EFFECTS OF EXPERIENTIAL LEARNING ON FACE TO FACE AND MULTIMEDIA LEARNING ENVIRONMENTS IN THE ACQUISITION OF ACTIVE LISTENING SKILLS

by

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A Salo y Franque, compañeros de viaje,

A mis padres, Enrique y Adelina, por todo el amor

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ABSTRACT

EFFECTS OF EXPERIENTIAL LEARNING ON FACE TO FACE AND MULTIMEDIA LEARNING ENVIRONMENTS IN THE ACQUISITION OF ACTIVE LISTENING SKILLS

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Comparison studies between Technology or Multimedia Learning Environments and Face-to-Face (F2F) Learning Environments in social work education usually show that technology works as well as F2F environments. However, they also suggest they are not interchangeable, but are dependent upon educational approaches. Otherwise, experiential learning as a main educational approach has been adopted from Council on Social Work Education (CSWE) guidelines without strong evidence of its effectiveness. A 2X2 Nonrandomized Multiple Comparison Groups Design with pretest from each group evaluates the effectiveness of two different Learning Environments (multimedia versus F2F) and two different Teaching Techniques (experiential versus exposure plus

discussions) in acquiring active listening social work skills. The study used a double blind procedure with blind instructors and external raters of the acquisition of social work skills.

A first group of hypotheses proposed that Experiential Learning would be more effective than Exposure plus Discussions in terms of satisfaction, perception of learning gains, and learning and skills acquisition. A second group of hypotheses proposed that Multimedia would be more effective than F2F learning in terms of satisfaction and perception of learning gains, but not on learning or skills acquisition. A third group of hypotheses proposed an interaction between Teaching Techniques and Learning Environments, a Multimedia learning environment being more effective depending on Teaching Technique. It was hypothesized that Multimedia would be more effective whether using Experiential Learning. Multiple Analysis of Variance and Analysis of Covariance were used to analyze the data.

Most of the hypotheses were supported, but interaction showed that F2F learners got the highest scores using Experiential Learning. In other words, the most important hypothesis failed to be supported, in fact, the opposite occurred. An alternative explanation for this opposite finding could be attributed to lack of adequate sophistication when designing the multimedia learning environment. A general conclusion is that Experiential Learning seems a plausible Teaching Technique in learning listening skills for social services practice.

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CHAPTER I

INTRODUCTION

ICTs and Social Work Education

International social issues of overpopulation and globalization bring particular new problems to the social work arena. One consequence of these new problems is a need for rethinking how young populations can globally receive educational services, notably in the developing world (Gallego Arrufat, 1998). Until now globalization has increased differences between people with resources and people without resources, especially knowledge resources (Warschauer, 2002). Critics of globalization suggest that strategies have to be constructed to globalize knowledge, not just poverty (Gallego Arrufat, 1998).

Information and communication technologies (ICTs) have given access to people everywhere in a computer-mediated communication era by dissolving distance and time barriers (Herie, 2005). Information and communication technologies (ICTs) are playing an extended role in many aspects of daily life, including social work and education. In the U.S. over 1.9 million students were enrolled in educational courses online in the fall of 2003 (The Sloan Consortium, 2004).

The Council on Social Work Education (CSWE) (2002) guidelines has called for outcomes showing that distance education is comparable to face-to-face education. As a result, a growing corpus of evidence has supported equivalent learning outcomes in comparison between online and face-to-face learning environments in terms of student

satisfaction, performance (Frey, Yankelov & Faul, 2003; Holden, 2002; Moore, 2003; Petracchi & Partchner, 2000; Schoech, 2000), perceptions of learning (Freddolino, 2000; Siebert, Siebert & Spaulding-Givens, 2006), and skills acquisition (Ouellette, Westhuis, Marshall & Chang, 2006; Siebert et al., 2006).

There is a double-edged sword in equivalent learning outcomes. Some authors (e.g., Brabazon, 2002) state that equivalent learning outcomes suggest there is no reason to invest in technology. In opposition to that stance, slowly but firmly, more and more professors in the U.S. and Mexico are convinced of the need to use technology. Beyond economical reasons, they are confident that technology can help them to improve their teaching effectiveness (Schoech & Helton, 2002). Russell (1999) reviewed 355 research reports comparing different kinds of educational technologies before stating that it is not technology, but the pedagogical approaches behind it that produce different learning outcomes. Russell (1999) came to the conclusion of the "no significant differences phenomenon." For example, Faux and Black-Hughes (2000) compared a course delivered by the Internet that used a lecture-only approach (a typical Website) versus a face-to-face course designed to use lectures plus discussion as teaching technique. They found that technology resulted in lower scores for students' perceptions of learning than in face-to-face interaction. They concluded that technology is not better than face-to-face, a conclusion related to the no significant difference phenomenon. Their findings suggested that the difference resided in the interactive approach (discussions) used in their use of F2F exercises, not in the learning environments; therefore, they suggested a need for research on how different educational approaches influence learning. In addition, with new technology advances (e.g., from a blackboard environment to a video classroom—all students and instructor using webcams), technology

limitations begin to fade away and the teaching techniques become more important. Russell (1999) states that educational technology needs to be analyzed, not as whole, but by using more precise definitions. This researcher uses the narrower, but broad enough term, "multimedia," to designate the complex of video, pictures, audio, games and text tools delivered by using computer-based platforms (Mayer, 1999).

Changes in educational theories and settings have focused attention on how learners learn. Theoretical frameworks such as experiential learning (Goldstein, 2001) or constructivism (Bruner, 1996) center the learning process on students. These frameworks state that in interacting with other students, professors, social contexts and real problems, students construct their knowledge in environments where they perceive themselves as comfortable and encouraged for learning how to solve problems (Freddolino, 2000). Experiential learning has been extensively used as a plausible approach to teach social workers' skills in the UK and the U.S. since the 1990s (Goldstein, 2001; Taylor, 2004). Experiential learning for social work education states that effective learning is influenced by a cycle of experimentation, reflection, research and exercising (Gibbons & Grey, 2002; Goldstein, 2001; Horwath & Thurlow, 2004). As documented by Horwath and Thurlow (2004), research outcomes showing the effectiveness of experiential learning are as yet in their infancy. However, because experiential learning is supported by active learning (Chickering & Gamson, 1987) and reflective thinking (Dewey, 1933/1998) frameworks, then it seems plausible to propose that this particular approach might support the construction of multimedia-based educational tools. Indeed, social work education has tried to translate experiential learning into multimedia learning environments used to develop clinical (Abell

& Galinsky, 2002), counseling (McCarty & Clancy, 2002), child welfare (Cauble & Thurston, 2000), and interviewing skills (Resnick, 1998).

