

Ingenious. Resourceful. Energetic. Prolific. Productive.

Competent. Practical. Skilled. Expert. Industrious. Fruitful. Resourceful. Versatile.

**In people, we value qualities such as the following:**

Smart. Intelligent. Clever. Bright.

Perceptive. Insightful. Discerning. Aware.

Trustworthy. Dependable. Reliable. Consistent.

Candid. Honest. Truthful. Outspoken.

Kind. Sympathetic. Caring. Thoughtful. Generous. Compassionate.

Quick-witted. Charming. Joyful. Entertaining. Fun to be around.

If education is dedicated to developing the whole person, then development of personality and values should be integral to acquisition of knowledge, skills, and aptitudes. Learners should build upon their innate interests and talents to maximize their participation as productive and sought after members of our rapidly changing world. The one-size-fits-all curriculum can be individualized and broadened through technology. Teachers should be trained to go beyond knowledge, skills and aptitudes to maximize the potential of every student whether gifted or disadvantaged, and build on strengths to compensate for disabilities and areas of weakness.

Curriculum designed for the masses should be supplanted by individualized educational programs that set up realistic goals for each individual. These should integrate human qualities such as those listed above wherever it is appropriate. The grading system as we know it should be replaced with developmental measures and learners should continue until criterion performance is reached. Success should be determined by certified knowledge, skills and aptitudes; not a letter grade that designates partial learning. The educational system must be flexible so that schedules, threats, punishments, and other impediments to learning can be overcome.

**Editor's Note**: Transition of the locus of control and responsibility from teacher to learner is facilitated by social media and communication through a variety of discussion-based networks. Frequent interaction and feedback make these networks a dynamic environment for exchange of ideas and a fertile environment for learning. This is a very active environment for sharing, dialog and analysis compared to traditional classroom discussions. How to optimize learning through social media is the topic of this paper.

# The upshot of web blogging in maximizing students' learning: a learner centric perspective

**Hussain Ahmed Liton**
*Saudi Arabia*

**Figure 1: Blog activity showcase**

## Abstract

In the electronic learning technology (ELT) curricula across the globe, endless variety of efforts and attempts have been made to harness an effective teaching-learning portfolio. The application of **ICT** and social media technologies in a Learning Management System (**LMS**) creates 'new trends and learning platforms' in terms of students' needs as global citizens at this turn of 21st century multimodal literacy skills. To this end, the present paper aims at unveiling the feasibility and upshot of the Web **Blog**[1] in maximizing and enhancing self-regulated learner-centric learning practice. This study maintains qualitative and quantitative research method based on secondary sources and observation. The study findings show that Blogging facilitates personalized effective learning process through reflection, collaboration and communication. It also adds a new model of learner style and pedagogy in today's mediatised global village.

**Keywords:** multimodal literacy, Blog, asynchronous/ synchronous, peer review and feedback, 'personalized learning',intercultural interaction, social media.

## Introduction and backdrop

The current world is surcharged with the hype of technology in the affairs of all aspects of human life and society along with the politico-economic global management. The terrain of ICT and e-media application in business, communication, education and office management is a factor

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[1] Blog as an approach in teaching and learning can be best defined as a place where texts and visuals meet. It uses website as its platform for interaction purposes comprising instructional and learning activities with frequent and dated entries in reverse chronological sequence comprising hierarchy of texts, images, media objects, and data *(Blood 2002; Winer, D. 2003 & Herring et al. 2005)*, (as cited in Amir, Ismail, & Hussin, 2011).

worth mentioning. With advances in information systems, the latest sophisticated forms of social technology-mediated learning (TML) are available, such as M-learning, virtual classrooms, asynchronous learning networks, d-learning/training, etc. In reality, a variety of technology enhanced learning portfolios like Flicker, Wikis, Podcast, e-learning, media, television and so on render a force that maximizes learner-centred task-based learning practice.

To be in line with the new trends of teaching-learning, some aspects of technology mediated social media/networking like **Blog** in academic learning management systems (LMS) along with personal communication, is a new and effective dimension in 'interactive' and 'multimodal' education systems. Behind this promising backdrop, this paper strives to explore the terrain of *the upshot of Web Blogging in maximizing students' effective learning in any particular discipline, especially in learning the English Language.*

Educational blogging is a *"Personalized learning"* platform. It aims at actively striving to diminish opportunity gaps by engaging in practices that build on students' strengths, thereby creating engaging and supported learning opportunities for all the students in or outside classroom. Here, learners are at ease in learning and taking lessons that meet their needs. Teachers, researchers, educators or government educational departments can create an open Blog site and post materials needed to target students' class-room lesson to add opportunity for learners' to affect learning improvements. Blog is an agent of correlation between traditional classroom activities and virtual learning activities for academic effectiveness, and a bridge between formal classroom learning and an individualized learning platform with fellow students or



**Figure 2: Personalized learning**

anonymous participants such as "digital natives and digital immigrants/migrants" (Prensky, 2001). Hence, the aim of the present study is concerned with the goal of maximizing students' learning achievement using Blog as an ongoing resource for teachers, researchers and students to find some great ideas, inspirational posters, a chance to watch some videos to be re-energized for increasing power of spirit, and to offer some useful comments related to particular point of academic interest. Presumably, it will render interesting content for the task oriented learning portfolio.

## Technology/ mediatised classroom learning

The objective of technology/mediatised classroom learning is to engage the hearts and souls of learners in task oriented activities. Since the last decade, social media like Facebook, blogs, twitter, Flicker though they are for personal and private use, the teachers, educators, and LMS policy makers have been widely examined the feasibility of those aforementioned media application in the academia for effective learning and exchange of knowledge. This study talks concerning the upshot of the use of blogs for advancement of effective learning from personal and private sphere to the public space. In other words, it is an attempt to correlate and link to classroom activities as a form of blended-learning. Blogs can be used in classroom in a variety of ways depending on criteria based on the objectives of the classroom and curriculum, the goals of the teachers, the level of students and so on.

Teachers, for instance, can ask students to submit their writing assignments on their blogs, post discussion questions about the assigned reading materials prior or after class meeting, and students' comment on each other's work. Every student can have a blog, and these may be linked together via a central site so that everyone can post on their own blogs and visit their peers' blogs to read their posts and comment on them. It leads to a collaborative and cooperative learning platform that enhances the independent learning effectiveness of learners at



Figure 2: *Courtesy of* NPR Ed: How Learning Happens
http://www.npr.org/blogs/ed/2015/01/12/370966699/meet-the-classroom-of-the-future

## New trends of teaching-learning through media technology

Indeed, different theories have asserted that the act of learning is not merely a cognitive individual effort but it is also backed up with the interaction and integration with the social elements surrounding us. In her article entitled "Writing in the 21st Century", Kathleen Yancey (2009) explores the existent relationship between *digital literacy* and *social media* on the one hand and the act of composition on the other, and in this regard, she implies:

> "In this model of composing, meaning created through the interaction between visual and verbal resources is central, and also key to composing is the role of audience and the social nature of writing, an aspect of writing process that received attention later rather than earlier during this time, and that, as we will see, has become a central feature in the new models of composing emerging now" (Yancey, 2009, p.4).

Social media and learning technology are having a tremendous impact on life and society and are shaping the emerging new paradigm in Interactive Language Learning and Communication. During the past decade, the shift in the nature of internet technology has been remarkable. People do not merely read and retrieve information, but also create and share information. In such a mediatised world, people are no longer passive consumers of knowledge prepared by others and made available to them; rather they become makers of this knowledge. *Wikipedia*, an online encyclopedia, is one great example of how people are corroborating to construct and build knowledge. There are also wikis, blogs, podcasts and forum discussions where people build on each other's' contribution. Therefore, I see that the implementation of blogs into the pedagogy has the potential to change the way literacy is being dealt with in classroom and helps boost critical thinking ability. People, in blog writing, develop a kind of productive language skills and confidence level of performance through exposure. In this connection, Kathleen (2009) rightly encapsulates:

> "With digital technology and, especially Web 2.0, it seems, writers are everywhere—on bulletin boards and in chat rooms and in emails and in text messages and on blogs responding to news reports and indeed, reporting the news themselves as I-reporters. Such writing is what Deborah Brandt has called self-sponsored writing: a writing that belongs to the writer, not to an institution, with the result that people—students, senior citizens, employees, volunteers, family members, sensible and non-sensible people alike—want to compose and do—on the page and on the screen and on the network—to each other. Opportunities for composing abound—on MySpace and Facebook and Google docs and *multiple blogs (my emphasis)* and platforms—and on national media

sites, where writers upload photos and descriptions, videos and personal accounts, where they are both recipients and creators of our news".

Actually, in the global scenario,

> The emergence of Web 2.0 based technologies has further created a demand pull environment where both instructors and students are looking to use these in education. The interest in employing these kinds of technologies stems not only from the unique pedagogical benefits gained, but also from the basic need to stay in tune with the focus and strengths of today's students. Researchers have argued that a whole new generation of 'digital natives' (individuals who are surrounded by digital technologies) have entered the learning space" (Gupta, 2014).

> In reality, "... today's students are hardwired for multimedia. According to many ICT experts, digital generation students have developed '*hyperlinked minds* (Liton, 2014).

This aspect and attitudes of new generation has developed the new trends and avenues of pedagoy and learning. So, the emerging new structure of literacies are multiple, multimodal, and multifaceted.

## Contribution of blogs in building knowledge based globe

If we consider the web blog is a commonplace for learning and discussion leading to creative learners and users of knowledge, the question will strike first, *"How can Blog contribute to learning?"* It is, indeed, blog can contribute to learning as a successful venue for exchanging useful information through discussion via making comments and posting effective issues of importance. There are several ways of using blog for learning, for example, colleagues can share and post new ideas, innovation, techniques in teaching-learning or other. From the blog, fellow teachers, learners, globetrotters can undoubtedly benefit. This leads to a marriage between the two skills forming a new concept and a new way to look at literacy, i.e., "digital literacy", - the ability to handle information by using digital tools. Literacy changes with the change of technology and society and so, for a person to be "fully" literate now, i.e., he/she has to possess different 'literacies'. These should enable one to participate in the constructions of knowledge in the 21$^{st}$ century by being proficient in technology, designing and sharing information for global communities.

Blogs play a terminal point and a venue for developing students' creativity and critical reasoning through participating in discussion forum and posting personal threads in response to fellow bloggers' comments and posts. After the classroom lesson, students will take part in online discussion forum posted by the monitor or the teacher in their blogs. Using blogs in formal education enable students to develop an individual's voice and become more analytical and critical. Through actively responding to their peers' posts and comments, students can define their positions in the context of others' writing and outline their own perspective. In the true sense of the term, this mode of knowledge sharing is a shift from "anti-dialogical" way of "educating" people to a "dialogical" mode. These types of literacy practices can be found in large educational setting (e.g., the whole world) which can be reflected on the smaller educational context (classroom). Indeed, the 21 century literacy has changed from individual to collaborative, from unified to contextualized, from paper based to electronic, from offline to online and most importantly from cognitive to social. So, these modes of teaching and learning with technological aids like blogs are even more urgent need in an ESL context. The movement to bring social networking tools into the class as educational aids is one way to bridge the gap between the students' lives outside the class and their lives inside educational institutions. Working with technology, namely blogs, a world most students are very familiar with, facilitating students to various activities.

In addition, the effect of academic blogs on the society is undeniable. Apart from this, the researchers, learners, educators, and practitioners of any particular discipline of human sciences can have an opportunity to come across the Blog threads, posts, or comments related to a particular point of ideas or issue while browsing internet, and can be benefited. It helps to develop a knowledge based community. For example, a diabetic patient wants to know the causes & effects of diabetes and he can browse internet in search of the desired information. Finally, he gets it in a research based discussion blog and finds it useful. So, this example fortifies the benefits of using Blogs as a medium of sharing and caring knowledge leading to an effective learning advancement.

## Literature Review

Globally, ICT has been a high-flying inter-connectivity as an integral component of teaching-learning issues and practices for the advancement of education and research. With the revolutionary advancement of ICT in all spheres of life, digital literacy seemed to be an inseparable part of students' day to day life at school and outside school. In the area of technology-mediated teaching-learning effectiveness, the researchers have attempted to contribute available insight into the issue discussed. This paper looks into the relevant available research information on the issue *'educational blogs for learning enhancement'* across the globe.

Blogs are one of the most representative tools of Web 2.0. They offer flexibility, adaptability, and integration with other tools. Technologies do not change teaching & learning, but can help us introduce new methodologies and learning environments for effectiveness. Web 2.0 Online transparent and portable collaboration conversations capitalize the wisdom of crowds through content creation and sharing knowledge.  In this regard, Zaini Amir, et al., expatiates on the role of web blog in enhancing students' reading and writing skills as a medium of knowledge transmitter:

> "Blogging has emerged as one of the most popular forms of online discourse. Blogging is seen as a learning platform in providing opportunities for learning English which can improve the students' knowledge about their language performance in writing. The unique nature of the blog's architecture and the low cost have not only affected how students can publish and distribute their work to a wider audience but also how the students see themselves as authors" (Amir, Ismail, & Hussin, 2011).  Apparently, learning occurs in a socio-cultural system in which learners use various tools and multiple forms of interaction to create collective activity, supported by technology affordances. Here, Rogers (1969) on student-centred teaching points out that we cannot teach another person directly: we can only facilitate learning
> (as cited in Smith, 1997, 2004, 2014).

Using blogs in the EFL/ ESL classes underline the effective change of learners' comprehension ability and critical writing skill and at the same time, teachers face pedagogy more challenging. Jones (2006) 'so' says in his research examination of the significance of blogging for the process of writing in a community college ESL writing class and found that blogging enhanced the students' critical thinking skills and impacted the quality of their writing. The public publishing of their own writings allows for others to give feedback, edit and revise, and in turn, this act provided examples of feedback and entries for the students to read, model, and learn from. They established confidence in their peer editing and revising.

 Streamlining new media in today's classrooms impacted teaching-learning with varying degrees. For example, the use of blog also known as weblog which is a new form of blended learning. It combines traditional face to face teaching and learning by placing technology at its centre for effectiveness. Educational blogs enhance learner-centred task based classroom activities in a

captivating style. With reference to this context, it is interesting to mention according to researcher Daniel's self-reported experience "... students can use blogs to publish their own writings, discuss group assignments, peer review each other's work, collaborate on projects and manage their digital portfolios" (Churchill, 2009).

New technologies generate new literacies that become important to our lives in an age of global information. Virtually, we are on the cusp of a new era in literacy research, one in which the nature of reading, writing, and communication is being fundamentally transformed. Using blogs in educational purpose immerse learners in task oriented activities. It is important to cite a practical outcome of Mr. Daniel Churchill's "...experimental blog-based environment in which students were accessing course material, posting reflections, featuring artifacts created through the learning tasks, commenting on each other's contributions and otherwise participating on a regular basis throughout the semester" (Churchill, 2009). These activities reflect an effective learner-centred educational portfolio.

Blog facilitates independent and collaborative learning avenue where students, teachers, researchers and any guest participants can engage in reading and writing activities and leave their self-reported comments, feedback either negative or positive. It helps them learn their own weaknesses and strength of knowledge. They write and express their views on specific topic discussed and this process promotes self-directed learning. Bloggers in this way learning language can create better postings and attract new readers. This practice develops bloggers' unique reading strategies and contributing writing skills. Actually, blogs are broadly used in colleges, universities and academic research institutes as a "vibrant link between the students, teachers and the university" in order to maximize students' collaborative learning (Satish & Kaila 2005).

Many ELT practitioners, teachers and researchers have question about the effectiveness of the use of instructional technology in teaching-learning. As a response to this question, it is interesting to cite that Cowie, the editor of the *International Journal of Instruction* in the recent published issue in July 2014 points out the fact that

> "Information and communication technologies are playing an increasingly important role in our everyday lives and education. In this issue, Dietrich (a principal) and Balli (a researcher) have come in terms with students' views about the role of technology in classroom learning. Their findings suggest students are engaged in classroom learning when using technology, particularly when they have control of the technology, but that overall task structure supports authentic engagement with lesson content more than does technology alone" (Cowie, 2014).

## Blogging - a platform of potential 'peer feedback'

Blogging is a free forum of placing personal thoughts and feedback of the fellow participant as a reviewer of peer's posts/ threads. Students will post their own blog threads on the particular point of issue proposed by the class teacher or students. Prospective heated point of discussion on Blog thread is to be read and reviewed by the participants and students on the same platform. In this process, students have to provide "constructive" feedback and peer review is to be purposeful. The role of students as the peer-reviewers should be that of a reader, not as an evaluator. They are supposed to point out to each other's areas of weakness as well as the areas of strength, and which part is effective and which is in need of more clarification or elaboration in their writings in general. In the peer response process, there may arise certain point or issue of controversy from the part of "student reader" or reviewer. Here's the point of decision making whether to accept making changes or not. It is the students who will discuss and take the right decision. This is one of the most vital aspects of educational blogging in developing students' creativity and academic

potentiality. At the same time, it engages students in learning and critical thinking process even outside the classroom making them a member of task-based learning community.