Mirroring international needs for educational changes in the social work arena, the Bachelor in Social Work (BSW) program at the Autonomous University of Nuevo Leon (UANL, México) has been reshaped. Two main changes in the curricula include a focus on human development, in addition to the traditional concerns of social work, and a skills-based profile for graduates. Until now, the focus on experiential learning as a model to train students in skills seems to lack replication in developing countries. Because CSWE guidelines and an extensive group of social work educators have recently conceived experiential learning and training in skills for social workers as a unit (Horwath & Thurlow, 2004; Miller, Kovacs, Wright, Corcoran & Rosenblum, 2005; Wilson, Hamilton, Britton, Campbell, Hughes & Manktelow, 2005), the new curricula in Mexico provide a unique opportunity to test experiential learning principles in face-to-face (F2F) and multimedia-based learning environments in teaching social workers basic skills, more specifically, in teaching basic active listening skills.

Purpose of the Study

This research tests the effectiveness of different designs of learning environments. A learning environment (LE) is defined as a set of teaching and learning tools designed to enhance students' learning experience. The principal components of an LE package include curriculum mapping (breaking curriculum into sections that can be assigned and assessed), support for both teacher and student, communication strategies (conversations, guidelines for written communication), and links to outside curriculum resources. Learning environments can be based on F2F interactions, paper interactions, multimedia interactions, and so on. For

the purposes of this research, two kinds of interaction will be assessed—F2F and multimedia (see appendix A). Not all the components from that definition are used to construct learning environments for this study.

This research tests three components: (1) construction of two kinds of learning exercises that use different teaching techniques (experiential learning and lecture plus discussions) to test what happens when using them to teach active listening principles for Mexican social work students, (2) construction of two learning environments that test what happens when different learning environments (F2F and multimedia) are used to teach active listening principles, and (3) observation of differentiated and interactive effects between teaching techniques and learning environments and learning of basic active listening skills.

Because three components are tested they then compose the literature review. The first section explores foundational tenets of experiential learning and which tools have been used in experiential learning approaches. A summary of theoretical tenets of experiential learning and some of its related approaches is then provided to identify a plausible approach for constructing learning environments to teach basic active listening skills in the UANL BSW program.

The second section reviews comparative studies between F2F and technology—supported social work education to find gaps in the literature. It also reviews experiential learning and related theoretical approaches for constructing multimedia learning environments. This section concludes by summarizing theoretical tenets of experiential learning and related approaches and the identification of a plausible approach for constructing a multimedia learning environment.

The third section includes two subsections. The first one discusses meaning and approaches for evaluating learning in this particular research, with emphasis on evaluating the teaching technique called experiential learning and multimedia learning environments. The second one reviews how to understand learning outcomes and listening skills acquisition.

The literature review suggested a research design using two independent variables or factors (teaching technique and learning environment) and four dependent variables (satisfaction, perception of learning gains, learning, and skills acquisition). Therefore, the literature review ends with a statement of hypotheses, which are suggested by the anticipated relations of those variables, particularly focusing on the interactive effects of a teaching technique (experiential learning and exposure plus discussions) and learning environment (multimedia and face-to-face).

The method section describes the research design that tests the relationships between the variables. This study uses a Nonrandomized Multiple Comparison Groups Design to test main and interactive effects of teaching technique and learning environment in four dependent variables (satisfaction, perception of learning gains, learning and skills acquisition). The results section tests the research hypotheses by using Multiple Analysis of Variance and Analysis of Covariance. The discussion section summarizes findings and explores implications for social workers in practice and teaching.

Research Question

This research evaluates whether using experiential learning as teaching technique and using multimedia in learning environments is effective in teaching active listening principles in Mexico. The research question is, “What are the main and interaction effects of using

experiential learning vs. lecture plus discussions in F2F and multimedia in learning environments designed to teach the principles of active listening skills?"

Significance of the Study for Social Work and Social Welfare

This study will contribute to social work practice by identifying whether experiential learning might be used as an effective teaching technique to produce more effective social work practitioners. In addition, this study will contribute to social work practice by identifying effective ways to use technology based on good practices of teaching to produce more effective social work practitioners. This study will also contribute to improving active listening skills training in Mexico. Despite their importance for social work activities, training in communication skills is not frequent in Mexican social work schools. The recent curricular changes in the UANL's BSW program centered on social work skills training, but it is not clear how students exposed to that training will perform. This study identifies whether experiential learning as teaching technique in combination with multimedia is a useful approach for teaching active listening skills to Mexican social workers.

Experiential learning and related learner-centered educational frameworks are not just about education. They also consider how to empower, inspire and support social workers to put their own ideas and concepts into social work practice. Experiential learning considers how local experiences and values can make a difference in designing learning environments. In terms of social policy, transforming education through experiential learning and technology has implications for the theory and regulation of social welfare and also for the delivery of social services. Social welfare here is taken as a societal wellbeing concept, not in the constraint process of delivery of social services in residual ways. According to Freire

(1993), locating students at the center of the learning process is an emancipator development because it contributes to their empowerment by teaching them more than educational content; students learn that they may and should control their own lives.

Technology has the potential to effectively training social welfare professionals by transforming how they see social problems. By freeing space and time constraints through educational technology, social welfare professionals may potentially learn best practices of multimedia-supported social welfare services throughout the world. Research shows that social welfare professionals may use technology to facilitate administrative tasks, deliver social services, and learn in a lifelong process. Critical thinkers and innovative social workers may effectively use space/time-free technology in advocacy and to provide services without traditional constraints to practically anybody anywhere (Hick & McNutt, 2002).

The pervasive use of technology requires a reexamination of the roots of social welfare. The roots of social welfare may be observed in Rousseau (1960) and Titmuss (1971). According to these authors, in order to solve social problems a social agreement is required. The public interest, or social wellbeing, is a prerequisite of individual wellbeing. Without the first, the second is impossible. A new issue emerging from societal divides is digital divide, or the gap between those people who have access to ICTs and those people that do not have it (Warschauer, 2002). Warschauer (2002) implies that the ability to access, adapt, and create knowledge using information and communication technologies (digital inclusion) is critical to social inclusion. As important as the physical availability of computers and the Internet is the ability of people to make use of those technologies to engage in meaningful social practices.

Hick and McNutt (2002) state that the shift from an industrial society to the information society is changing social services practice in at least three ways: (1) the context of practice is being altered, (2) the agencies within which social workers work are becoming different, and (3) more sophisticated tools are being made available to the practitioners. Bridging the digital divide to provide social welfare services to any person around the world in need of them is a possible theoretical implication of applying multimedia learning environments in social work education and social work practice. In doing that, the social contract dream could be reached. That is why the multimedia delivery of lifelong education is a utopia for social welfare education and practice in a broad sense. How to reach utopia is just what this study and this field is about.

CHAPTER II

LITERATURE REVIEW

Introduction

This literature review is presented to support the study of using experiential learning to construct effective F2F and multimedia learning environments for social work education in Mexico. The literature review is divided into three sections. The first section of the literature review explores definitions of experiential learning, to answer what it is, where it comes from and which tools have been used in experiential learning. The first part summarizes theoretical tenets of experiential learning and related approaches and identifies a plausible approach for constructing learning exercises to teach basic communication skills based on experiential learning. Those exercises explore experiential learning's potential as a useful teaching technique to be used in the UANL BSW program.

The second section reviews comparative studies between F2F and technology-supported social work education and finds gaps in the literature. Then, a review of experiential learning and related teaching techniques for constructing multimedia learning environments is given. This part concludes with a summary of the theoretical tenets of experiential learning and related teaching techniques, and identifies a plausible approach for constructing a multimedia learning environment.

The third section includes two subsections. The first discusses meaning and approaches for evaluating learning in this particular work, with emphasis on evaluating

experiential learning and multimedia learning environments. The second discusses active listening as a core process for social work and also learning outcomes in acquiring active listening skills.

Experiential Learning Tenets

From feeling contact in the womb with the mother to the experience of death, all living creatures are always learning. Because education accompanies human beings in a lifelong process, how people learn effectively has been one of the main concerns of theory and research. Due to its pragmatic perspective, there is certain consensus that effective teaching in social work is related to experiential learning (Kolb, 1984). The apprentice model was described by Goldstein (2001), who based his discussion on Kolb and John Dewey (1933/1998). According to Dewey (1933/1998), the purpose of education is related to helping learners to acquire control over their own lives; this process occurs through an experiential approach to learning (i.e., "learning by doing") In this perspective, learning is an ongoing subjective process that balances participation in the contextual world of experience with knowledge (e.g., facts, information, practical skills).

Dewey's (1933/1998) philosophy of reflective learning provided education with recognition of the context, social action and experience, and the importance of students' achieving multiple, different understandings of their world. Also, he insisted on learning as a lifelong process characterized by the development of attitudes, values and skills, not just of cognitive outcomes. One implication of this perspective is that learning is always constructed from situated meanings in human environments, which are not only cognitive but also emotional (MacFadden, 2005). Indeed, situated learning is defined as learning in contexts that reflect the way knowledge will be used in real life (Herrington & Oliver, 2000). Because

meanings are different in different contexts, meanings, symbols and learning are always consistent with a semiotic domain (Gee, 2003). Another implication is that learning can not be seen as a measure of inputs and outputs, nor professors as knowledge deliverers. Focus should be on the environment, the arena where students interact among themselves, and with contexts, motivated or influenced by the professor playing a facilitator role, not a knowledge deliverer role.

Focus in experiential learning is concerned with environments and persons-in-situation. Moreover, the central question in an experience-based model of education is not "What to teach?" but "How do students learn?" (Bellefeuille, 2006; Gibbons & Gray, 2002). Because learning is always referred to previous knowledge, effective learning, in Dewey's terms, is a cyclic process of reflection, innovation, experimentation and conclusion. One implication of that for research is the importance to know the students' point of origin in terms of previous knowledge.

Dewey's attention to a safe environment for learning by doing is a concept extensively used by other well-acknowledged authors throughout the twentieth century. Changes in educational theories and settings have focused on how learners learn. Theoretical frameworks such as experiential learning (Goldstein, 2001) or constructivism (Bellefeuille, 2006; Bruner, 1996) center the learning process on the students. Those frameworks state that in interacting with other students, professors, social contexts and real problems, students construct their knowledge in environments where they perceive themselves as comfortable and encouraged for learning how to solve problems (Freddolino, 2000). Moreover, Dewey's concerns with interaction and environment, reflection and experience, and community and

democracy, were contemporary and familiar to a pioneer of social work, Jane Addams (Gibbons & Gray, 2002).

Figure 1 models relationships among personal characteristics (inputs), environmental influences and behavior (outcomes), and operating in reciprocal determination (Thurmond, Wambach, Connors & Frey, 2002). Dewey proposed that reflective learning should be the outcome of how inputs, environments and outcomes are conceived. He seriously criticized the traditional role of professors and students, rigid environments and cognitive learning as the only measurable outcome. In teaching technique terms, he strongly disagreed with lectures and discussions as the only ways to learn.

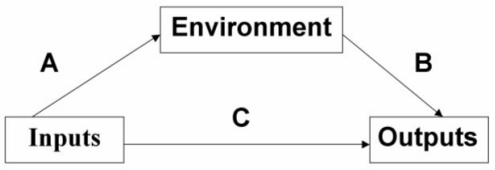

Figure 1. Astin's model of IEO (inputs, environment, outputs).[1]

A related concept to reflective learning is emancipator learning. Freire (1993), sees learning as an active, intentional manifestation of consciousness. He proposes that education, as a narration system leading to memorization is not communication or interaction, but "banking." In that traditional system, in opposition to real learning from social context, teachers and students are conceived as opposed: "Teachers know, students do not know." "Teachers think, students are thought about." "Teachers talk, students listen." According to Freire, democratization of learning is the only way for effective learning. Then the role of

[1] Source: Thurmond, Wambach, Connors & Frey, 2002.

educator is to promote values, attitudes and a dialectical solidarity with the world's learners, by motivating them to *read* the world and therefore, increase awareness of social conditions. Freire also suggested the debate of what his principles imply for learning environments. In spite of his student-centered model, he did not argue against lectures, but against the principle that lecturers teach and learners learn in an unidirectional way (Freire, 1993, 1995).

While there have been extensive discussions and consensus on experiential learning as a plausible teaching technique in social work education, Goldstein (2001) stated that programmed instruction, lectures and discussion, and problem-centered/case study are the normative teaching techniques in this field (see figure 2). He defined programmed instruction as transmission of systematic information, and stated that just lower-level skill learning is expected from this teaching technique. Lecture plus discussion is constructed to transfer large amounts of information in some depth, but usually this teaching technique lacks direct

Programmed instruction	
Lecture plus discussion	
Problem-centered/case study	
Experiential Learning Model:	Stages
	Concrete experience
	Reflective observation
	Abstract conceptualization
	Active experimentation

Figure 2. Overview of conventional teaching techniques and experiential learning.[2]

[2] Source: Goldstein, 2001, p. 66.

opportunities to apply this knowledge to actual circumstances. Goldstein defined problem-centered learning as applying concepts and theories to real-world situations. According to him, programmed instruction allows the lowest levels of skill development while experiential learning mode allows the highest level of skill development because it also allows the best understanding, a prerequisite of effective learning.

Experiential learning (see appendix A) has been extensively used as a plausible teaching technique to teach social workers skills in the UK and the U.S. since the 1990s (Goldstein, 2001; Taylor, 2004). As stated above, experiential learning for social work education has its theoretical roots in Dewey's (1933/1998) reflective thinking framework, but also in Freire's (1977/2003) emancipator education framework. Kolb (1984) stated a cycle of experimentation, reflection, research and exercising (see figure 3). His model has been extensively replicated and adapted in social work education (Bellefeuille, 2006; Gibbons & Grey, 2002; Goldstein, 2001; Horwath & Thurlow, 2004). Among other reasons, some authors believe that experiential learning is the only teaching technique consistent with social work roots as a social agent of change.

An implication from the above is that a systematic and unidirectional teaching technique would work less effectively than a lecture plus discussions one. Then a course based on lecture plus discussions would work less effectively than a course based on experiential learning. Then experiential learning would work more effectively than any other teaching technique.