In fact, the act of peer reviewing has proved to be motivating for higher thinking skills. Richardson, Ertmer, Lehman, and Newby (2007) examined the effect of peer feedback in online discussions on students' critical thinking skills and the findings indicate that peer feedback impacted participants' learning at a higher cognitive level both as receivers and providers of peer feedback. Similarly, Zhang and Toker (2011) point out the positive impact of instructors' moderations and peer reviews on critical thinking in a virtual learning community. The participants' reflections and their artifacts show that as learners grew with more critical thinking skills, the need for instructors' moderations is narrowed. They also found that peer reviews have improved in terms of quantity, length, depth of discussions and effective questioning patterns that lead to students accepting being questioned or criticized, and resulted in improvements in the final assignment. So, in terms of effectiveness, blogging appears to be a venue for making potential reader, creative writer, critical thinker and skilled evaluator as *peer reviewer*.

## Blog activity analysis in graphical representation

The graph below based on research analysis shows the key activities and benefits of blogs towards learning enhancement:
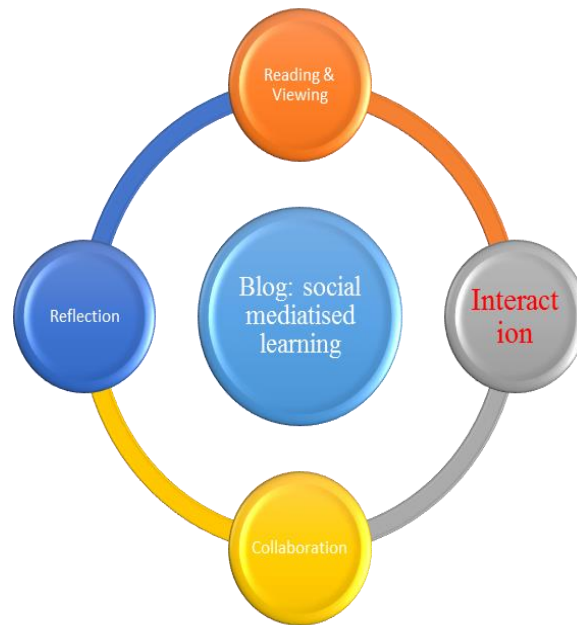


**Figure 4 Blog activity cycle model** *(mine)*
**Source:** **Research analysis**

### Blog as a dialogue of collaborative learning

The application of blogs as a literacy discourse creates collaborative learning. The writers share their own unique understanding so that others may grasp their ideas and by responding to the input of their peers, they in turn expand their original ideas.  It is the **exchange** in writing via a **public** forum that enriches their thinking more meaningful. Literacy collaboration that starts and is represented here by the act of peer feedback and the round way discussion should not be looked at as a course requirement but rather a life skill that students may engage in at some point of their professional practices. Peer reviewing is an essential skill practiced by scholars and other professionals to produce effective writing in their fields.

Certainly, the discussion forum, interaction and peer discussion is made more convenient by blogs. Other characteristics are also made easier with technology than paper such as the creation of multimodal composition. Skarr (2009) spells out that the existence of "digital technology and new media gave both multi-modality and writing a new different role to play which definitely have an impact on text production and what one can learn from them". Multimodal literacy has been defined as "*meaning-making that occurs through reading, viewing, understanding, responding to, producing and interacting with multimedia and digital texts"* (Walsh, 2010, p.213). Here, the bloggers experience infinite varieties and styles of presenting comments, feedback, writing and reflections-all impact on how we present, learn and think. They, more or less, shape our mode of writing in a new fashion. Some example can be cited for collaborative and communicative but effective personalized learning. The blog postings may be on variety of aspects and skill oriented, such as:

**For vocabulary building (sample example),**
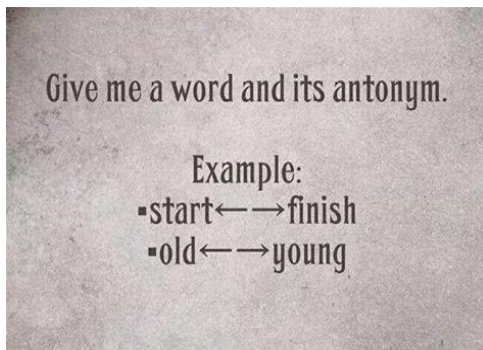


**1.**
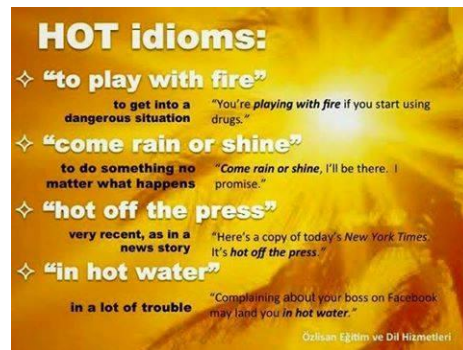


**2.**

**For Grammar test (Sample example)**



**1.**
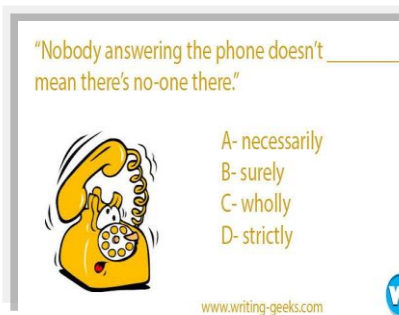


**2.**
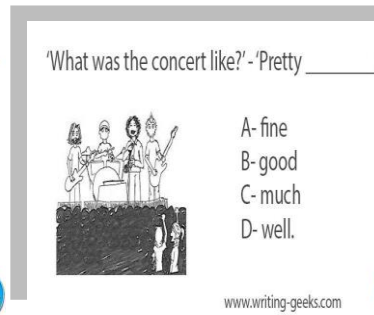


**3.**

**For writing skill development (sample), and**
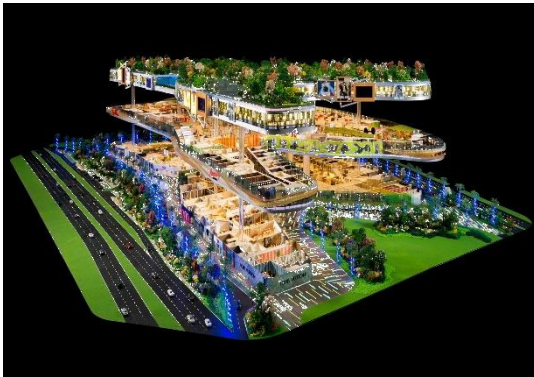


1.
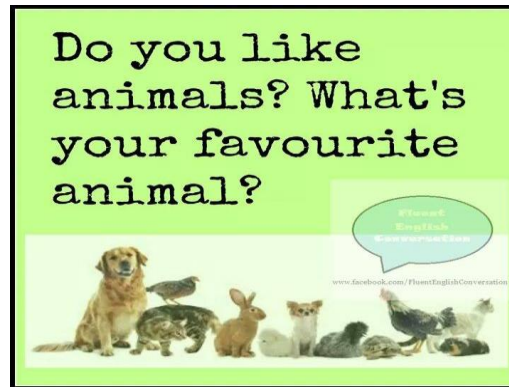


2.

Figure: describe the picture

**For Speaking Skill practice (sample example)**



1.



2.

In view points of multimodal learning facilities, the above cited models of skill-based learning via blogs complement students' learning progress in a self-directed and collaborative format.

## Cost-expensiveness and negative impact challenges

Technology, more or less, is not free from hazards and troubles. Only teachers in the classrooms cannot solve and overcome those problems. Teachers and students both in particular need to be aware of them if they really want to be beneficiary of technology-mediated learning. These issues of concern can be addressed to the following categories:

- Cost-expensiveness & time consumption

- Technical hazards and problems

- Attitudes & ability towards ICT

- Students' misuse/corruption and

- Copyright policy.

### Cost-effectiveness

Instructional technologies cost a lot of money. It is cost-expensive but not cost-effective. Will Huntsberry (November 25, 2014) reports in NPR educational column *"Politicians from Jeb Bush to President Obama like to hype the revolutionary power and cost-effectiveness of digital learning",* but a recent study shows, in many cases, it is neither more powerful nor cheaper than old-fashioned teaching. "Billions of public dollars have been directed toward digital learning initiatives in recent years, and the report from the **National Education Policy Center,** a research institute at the University of Colorado, found that they rarely improved outcomes. When they did, they cost more money, not less" (Huntsberry, November 25, 2014). So, "It is critically suggested to manage cost effective technologies with a view to reducing the expenses. It will enhance the smooth process of ICT integration into education" (Liton, 2014).

### Social impact

Many incidents in the landscape of Blogging have come to focus globally as serious issues before courts of justice. Issues concerning blogging brought to national courts for trial against bloggers under the various acts namely, act of **defamation or liability, Communications Decency Act**, act of Information & ICT and so on. In this connection, it is imperative to cite an example, in Bangladesh, Police arrested some so called anti-Islamic bloggers under the Information and Communication Technology (Amendment) Act, 2013 on being "...accused of hurting religious sentiments of the country's Muslim majority" (BBC, April 4, 2013). So, avoiding its negative aspect, it's important to keep in mind and be cautious about morals, social norms, people's sentiment, decorum, and loyalty while blogging on a website.

### Technical hazards

Technical hazards and problems can be overcome through troubleshooting management by providing technical support/staff. Nobody can get benefit from technology if they don't have the skills to apply it properly.

### Teachers' attitudes & ability towards ICT and students' misuse

Teachers' training needs on how to use ICT in teaching as well as both teachers and learners need to be aware of effective use of technology through engaging academic task oriented activities instead of chatting or wasting time.

### Copyright

The copyright issue/act is a vital factor in current global situation. So, Teachers and students need to be careful of what they can do or not.

## Conclusion

This study results highlight Blogs as a collaborative, interactive, autonomous, free play of words and '*personalized'* learning portfolio. Findings of the research also reflect that the adoption of using blogs as instructional technology can create a space more beyond the traditional classroom setting that can be used judiciously to facilitate learners' collaborative writing processes and interactions. Blogging offers students a high level of autonomy of learning while creating a new opportunity for interaction with peers. For example, it facilitates more benefits to students in terms of sharing their collaborative writing in an interactive social environment and thus, it motivates the learners to improve their writing and analytical thinking skills. Most importantly, Blogs expose students in a variety of language skill oriented tasks, especially in writing, in an authentic learning platform. Students often learn as much from each other as from instructors or textbooks but collaborative writing using blogs offer another apparatus for peer-to-peer

knowledge sharing and caring. It, in perceptively, develops learners' real life 'intercultural communication' skills through interaction with the people of diverse cultures.

Therefore, in summing up, blog in the educational circle enables students to share ideas and learn from the best. It is useful not only as a teacher-student and student-student interactive tool, but also improves students' skills in their interactions outside of the classroom framework. Today's graduates need to have a high level of communication skills in this domain in order to be skilled professional in real life career. Educational Blog, indeed, is an amazing, and friendly community having numerous benefits.  To enhance teaching and learning, Blogs can

- serve as a portal to foster a community of learners

- facilitate effective forums for collaboration and fantastic discussions

- be powerful tools to scaffolding learning or mentoring

- motivate learners in challenges and free professional development

- promote digital literacy as the student learns to critically assess and evaluate various online resources, and also

- Blogs nurture a variety of language skills in addition to the particular subject under discussion.

This paper, in final analysis, underscores immense attention to web-technologies like blogs, wikis, etc as a medium of social connection, learning and interaction among educational researchers, teachers, students, guardians and young generation as 'netizen' or 'digital migrants'. Blogs enhance self-initiated learning which is the most lasting and pervasive. Considering this issue, this study suggests that authority of schools/ educational institutions or policy makers should take effective initiative to equip students with ICT (Information and Communication Technology) skills to become active members of society and its application within the classroom for effective pedagogy and learning activities. Undeniably, the present paper will continue to provide interesting information to the professionals, course designers, educators, researchers and students who dream of a world locked in cycles of Blogging for formulating persuasive, argumentative and collaborative learning to enhance learner centric pedagogy.

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**Editor's Note**: Popular media frequently reflect society, culture, and aspects of life in the past, present and future. The storyline or specific events in movies, television, music, comics, news media and social media can be a starting point for questions, discussions and research in a myriad of social, cultural, political and economic issues and challenges. This article provides a wealth of ideas to engage students and enrich learning through popular culture.

# Popular Culture as Learning Objects
# in Graduate Education

## Brent Muirhead and Anastasia Metros
### USA

## Abstract

Adult education literature reveals that only limited attention has been given to using popular culture in graduate classes. Contemporary technologies provide a platform for educators to integrate popular culture into their instructional activities. It represents a relevant way to foster intrinsic student motivation and promote alternative ways of learning the subject matter.

**Keywords**: popular culture, social media, consumer education, enhancing engagement, online education, social issues, media literacy, adult learners

## Introduction

Popular cultural advocates consider informal learning as a legitimate approach to encourage lifelong learning by examining music, radio, magazines, Internet videos, television, films, advertising and social media. The discussion will highlight developments in media literacy in higher education and explore the instructional uses of cultural studies to engage graduate students in distance education and traditional classroom settings.

## Popular culture and teaching benefits

Adult educators have given the majority of their attention to formal education and have tended to neglect investigating the use of popular culture for teaching. During the past fifteen years, there has been increased interest in studying media literacy and identifying the benefits of connecting students through their informal or self-directed learning. The literature reveals writers who view popular culture as a dynamic resource for teaching. Writers such as Stephen Brookfield (1987) recognize how popular culture can influence world and life perspectives on vital social issues (e.g. racism) and should be considered as a valuable subject for students to learn how to reflectively interpret media messages, images and assumptions about life (i.e. definition of success). Researchers have found that individuals can identify with the fictional characters such as women who followed the televisions show *Sex and the City*. Observing television characters who struggle with similar problems can bring insights into personal problems. Sfeir (2014) encourages teachers to have class discussions on media characters to explore deeper meanings from the shows and consider alternative narratives. Therefore, music, radio, films, television, magazines and the social media are not only sources of entertainment but provide opportunities to explore what is considered important within the world of popular culture.

It has been well documented that Americans have an extremely negative view of government. Pautz and Warnement (2013) investigated 76 films between 2000 and 2009 that were the top revenue earning movies during this time period with the largest audiences. The study results revealed that "Even though there is a mixed depiction of government generally, it is interesting to uncover a more positive view of government officials as individual characters" (Puatz & Warnement, 2013, para 9). The authors' research has shown how films can influence and change

individual opinions. For instance, when undergraduate students watched the recent movies *Argo* and *Zero Dark Thirty*, approximately 20% of the study participants became more positive about the government (Guida, 2015). The study reveals how popular culture can influence perceptions and attitudes about major institutions. Storey (2006, p. 171) encourages people to be proactive and discerning when relating to culture, "We need to see ourselves - all people, not just vanguard intellectuals- as active participants in culture selecting, rejecting, making meanings, attributing value, resisting and, yes, being duped and manipulated."

## Popular culture and consumer education

Contemporary researchers have conducted cultural studies on consumer education. Adult educators have discovered that the purchase of goods involves social, cultural and economic practices. The need for consumer education has increased as people struggle to manage their personal finances due to excessive credit card debt, trying to acquire good paying jobs to pay for student or home loans while hoping to have adequate financial resources for retirement. The economic world has grown more complex and consumer literacy education has become even more important. Sandlin (2005, p. 178) observers "Far from being a frivolous pursuit, understanding consumption practices and the informal ways people are learning about consumption is vital to an understanding of adult learners and the social world in which we live." Traditional consumer education curricula have included instruction on the rights and responsibilities associated with making purchases such as knowing how to handle complaints for flawed products. Educators are beginning to see a need to provide a more holistic education that empowers individuals to understand the political nature of power and become more aware of the ways that people can be exploited for financial gain.

## Popular culture: Citizenship and social justice

Promoting social justice through cultural studies has major implications for teaching about democracy and citizenship. Westheimer and Kahne (2004) offer a unique vision of citizenship

1.  Personally responsible citizen - donates blood, obeys law

2.  Participatory citizen - active in civic affairs

3.  Justice oriented citizen - highlight injustice through dialogue and strive for social justice.

Educators can promote all three types of citizenship because each plays a vital role in today's communities and society.  There are relevant instructional assignments that can emphasis justice oriented citizenship. For instance, these individuals could organize a food drive to help people and study why hunger exists in their local community or urban area. Students can use social networking technologies and participate in class team projects that focus on social issues (e.g. poverty).  A possible outcome of this form of education is developing resistance to negative organizational practices by creating social groups. Internet groups have made the public aware of environmental, health and economic issues with well-known companies such as Starbucks, Wal-Mart and McDonalds (Wright & Sandlin, 2009).

## Popular culture: Higher education

What are some potential ways to examine higher education in cultural studies? American films have explored a variety of university topics. Reynolds (2014) observes the diversity of subjects portrayed in college life:

1.  *College Trip* (2008) and *Admissions* (2012) access, choices and student readiness,

2.  *Fifty Pills* (2006) and *Sleeping Beauty* (2011) financial stress and working challenges,

3. *Going Greek* (2001) and *Sorority Row* (2009) student societies and athletics,

4. *Legally Blond* (2001) and *Sydney White* (2007) gender struggles,

5. *The Human Stain* (2003) and *Proof* (2005) academic problems,

6. *Smart People* (2008) and *Tenure* (2008) college faculty,

7. *Animal House* (1984) and *Revenge of the Nerds* (1984) administrators.

This brief list of films reveals how higher education has captured the creative imagination of film makers and reflects the powerful appeal of college life. A critical analysis of popular culture themes offers opportunities for insights into the media representations of educators, students and administrators. Films can be inspirational such as award winning *Chariots of Fire* (1981) involving two British athletes who compete in the 1924 Olympics. College movies can sometimes take a more cynical perspective by focusing on partying, cheating on tests and petty concerns over status between social groups. A common movie theme is how social experiences transcend academic ones which tends to diminish the perceived worth of intellectual endeavors. Reynolds (2014, p. 120) notes that "For students, the academic-life portrayed distorts expectations concerning their preparation, attendance, and participation for classes, as well as investment in projects, papers, and examinations." Film discussions on college life could examine subjects such as athletics in higher education and quality of educational experiences available to students who participate in sports.

Television shows can highlight social issues through comedy, drama, romance, science fiction and horror. *Buffy the Vampire Slayer* is a show that has been a resource for examining educational issues. Buffy and her colleagues begin the show in high school and as they grow older attend a university. The college environment is sterile and students must endure impersonal classes and teachers. Financial and family issues cause Buffy to leave school to find work at a fast food restaurant. The company training practices mock the idea of lifelong learning by creating a culture of fear where people are afraid to ask questions (Fisher, Harris & Jarvis, 2008). The show can remind educators about the challenges that students face during their academic journeys and identify ways to create a relevant and caring environment.

Researchers have started to explore how adult growth and development is displayed in television shows. The television narratives tend to reflect a sharp contrast from notions of linear personal development and offer a more chaotic and uneven adult journey. Perhaps, the shows are signaling a theme that represents a changes in what it means to be an adult and how they construct meaning from their life experiences. Clark, Merriam & Sandlin (2011, p. 27) argue that education theories and adult definitions should be examined for possible revisions "… because television shows, even situation comedies, often reflect the reality of cultural changes not obvious in adults' [real life] experiences."

Guy (2007) integrates popular culture into the course activities at the University of Georgia as a way to encourage reflective discussions and papers on race, class and gender. Students are challenged to examine the messages and images shared through advertising and how they communicate negative perspectives and stereotypes toward men and women. Yet, studying popular culture can increase awareness about original and positive contributions that are made daily by individuals and groups. Guy (2007, p. 22) argues that "…the goal should be to help adults learn to establish creative and wholesome relationships with others, to live in harmony and cooperation, and to find meaning in life beyond the mundane, the material, and the superficial."

It can be challenging to discern trends that influence the development of media literacy theory. Alverman & Hagood (2000) have identified four major theoretical approaches:

1. Emphasis on pleasures derived from people acting either as a creator or consumer,

2. Media operating as resource to replicate or challenge the dominate culture through some form of resistance.

3. Stress how people take different perspectives on cultural activities that reflect social and historical factors.

4. Feminist view cultural studies as opportunities for students to learn about gender and power relationships to cultivate independent thinking and attitudes within their schools.

The theoretical threads advocate using cultural studies as a resource for fostering reflective thinking about the nature of popular culture. Students can transcend being merely consumers of products and entertainment. Instead, adult learners can grow more sophisticated in their interaction with the mass media while developing skills and knowledge to become cultural creators. Unfortunately, the adult education literature often neglects a discussion on how media literacy can investigate and celebrate innovative and remarkable human achievements.

Dewey's vision of education is designed to prepare individuals for an uncertain future by encouraging students to be active inquirers who work on real problems. Education should not be a spectator endeavor where individuals acquire knowledge but fail to apply the information in their daily lives. The classroom should be a dynamic community where students learn how to effectively transfer knowledge into practical applications. Dewey wanted schools to be alive with numerous opportunities for growth, reflective thinking and producing informed citizens who are actively participating in a democratic society (Delaney, 1999).

## Popular culture: In the classroom

One of the avenues for encouraging Dewey's vision is through the use of creative pedagogical techniques that call upon popular culture as the kindling for learning. There are a number of ways to integrate popular culture into a class such as: making it the subject of the class such as "Gender and Popular Culture"; as a lens through which to view other subject matter; or as assignment outcomes like a film short, digital storytelling, blog, etc… (Creadick, 2013).

While some may question the use of popular culture as a tool (Bloom, 1987), West (2005) advocates the use of any means that forwards student learning through concrete exercises that assist with theoretical understanding. West states, "Morever, it may start students on a path of trying to apply theoretical concepts to behaviors and events they witness in their everyday lives" (p. 341). Many researchers laud the benefits of using popular culture for adult education and learning contending that it promotes a more realistic connection with adult learners (Wright & Sandlin, 2009). Indeed in making popular culture the vehicle through which content is viewed, there is a shift to students as co-creators in the classroom honoring their knowledge and bringing in their everyday realities as fodder for learning (Buckingham, 1998). In particular, students from marginalized populations may have a heightened engagement in learning when relevant cultural realities are infused in the classroom (Nieto, 1999). Though a genuine appreciation for and understanding of that culture must be inherent in order for students to not rebel against the teaching (Greenfield, 2007).

## Popular culture: Case studies

There are a number of approaches faculty can use in creating exercises that include popular culture. Joseph and Mertez (2000) speak positively about their work in doing so which invokes a multitude of teaching methods using popular culture to teach law. The authors discuss their many years of experiences with using various film clips, television shows and novels as examples for students to interact with and from which to learn. For example, with the numerous television shows that feature the law, the authors have students choose a television show that features

courtroom scenarios and then analyze an episode from various vantage points.  Another assignment they recommend is to have students utilize films with legal proceedings and analyze the nature of the events based on their knowledge of the law.  These authors experienced excellent results in student learning using popular culture as case studies to further students' knowledge of the law.

Several more authors discuss the usefulness of film and novels related to films as sources for learning.  For example, Berk (2009) highlights the usefulness of video clips as a learning tool.  Fields (2007) chose *Harry Potter* to spur learning about sociological imagination and West (2005) speaks of the usefulness of the film *Horton Hears a Who* to foster learning about theory.  In addition, Koenig and Smith (2013) discuss how the film *The Curious Case of Benjamin Button* can be used to teach learning theories and adult development concepts.  Ideas for using film in academe and also in the workplace are explored.

Creadick (2013) teaches an English course, *Cultural Theory and Popular Culture*, where popular culture is a means to an end, the conduit students use to know and use theory.  For a series of assignments, students choose the popular culture vehicle through which they analyze cultural theories.  Students wrote about subjects of interest to them and often extravagantly exceeded the paper length requirement as they were "allowed" to be the expert on their pet popular culture while Creadick was the Sherpa having guided them through the theory.  The result was hyper engaged students who analyzed the convergence of popular culture and theory examining their own lives in a way that changed their lens.

Lenning (2012) touts the virtues of using popular music as a tool for teaching criminology and social theories.  Lenning designs activities that blend students' interests in popular music with a deconstruction of lyrics in the light of examining theoretical assumptions. The basic idea is for students to further understand the intersection of theory with everyday popular culture.  Of particular note is the use of Tupac's lyrics in discussing social problems such as: poverty, crime, and racism.

Wexler and Tinto (2005) discuss the use of popular culture to encourage enhanced critical thinking about education.  The authors used popular culture images and an inquiry based approach to create the conditions for education students to explore their stereotypes and beliefs on such topics as: diversity, culture and race.  Videos were used as prompts for students to unpack their prejudices and beliefs.  Students also identified various examples of popular cultures' representation of teachers by handing in cartoons, pictures, video and music and then deconstructed those representations against their own beliefs, experiences and theories.  The authors found this activity steeped in everyday experiences to have promoted critical thinking.  The authors point out that fictional texts can provide a safe harbor for students to explore their stereotypes and beliefs.

## Popular culture: In the online graduate classroom

As technology and popular culture are bedfellows, the use of popular culture via online graduate classes seems like a natural fit.  As much of popular culture is consumed via online platforms, it is readily available for use in online courses.  The authors of this article have extensive online graduate faculty experience and have also served as Subject Matter Experts having designed many online doctoral courses.  The authors find that the same methods used to infuse popular culture via in-person classes translate to use in online graduate classes.  For example, in a leadership class, the authors use TV clips of *Undercover Boss* to assist students in exploring management and leadership theories.   Another approach used is to have students select a leader who is highly visible in popular culture and deconstruct the characteristics of that individual as they relate to leadership styles.  In introductory doctoral courses, another method used is to have

students choose any popular culture opinion type article to use for critical reading and critical thinking exercises.  In the same course, students use popular culture images to create mind maps to explore learning theories. The authors' experiences have been resoundingly positive in using these and additional techniques to infuse popular culture in online graduate courses for the sake of enhancing student engagement and learning.

## Summary

The media has an enormous influence on the construction of knowledge.  Utilizing popular culture to teach students to identify and utilize theory in their daily practice may have a powerful impact on the development of their critical thinking as it relates to their everyday lives.  The purpose of this article was to give some background for and examples of ways to utilize creative pedagogical approaches in the classroom to enhance students' understanding of the theoretical through concrete examples steeped in popular culture.  A variety of media such as: movies, music, TV, YouTube, cartoons, novels, etc… may be used as tools to bring theory and popular culture together. Using popular culture can also aid in the enjoyment of learning making the classroom more relevant and real for both students and faculty alike.  Engaging students in learning through popular culture helps to extend learning beyond the classroom so that learning spills into students' daily experiences.  Teaching via popular culture is as Creadick (2013) states, like "teaching the fish to see the water" (p. 17).

In closing, cultural studies can foster a variety of adult education goals such as cultivating a self-awareness about beliefs and values, offer opportunities for creating alternative narratives, acquire a better understanding of citizenship and enhance consumer literacy. Teachers should strive to seize opportunities to publicly honor student knowledge and experiences. Educators should consider how popular culture could enhance relevancy in their courses and trigger more intrinsic student motivation to learn. Sfeir (2014, p. 18) notes how cultural studies has an important social justice dimension "… it facilitates an understanding of issues of social injustices, fosters affiliations and empathy, and raises awareness that every person can participate in alleviating these injustices to a certain extent."

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**Editor's Note**: This is a chapter from a larger work being prepared by the author. It gives a very detailed summary of research related to student satisfaction and how this influences interaction, engagement and learning.

# Shared and unique components of student satisfaction between traditional and online environments

**Antoinette Marie Davis**

**USA**

## Shared components

*Personalized feedback* covers a broad range of responses by instructors to the work of their students (Kane & Williams, 2009). Students need feedback on their progress and performance to assist them in engaging with a subject (Higgins, Hartley, & Skelton, 2002; Soon, Sook, Jung, & Im, 2000; Thurmond et al., 2002). Feedback should be given with some level of immediacy and constructiveness to increase motivation (Ozden, Ertuck, & Sanli, 2004; Blayney & Freeman, 2004). Two major issues of concern to students with regard to assessment and feedback are the "lack of fairness in grading and too little feedback from their instructors" (Holmes & Smith, 2003, p. 318). The issue of consistency in assessment feedback can be assisted by the use of rubrics that incorporate clearly defined criteria (Moskal, Leydens, & Pavelich, 2002). Campton and Young (2005) found that students require personalized feedback on their learning, and it is a critical component of a successful online environment. In sum, personalized feedback is said to be an important factor in the learning process (Hisham, 2004; Soon et al., 2000; Thurmond et al., 2002).

Campton and Young (2005) found that there is no statistical difference in the level of satisfaction between feedback that embeds comments in the student's work and one that automatically generates comments and outputs them into a personalized webpage for quantitative type assessments. Markers are able to override the suggested comments and create personalized comments (Hisham, 2004). The increase in efficiency in marking is translated into faster feedback to students (Blayney & Freeman, 2004). Institutional student satisfaction surveys are a valuable source of data on the student experience of assessment and feedback but little used outside their immediate management improvement purposes (Kane, Williams, & Cappuccini, 2008). The students' comments suggest that feedback is valued by them, particularly as an indication of progress, but also with a very practical concern that it helps them to improve before the next assignment (Kane & Williams, 2009). Gibbs and Simpson (2004) found that feedback to the students on their assignments is the single most powerful influence on student achievement. The result of using student data, based on tailored inquiries, to inform improvements appears to have a direct impact on student satisfaction and reflects the research available that suggests that students respond well as a result of effective, transparent action that has been taken on the basis of their feedback (Powney & Hall, 1998).

*Student perception of learning* is typically measured through questionnaires in which the quality of learning is indirectly communicated to the students (Jackson & Helms, 2008). Lim et al. (2008) believe that gaining knowledge of student perceptions of online learning and its effectiveness is essential in order to improve online teaching and student learning. Research tends to support the view that students appear to be unable to separate their perception of the instructor's effectiveness from their perception of the technology and method of delivery (Anderson & Kent, 2002). Jackson and Helms (2008) found that meeting or exceeding the expectation of students in the use

and application of technology affects their perception of the quality of education. Students reporting positive attitudes about their online course experience exhibited attributes of constructivist learners, recognizing the need to be more proactive and independent in learning (Howland & Moore, 2002). Students usually have positive perceptions regarding access to the instructor or teaching assistant when questions can be addressed in multiple ways, such as via toll-free phone numbers, e-mail, class listserv, or local facilitators (Edge, Loegering, & Diebel, 1998). Students with negative attitudes seemed less able to understand the course content and to trust self-assessment of their learning, and reported the need for more guidance (Howland & Moore, 2002). Student perceptions and attitudes regarding college courses are important (Anderson & Kent, 2002). Students tend to return to programs where they perceive instruction as effective and tend not to return to or remain in those they perceive as ineffective (Johnson, 1998).

Heiman (2008) conducted a study (through email questionnaires) on females with learning disabilities and their enrollment in online courses (including their perceptions of the learning environment). The participants included 73 females with learning disabilities and 50 females without learning disabilities at the Open University of Israel. Heiman found that females with learning disabilities perceived the learning environment as less supportive and less satisfactory than females without learning disabilities; they felt that the academic services were not sufficiently considerate of their special needs. However, "women with learning disabilities reported using more task-oriented and avoidance-oriented coping strategies and perceived their overall well-being as less satisfactory than female students without learning disabilities" (p. 4). Regardless of how accessible a university is for students with disabilities, these students may face major challenges in getting to class each day (Edge & Loegering, 2000). Having a course available in-home represents a significant opportunity for some physically disabled students (Edge & Loegering, 2000). Courses developed for distance delivery may already meet the needs of students with learning disabilities or are easily modified to do so (Powers, 1998).

Some researchers have found that learner-centered activities are central to student satisfaction in online courses (Ellis & Cohen, 2005). Cuthrell and Lyon's (2007) investigation discovered that students preferred a mix of instructional strategies that incorporated active and passive modes of instruction. The use of discussion boards and the completion of unit assignments are examples of active and passive instruction. Dennen (2008) found that half of the students felt that they learned through online discussions (both posting and reading messages), with students who reported that they participated in discussions only to meet course requirements and with those who focused more on posting rather than reading messages showing less positive impressions of the (discussion) impact on their learning.

*Student perception of the purpose of course evaluations* is a relevant issue in this study because student satisfaction with a course by nature is a form of student perception of the course. There are extremely few studies relating to student perceptions of the process, although there are studies on the purpose (Costin, Greenough, & Menges, 1971; Marsh, 1984). According to Marlin (1987), if students have no faith in the system and put little thought and effort into their evaluations, the results are useless regardless of the sophistication of the techniques used to test the validity of evaluation results. On the other hand, if students take the evaluation seriously and view it as a responsibility rather than a chore, evaluation results can become more meaningful. These arguments support the validity of student evaluation of teaching in that they infer that ratings of overall effectiveness are predictable from specific classroom behaviors of the instructor (Renaud & Murray, 2005).