Kolb's (1984) cycle (see figure 3) models the dialectical resolution between, on the one hand, concrete experience and abstract concepts, and, on the other hand, the conflict between observation and action. The cycle represents a solution to learners' need to develop

four differential kinds of abilities: (1) *concrete experience* abilities (involving themselves in new experiences), (2) *reflective observation* abilities (observing their experiences from many perspectives), (3) *abstract conceptualization* abilities (integrate their observations into logically sound theories), and (4) *active experimentation* (use knowledge to solve problems and deduce implications for future action).

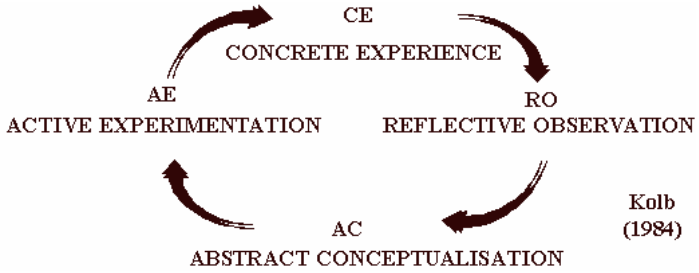

Figure 3. Kolb's cycle.

Kolb (1984) affirms that learning is the process whereby knowledge is created through the transformation of experience. Knowledge is a social process, existing not just in books, but also built into the relationship with living systems of inquiry. This process has two structural dimensions of learning process, one cognitive (indirect comprehension of symbolic representations of experience) and another instrumental/experimental (apprehension of immediate concrete experience). Experiential learning is interactive, resulting from the dialectic process between the empiricists' concrete experience, grasping reality by the process of direct apprehension, and the rationalists' abstract conceptualization, grasping reality via the mediating process of abstract conceptualization (Kolb, 1984).

Consequently, a learning cycle is a medium for working through and reflecting on personal experiences; becoming conscious of tacit knowledge; integrating practice and

theory, and becoming aware of challenges and areas for developing new competence (Askeland, 2003).

In addition to classic notions of *reflective learning* (Dewey) and *banking* (Freire), a newer concept adding meaning to experiential learning is Bruner's "transmitting information." According to Bruner (1996), computers as pedagogical tools may not be conceived just as computer transmission of information, but as a good tool to create meaning from the environment. His concept is consistent with Goldstein (2001), Kolb (1984) and Freire (1993, 1995) that education is not an isolated phenomenon, but is specifically situated in a social context, in Bruner's terms, the culture of education (Bruner, 1996).

In opposition to transmitting information, a culture of education, in Bruner's (1996) terms, implies that education is characterized as follows. It is:

1. *situated*, which means always constructed in situated meaning, tied to specific contexts;

2. *experiential*, which means shaped by particular and symbolical experiences of learners (i.e., language);

3. *constructed*, where reality is a social *construction*, nurturing from experiences and concepts, then education should be designed to help learners to become better builders;

4. *interactive*, because classrooms should be reconceived as communities of mutual learners, and then teachers are facilitators orchestrating proceedings who go beyond the omniscient role as unique masters of knowledge; and

5. *transformative*, because the reconfiguration of new ways of thinking on values, attitudes and skills, new students and new educational processes press for new institutions as student-centered, learning organizations.

A direct implication from Bruner is that the focus on teaching includes building the best environment where learners are able to understand situated meanings, to interact, to experiment, to think about their context, to learn from each other, to build/construct knowledge, and to transform reality.

During the twentieth century the role of teachers and the nature of learning were criticized in an extensive corpus of theory. As Goldstein (2001) summarized, plausibility of experiential learning in social work education was derived from these learner-centered models and a demand arose for a changing role for educators as facilitators paying attention to applicability of learning, not just to accumulation.

Three main implications for this particular study may be summarized from the experiential learning literature. First, it is necessary to observe the changes from inputs-outcomes model to an inputs-environment-outcomes framework (see figure 1). Second, it is important to compare experiential learning with other teaching techniques by obtaining evidence about which of these is more consistent with values, attitudes and skills as understood in the Mexican Social Work arena (see figure 2). Third, there is a need for constructing and testing a learning environment that activates students' personal experiences in-situation (experimentation); critically assesses experience (discussion); and carries out research and exercising (see figure 3).

Experiential Learning Tools

So, what does a course using experiential learning as a teaching technique in social work education look like? This section will try to answer that question. A first answer is that field practicum is the integral component of the whole of education for professional practice (Goldstein, 2001). This seems to be true in spite of criticism of Kolb's (1984) learning cycle

simplicity. The criticism includes the lack of exhaustiveness, particularly regarding affective domains. In Miller, Kovacs, Wright, Corcoran and Rosenblum (2005) terms, Kolb's learning cycle includes learning from feelings related to a specific experience (concrete experience); learning by watching and listening (reflective observation); learning by thinking (abstract conceptualization), and learning by doing (active experimentation). According to Horwath and Thurlow (2004) experience is not the difference in experiential learning, but the quality of learning experience. Some strategies to promote the experiential learning cycle of *experiencing*, *watching* and *listening*, *thinking* and *doing,* might include, although not be limited to, writing or narrative activities in small groups (i.e., role playing) and video games.

Writing or storytelling tasks. Taylor (2004) described writing tasks used mainly for reflective purposes. In addition to normal assignments, writing tasks are here understood as *learning journals* used to record learning in situations such as fieldwork and work placements. Journals can record students' development throughout a course and allow opportunities to identify where they are struggling and in needing of support. Journals also have been used to promote critical discussions in learning groups. Following Taylor (2004), *narratives* are students' reflections on their experiences in learning. They have been less prescribed in social work courses. For Goldstein (2001) the importance of narratives is revealing students' themes of living, values and moral standards. Storytelling plays an important role in multimedia learning environments, particularly video games. The more complex and challenging the game, the more important and attractive is the story supporting it (Kiili, 2005).

Miller et al. (2005) reported that 100 MSW students from Virginia Commonwealth University were asked to write down and diagram a learning experience in the field. Their

study confronted Kolb's cycle by identifying that the learning cycle does not always start with the experience phase, but can start at any point, depending on students' learning styles. Rocha and Johnson (1997) constructed a policy practice framework testing individual and group assignment. The individual assignment included written communiqués submitted to real newspapers and public testimonies to Tennessee legislature's committees.

Horwath and Thurlow (2004) also included individual and network activities as experiential assignments. In their model, English students were first encouraged to read about Child and Family Social Work. Second, students individually observed children in a nursery for one day. Third, they were expected to reflect on the influence of their own values and beliefs on the observation. Fourth, they participated in groups in an 80-day practice placement, where they were expected to critically reflect on the research, practice within the agency and apply the values and beliefs that informed their assessment.