Also, according to Marlin (1987), even though students apparently pay little attention to the evaluations, they still believe themselves to be conscientious in filling them out. Students also believe that existing procedures are adequate to evaluate the teacher, that there is no reason to falsify a rating in order to appease an instructor and that they are fair and accurate in their rating

of faculty. Cadwell and Jenkins (1985) found that if students feel good about their instructor, they might rate the instructor as accessible outside of class, even if they never attempted to contact the instructor outside of the classroom, or they might respond on the rating form that the instructor provided different points of view without any attempt to recall specific instances of this type of behavior.

Heine and Maddox (2009) found that female students believe that the evaluation process was more important than males. Male students, indicating some cynicism about the class evaluation process, are significantly different in a negative way from female students in terms of their perception that the higher the projected grade, the higher their evaluation of a professor, and their belief that professors adjusted their in-class behavior at the end of the semester to achieve higher evaluations (Heine & Maddox, 2009). Students believe that even though the machinery exists and is used to inform the faculty and administrators of student opinion, nobody pays much attention nor does much as a result of the outcome of the evaluation process (Marlin, 1987).

Few studies have inquired into students' general attitudes towards course evaluations, such as how conscientiously they respond, how seriously they take the process, and what purposes they think they are being used for (Spencer & Schmelkin, 2002). Students are skeptical about the use of their ratings because they are unsure of whether their opinions matter or for what purpose the ratings are put to use, even though they are not reluctant to evaluate and have no fear of bias (Spencer & Schmelkin, 2002). Although there have been cautions regarding bias (Marsh, 1984), the intent was to focus on potential difference that affects how students perceive evaluations, and reflects how the length of time students have partaken in the educational process influences their views (Spencer & Schmelkin, 2002).

Overall, there appear to be drawbacks of using student evaluation on the quality of a course to reflect student satisfaction with the course. For exactly the same reason, some measures of student satisfaction based on course evaluation are considered primitive in the previous chapter. The goal of this study is to develop a psychometrically sound instrument to use as the tool to investigate student satisfaction in relation to student performance and learning characteristics in the online environment.

*Student perception of basic college mathematics courses* becomes an important issue when many students in college need to take mathematics courses because they previously did not perform well in other mathematics courses (Howard, 2008). In Mau's (1993) study, many of the students believed that simply memorizing formulas and algorithms was the best way to master course content. In brief, students held invalid beliefs about what they should do to master mathematical concepts, and those beliefs appeared to be a major reason for difficulty with the course (Mau, 1993).

Ashcraft (2002) found that highly mathematics-anxious people also espouse negative attitudes toward mathematics and hold negative self-perceptions about their abilities to do math. These individuals took their required mathematics courses apprehensively, almost expecting an unsuccessful experience (Howard, 2008). Students who are, therefore, either ill-prepared or too far removed from the discipline develop anxiety toward mathematics (Ferren & McCafferty, 1992). When students were unsuccessful, they unanimously chose an avoidance strategy to cope with their failures, which research indicates is a typical tactic (Middleton & Spanias, 1999; Turner, Thorpe, & Meyer, 1998). "Individuals who perceive mathematics as difficult and their ability to do mathematics as poor generally avoid mathematics, if possible" (Middleton & Spanias, 1999, p. 77). Students were found to feel frustrated that the mathematics courses were designed to filter students out of the (college) program rather than to encourage students to persist (Hake, Crow, & Dick, 2003).

Based on conversations and observations of the students, it was apparent that students' previous experiences and perceptions affected their ability to learn mathematics (Howard, 2008). It appears that a majority of students prefer taking no mathematics, or the easiest required mathematics course, instead of strengthening their quantitative skills (Ferren & McCafferty, 1992). Mau (1993) found that students believed they were working quite hard and that course expectations were unreasonable. One individual even called the remedial mathematics class the "course from hell" because of the pace at which she was expected to master new material (Mau, 1993, p. 1). Perception of one's ability in mathematics, which is a belief about one's self as a learner of mathematics, was a significant predictor of the value of mathematics and a strong predictor of the expectation of success (Eccles et al., 1985).

Pajares and Miller (1995) found that students' reported confidence to answer mathematics problems was a greater predictor of performance than their mathematics-related tasks or mathematics-related courses' self-efficacy. A number of students commented on a pre-assessment form that one reason they did not enjoy mathematics was because they did not feel confident doing mathematics (Hake et al., 2003).

*Student performance in basic college mathematics courses* is another relevant issue in this study because student satisfaction is examined in the context of college mathematics courses. According to a 2009 study conducted by the U.S. Department of Education, which reviewed more than 1,000 studies conducted on online learning between 1996 and 2008, students on average performed better in an online education situation than in face-to-face situations (Feintuch, 2010). Many research studies have shown that cognitive factors such as learning, performance, and achievement in distance education classes are comparable to those observed in traditional classes (Carr, 2000; Russell, 1999; Schoech, 2000; Sonner, 1999; Spooner, Jordan, Algozzine, & Spooner, 1999). For example, Cooper (2001) echoed the compilation of current literature comparing traditional classes to online classes: There is no large difference between the two approaches to learning. Friday-Stroud, Green and Hill (2006) found no statistically significant difference in student performance between online and traditional management classes after examining eight semesters of data. Royse (1999) found no significant difference in students' course grades among students enrolled in web-based classes on social work research methods and those enrolled in the traditional class. Using final exam scores, Borthick and Jones (2000) also found no significant difference between the traditional class taught the semester before and the online class. Similarly, comparing students' grades on pretest, midterm, and final exams, Gagne and Shepherd (2001) as well as Piccoli et al. (2001) supported prior research, finding no significant difference in student performance between online and regular on-campus classes.

After compiling dozens of studies on distance education, Russell (1999) indicated no difference in student learning between traditional and online environments, conditional on the requirement that online students have to be actively engaged in the work. If students are just responding to posted material, doing assignments, e-mailing them, and having them graded, or otherwise following correspondence-type classwork, they do not learn effectively (Anstine & Skidmore, 2005). According to Harrington (1999), students taking a traditional statistics course did well overall regardless of GPA, students in the online course who had high GPAs also did well, and online students with previously low GPAs did not fare as well as either of the other groups (Harrington, 1999).

A few studies suggest that learning outcomes in the online environment are inferior or similar to those in the traditional environment (Anstine & Skidmore, 2005). After comparing two courses, one online and one traditional, Harris and Parrish (2006) reported that the in-class students received significantly higher grades and had a lower dropout rate than the online students. Faux and Black-Hughes (2000) compared traditional, online, and hybrid sections of an undergraduate course in social work to determine the effectiveness of online learning. Their results showed the

most improvement (from pretest to posttest) for students in the traditional, face-to-face setting. Pucel and Stertz (2005) compared web-based and traditional courses by looking at the effectiveness of learning in these courses, indicating that "although there were some differences in student performance between web-based instruction and traditional versions of the courses, students were able to learn effectively within both versions of the courses" (p. 20). Some major reasons for the lower performance of online students could be that online learning requires greater autonomy and self-direction and that students must be able to perform more independently (Artino, 2008).

Kuo (2010) encouraged data collection and data analysis on the relationship between satisfaction and performance. In fact, the question of whether increased satisfaction leads to improved performance or improved performance leads to increased satisfaction has been debated for many years in the literature on work organizations (Locke, 1976; Organ, 1977; Schwab & Cummings, 1970). Similarly, whether students' satisfaction improves their performance (e.g., measured by grade point average) or vice versa is becoming an interesting and important issue for education (Bean & Bradley, 1986). Either individually or in relationships, students' perceived satisfaction and their performance in online collaborative learning are important factors to determine whether an innovative learning approach can be applied in a sustainable way (Zhu, 2012).

Understanding what motivates students to choose online courses, how to match learning styles with instructional design, and how to deliver this type of instruction are some of the issues researchers are just beginning to investigate (Tallent-Runnels et al., 2006). Seamon (2004) examined the long-term effects of different instructional formats and found that students' performance in an intensive course (i.e., a course that is shorter than a full semester) was superior initially, but three years later, the full-semester students outperformed the intensive course students. On the other hand, Anastasi (2007) argued that contrary to previous research students tend to perform just as well in abbreviated courses, and that the belief that shortened courses are somehow inferior to full-semester courses is unfounded. This is one of the issues that the online learning literature will soon need to face.

Boli, Allen, and Payne (1985) found that, among highly capable students, women did as well as men in introductory college mathematics and chemistry courses when initial differences, such as mathematics background, were controlled. In fact, according to these researchers, having confidence in women's general mathematical ability (i.e., feeling that women are not inferior to men in mathematics) improves the performance of women in basic college mathematics and science courses. Ashcraft (2002) found that highly mathematics-anxious individuals perform poorly on a test due to low competence and achievement rather than heightened mathematics anxiety.

Courses intended to prepare students with weak mathematics backgrounds for more advanced mathematics courses are common on university campuses (Stage & Kloosterman, 1995). Unfortunately, fewer than half the students who take these courses are successful on their first attempt (Hackett, 1985). Pugh and Lowther (2004) raised concern over the failure rate in mathematics core courses and low mathematics placement test scores when examining core course performance at a major research university. In a study of 85,894 students enrolled in remedial mathematics in 107 California community colleges, seventy five percent of these students did not pass or complete that required course (Bahr, 2008).

According to Siadat, Musial, and Sagher (2008), students enter into a continuous dialogue with the instructor through a specific medium—the mathematics tests—where the instructor conveys his or her expectations and policies, and students respond through their performance. Student performance, on the other hand, provides vital feedback to the instructor to adjust the pace and content of instruction. But when students are unprepared for the course, they tend to either get

discouraged and drop out altogether or get weeded out at each articulation point, failing to pass from one course to the next (Bailey, 2009).

*Student perception of instructors' qualifications* is an issue related to student satisfaction. Spencer and Schmelkin (2002) found that sophomores, juniors, and seniors attending a private university perceived effective teaching as characterized by college instructors' personal characteristics: demonstrating concern for students, respect for student opinions, clarity in communication, and openness toward varied opinions. Greimel-Fuhrmann and Geyer's (2003) evaluation of interview data indicated that undergraduate students' perceptions of their instructors and the overall instructional quality of the courses were influenced positively by instructors who provided clear explanations of subject content, who were responsive to students' questions and viewpoints, and who used a creative approach toward instruction beyond the scope of the course textbook. This could characterize a student-oriented with the instructor being defined as student friendly, patient, and fair (Onwuegbuzie et al., 2007).

Okpala and Ellis (2005) examined data obtained from 218 college students regarding their perceptions of instructor quality components. The following five qualities emerged as key components: caring for students and their learning (89.6%), teaching skills (83.2%), content knowledge (76.8%), dedication to teaching (75.3%), and verbal skills (73.9%). College students, overall, identified the interpersonal context as the most important indicator of effective instruction (Onwuegbuzie et al., 2007). This was also the case for pre-service instructors (Minor, Onwuegbuzie, Witcher, & James, 2002). Witcher, Onwuegbuzie, and Minor (2001) identified the following six characteristics of effective teaching perceived by pre-service instructors: student centeredness, enthusiasm about teaching, ethicalness, classroom and behavior management, teaching methodology, and knowledge of subject. These factors may explain why the role of connector, which includes accessibility, was deemed a characteristic of effective instructors by nearly one in four students (Onwuegbuzie et al., 2007).

Bennett (1982) found that female instructors were rated higher in terms of gender appropriate characteristics such as warmth and personal charisma and were negatively evaluated when they failed to meet these expectations. There is other evidence to indicate that women receive higher ratings by students of both sexes on items related to interpersonal aspects of instruction (Winocur, Schoen, & Sirowatka, 1989), although Ferber and Huber (1975) reported some bias of students in favor of their own sex.

Affiliative lecturers were seen as more effective lecturers as well as more confident, professional, and approachable ones; students also indicated that they would be more likely to approach lecturers who presented affiliatively to discuss content issues (Winocur et al., 1989). In fact, lecturers who presented material in an affiliative style were rated higher on both traditionally feminine and masculine characteristics, suggesting a more positive personality profile overall (Winocur et al., 1989). These findings are consistent with those of Bennett (1982) who found that women who are not perceived to have gender appropriate attributes, such as charisma, experience, and professionalism in instructional style, are unlikely to be accepted as offering authoritatively balanced instruction (Winocur et al., 1989).

## Shared but different components

The most critical factors in distance learning are structure and interaction, instead of learner characteristics (e.g., their technical expertise) and course delivery format (Stein, Wanstreet, Calvin, Overtoom, & Wheaton, 2005). Structure refers to elements of the course's design, such as learning objectives, activities, assignments, and evaluation. Interaction is the key in order to maintain the communication between the instructor and learners, and among students (Moore & Kearsley, 2005). A few researchers also explore student-content interaction that refers to students

interacting with the subject matter under study to construct meaning. This includes reading informational texts, using study guides, watching videos, interacting with computer-based multimedia, and completing assignments and projects (Lou, Bernard, & Abrami, 2006).

*Student-instructor interaction* can take place between the learner and the instructor in seminars, email messages, correspondence through feedback on assignments, and during online office hours (e.g., through an Instant Messenger) (Sher, 2009). Student-instructor interaction facilitates student learning by providing not only cognitive guidance and feedback, but also motivational and emotional support (Anderson, 2003; Lou, Bernard, & Abrami, 2006; Moore, 1989; Moore & Kearsley, 2005). Greene and Land (2000) found that guidance oriented interaction (professor-developed, procedural scaffolding) helped students to focus and develop their projects. Students needed real-time, back-and-forth discussion with their instructors that helped them to better understand their course projects and begin thoughtful consideration earlier (Tallent-Runnels et al., 2006).

Sher (2009) found that "student-instructor interaction is one of the most critical factors in enhancing student satisfaction in an online course" (p. 116). Because instructors and students can be separated in time and space, as in the case of a video course distributed throughout the country for asynchronous delivery (i.e. courses delivered on a student-specific schedule) (Edge & Loegering, 2000), interaction with the instructor becomes important to learners in distance learning contexts (Fredricksen et al., 2000). According to Swan (2001), students in distance learning have significantly less interaction with the instructor, making student-instructor interaction a real issue that has a demonstrable influence on student satisfaction. Student-instructor interaction is often minimal, even with synchronous satellite or microwave systems that have two-way audio or video between instructors and learners (Diebel, McInnis, & Edge, 1998). Wagner (2001) argued that web-based learning presents a more customized format in which instructors can interact with each student. Many studies on interaction in web-based learning persist on positive pedagogical effects of interaction and present various interaction strategies for better learning (Beuchot & Bullen, 2005; Dennen, Durabi, & Smith, 2007; Garrison & Cleveland-Innes, 2005; Kehrwald, 2008; Russo & Campbell, 2004; Tu & McIsaac, 2002; Weaver, 2008). For example, regularly calling on distance learners by name during real-time satellite- or microwave-delivered courses can encourage participation (Edge & Loegering, 2000). An online course with a few highly consistent modules resulted in both a perception of more interaction with the instructor and of better outcomes on the part of students (Swan, 2001). Sher (2009) stated that "the use of communication tools incorporated in a distance learning environment bridge[s] both physical and time dimensions to bring the faculty and students together as a virtual community" (p. 114).

*Student-student interaction* as defined by Sher (2009) is the exchange of information and ideas that occurs among students about the course in the presence or absence of the instructor. Sher also argued that "both student-student and student-instructor interactions are significant contributors to the level of student learning and satisfaction in a technology-mediated environment" (p. 102). When researching different types of online interactions and their effect on satisfaction with the course, Jung, Choi, Lim, and Leem (2002) found that the learners' satisfaction was more strongly related to the amount of student-student interaction than to the interaction with the instructor. They found that the students who collaborated with each other (e.g., problem solve on a discussion board) expressed the highest level of satisfaction. Student-to-student interaction, specifically over shared prior experiences, influenced student's ideas and encouraged them to expand, formalize, and refine their reasoning (Tallent-Runnels et al., 2006). Distance education courses should be designed to require or challenge students to interact with other students in the class (Verduin & Clark, 1991; Wagner, 1997). Requiring a minimum number of postings or responses to a class listserv or forum, for example, can be an effective way to develop interaction

among students (Edge & Loegering, 2000). In later generations of distance education, including two-way videoconferencing and web-based courses, student-student interaction can be synchronous, as in videoconferencing and chatting, or asynchronous through discussion boards or e-mail messaging (Lou et al., 2006).

Ferguson and DeFelice (2010) indicate that connectedness to the course, by participating collaboratively with other students likely impacts student satisfaction, and that online courses offer the additional challenges and opportunities associated with not being physically connected to the class. Referring to online learning, Bray, Aoki, and Dlugosh (2008) reported that "opportunities for interaction with other students were available but not emphasized, and some students indicated a preference for more social interaction when learning" (p. 15). Although the individualized learning model affords the highest degree of flexibility for anytime, anywhere, and anyplace learning (Lou et al., 2006), it is low in interaction (Moore, 1989). McBrien et al. (2009) found frustrations of online students enrolled in undergraduate and graduate courses about having too many simultaneous interactions such as audio, typed chat, whiteboard, and PowerPoint, that could be answered simply using emoticons, yes or no, or multiple choice responses.

A more recent study by Nummenmaa and Nummenmaa (2008) showed that "lurkers" (i.e. students who did not actively participate in the course), had more negative emotional experiences with the course than those who interacted collaboratively-namely, visible collaborative activities in a web-based learning environment impacted students' reactions to the course. Therefore, promoting student interactions in distance education courses is important for setting up an online learning community (Liu, 2008). Distance education is portrayed as possessing more potential and thus more promise in promoting student interactions and enhancing learning outcomes by utilizing advanced computer technology (Liu, 2008). For example, Bruce, Dowd, Eastburn, & D'Arcy (2005) and Swan (2003) suggest the web has the ability to provide rich context for student interactions and multiple paths for learning.

## Unique components

*Social presence*, simply put, are social relationships in online education (Hostetter & Busch, 2006). When instructors connect with others in new social situations, they create social presence or a degree of interpersonal contact (Gunawardena & Zittle, 1997). Mama (2001) compares students' attitudes regarding site-based and web-based classes, finding that web-based students felt it was more personal or less social than site-based ones. Instructors must deliberately structure interaction patterns to overcome the potential lack of social presence of the medium (Mykota & Duncan, 2007). Hostetter and Busch (2006) surveyed undergraduate students in online and face-to-face classes to study whether social presence can be achieved in online classes in comparison to traditional classes. They found that

> Experience in online courses had a statistically significant effect on online students' perceptions of social presence. Also, facilitating social presence in an online class is important for students' satisfaction in their learning. (p. 1)

Mykota and Duncan's (2007) findings reveal that the level of social presence is related to the number of online courses taken by students and their computer-mediated communication proficiency. Richardson and Swan (2003) found a positive correlation between social presence and students' perception of online learning. There is the positive correlation between the level of students' perception of social presence in their courses and higher results on learning measures (Picciano, 2002). Bray et al. (2008) found that "student interaction is a polarized issue, as some students clearly preferred to work independently of others, while others clearly wished for more interaction with other students in order to clarify understanding or reduce the sense of isolation" (p. 14).

While much of the research into social presence theory seeks to define it, measure it, or explore its benefits, little finds its sole focus on ways to cultivate it (Scollins-Mantha, 2008). Many researchers provide some listing of best practices as revealed by their findings, but few seek to fully categorize and test the ways in which social presence can be fostered and encouraged in the online community (Wise, Chang, Duffy, & Del Valle, 2004, p. 265). "Social presence can be cultivated in the online learning classroom" (Gunawardena, 1995, p. 162). This task falls in the hands of instructors, instructional designers, and students, and these three groups must work together to face the challenge of creating social presence in the virtual world (Scollins-Mantha, 2008).

Gunawardena and Zittle (1997) note that the students' perceptions of social presence depend greatly on the atmosphere created by the instructor in the virtual setting. The instructor plays a critical part in establishing social presence for the entire learning community (Wise et al., 2004). The teacher who seeks to hone skills and techniques related to forming social presence most likely impacts students' perceptions of social presence (Gunawardena, 1995).

> While some instructors hesitate at breaking the barrier between personal and professional lives, in the online learning classroom sharing personal information offers teachers with a way to connect to students and to show them connections from the class to real world material, while building social presence (Aragon, 2003, p. 65).

In order to generate social presence between students and the instructor, the instructor must take into account the isolation felt by students when online communication lags (Scollins-Mantha, 2008). If time frame expectations (i.e. the student's expectation for communication with the instructor within a twenty-four hour period) are not met, then the student will feel less socially connected in the online learning classroom (Tu & McIsaac, 2002, p. 144).

Raising social presence in online environments may help create impressions of quality related to the experience on the part of the student (Newberry, 2001). Rovai (2001) presents a model of community that suggests that social presence, student-instructor ratio, transactional distance, instructor immediacy, lurking, social equality, collaborative learning, group facilitation, and self-directed learning all have an impact on the sense of community within online environments. Later, Rovai (2002) modified this framework by proposing transactional distance, social presence, social quality, small-group activities, group facilitation, teaching style & learning stage, and community size as positive correlates to a sense of community.

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# Factors generating barriers to the integration process of ICTs in higher education institutions:
## Case study in an education center of the University of Guadalajara

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**Mexico**

## Abstract

The present paper uses the case study as a research strategy to analyze those factors attributable to education center policies and/or teachers, which may create barriers in the implementation and use of ICTs in the context of the University Center for Economic and Administrative Sciences (CUCEA) of the University of Guadalajara in Western México. The study contrasts the institutional plans and strategies expressed in reports to the answers given by some of the key stakeholders: teachers, administrators and program leaders, through open interviews.

From contrast analysis four potential factors were identified as creators of obstacles or barriers to ICTs integration. These factors were grouped into the following categories: infrastructure and technological equipment; management and organization; pedagogical innovation; and teacher attitudes.

**Keyword**s: Factors, barriers, obstacles, ICT, higher education institutions, implementation processes.

## Introduction

Information and Communication Technologies (ICTs) have radically transformed the social, economic and cultural spheres. Our coexistence, communication and consumption habits have been gradually modified by their influence. ICTs are the vehicle and intermediary means in our daily activities: generation, reproduction, consultation and exchange of information through media and social networks, business transactions, procedures, access, processing and production of data is performed through them. Nowadays, we are living a technological revolution associated to the use, management, organization and distribution of information as well as, connectivity and immediate communication among individuals, organizations and locations physically distant.

Worldwide, in recent decades, the use of support tools in teaching and learning systems based on ICTs has increased, particularly in higher education: universities, research centers, technology education centers, specialized laboratories, dual education centers, etc. The attributes and characteristics of these technologies have significant potential to transform education practices, changing teacher and student role by integrating resources and interactive materials, generating new collaboration networks and creating teaching and learning environments whose axis is no longer the teacher, but the student.

ICTs have supported the creation of more flexible curriculum models, opening customized learning options to meet particular needs, and allowing training schedules to suit the most diverse life-styles, dynamics and rhythms, therefore benefiting continuing education.

Furthermore, ICTs have improved student's motivation and interest to use visual aids, such as video, audio, multimedia and nonlinear navigation. These resources have opened new possibilities to strengthen students learning.

However, all these ICTs' recognized benefits must be accompanied by a profound organizational transformation within the educational institutions, in order to meet current social and cultural requirements. These transformations are substantial changes able to modify the governance of the organization and therefore, may be perceived as threats to the *status quo*. In these cases, different actors in the organization, might react by retreating or building barriers blocking the necessary and desired changes.

## Approach to the object of study

Despite of the benefits reported by research and literature about integration of ICTs, many higher education institutions (HEIs) continue to lag behind in this area. In some cases, there is a good infrastructure and also specialized equipment into the institutions, however neither substantial changes are observed in teachers' educational practices, nor in students' academic progress and performance. Teacher continues to perform his/her role as an information reproducer and students are just passive receivers of knowledge. About this topic, Area (2002) considers that it is not enough to provide equipment to school, since there are historical, political, economic, cultural and educational elements determining and influencing integration of ICTs at schools. In other cases, the process of integration of ICTs has remained behind the minimum requirements of today's society and its competitive demand. Such conditions require deeper research about the obstacles and difficulties arising within organizations in order to meet the challenges and to achieve the global goals on education and human development.

According to Bingimlas (2009) the absence of ICTs in schools is due to the existence of extrinsic and intrinsic barriers preventing integration process to educational practices. Extrinsic barriers may include all those difficulties attributable to the school-center administration, such as cultural barriers, lack of training, infrastructure, computer equipment and lack of time. Meanwhile, intrinsic barriers refer to teachers and the most pointed out are: attitudes and beliefs, self-perception of teacher's efficacy when using ICTs, as well as cultural and political persistence and resistance to change.

In reference to infrastructure as a generating barriers factor to ICTs integration, literature mentions as major problems: lack of specialized hardware and software (Cabero 2001; Pelgrum 2001), disparity in number of computers in relation to the number of students, insufficient number of copies of licensed software (Barrantes, Casas & Luengo 2011; Pelgrum 2001), lack of internet access and insufficient number of peripheral devices (Pelgrum 2001) as well as the lack of updating, malfunction of equipment and deficiency in technical support (Jones, 2004). In consequence, additionally to infrastructure and equipment supply, it is critical to consider adequate conditions of services for technical and technological support at Campus.

Another factor that may influence the generation of extrinsic barriers is the lack of training. In this regard the literature points out the need of technological training as well as didactic training in the use and integration of ICTs to educational practices (Area 2002; Bingimlas 2009; Cabero 2001; Pelgrum 2001). It is not enough to learn how to use a software or the *Office package*, it is necessary that teachers are fully trained to use ICTs as tools to be integrated to the educational processes.

The lack of time is understood as the absence of periods designed, programmed or preset to search for information, prepare lessons, identify appropriate technology, solve technical problems related to the inclusion of ICTs, in addition to training and coaching (Barrantes, Casas & Luengo 2011; Jones 2004; Pelgrum 2001). It is well known, teachers in higher education institutions have

to perform multiple functions. In Mexico, these functions are set out in the Teacher Improvement Program (PROMEP), which includes: teaching, researching, mentoring, supervising theses and management. Thus, teaching is just another activity to be performed by teachers and often — paradoxically— the least valued.

In relation to cultural barriers, there are few studies providing methodological elements to analyze this phenomenon which by its very nature includes a wide range of edges. Area (2002) mentions thematic core curriculum, permanence of traditional teaching practices and educational models inherited from the nineteenth century to be important factors creating barriers. Additionally, the difference between school culture and organizational model is a significant, but little studied topic (Cabero, 2001).

On the other hand regarding the intrinsic barriers, Gomez-Lopez & Cano (2011, p.7) explain that beliefs and attitudes are part of mental representations, which are considered "an internalized process emerged from the environment which allows a person to adapt him/herself to it, typically conditioned by the cognition and experience of the subject, as well as the variables and previous experiences." These authors understand that these mental representations have an influence on the use and integration of ICTs. They define the technological self-efficacy as the distance between the perception of the mastery of technological tools, as opposed to skills and competencies shown by teachers at using ICTs.

Barrantes, Casas & Luengo (2011) agree that having a low digital competences level, brings about a sense of discomfort when facing the students. Meanwhile, Ramírez, Cañedo & Clemente (2011) stipulate that there is no relationship between teacher believes and ITCs integration, but there certainly is a correlation between the perception they have about teaching efficiency and their own performance. Therefore, there is a positive perception between the teacher digital competencies and the favorable attitudes for ICTs integration. In addition to self-perception about technological efficiency, Beggs (2000) mentions fear of failure, Balanskat (2009), refers to anxiety about using ITCs due to lack of self- confidence and Bingimlas (2009), talks about change resistance.

The initial impulse of this research derived from the fact that even when there is a good physical infrastructure as well as connectivity at the University Center, and important efforts have been undertaken to provide teacher training, there are no significant improvements in the extensive use of ICTs in teaching process. This analysis focus in two fundamental aspects: first, the relationship between the organizational model and the actions to implement ICTs. This section focus on organizational lacks, deficiencies or bias that turn inefficient the ICTs implementation. Second, faculty attitude and disposition as a factor of influence in both, barriers and change creation. We are interested in analyzing the relationship between Campus organizational model and faculty attitudes towards ICTs.

According to the above, this study seeks for answers to the following research questions:

1.  What are the main actions taken for the implementation of online courses at University Center for Economic and Administrative Sciences (CUCEA) of University of Guadalajara?

2.  What are the main barriers and resistances to its implementation among faculty? How can these barriers and resistances be explained through the relevance theory?

3.  What are the elements in public policies that must be incorporated during the implementation process in order to reduce those barriers and resistances?

## Methodological design

This analysis is an explicatory and explanatory study case qualitatively focused. According to Yin (2009), study case is the adequate strategy when a researcher wants to have a profound understanding of an organization, an object or a specific process, containing also richness in details and narrative. Our analysis unit in this case is the implementation process of a model of online courses at CUCEA in UdeG, starting on 2011.

The first section focuses on a wide revision and analysis of official documents and reports about the implementation process of online courses at CUCEA, and the mechanisms, strategies and incentives applied. Documental study is critical because it provides basic information to understand backgrounds of the study object (Creswell 2008) and it is the base to build evidence through other information sources (Yin 1994). During this first stage, we analyzed documents such as: official diagnosis about problems using ICTs, activity reports, development plans and documents about the implementation process of online courses model.

Based on preliminary outcomes, during the second stage of the study, in depth interviews were applied to a group of teachers and administrators related to ICTs implementation process as a tool to support classroom courses through online courses.

Yin (2009) argues that one of the main information sources in qualitative study cases is precisely in depth interviews, more oriented to "an open conversation than a structured survey". Additionally McCracken (1988) considers that an in depth qualitative interview is one of the most powerful research methods for study cases. An in depth interview includes asking open questions, listening carefully and recording the narrative of the answers, besides asking follow-up questions about key issues (Patton 1987).

In-depth interviews were conducted using a nonrandom sample strategy (Yin 2009), considering relevant actors (ten people). The objective was to develop a heterogeneous sample of "maximum variation" (Creswell 2008), interviewing actors whose characteristics and points of view about the key process were diverse. The objective is to know how the resistance to use ICTs (online courses) is manifested in teachers' answers. Findings are presented and explained in a narrative form, based on the answers, conclusions and recommendations for generating and establishing new public policies were developed.

## Description of case study

CUCEA was created on August 5, 1994 by decision of the General Council of the University of Guadalajara. It currently involves 11 pre-graduate and 16 graduate programs, and a total of 923 full time, part-time and subject teachers. In March 2013, CUCEA had 16,890 students: 15,904 in postgraduate programs and 986 in graduate programs (2013c).

From 2003 to 2010 CUCEA started a series of actions tending to developed new flexible approaches and the incorporation of ICTs into teaching-learning process, using a technology platform (CUCEA, 203). These actions involved, among others: 1) the creation of a technical support office called Online Courses and Distance Education Unit (UCLED), 2) diagnosis for developing a virtual platform, developed from the analysis of evaluations and opinions expressed by faculty and administration staff; 3) setting up facilities for a Development, Pedagogical and Teacher Training Center for ICTs training, and 4) equipment and teaching aids materials purchase. Therefore, CUCEA's Institutional Development Plan (PDI) 2002-2010, considered two main action lines: pedagogical training and teacher's training in ICTs and teachers innovation developed from the actual use of technologies.

Notwithstanding, neither these initiatives were systematic, nor they had a comprehensive project to implement and consolidate ICTs use to teaching and learning processes.  Due to these

circumstances, in 2010 a new diagnosis concluded that it was necessary to incorporate to UCLED a multidisciplinary work, involving technical support, strengthening training in pedagogical use of Moodle platform, emphasizing the importance of instructional design in academic performance evaluation, as well as online academic consultation, among other aspects (CUCEA, 2012). These efforts resulted in the creation of the Educational Design Unit (UDE), an office responsible of carrying out the project planning and its implementation.

UDE's objective is to support innovation in educational practices at CUCEA (2012). The online learning environment - called *e-CUCEA* - is managed by UDE. It provides instructional design consulting, educational materials development, online course administration and training for users.

Currently, UDE reports the existence of 341 online instructional materials, supported by Moodle platform. Moodle platform is primarily used as a repository for such materials and poorly used in communication and support for teaching-learning purposes. By 2013, there were only twelve online courses taught by the same number of teachers. It represents only 1.3% of total faculty staff at CUCEA. These insignificant percentage demonstrate it is necessary to identify the main obstacles perceived by teachers and administrators for ICTs integration.