Activities in small groups. Group assignments have included real community interventions developed in task groups, role-plays, and reality-plays. Rocha and Johnson (1997) reported that community interventions using a group work approach presented challenges to instructors, who should take extra time to discuss group processes, role expectations, task management, and proper confrontational tactics. Gibbons and Gray (2002) stated that role plays are consistent with experiential learning as they ground learning tasks at the level of person-in-situation. They described the Newcastle model, which had its origin in the BSW program at the University of Newcastle, Australia, in 1991. This model is based on believing that learning to be good social workers is better achieved through learning by doing. According to this model, experienced-based learning is composed of three phases—preparation, engagement, and processing. In the first or preparatory phase, students examine

what is required of them; in the second or experience phase, they process what is arising from their learning environment by performing task presentations, including role plays; and finally, they examine and consolidate what they have experienced by discussing, reading and researching the problem. In this process, professors are facilitators of the learning process and act as guides, co-learners and advisors.

Askeland (2003) constructed a "reality-play" approach used as a teaching method in introduction to social work before field placement. This approach consisted of forming a triad where participants authentically played themselves as "user," "social workers," and "observers." According to Askeland (2003), reality-play is a variety of a role-play. The difference is that role-plays are formed by playing prearranged roles.

Siebert and colleagues (2006) tested the effectiveness of F2F and online learning environments using role plays. They evaluated the first skills-based clinical course taught in a CSWE-accredited, entirely online, MSW program. In this course, a group of students performed role plays by phone, or using instant messenger programs. In addition to that, online students also were required to participate in one set of role plays with licensed mental health professionals. Specific effectiveness of that activity was not tested, but online and control F2F students achieved similar scores in both perceptions of learning and skills acquisition scales.

Experiential learning stages are composed of practicing skills such as: (1) active listening, observation and constructive feedback (concrete experience); (2) reflecting by discussing the user's role (reflective observation); (3) lecture (abstract conceptualization) and (4) learning by doing (active experimentation). In the process the notion of people constructing their realities, whether experiences are real or constructed, is important. Reality-

play and role-play approaches combine professional with personal players in practicing social work skills.

Video and videogames. Allen and colleagues (2004) found that video has demonstrated a slightly higher level of performance when compared to traditional formats (lectures). Another significant findings was that no differences were found between video and text-based learning environments. Digital video has been used in training counseling skills in a Web-based environment in Canada. Jerry and Collins (2005) reported a Web environment where learners viewed a series of video clips tied to coding grids for tracking skills in order to become competent in identifying counseling skills. These authors identified that engagement activity as asynchronous and synchronous communication became crucial to their Web environment. However, they did not report any data evaluating it. Successful engagement activity is consistent with findings of MacFadden et al. (2002). They reported that social work students engaged in on-line discussion forums on sensitive issues including cultural diversity and societal oppression experienced positive impacts as a result of participation in Web-based forum discussions. According to MacFadden (2005), engagement activity and emotions play a crucial role in developing the structure and processes that enhance the learning experience.

Cummins, Sevel and Pedrick (2006) designed a multimedia environment using video as a main tool to lectures, role-plays and exercises. Exercises look especially useful because they provide questions about social workers' performance on displayed role-plays. Students can answer and the learning environment provides feedback that leads to students understanding the reasons behind good or bad score of communication skills.

According to Gee (2003), video games are good environments for experiential learning (e.g., experiencing the world in new ways, forming new affiliations, and preparing for future learning). Video games also provide learners a vicarious, no-risk world where hands-on practice learning is advantageous (Kiili, 2005). According to Gee, a video game is a challenging, hands-on practice tool, highly dependent on the construction and interrelations within and across multiple sign systems. Video games promote participation, at least at some levels, in specialized affinity groups where mastering is not dependent on other experiences, but on the practice of each specific video game. Gee also considers that mastering video games is a cycle of probing-reflecting-trying hypotheses and mastering, where discovering and transferring is essential to increase knowledge. Other important aspects in video games include that identity is not a limit to building new social affiliations, and that meaning (or knowledge) is distributed across the learner, objects, tools, symbols, technologies, and the environment.

Gee (2003) proposed that video games are good examples of student-centered learning environments. Indeed, aspects such as age or educational level are not important in video games as new semiotic domains in life worlds. Actually, children play better than adults and elementary students and better than graduate students, blurring the notion of master. Whereas video games are frequently supported by simulators, a crucial difference is the same as critical thinking versus training (Kiili, 2005). An implication is that simulators are useful tools in the instruction of basic skills, including war skills; in contrast, critical thinking might be a useless framework for war skills, but useful for social work skills.

Experiential learning models identify a cycle of experimentation, reflection, research and exercising (Gibbons & Grey, 2002; Goldstein, 2001; Horwath & Thurlow, 2004). Table

1 describes tools typically used in each stage and explores guidelines for teaching active listening skills in the UANL BSW program.

Table 1. Experiential Learning Stages and Tools for F2F Environments

Experiential Learning Stages	Useful Tools	Components that Might Work
Concrete Experience	Observing interviews Observing role-plays exercises Observing reality-plays exercises Observing real settings Asking someone Playing video games (Kiili, 2005)	Observing a role-play exercise performed by licensed social workers using professional reality-based dialogues and showing basic communication skills.
Reflective Observation	Giving feedback Discussing Chatting professor-students	Discussing the role-play facilitated by the instructor.
Abstract Conceptualization	Lecturing Researching Reading Performing typical educative tasks	Reading lessons
Active Experimentation	Participating in role-plays exercises Participating in reality-plays exercises Playing video games (Kiili, 2005)	Performing role-plays

Multimedia Learning Environment in Social Work Education

Information and communication technologies (ICTs) are playing an extended role in many aspects of daily life, including social work and education. In the U.S. over 1.9 million students were enrolled online in the fall of 2003, and the online enrollment projections indicate an increase of nearly 20% a year (The Sloan Consortium, 2004).

According to More (2003), three chronological phases can be distinguished during the last 20 years in terms of technology and social work education. During a first phase (distance education), social work programs established off-campus locations to offer a part or an entire curriculum. The second phase included technology such as interactive television (ITV). The third and most recent phase of development, computer-based education, reflected the use of computers, the Internet, and the Web to transmit coursework. A key difference in this type of distance education delivery system was the change from a synchronous (real time) interaction to an asynchronous interaction.

The third phase of technology in social work education is characterized by diversity and synergy among different types of technology delivered throughout computers. Those characteristics become difficult to isolate terms as technology, virtual, distance or multimedia. Strictly, technology is any technical tool designed to enhance performance (i.e., learning). Technology is not strictly computer-based; radio, television or even blackboards are all of them good examples of old technology. Otherwise, a frequently used term in the literature is “virtual.” There is a huge discussion about virtuality, but certain consensus in the idea that virtual, that is, virtual environments, imply the use of computers and Internet (Brabazon, 2002). One of the main characteristics of globalization is the redefinition of

distance, and education is not the exception. Students registered in distance courses are frequently students living in the same city where the university is located, and the opposite is also true (Schoech & Helton, 2002). A related term is multimedia, which refers not precisely to the kind of technology, but to the kind of content tools provided in the specific case of learning in a learning environment. In a common use of the term, multimedia refers to the human media (senses) used for the human being to perceive reality (Mayer, 1999).