## Outcomes

The analysis of factors that may generate barriers and difficulties integrating ICTs provides data to develop a comprehensive and integrative diagnosis to identify the origins of barriers. Our objective is to identify organizational causes and faculty attitudes that have generated obstacles in technology integration at CUCEA.
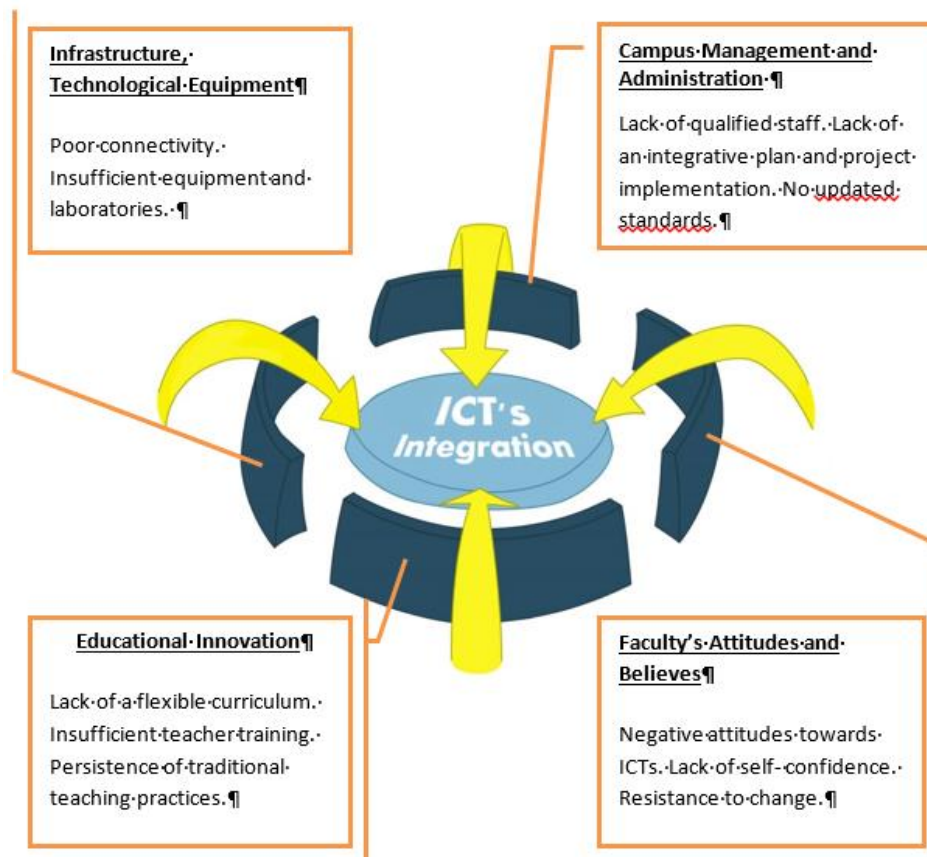


**Figure 1. Factors that may generate barriers for ICTs implementation.**

An integrated analysis of ICTs implementation processes and the attitudes that have created barriers is presented as follows. The contrast between what has been achieved through the implementation process, and obstacles detected from document analysis and interview responses, has been considered within each category.

## Factors generating barriers in infrastructure and technological equipment sphere

This section refers to infrastructure and technological equipment investment for ICTs integration, networks, equipment and acquisition of basic and specialized software to support the teaching process. We found the Campus has a good infrastructure and connectivity services, which include:

- Enough updated computer equipment

- High connectivity to be used by researchers and for administration tasks

- Classrooms equipped with computer equipment and projector

- Laptop loan services for students

- Services based on ICT such as language lab and library

- Technological platforms supporting teaching and learning processes

- Software access for researchers

- Videoconferences services

- Existence and Tech Maintenance of official web page

- Despite having good infrastructure and connectivity at Campus facilities, the following factors are perceived as barriers:

- Limited connectivity for teaching tasks in classrooms

- Electronic equipment is limited to a computer and a projector

- Not enough labs to support teaching process

- Factors generating barriers in administration and management spheres

This section studies the processes and procedures in which management, ordering and administration are based, analyzing if the campus is provided with the required organizational infrastructure so that procedures for the use and the development of tasks involving ICTs are clear and flexible. It has taken into account aspects such as number and training of the staff assigned to those processes, inclusion of units and/or coordination offices related to ICTs management.

Besides, the analysis of administration processes and procedures to support ICTs integration are included. These administration procedures are related to how teaching and standards are organized and included in regulations in order to contrast them to the statements and value judgment expressed in interviews.

In this field the University Center has implemented the following:

- Creation of the Coordination Office for Learning Technology (CTA)

- Assignation of qualified personnel at the Coordination Office

- Establishing a mission and vision for ICT implementation at the Institutional Development Plan

- Creation of a specific office in charge of incorporating online courses (UDE)
- Among its objectives and activities, UDE's plan includes, innovation for educational practice through the use of ICTs.

Certain facts have been detected as obstacles at management and administration processes. It was detected:

Interpretation and limited application of regulations. Discretionary application of regulations ruling faculty work, especially in regards to compliance of attendance requirements. It should be noted that this criteria is not considered at graduated programs using ICTs.

Institutional policies inhibit the consolidation of technological tools that help to improve classroom courses at Campus. Institutional regulations are unequivocal and traditional. They count only the hours you – as a teacher – spend in the classroom.  This standard was written back in the 80s and it no longer applies to the current context. Everything you do online is not "in front of a class", in the classroom therefore it is not recognized by institutional regulations.

Absence of an integrative project to implement ICTs into teaching and learning processes. A number of isolated and disarticulated initiatives were detected, however they all lacked a prior diagnosis.

There have always been initiatives for implementing online courses in the Campus, but they were not organized. UDE's main purpose is to systematize designing and implementation processes. UDE's support is mainly logistical, but it is not an integral implementation model.

Lack of incentives to support innovative practices. Lack of incentives for those who have transformed their teaching practices and use ICTs on daily basis. Innovative teachers are not identified, nor are they recognized by the organization.

Those teachers who have "adopted" an online course do that practically for the love of art, because there are not institutional incentives for doing so.

There are no organizational incentives for teachers to use online courses, the only incentives are conviction and personal motivation. Teaching online courses to complement your classes is totally voluntary and "heroic".

Since the institutional idea for teaching and working is based on the requirement for teachers to be physically present at the Campus for classes, academic counseling, tutoring and collegiate working, we adopted the term *presentiality* to describe this criteria. Obviously, when a teacher doesn't meet the "being present" requirement, a payment deduction from his/her salary is applied. It is important to remark the lack of general consensus among faculty to support a new policy of flexibility.

## Factors generating barriers at pedagogical innovation sphere

Pedagogical innovation is a key factor for the ICTs integration. It is the axis for transforming education systems. It is the base to perform and understand teaching practices, since it promotes the improvement of teaching processes in order to meet the new requirements of network society. This includes: new flexible models for the incorporation of ICTs, instruction and/or teacher training as well as the strategies for ICTs integration into educational practices.

To this respect, the following positive elements already implemented were identified:

- Flexible postgraduate programs, based on ICTs incorporation in teaching and learning process.

- Pedagogical training for faculty in the use of ICTs at CTA.

- Instructional design training for teachers who want to incorporate online courses.

- Continuous counselling in design and implementation of online courses.

- Continuous counselling in the design and creation of didactic resources to reinforce online courses.

### *Obstacles detected are as follows,*

- Lack of appropriate instruction and training. Prior to 2011 external agents were in charge of the pedagogical training, certification process had no connection with CTA. Additionally prior to that year, there was no support from any instructional design unit. There was neither technical, nor pedagogical counselling for those teachers who wanted to implement online courses.

    Teachers know online courses simply as an information repository and the syllabus, not as an active teaching and learning tool.

    Many teachers do not know online courses or its benefits. We must be more eager and active promoting the use of these tools.

- Persistence of traditional teaching practices. Traditional teaching practices models are reproduced. ICTs are used without making any changes nor significant and substantial improvement in educational practices.

    Both, teachers and students lack of technological culture, regarding online courses. The paradigm continues to be behavioral. It demands the physical presence in the classroom. The vices and educational traditional approaches have been reproduced in online courses.

- Lack of culture of planning. Improvisation practices in the classroom were identified. The absence of planning translates into "inspirational" styles in classrooms.

    Teachers don't want to be locked in to a weekly class planning. That's the real obstacle for online courses, the rest is only demagogy. There is resistance to do the right thing. It is easier to improvise and perform "inspirational styles" in front of a class, which is what most of teachers do in pre-graduate courses.

- Existence of a rigid prescriptive curriculum or program. This implies little or no flexibility in programs. There are only a few programs in semi-school or open school models.

## Factors generating barriers in the sphere of faculty attitudes and believes

This section refers to the processes associated to innovation experiences and the how the values and beliefs of social groups involved may be affected. This category includes faculty concerns, fears and change resistances to use ICTs.

The good experiences teachers had in the innovation sphere by including ICTs as a tool in the educational process are seen as positive factors. Simultaneously while developing pedagogical skills, these experiences are helpful when teachers talk about and share them, because that promotes a good environment and reduces uncertainty created by changes. Another important factor is the Master program in Educational Technology for Learning Sciences, which have encouraged teachers' professionalization at the all different campus UdeG has both in Guadalajara Metropolitan Area and in Jalisco state. This Master program has contributed to improve teachers' efficiency using ICTs.

### *Obstacles detected*

- Lack of self-confidence. Teachers have experienced fear when feeling they are being surpassed by students in using technological devices, this generates resistance and technophobia.

  Many teachers do not use online courses because they fear to be exposed. It is clear for everybody that students use technology devices better than teachers!

- Change resistance. Teacher refuses to modify his/her educational practice, avoids using ICTs for online courses and appeals to academic and teacher's freedom.

  The notion of "academic freedom" is also used as a reason for not using online courses. Teachers may say: "Why are you telling me what to do? This is my class and I have rights for academic freedom". It is not easy to obligate teachers to adopt new models. It can be suggested, but we cannot obligate them to do so.

According to empirical data gathered and literature analysis, we elaborated the following data tables showing the barriers against the implementation of ICTs at university centers:

## Data table 1

## Factors generating barriers for ICTs implementation

| Infrastructure and technological equipment | Campus' management and administration |
|---|---|
| Not suffcent computer equipment. | Lack of a Coordination Office to support the use and implementation of ICTs at university center. |
| Deficient connectivity. | Lack or insufficient number of technical staff for tech services and support to users. |
| Lack of basic and/or specialized software. | Lack of tech units supporting online courses. |
| Lack of technological platforms supporting teaching and learning process. | Standards based on *presenciality* to regulate teaching practices. |
| Lack of equipment for videoconferences. | Lack of incentives for supporting innovation in educational practices. |
| | Lack of an Institutional Development Plan integrating new polices for ICTs. |
| | Lack of a Project for ICTs implementation. |
| | Institutional culture base on *presenciality*. |

Source: Own elaboration

## Data table 2. Factors generating barriers for ICTs implementation

| Pedagogical barriers for ICT implementation | Faculty's attitudes and beliefs |
|---|---|
| Lack of a flexible curriculum or program | Negative attitudes towards ICTs. |
| Lack of sufficient pedagogical training | Lack of self- confidence |
| Lack of sufficient technological habilitation training | Resistance to change |
| Lack of continuous consulting for online courses implementation | |
| Persistence of traditional pedagogical practices | |
| Reproduction of traditional pedagogical practices in ICTs integration | |
| Lack of culture of planning | |

Source: Own elaboration

## Discussion and analysis

The analysis of the literature reveals that in Mexico as well as internationally, mainstream in studies regarding barriers to ICTs implementation, is a quantitative approach using standardized questions. On the contrary, this study presents a qualitative approach in order to observe obstacles and underlying causes generating barriers, taking into account the perspective of people involved in the educational process.

Empirical results confirm the existence of factors creating obstacles in Campus' management and organization. These factors were recurrent and relevantly mentioned within the answers of respondents. During the interviews, these elements had greater weight than teachers' believes and attitudes, which were originally considered as the major obstacles in ICTs integration. In fact, all the interviewees mentioned organizational, administrative and management aspects, granting them an essential importance in change and transformation of the Campus and their practices.

The comments above are relevant, because in consulted literature the main obstacle detected is: technological infrastructure (Pelgrum 2011), such as lack of computer equipment, software, limited connectivity and lack of technical assistance, all of these elements would fall in this category.

Regarding to barriers created by factors related to Campus management and organization, scholars as Duarte and Lupiañez (2005) consider as part of management, the creation of Units and Coordination Offices for technological innovation and qualified staff for these areas. Meanwhile, Cabero (2001) mentions organizational model of Centers as an obstacle, without establishing indicators.

In our analysis, we found that it is not enough to create Units and to have qualified staff, it is necessary to consider the following aspects: first, the lack of an Official Development Plan integrating the vision for implementing ICTs, the lack of project implementation, and the lack of

incentives for educational innovation. On the other hand, the existence of regulations based on *presentiality*, and finally, the persistence of organizational culture focused on the requirement of "being present" in educational actions.

According to these results, the roll of the University Central Administration is essential for ICTs implementation. Technology integration cannot be planned only considering a good, appropriated infrastructure and faculty attitudes. There is another essential level: the organizational level, in which projects and strategies promoted by the Educational Institution are emphasized as actions projected to promote ICTs integration.

Area (2002) identifies as key elements in pedagogical perceptions hindering or preventing implementation of ICTs: thematic core curriculum, validity of traditional teaching practices and educational models inherited from the 19th Century. We detected: a rigid curriculum, lack of adequate instruction and training in ICTs use, persistence of traditional pedagogical notions and lack of planning.

In reference to faculty resistances, literature mentions as main obstacles the attitudes and believes about ICTs (Bingimlas 2009), lack of confidence (Jones 2004), sense of discomfort when using ICTs in front of the class (Barrantes, Casas & Luengo 2011), fear of failure (Beggs 2000) and anxiety produced by the use of ICTs (Balanskat 2009). In our analysis, we identified as obstacles: negative attitudes towards ICT and faculty resistance.

Accordingly to above, what would allow to produce changes and integration of ICTs to educational practices, would be those actions projected to achieve:

a. **Pedagogical innovation**. Incorporation of ICTs into classrooms is insufficient to achieve the attitudinal change and to promote the notion of ICTs as elements to accomplish the transformation of educational practices, changes in curriculum flexibility, teacher training, technical support and continuous consultancy.

b. **Campus management and organization**. Creation of positions, Units and Coordination Offices for technological support for users, shall be effective provided that they are included in an institutional plan accommodating diagnostics, strategies implementation, project development and incentives to innovative practices. Recognizing, identifying and supporting innovation performed by faculty will allow to create a suitable climate for reproduction and innovation of the best practices.

c. **Technological infrastructure**. This involves technological equipment, creation of digitalized services, equipment renewal, incorporation and maintenance of software, connectivity, and most important also, services provided to users.

d. **The change of attitude in faculty**. It involves strengthening knowledge and application of new methodologies, techniques and instructional strategies in teaching, in order to overcome the resistance, and overcome fears and the remaining inertia at Centers.

e. Finally, it will be necessary to conduct further research to go in depth of rejection causes and problems derivative from ICTs introduction and implementation. We emphasize about the need for qualitative studies to make it possible to analyze the participants' perceptions about educational process and the obstacles to implementing technological tools.

## Conclusions

The implementation of ICTs in teaching encompasses a broad range of issues, from physical and technological infrastructure adaptation, equipment, creation of specialized offices devoted to tech support and services for users, providing incentives for radical changes enabling the integration of ICTs in education practices for a new vision of educational transformation and innovation.

The findings in this research show it is important to consider and include substantial changes in the organization and culture at University Centers for ICTs implementation. It is necessary to generate policies and incentives to multiply the practices of those self-described as *"lone rangers"* to make visible and encourage innovative educational practices. It is important to work in an ICT teacher training program, especially in an educational instruction to highlight the benefits and "profitability" in terms of time and resource savings, that is to say, how these elements support and facilitate a teachers' work. Without these conditions, the response of the teachers would be limited.

In regards to critical issues: Center's management and organization are perceived as a significant and important barrier preventing the change. The management and organization are devices able to trigger changes or to stop them. So, it is necessary to create a project that includes: ways to encourage ICT usage, the creation of appropriate standards and regulations to new requirements, or, at least flexibility in current regulations, in order to generate positive changes, and finally, the spread, monitoring and evaluation of the project.

In other words, an institutional leadership and a deployment model is necessary to generate sufficient incentives to persuade about the importance of incorporating ICTs in the teaching-learning processes, avoiding resistance and persistence on the part of key actors: teachers and organizational staff. Therefore, it is necessary to focus on on teaching culture, educational planning and open the "black box" to educational innovation.

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# Higher Education:
# the online teaching and learning experience

**Betty A. Barr and Sonya F. Miller**

## Abstract

Globally, higher education, as well as K-12, utilizes online teaching to ensure that a wide array of learning opportunities are available for students in a highly competitive technological arena. The most significant influence in education in recent years is the increase and recognition of private for-profit adult distance and online education programs as legitimate institutions for quality learning.  Online learning focuses on a wide range of technological based learning platforms, delivery methods, and the integration of educational technology components into the learning environment. The emergence of modern technology has allowed students at all levels, young and mature, the opportunity to participate in advancing their education in an environment that is diversified, rich in best practices, yet progressive enough to allow students to proceed in a self-paced manner. This article will address online education, its strengths, limitations, online teaching tools, professional development, best practices, and an evaluation of a personal online experience.