Otherwise, CSWE guidelines have called for outcomes showing that distance education is comparable to F2F education (CSWE, 2001). In 2000 CSWE uploaded its guidelines for accrediting criteria for distance education, establishing that the curriculum is expected to be the same as in the main campus program, with similar expectations of student work and achievement. Evaluative standards require that the methods of instruction used reflect the cognitive, affective, and experiential components of learning outcome goals, and that these methods involve students in their own learning.

Bernard and colleagues (Abrami & Bernard, 2006; Bernard, Abrami, Lou & Borokhovski, 2004) criticized distance education for lacking rigor and control in comparative studies, not only in social work but also in general. For those authors, distance education studies, including F2F comparative studies, frequently lack control for extraneous variables. It is frequently not clear whether learning is due to the learning environment or other influences, including but not limited to personal characteristics or environment influences. Other criticism is that most studies have small sample sizes, which makes it difficult to find actual significant differences between groups. Often, the effect size is not reported.

Abrami and Bernard (2006) compared pre-experimental, quasi-experimental and experimental designs to demonstrate that by using pre-experimental and most of quasi-

experimental designs, it is not possible to know for sure that learning is a result of intervention and research design, and not simply by chance. The Nonequivalent Control Group Design or Nonrandomized Control/Comparison Group Design is the only nonrandomized design allowing control of extraneous variables and chance. This design has especially accurate results when used in combination with statistical controls. While nothing replaces experimental control, statistical control might examine and eliminate extraneous variables, especially when experimental design is impossible or impractical (Abrami & Bernard, 2006; Shadish, Cook & Campbell, 2002).

Appropriate controls of extraneous variables have included Analysis of Covariance (Huff, 2000; Thurmond et al., 2002) or Hierarchical Regression (Thurmond et al.). Other problems include awkward conclusions. For example, Thyer, Artelt, Markward and Dozier (1998) compared two groups—on-campus and distance education. Both groups received five F2F sessions and five televised sessions. Therefore, they processed the F2F group in the same way as the distance group. Indeed, they evaluated two similar groups, not distance versus F2F. In spite of that, they concluded that the poorest results were achieved by distance education students and discouraged the use of distance learning technology on a wide scale.

Despite methodological issues, a growing corpus of evidence supports equivalent outcomes in comparisons of technology-mediated learning to face-to-face learning environments in terms of student satisfaction, interactions, performance (Frey, Yankelov, & Faul, 2003; Holden, 2002; Moore, 2003; Petracchi & Partchner, 2000; Petracchi, Mallinger, Engel, Rishel, & Washburn, 2005; Schoech, 2000¸ Wilke, Vinton & Berry, 2005), perceptions of learning (Freddolino, 2000; Ouellette, Westhuis, Marshall & Chang, 2006), and skills acquisition (Ouellette et al., 2006; Siebert et al., 2006). Other learning inputs and

outcomes, such as emotions, are not well understood yet, but they are considered important (MacFadden, 2007). According to Schoech and Helton (2002) it is time to go beyond comparative studies to observe what and how learning environments work. So far, evaluations have focused on the learning environments, not on pedagogy. This is problematic as often the pedagogy changes as the learning environments changes. Highly interactive F2F classes can become didactic when moved online using tools such as WebCT, yet they are often treated as if they were the same course in which only the learning environments has changed. Comparative outcomes between technology and F2F are an old story, called the "no significant differences phenomenon" by Russell (1999). Russell compiled 355 research reports comparing many kinds of educational technologies before arriving at this conclusion.

The no significant differences phenomenon states that it is not the medium but the pedagogical theory behind it that will produce different learning outcomes. In a good example of that, Faux and Black-Hughes (2000) compared a course delivered by Internet-only versus a face-to-face course of lectures plus discussion. They found that technology resulted in lower scores of students' perceptions of learning than in face-to-face interaction. They concluded that technology is not better than face-to-face, a conclusion relative to the no significant difference phenomenon. Beyond comparisons between technology and F2F, their findings suggest that the difference resided in the interactive approach used in their F2F exercises, not in the learning environment. Another example is given by Butler (2003). She compared three lecture groups: without PowerPoint presentations, with PowerPoint presentations, and PowerPoint presentations including decorative clips. She stated that the most effective way for teaching social services is not to use technology; however, her groups did not show any kind of alternative pedagogical technique beyond merely traditional

lectures, with or without technology. Otherwise, MacFadden (2007) found that some students in a very interactive F2F course preferred this format to online because technology is "cold." Those findings suggest a need for research asking how different teaching techniques and different environments directly and interactively influence learning.

Frameworks Related to Experiential Learning in Multimedia Learning Environments

Active Learning: A Framework for Effective Teaching

In summarizing what accounts for effective teaching, the American Association of Higher Education established a task force in the summer of 1986. As a result, general principles of good learning environments were postulated. Such principles are characterized by a focus on active learning. As stated above, active learning is a synonym for the learning-by-doing stage of experiential learning model. Further discussion (DeBard & Guidera, 1999, 2000) postulated that those principles might be successfully extrapolated to multimedia learning environments because asynchronous communication (e.g., email, listservs) and tools to construct sense of community in innovative learning environments (e.g., helping and peer-tutorial tools) led to greater satisfaction, perception of learning and cognitive learning.

The list of principles derived from this framework for effective teaching includes encouraging: (1) contact between students and faculty, (2) contact among students, (3) active experiential learning, (4) more time on task, and (5) respect for different ways of learning.

Contact between students and faculty

Encouraging contact between students and faculty will provide feedback and communicate expectations. Communication has been good in social work education

delivered in technology-mediated learning environments. Whether distance or on-campus, students reported that listserv helped them to feel more familiar or satisfied with the instructor (Thurmond et al., 2002), to better perceive learning (Johnson & Huff, 2000; Stocks & Freddolino, 2000; Thurmond et al.) and to develop critical thinking (Huff, 2000). Students highly valued asynchronous communication with the instructor and the online provision of course information as the most valuable strategies of a course where faculty used email, posted grades online, and shared email addresses (Frey et al., 2003). Research also showed that direct communication between people is not the only way to communicate. Stocks and Freddolino (2000) automated faculty responses and controlled satisfaction. No differences were found between groups interacting with real faculty and automatic responses. Interaction was conducted with satisfaction in all cases. From simulators and video games research, it is known that without feedback, there is no learning in applying technology in education (Boylan, 2004; Lee, 1999; Mahmood, 2004). Literature on social work education has mirrored that finding. Abell and Galinsky (2002) simulated clinical practice by using role games in a computer-based environment. They found that group comfort and knowledge depended on continuous feedback through a discussion forum, a chat room, and a listserv. This combination increased students' knowledge, comfort, and likelihood of using computer groups. Chat rooms have proven their effectiveness (Schoech, 2000; Schoech & Helton, 2002). Having tested in intercultural environments, cognitive outcomes toward chat rooms are not clear but satisfaction is good enough to continue testing (Wong & Schoech, 2007).

Reciprocity and cooperation among students

In Web-based or Web-assisted learning environments, students are typically encouraged by professors to interact among themselves for grades and participation or

socialization purposes. In these environments, working in groups has resulted as a predictor of satisfaction (Stocks & Freddolino, 2000; Thurmond et al., 2002) and good performance (Thurmond et al.). Working in groups produced better performance than working individually (Waxman, Connell, & Gray, 2002). Interaction has been perceived by students as facilitating learning (Schoech, 2000; Stocks & Freddolino, 2000) and providing a sense of control on their learning (Petracchi, 2000). Consistent with the no significant differences phenomenon, collaborative experience has shown no significant differences between online and face-to-face seminar participants in perceived social presence, cooperation and satisfaction with the learning experience (Francescato, Porcelli, Mebane, Cuddetta, Klobas & Renzi, 2006). Research conducted in Great Britain reported that an advantage of educational video games is that they increase collaborative skills when played in groups. A direct implication of this finding is that video games as learning environments do not have the characteristic of promoting cooperation, but may be constructed to effectively encourage reciprocity and cooperation (McFarlane, Sparrowhawk, & Heald, 2002). Although socialization is not a precondition of effectiveness, social interaction is not just possible but also desirable when building virtual communities, because emotions are integral to learning. MacFadden (2005) proposed a constructivist, emotionally-oriented (CEO) model emphasizing: (1) safety to facilitate risk taking; (2) challenge as exercises to push the building of different ways of thinking; (3) new thinking by introducing alternative perspectives; and (4) some of the ways to build emotionally-oriented virtual communities, including discussion groups, shared assignments and joint activities (i.e., games) (MacFadden, 2005).

Active experiential learning

Instructors can use the interactive, dynamic potential of technology to improve active, critical thinking and to avoid student passivity and apathy. Powerful learning environments have diverse information resources and learning materials (e.g., simulations, texts, video, audio). These resources stimulate active learning with the notion that learning is constructed by learners based on their social (collaborative) and cognitive (problem solving, self-regulation) activities (Kester, 2004). Students have been successfully encouraged to develop critical thinking by doubting what they have heard in the media or have read in their texts, exploring their own opinions and beliefs, and questioning the instructor (Huff, 2000). The apprentice-like learning model of social work education has been successfully translated to technology-mediated learning environments to develop clinical (Abell & Galinsky, 2002) counseling (McCarty & Clancy, 2002), child welfare (Cauble & Thurston, 2000; Thurston & Cauble, 1999), or communication skills (Ouellette et al., 2006; Resnick, 1998). Relatively new tools for reflective learning are Web logs or "blogs." Blogs provide a space for students to reflect and publish their thoughts and understandings. They also provide opportunities for professors' feedback and scaffolding for new ideas. These online journals are fast becoming popular because they support infrastructure that helps students with learning experiences as well as instructors in developing other learning tools. The usefulness of blogs as communication tools includes the potential for students and teachers to share ideas and express opinions and interesting information by feature hyperlinks. Those features suggest that blogs are good tools to promote critical and creative thinking (Dastbaz, Flynn & Clipsham, 2005).

Time on task

Asynchronous communication emancipates people from time constraints. Students using asynchronous tools have made comments, asked questions, or requested clarification at any time, all of which is associated with greater satisfaction (Stocks & Freddolino, 2000), even though online students perceived that they spent more time completing assignments than on-campus students (Thurmond et al., 2002; Vinton, Wilke & Berry, 2005). Distance education students have reported satisfaction with the fact that studying at home or work leads to saving hours otherwise spent commuting to and from campus, finding parking places, and so on (Allen, Mabry, Mattrey, Bourhis, Titsworth, & Burrel, 2004). In synchronous communication the instructor may take an active role in chat rooms. In asynchronous communication the instructor may take an active role in listservs or discussion forums. By doing this, the instructor can directly address, in a timely manner, issues such as content-based and technological problems (MacKenzie & Bjornson, 2005). Although that kind of instructor's role is not associated with performance, it is associated with satisfaction and favorable perceptions of professors and environments (Allen et. al., 2004). Leading students to effectively manage their time is as important as encouraging self-regulative skills, a technical name for discipline and constancy. Self-regulative skills are predictors of good learning (De Jong, Kolloffel, Van der Meijden, Staarman, & Janssen, 2004). However, time is perhaps the most important concern for faculty. Traditional lectures take instructors just a little more time than the time spent in the classroom. However, facilitating control of time for students takes considerable more time for professors (Ford & Rotgans-Visser, 2005; Schoech, 2000), besides the fact that adaptation to newer teaching methods and technical tools also take more time (Siegel, Elbert, & Jennings, 1998).

Respect for different ways of learning

There are many diverse talents and ways of learning. The construct of an innovative learning environment should consider personal differences in learning by increasing resources. There is a plethora of technological resources, including powerful visuals and well-organized print (PowerPoint) and administrative resources (Schoech, Quinn & Rycraft, 2000); through direct, vicarious, and virtual experiences (immersive/non immersive simulators, GIS systems). Making more tools available to students influenced perceptions of flexible environments in a doctoral course (Schoech, 2000).

Thurston and Cauble (2000) constructed an environment providing learners with instructional material (video, audio, text), help (peer, professor's lectures), self-assessment (quizzes, tests). Confirming Schoech's findings, Thurston and Cauble's data showed that the number of educational tools is associated with satisfaction and good perceptions of learning.

Wilke et al. (2005) found students' perceptions of respect and concerns for themselves are comparable in online and F2F environments. In comparing online and on-campus students, Thurmond et al. (2002) did not find any influence of individual characteristics in students' perceptions of learning environments after using Analysis of Covariance and Hierarchical Regression statistical procedures. Control of individual differences is an important issue because differences in learning performance may be attributed to variations in ability, intelligence, socio-economic background, and teacher characteristics (De Jong et al., 2004).

Situated learning.

Situated learning is a framework to construct multimedia learning environments. Consistent with those principles, Herrington and Oliver (2000) reviewed literature on situated

Table 2. Elements of Situated Learning, Active Learning, Experiential Learning and Resulting Guidelines for Designing a Multimedia Learning Environment

Situated Learning Framework (Herrington & Oliver, 2000)	Active Learning Framework (Chickering & Gamson, 1999)	Experiential Learning Stages (Kolb, 1984; Goldstein, 2001)	Guidelines for Design and Implementation of Learning Environment (Herrington & Oliver, 2000)	A Model that Might Work
Provide authentic contexts & activities that reflect the way the knowledge will use in real life. Provide multiple roles & perspectives	Encourage active learning	Concrete experiences	A physical environment reflecting real use provides a non-linear design and navigation enabling ready access to any media element in a non-sequential order. Resources included video interviews, and text documents.	Observing a role-play video performed by experts Role-playing and get feedback from peers and observing oneself Playing a nonlinear exercise online
		Abstract conceptualization	Activities that have real-world relevance provide opportunities to detect relevant information and collaborate in solving a single complex task. Resources included a problem simply presented and PowerPoint presentations, and video clips of teachers using various assessment techniques.	PowerPoint presentations
Provide access to expert performances and the modeling of processes	Encourage contact between students and faculty	Abstract conceptualization	Access to expert thinking and other learners narratives. Resources included experts giving their views in interviews; collaborative groups enable the sharing of stories; video providing real-life episodes.	Exposure to PowerPoint presentations, readings, lectures, and expert advices

Table 2—*Continued*.