**Key Words:** Learning, online environment, isolation, professional development, best practices, social media, electronic, digital learning, distance learning, evaluation.

## Introduction

Today's students are exposed to a technological era in which they are engulfed with an array of mobile technology and learning tools to include, ipads, computers, iphones, interactive audio or videoconferencing, webcasts, instructional videos via CD-ROMs or DVDs and computer-based systems transmitted through the Internet (The National Center for Education Statistics, 2011). Mobile devices provide education to students by allowing them to download necessary materials, immediately, to help fulfill requirements for issues they are confronted with daily (Bonk, 2009). Digital learning tools such as webcams, electronic books, and audio devices for recording lectures, to be used by students at their convenience, are effective tools offered by educational institutions to increase students' success rate with course requirements.  Electronic books can reduce the cost of and ensure use of most current reading materials, and a larger variety of sources.  The growth of these devices has provided instructors new and innovative tools to promote teaching and learning for students with varied educational needs.  Not only are technology devices necessary for success in the online environment, but the design of the online program, including the instructor, the curriculum, and student support services accompanied by a strong sense of community and connectedness within the program, are significant as well.

## The online learning experience

The online learning environment is characterized by several terms.  According to Kearsley and Moore (2012), distance learning implies a distant and reciprocal interaction between student and teacher.  Online learning and e-learning are other terms used in describing distance education. Both terms represent a two-sided relationship between student and teacher which embraces the deliberate goal of helping students to learn through use of the Internet.

The online learning experience, comprised of students, instructors, and the course curriculum, require the use of technological tools for accessing the online environment (Ally, 2008).

Students of the digital age appear to be independent, more technology disciplined, and technology savvy, complimenting the online environment well. The online learning environment provides autonomy, yet requires self-directed learning, and self-discipline which may influence the success or failure of online learners. Equally, delivering the best learning system and practices do not assure automatic success of online learners, or the learning experience. The online program must be embraced, not only by the learner, but the instructor as well. To meet the needs of this technologically dynamic population, instruction should be catered to facilitate student experiential learning with interactive elements, engaging varied learning styles, facilitating critical thinking, and encouraging collaborative learning experiences (Tapscott, 2009).

Learning institutions, offering online programs, are provided the unique opportunity to approach the learning process from an eclectic perspective; one that is diverse in nature, as its population of students is in their experiences. Incorporating the use of a variety of technological modalities, self-paced learning practices, and diversified learners may enrich the learning environment. The quality and design of an online program are crucial. The quality standards-based curriculum should be designed to include the following components: course procedures and guidelines, measurable learning objectives, assessment and evaluation, methodologies that address learning outcomes, interactive learning opportunities, resources and materials, learner support services, and accessibility to all students (Quality Matters Program, 2013). According to Merisotis and Phipps (2000), course quality is critical and minimal standards should be integrated into the design and development of online programs, as well as a continuous assessment to assure quality.

The learning process is strengthened and sustainable when institutions help students feel committed and satisfied with their online practices and when they experience a strong sense of community within the learning environment (Tinto, 1993). Online education may not work for every student. Some students may experience isolation and a sense of disconnectedness during the learning experience. The reduced sense of community may increase dissatisfaction and discontentment and increase the dropout rates. According to Rovai (2002), a strong feeling of community and camaraderie among students is crucial, not only to increase diligence in coursework, but also to encourage cooperation and commitment among students and student goals. Instructors can help reduce isolation in the online environment by teaching face-to face in a traditional classroom, record the collaboration among students, and incorporate the audio/video into online courses. Students that have a continual need to communicate with peers and the instructor can schedule chat sessions and online group discussions to participate and respond to questions, assignments, problems, and projects. The four interacting components of a sense of community within the online learning environment are connectedness, interdependency, socialization, and common goals (Rovai, 2002). When students can experience and embrace these components, their online experience may be more positive and lead to their success in the program. Experts suggest that instructors of online learning programs can mitigate the isolation felt by students and increase a sense of community by increasing dialogue, encouraging mutual awareness and interaction, establishing proper netiquette, providing small group collaborative experiences, ensuring that group tasks are effective for all, embracing differentiated instruction practices, and managing community size as appropriate for student success (Rovai, 2002).

### *Strengths of online learning*

Online learning offers the convenience of time and space, capability of reaching a greater student population, and draws the attention of a new group of digital learners. Rovai (2002) proposed that instructors, who embrace supportive methodologies, may help students feel connected through a strong sense of community, leading to a productive and successful online experience. Online students view teacher feedback as key dimension of the teacher-student interaction process. Wong (2005) advocated that students view quantity and quality of feedback on assignments as an accurate measurement of the instructors concern and interest in them. Higher

education has begun to follow completion rates, rather than just enrollment of students in online courses; this represents cost effectiveness for colleges and universities in the long run. Communication by way of the discussion tools can also help increase student achievement.

The educational delivery system is changing because of technological advances. Students now have greater autonomy at directing their learning toward their specific needs rather than approaching it circuitously (Cooley & Johnston, 2001). Experts proposed that students' self-discipline, effective instruction and engagement, as well as response time in courses, contribute to the completion rate of online programs. Start-up costs for developing online courses are usually expensive which includes training, software, and computers. However, in the long run online courses could be highly cost effective for higher education institutions. Online courses require courserooms, experience potentially increased enrollment, require no commuting or parking expenses, no facilities or custodial costs, experience limited inclement weather issues, and access to library databases from any location with Internet connections. Maeroff (2003) reports that, "E-learning has come on the scene to augment and sometimes supplant the traditional classroom" (p. 2).

In lieu of bricks-and-mortar related expenses, some less-developed countries see the online experience as a cost effective option. Other foreign countries, such as Africa, Japan, and Britain, survived the misgivings of global learning programs and recognized the ubiquitous and collaborative benefits of university connectedness within the virtual learning community (Maeroff, 2003).

Research offered by (Allen & Seaman, 2006) clearly demonstrated that online learning continues to become more prevalent in the majority of higher education program offerings, provided instructors are given the necessary tools for implementation of online education programs. Data collected by the Sloan Consortium (Allen & Seaman, 2005; 2006; 2007; 2009; 2010) consistently reports an increase in online enrollment in higher education. During fall 2006, almost twenty percent of higher education students were taking at least one online course (Allen & Seaman, 2007). Nontraditional college students, 25 and older with families and full-time employment, represent a greater presence in online education than their traditional counterparts (Radford, 2011). The increased presence of nontraditional, household, lifelong learners further stipulates the need for distance and online education. Lifelong learners, along with generations of young learners, will be equipped with technology exposure and Internet access to saturate the field of online learners, thus rising above their teachers in knowledge and application (Junco & Timm, 2008). Online programs at accredited institutions have proliferated, especially because eligibility for federal financial aid programs has opened a new world of opportunities for students who once found institutes of higher education out of their reach.

Concomitant to connecting with a culturally and diversified cohort population, online learning provides an impartial, unbiased level of interaction without unwarranted judgment because of appearance, gender, ethnicity, varied socioeconomic levels, and other extraneous factors. Students are provided the opportunity to feel more comfortable in their course interactions and have more time to prepare and engage their thoughts and ideas with greater focus and intent, therefore, improving the quality of student interaction. When comparing the online experience to that of traditional university settings, online learning can be far more beneficial than that of a lecture hall with 300 other students. The lack of face-to-face sharing allows students to feel more comfortable with being frank in discussions, especially among students who characterize themselves as being shy or timid. Conversely, personal expressions and other cues, once absent during Internet communication, including face-to-face and eye contact, are now available through FaceTime and Skype, when appropriate and necessary, for students needing this approach.

### *Limitations of online learning*

As with any learning medium, the use of the Internet in distance and online learning has limitations, as well as strengths. Isolation is a crucial factor to consider when designing an online program, especially considering the social perspective which some academia shows little appreciation. Social interactions within the online environment are influenced by communication approaches designed within an online program (McInnerney & Roberts, 2004).

Research suggest that college students in online learning programs spend more time developing cognitive and critical thinking skills (Barr & Tagg, 1995) and less time in the social domain for growth and development creating a sense of isolation, not because of distance, but from the instructor and fellow learners. Isolation occurs when students are unable to interact with their peers, are not computer savvy while experiencing technical difficulties and often suffer from academic deficiencies; these factors may lead to unsuccessful online experiences (McInnerney & Roberts, 2004).

Another difficult part in building an online environment is that there is limited opportunity for establishing trust. Developing a deep level of sharing may sometimes be problematic. Ethical practices such as honesty, integrity and reliability may not always be present in student practices. The belief that there are more opportunities for cheating, creating falsehoods, and producing dishonest work perpetuates this view. Institutions have put in place policies and guidelines to help mitigate plagiarism and other dishonest practices.

Technical problems and solutions for technical support may also hinder the effectiveness of online learning. Learner support should be in place with policies and services ready to assist students, including those technologies for students who need help with assistive devices including visual and audio elements.

Online education has its critics that perpetuate a bad reputation, for this type of program, as a result of some for-profit organizations' dishonorable approaches to getting federal financial aid. Some organizations received funds for student loans even when they did not qualify. Critics view online programs, offered by for-profit organizations in higher education negatively, with the belief that the quality of education is less than that of other educational institutions (Kelderman, 2011).

### *Online teaching*

Most schools are contemplating offering online programs. Administrators must seek vital resources to address the needs of educators. Some schools have key faculty that can shift into the online classroom (Allen & Seaman, 2005). Communication, by way of discussion tools, may help increase student performance. Instructors can quickly and easily contact students during online instruction regarding course activities or updates. When instructors are given time to collaborate, sometimes globally, with one another, share ideas and strategies for instruction, and presentation of lessons through virtual conferences, this can promote student success in the teaching and learning environment.

Social media that includes Facebook, Twitter, Google Doc, and Blogs can be used to improve teaching and learning in educational institutions through discussions, chats, group activities, and videos of lessons. Scholarship of teaching and learning works toward improvement in student learning. The integration of social media into the curriculum allows educators to increase practices of scholarly teaching. Research continues to evolve as to the specific social media that can offer the best practices to attain desired outcomes for educational institutions.

The quality of higher learning institutions should continuously be driven to improve how to effectively use the existing technology and a mind-set focusing on the future uses of technology without jeopardizing the integrity of higher learning institutions. Instruction must be available to

all students, including students with disabilities.  Assistive device technologies must be available for students who need help with visual and audio elements for completing the course; these services must be readily accessible with clear directions for obtaining them.

## Professional development

The readiness of faculty is another factor that must be addressed and resolved.  Teachers' attitudes and dispositions must be considered as well as development of technology and online proficiency skills through continuous professional development.  Guskey (2002) propositioned that the change process is gradual and difficult, yet possible.  **"**Professional development is about ensuring that teachers continue to grow and improve" (Yager, 2005, p.18).  Professional development's focus is not about attending workshops and updating portfolios to improve professionally in concept only, but in action and in application (Yager, 2005).

Considering the vast number of K-12 and higher education institutions expanding to include online programs, many instructors are still dubious regarding the effectiveness of the online environment, particularly, the diminished academic support, and the incentives used to encourage participation (Seaman, 2009).  The growth of online courses and programs calls for more qualified faculty to teach online (Allen & Seaman, 2009).  Some instructors in traditional learning environments experience trepidation of online dynamics such as course methodology and course management germane to the online environment.  Others find it challenging to adjust new pedagogical form from a traditional structured educational environment.

Professional development presents the opportunity for educators to transition from teaching in a traditional classroom to teaching online (Palloff & Pratt, 2001).  According to Ehrmann, (1995), the use of technological advances for educational delivery is not the answer to educational success, as are appropriate methodologies and learning outcomes for the students. When educators provide measurable learning objectives, appropriate instructional and learning activities with appropriate assessment and measurement, learning can occur in most environments.  The design and structure of the online course should be organized, understood, and ready for implementation well in advance.

Institutions of higher learning, especially within the discipline of education, are constantly concerned with preparing teachers to cultivate best practices for addressing the progressing educational needs of their students.  Digital technology allows teachers to connect with one another, learn from each other enabling them to be more effective in the teaching and learning environment.

Traxler (2007) suggested that mobile devices play a significant role in higher education for professional development, training, attending conferences, seminars and presentation of lessons.  Personal and private communication devices are compact, user-friendly, convenient and easily available to serve as progressive collaborative tools.  The integration of technology and social media through online courses allow instructors to demonstrate research-based instructional and learning strategies that facilitate learning and classroom management in their classroom experiences.

Today's learning must be fostered in a technology-rich environment that encourages interaction and a connectedness to the international community.  There is also a concern for students' critical thinking, skill development involving problem solving, performance and the application of acquired skills which the online environment can be designed to address.  Faculty training in online learning provides educators the opportunity to understand how to effectively transition and engage teaching strategies in the online environment and address learning styles to make the appropriate instructional decisions that benefit students.  These issues are all ongoing with goals that require constant monitoring, reorganization, and restructuring.  The community of higher

education should be continuously positioning itself to meet future challenges while managing successful current tendencies and practices.

## Best practices for online teaching

Effective instruction in any learning environment includes the creation of a positive learning environment by cultivating self-efficacy, providing meaningful and active engagement, and inclusivity.  Instructors of online learning programs must:

> Establish a nurturing and supportive environment that reduces stress associated with academic difficulties and peer conflicts.  Brain research has confirmed a link between cognitive and affective learning domains.  When students feel threatened, stress hormones are released that interfere with the processing of information.  Memory and learning are impaired (Jensen, 1998).

> Ensure that communication between faculty and student must be constant and effective to include e-mail, web-based conferencing (webinar), courseroom postings, online discussions and phone contacts.  FaceTime and Skype should be included for those students who need the personal approach.

> Provide cooperative learning opportunities to facilitate critical thinking, brainstorming/problem solving, study groups and the use of dyads and peer assessment activities.

> Provide experiential and active learning activities, utilizing Bloom's Taxonomy to activate areas of the brain responsible for higher order thinking that address the construction of knowledge through analysis, synthesis and evaluation.  These activities require students to make decisions, conduct experiments, and explore ways to solve real-world problems. Case studies, role-playing, and scenarios promote a higher level of achievement.

> Give punctual feedback regarding students' posts, within courseroom, through e-mail, courseroom assignment postings, or whatever is agreed upon by teacher and students Structure opportunities for practice and establish peer tutoring when necessary.

> Express high expectations of students by continually motivating, commending successes, and providing stimulating activities to support active learning.

> Embrace cultural diversity and different learning styles by incorporating Gardner's Multiple Intelligences (1983) to address varied learning styles and engaging students' academic strengths.

> Provide differentiated instruction, by channeling in, personally, to all students' needs, so that all learners can be reached and developed to their fullest potential.

> Discuss and define course policies, teacher expectations and plagiarism early in course. Differentiate intentional and non-intentional plagiarism. Implement contractual documentations, if necessary.

> Ensure accommodation of learners needing special assistance and assistive technologies.

The instructor, as well as the learner, has the option to also log in and respond to posts at convenient times.  Instructors have the opportunity to contact students during online instruction regarding assignments, readings, projects, and exams in the discussion thread; chat rooms, texting, email, and conferences are also available to promote success of students.

## Strategies for the online learner

Learners in higher education, characteristic of autonomous and self-directed learning, can control the level and pace of their learning. Online learning programs impose deadlines for courseroom postings, just as bricks-and-mortar programs engage deadlines for submitting assignments. Both programs are similar in content, except in pace and quantity of content; online programs engage enormous content; and demand rapid progress. For this article, self-paced progression refers to movement "through" courses, rather than, movement "within" courses.

1. Avoid procrastination.

2. Plan and organize weekly coursework.

3. Set goals and manage time effectively.

4. Develop and engage good study habits, then practice them.

5. Keep up with assignments and post in a timely manner.

6. Allocate time in work schedule for rest, exercise, proper nutrition, and social interaction.

7. Participate in online discussions and check into courseroom based on course requirements.

8. Communicate with professors, as often as necessary.

9. Take keyboarding class (before beginning online class) if typing and computer skills are not proficient.

10. Take notes while reading and practice becoming a good note taker and developing outlines.

### *An evaluation of a personal online experience*

The following is a response to an evaluation of an online program from a learner at the completion of a PhD program in 2008:

1. How does student/teacher relationships online compare to traditional classrooms?

   When learners do not meet with professors face-to-face somewhere at any time during the course experience, especially during the writing of the master's thesis and dissertation, there can become a distrustful atmosphere for the learner/student. This in turn may lead professors to unnecessarily over-saturate learner production to help ensure the credibility of the learner's work.

2. Did your online course experience provide an appropriate environment for learning?

   The online environment was fine but did not provide opportunities for appropriate reinforcement of concepts because of its fast paced nature. The lack of multisensory stimulation and presentation in the courseroom leaves little for engaging the different learning styles. The environment was appropriate but less effective in meeting the individual needs of each learner/student.

3. How is online teaching incorporated into the curriculum of your organization?

   At my university, several departments have incorporated online courses with their curriculum offerings. These online courses did not replace any existing courses, but expanded offerings through the online medium.

4. What are the advantages/disadvantages of online courses?

The advantages of online learning are: Learning in safe and familiar environment; moving at personal pace; free of travel time and expense; convenience.

The disadvantages of online learning are: Too costly; little opportunity for personal contact; encountering geographical biases (some professors and students from other areas of the country or world cannot accept that learners from a particular location are educated and are capable of performing well and/or excelling academically).

5. How does online coursework help students achieve greater academic success?

Online learning may help students achieve greater success, but not necessarily academic success. The online experience can cause one to excel technologically, and become better equipped for today's job market since technology is fundamental to everything. Online learning is not for everyone. Those students who are self-motivated, independent and self-disciplined may benefit from an online program.

6. How does teacher preparation impact online teaching?

I do not know how teacher preparation can impact online learning. But I think that online learning can impact teacher preparation. Because of online learning, teacher populations can be reached far and near with a computer and just the click of a button, cost effectively for professional development, short term workshops, mini conferences, tutorial learning, online conferences, etc. Sky's the limit.

7. How cost effective is online coursework?

Online coursework is not cost effective for learners in degree programs who maintain an extended stay. Online learning is convenient, but too expensive.

Evaluation of an online program at degree completion is an effective means of collecting information to enhance student learning and provide improvement in the overall program. The data collected from student evaluations can also provide educational institutions and faculty with valuable information for faculty improvement. Evaluations should focus on improving the quality of teaching and help to ensure that instructors have the necessary resources and learning opportunities they need to be most effective in the online environment

## Conclusion

Design and delivery of online courses that embrace community, curriculum, and assessment, as well as actively engage students in the learning process are significant for sustaining and building the online program. Effectiveness in the online environment points out the importance of being supportive and contributive to a sense of togetherness for development of relationships and overall success of coursework. Students' interest in a course and relevance of the content influences their work performance for achievement of goals for the course.

Professional development can play a crucial role in preparing teachers to integrate technology and learning into an educational environment that encourages interaction, meaningful involvement and a connectedness to other learners, as well as the international community. An efficient online learning environment demonstrates technology-rich, research-based instructional and learning strategies that facilitate learning, and classroom management within the courseroom experience.

The electronic movement has evolved into a science which engages best practices; some from bricks and mortar institutions, and others which emerged from a highly diversified cultural, academic, and geographical cohort of learners. The online learning environment, once devoid of personal communication, is now inundated with approaches that help students feel a sense of community and partnership while meeting their learning needs. In online programs, learners

experience a paradigm shift from literal involvement in academic pursuits, to both virtual and tangible realms of scholastic pursuits within a virtual community of learners with a common goal of meeting their educational needs while networking with others.

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**Editor's Note**: Research enables us to test assumptions about the clarity and effectiveness of instructional materials and supporting technologies and services. This study is the first step in generating data for course improvement, and opens questions for future study.

# A comparative study of instructional materials used in formal and non-formal education systems in teacher education

**Tanvir Malik**
**Pakistan**

## Abstract

The study was descriptive (survey-type) in nature. It was conducted through the offices of the DNFE and Dean of faculty of education. Prior to the actual study, pilot study was conducted in December 2012. Two types of questionnaires were developed by the researcher and these were pilot studied on a small sample. The instruments were improved in terms of language, content, format and style. A few of the items were either changed or removed. Questionnaires were sent to the scholars and researchers in the field of education for the purpose of validation. Final study was conducted in the spring 2013. Out of 800 mailed questionnaires 538 were received back, 298 from AIUO and 240 from Preston. A master sheet was used to collect data. Each response choice was given a numerical value. Questionnaire for the students contained three parts. First part was to collect demographic data, though questionnaires were anonymous. Second part consisted of 25 closed-ended questions. Questions were formulated in the form of Likert type scale. Third part had open-ended questions in order to find the opinion of the students. Questionnaire consisted of several sections according to various aspects of the computer based instructional material model. The other questionnaire was formulated for academicians in order to verify the information collected from student questionnaire.

## Introduction

This study is designed to compare the use of different types of instructional materials used and available to students of the two universities of Pakistan. Allam Iqbal Open universities (AIOU) Islamabad has been a state run prestigious institution established in 1974 by using the UKOU as a model. AIOU has many programs in order to fulfil the needs of the students of Pakistan such as from Secondary School Certificate (High school diploma) for women to PhD. Preston is a Pakistan based institution that was established in 1982 under private management. Preston is accredited in two of the four provincial governments but is working in all four also has branches in Ajman (UAE) and USA. In USA Preston is based in Los Angeles and is non-accredited for profit institution. Preston also has many programs to offer to its students from bachelor to PhD.

## Methodology

Two types of questionnaires were developed and used in this study. One questionnaire was developed for the students and the other for the faculty. Questionnaires were mailed to the respondents with a self-addressed return envelope. The students, staff and faculty M Ed program of AIOU and Preston University were the source of data for this study. The opinion of the expert faculty and staff was also taken into consideration.

## Population and sample size

All the students of M Ed enrolled in AIOU Islamabad and Preston University Islamabad during spring 2012 to autumn 2013 was the population of the study. A valid sample was derived from the population by using simple random sampling techniques so that all members had an equal chance to participate. For pilot study the sample comprised of 57 students and 9 members of staff, faculty, staff and administration. The members of this sample were excluded from the final study. The sample for the final study consisted of 538 students and 51 faculty members, staff and administration. They were designated as academicians in the study.

## Procedure

The study was descriptive (survey-type) in nature. It was conducted through the offices of the DNFE and Dean of faculty of education. Prior to the actual study, pilot study was conducted in December 2012. I created two types of questionnaires were developed and were pilot studied on a small sample. The instruments were improved in terms of language, content, format and style. A few of the items were either changed or removed. Questionnaires were sent to the scholars and researchers in the field of education for the purpose of validation. Final study was conducted in the spring 2013. Out of 800 mailed questionnaires 538 were received back, 298 from AIUO and 240 from Preston. A master sheet was used to collect data. Each response choice was given a numerical value. Questionnaire for the students contained three parts. First part was to collect demographic data, though questionnaires were anonymous. Second part consisted of 25 closed-ended questions. Questions were formulated in the form of Likert type scale. Third part had open-ended questions in order to find the opinion of the students. Questionnaire consisted of several sections according to various aspects of the computer based instructional material model. The other questionnaire was formulated for academicians in order to verify the information collected from student questionnaire.

## Objectives of the study

Two questionnaires were developed to study four objectives of the study. The items of the two questionnaires were formulated in the light of these objectives. In order to achieve the first objective, "To assess the effects of the use of instructional materials in the formal and non-formal settings." several items were included such as instructional materials involve students in the study, increase motivation and interest of students, students like self-instructional materials, enhance quality of education, help getting effective education, provide technical support, increase understanding of the materials, help in explaining, clarifying and remembering concepts and should be according to culture. Both of the samples overwhelmingly agreed to these items thus accepting a positive effect of instructional materials on themselves and on their studies. Through the data collection and analysis this objective was achieved. The academician sample also agreed to these statements overwhelmingly thus further proving that objective of the study was achieved.

For the second objective, "To compare the cost effectiveness of instructional materials used in the formal and non-formal education systems" no direct item was created to check the prices. This objective was studied indirectly through availability and use by the students of M Ed classes. Students of the two samples and academicians accepted that all types of instructional materials were not only readily available to faculty and students but also they were encouraged to use them. The availability and frequent use of the instructional materials indirectly prove their they were cost effective otherwise they might not be available to student populations and would be just used for demonstrations by the faculty and trained professionals.

For the third objective of the study, "To find similarities and differences that exists between the use of instructional materials in formal and non-formal education systems" several items were

formulated for all the three samples such as self-instructional materials, textual materials and different types of instructional materials available to students. This study finds out that there were differences that existed between the instructional materials. The self-instructional materials had been created for the students of non-formal population. Students' samples and academicians agreed several similarities that exist between the uses of instructional materials. They also accepted that liked all kinds of instructional materials and accepted that they have been readily available for use to faculty and students. This study argued that there were more similarities than differences in the availability and use of instructional materials. Both of the students' samples agreed that textual materials were easy to understand and was of high quality with full of graphics. Both of the students' sample also agreed that were familiar with all kinds of instructional materials and also agreed to the benefits they had to make the content understandable etc. The academicians also accepted that the quality of instructional materials should be of high quality as distance education. They also agreed that instructional materials should be according to the content of the subject and increase motivation and interest for students to increase their learning. They also accepted that the instructional materials should be content wise and were readily available to students.

The fourth objective of the study was, "To understand the nature of instructional materials used by the students in the formal and non-formal institution." Several items were created to achieve this objective. This study proved that instructional materials were interesting, according to the culture and content, help students to understand a difficult content and involve students into the study. The academician sample also insisted that instructional materials should be students centered and not teacher centered, should not be written down by one author and should be according to national policy. They also argued that instructional materials of formal education were not useless and boring but they had an element of interest and motivation in them. They also accepted that instructional materials that had printing in them were of high quality and up to the mark.

In the same way five hypotheses were formulated while considering the present situation of use of instructional materials in teacher training institutions. Two types of questionnaires were formulated to test these hypotheses.

$H_o1$: There is no significance difference between the satisfactions of M Ed students with instructional materials in formal or non-formal settings.

Several items have been formulated to test this hypothesis. The respondents of the three samples (Students of Preston, AIOU and academicians accepted that they were satisfied with the current situation of the use and availability of the instructional materials. They accepted that instructional materials increase interest and motivation in the study. They also help to understand a difficult concept. The respondents also accepted that instructional were readily available to them and were of high quality thus proving the hypothesis as true.

$H_o2$: There is no significance difference between the availability of instructional materials to the M Ed students either in formal education or in non-formal education system.

The students of the two samples accepted that did not matter what kind of instructional materials were there (formal or non-formal) they were easily and readily available to them for construction and use. This was how the hypothesis was accepted to be true.

Ho3: There is no significant difference between the types of instructional materials used in M Ed classes either in formal system or non-formal educational systems.

The students of the two samples accepted that there were several same kinds of the instructional materials available to students of both samples such as charts, posters and bulletin board etc. but there are several other that were made for distance education only and several they were made for

formal education system such as PowerPoint and handouts. This study suggested that there was a difference between construction and use of instructional materials for the students of both of the systems of education thus disproving the hypothesis.

H$_o$4: There is no significant difference in the standards of textual materials and other instructional materials used at M Ed levels students through formal or non-formal educational systems

The respondents of the all three samples agreed that textual material or any other materials involving print job and construction and use of any other instructional materials was of a high quality and up to the mark. Respondents agreed that all the instructional materials had all kinds of necessary ingredients in them such as presence of graphics, images and diagrams. Respondents were satisfied with the current situation of use and availability of instructional materials in both types of educational systems such s formal and non-formal thus proving this hypothesis as true.

H$_o$5: There is no significant difference between the interest and motivation levels of the M Ed students when instructional materials are used in formal or non- formal educational systems.

Respondents agreed that all the instructional materials were interesting, increase motivation and help to understand a difficult concept and involve in study. Academicians also accepted these factors in the use of instructional materials and thus validating students' responses and accepting this hypothesis.

## Results

This study was designed to study a comparison of use of instructional materials in M Ed class of AIOU and Preston University Islamabad. The comparison of the use of instructional materials of M Ed class of a formal institution and a non-formal institution was also an interesting thing to do as the needs of the two students were different in different circumstances.

Two questionnaires were created to study the comparison; one for students and the other for academicians. There were many interesting issues came about during the study. An account of which has been given below:

According to the respondents the instructional materials used in both were:

1. Textual materials of high quality with introduction, objectives, built in activities, self-assessment questions, divided into sections and subsections, with illustrations and graphics, easy to understand language, with glossary and bibliography

2. Self-instructional materials for distance education students

3. Lecture notes for professors to teach

4. Charts, models, projectors, bulletin boards, flip charts, movie camera, TV, Multimedia, Newspaper and magazines

5. AV aides

6. Teachers writing comments on students' assignments and projects to guide

There were a lot of benefits of using instructional materials but an account of some of them has been provided here:

***Instructional materials:***

1. Have objectives in behavioral terms

2. Have introduction of each unit

3. Quoted everyday examples

4. Self-explanatory

5. Have glossary and bibliography to authenticate

6. Format according to distance education philosophy

7. Easy to understand

8. Students centered

9. Higher standard

10. Increase interest levels and motivation of students

11. Involves students into studies

12. Easy to understand

13. Self-explanatory

14. Readily available

15. Enhances quality of education

16. Helps in getting education effectively

17. Provide technical support

18. Should be according to the culture of society

19. Facilitate understanding of the subject

20. Help explain main aspects

21. Distinguish various concept of education

22. Remember important points

23. Help understand difficult aspects and concepts

24. Should be according to national policy

25. Should be according to Textbook Board

26. Should be written by experts of the related subject

27. Supported with relevant media

There were several interesting disagreement seen in the study also such as:

1. Instructional materials should not be teacher centered

2. Formal education instructional materials did not involve students and they are not easy to understand

3. Formal education system did not have introduction and objectives

4. Should be written by one author

Several other interesting and astonishing results that came out from this study were:

1. 25% of Preston respondents and 41% of AIOU respondents disagreed that language of textual materials was easy. They were not in majority but their number was significant in disagreement.

2.  30% of the AIOU respondents disagreed that textual materials had sections and subsections

3.  47% of the AIOU respondents also disagreed that the language of textual materials was self-explanatory but only 6% Preston sample disagreed to this.

4.  45% of AIOU sample and 57% of Preston sample disagreed with the statement that students like self-instructional materials.

5.  64% of Preston University sample disagreed that teacher used notes of text to lecture while 25% of AIOU sample disagreed to this.

6.  37% of AIOU and 27% of Preston University sample disagreed that all kinds of instructional materials were available to students.

7.  32% of AIOU respondents disagreed that instructional materials provide technical support.

## Conclusion

Despite these agreements majority of the respondents from both institutions and academicians agreed that instructional materials were an important part of the teaching learning process and one may imagine how absence of these might affect the whole process. There were several chances of error also indicated by this study such as researcher received several calls from the respondents needing explanations to many terms such as self-instructional materials etc. through this study respondents from both of the institutions and academicians set guidelines for the future researchers and planners to create and incorporate instructional materials in teacher training classes.

## Recommendations

In the light of findings, recommendations towards further study were made such as the most significant recommendation is to encourage additional research which links theory (scholarship) and practice. Because students in the present study have completed a course it would be beneficial to conduct a study considering many of the same independent variable but in relationship to students who have stopped-out a dropped-out. With the increasing focus on multicultural populations it would be beneficial to conduct a study similar to present study utilizing and analyzing the data in respect to a multi culture environment. More cross cultural studies can be done similar to present day study. The present day study will become a source for the researchers to follow. The researchers can study further aspects of a distance education of developed or less developed nations while using the present study.

1.  The most significant recommendation is to encourage such additional research that may evaluate use of instructional materials in M Ed classes after two successive cycles.

2.  An interesting avenue for future research is the relationship between the findings relative to this study at M Ed Level and possibilities for generalizing those findings to other levels such as B Ed offered through education institutions,

3.  Research studies utilizing the variables from the present study and applied to institutions comparable to Allama Iqbal Open University, Islamabad and Preston University for the use instructional material model or use of technology in class.

4.  It would be beneficial to conduct a study to see performance of the students in the multimedia classes that use instructional materials.

5. A similar study would pursue the non-respondent in the study in an effort to determine their similarities or differences in relation to the respondents in relation with the use of instructional materials at M Ed.

6. More studies could be done in the field of educational technologies and components of instructional materials similar to present study. Present study would become a source for the researchers to follow.

7. It would be appropriate to conduct research discovering how the distance education students utilize the modified learning materials in respect of heavy emphasis on instructional materials provided by the instructors, resource persons, faculty or AIOU.

8. Future researches may be conducted to study the level of use of instructional materials suggested at institution level where trainee teacher would go and teach as innovators, while using the present study as a guide.

9. The cost effectiveness of some of the modern instructional materials suggested in this research can be studied while using present study as a source.

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