Provide multiple roles & perspectives	Respect diverse talents and ways of learning	Concrete experiences	Different perspectives on the topics from various points of view provides opportunities to express own opinions and to crisscross the learning environment. Resources included interviews of third year preservice teachers, video clips of children's comments on the strategies, and collaborative groups.	Peer evaluation
Support collaborative construction of knowledge Provide multiple roles & perspectives	Develop reciprocity and cooperation among students	Reflective observations	Tasks addressed to groups rather than individuals provide appropriate incentive structure for whole group achievement. Resources included assignments for working in small collaborative groups.	Discussing & sharing opinion & information on a discussion forum
Promote reflection to enable abstractions to be formed	Encourage active learning	Reflective observations	Authentic contexts and tasks provide opportunity for learners to compare with experts and other learners. Resources included real classroom contexts and tasks, non-linear navigation, collaborative groups recommended to enable reflection with aware attention	Discussing & sharing information about role-plays
Provide for authentic assessment of learning within the tasks.	*Develop reciprocity and cooperation among students* *Encourage feedback*	Reflective observations	Public presentation of arguments to enable defense of learning Resources included oral presentations to the class	Role-plays, self-evaluation and peer evaluation

Table 2—*Continued*.

Provide multiple roles & perspectives	Respect diverse talents and ways of learning	Concrete experiences	Different perspectives on the topics from various points of view provides opportunities to express own opinions and to crisscross the learning environment. Resources included interviews of third year preservice teachers, video clips of children's comments on the strategies, and collaborative groups.	Peer evaluation
Support collaborative construction of knowledge Provide multiple roles & perspectives	Develop reciprocity and cooperation among students	Reflective observations	Tasks addressed to groups rather than individuals provide appropriate incentive structure for whole group achievement. Resources included assignments for working in small collaborative groups.	Discussing & sharing opinion & information on a discussion forum
Promote reflection to enable abstractions to be formed	Encourage active learning	Reflective observations	Authentic contexts and tasks provide opportunity for learners to compare with experts and other learners. Resources included real classroom contexts and tasks, non-linear navigation, collaborative groups recommended to enable reflection with aware attention	Discussing & sharing information about role-plays
Provide for authentic assessment of learning within the tasks.	*Develop reciprocity and cooperation among students* *Encourage feedback*	Reflective observations	Public presentation of arguments to enable defense of learning Resources included oral presentations to the class	Role-plays, self-evaluation and peer evaluation

Table 2—*Continued*.

Provide coaching and scaffolding by the teacher at critical times	*Encourage contact between students and faculty*	Reflective observations	Recommendations that the lecturer be available for coaching. Resources included suggestions provided in a *Manual for facilitators* on the scaffolding and coaching role	
Promote articulation to enable tacit knowledge to be made explicit		Abstract conceptualization	Assessment seamlessly integrated with the activity. Indicators of learning included formal written reports, oral presentations and peer assessments.	Reading of definitions Reading of lessons

learning environments and stated nine critical characteristics for constructing learning environments. As stated in the first section, situated learning is a concept related to experiential learning because several authors have postulated that learning is always contextually situated in past/present concrete experiences. The nine critical characteristics of constructing situated learning environments are: (1) provide authentic contexts that reflect the way knowledge will be used in real life, (2) provide authentic activities, (3) provide access to expert performances and the modeling of processes, (4) provide multiple roles and perspectives, (5) support collaborative construction of knowledge, (6) promote reflection to enable abstractions to be formed, (7) promote articulation to enable tacit knowledge to be made explicit, (8) provide coaching and scaffolding by the teacher at critical times, and (9) provide for authentic assessment of learning within the tasks.

Herrington and Oliver (2000) tested a purposefully constructed multimedia learning environment based on situated learning, and explored students' perceptions of learning gains. In that multimedia learning environment they used abundant resources such as video and text tools produced by participating teachers, participating students, other teachers and other students.

Implications of frameworks for constructing multimedia learning environments using experiential learning mode includes providing: (1) help tools that give coaching to students, (2) tools that let students feel a sense of community through opportunities to reflect with peers and instructors, (3) self-assessment tools that let students know how they are improving, (4) tools that let them experience real cases in a non-risk way, (5) students with as many tools as possible, and (6) freedom from one-directional paths to learning (but should show how to begin and finish and how to use learning tools effectively).

Table 2 summarizes situated learning framework, resulting guidelines for constructing and implementing learning environment, and some guidelines for a model that could work in teaching active listening skills in Mexico. Table 2 also illustrates consistency with active learning frameworks and an experiential learning model.

Evaluating Social Work Skills

This research evaluates whether using an experiential learning framework is effective in acquiring basic communication skills in Mexico. This section includes two subsections. The first discusses meaning and approaches for evaluating learning in this particular work, emphasizing evaluation of experiential learning and technology-based learning environments. The second addresses learning outcomes in acquiring active listening skills.

Measuring Learning

In 2000 CSWE upgraded its guidelines for accrediting criteria for distance education, establishing that the curriculum should be the same as in the main campus program, and expectations of student work and achievement should also be the same. Whether distance or on campus, evaluative standards require methods of instruction to reflect the cognitive, affective, and experiential components of learning appropriate to the attainment of learning goals, and that these methods involve students in their own learning.

Learning is not just a combination of inputs and outputs; it also involves environment as a key factor. That is why evaluating the role of environment has recently constituted an issue in measuring learning. At the beginning of this dissertation, the idea was considered that good environmental relationships between professors and students and among students themselves might have consequences easy to picture in a short-term evaluation. Typical tools

to capture the level of such relationships were immediacy scales and collaborative learning inventories. The former measures students' perceptions of relationships with professors while the latter measures the quality of student-student relationships (Witt et al., 2004).

However, a recent comprehensive meta-analysis offered evidence that human contact and satisfaction with this contact (affective components) are not preconditions of effective learning. A meta-analysis reviewed the findings of 81 studies (N=24,474) examining the relationship between teachers' immediacy (i.e., verbal, non-verbal or combined) and students' learning outcomes (i.e., perceived learning, cognitive learning and affective learning as emotional responses to the instructor, content and learning environment). The cumulative results of this meta-analysis confirmed that teacher immediacy had a substantial relationship with attitudes and perceptions of students in relation to their learning, but a negligible relationship with cognitive learning performance, such as grades or recall measures (Witt et al., 2004).

Exhaustive reviews of the literature have consistently supported *the no significant difference phenomenon* in terms of affective learning. Comprehensive meta-analysis comparing distance education and F2F education have found that satisfaction is slightly higher in F2F than distance education (Allen, Bourhis, Burrel,, & Mabry, 2002), and performance is slightly higher in distance education than in F2F education (Allen et. al., 2004; Waxman et al., 2002). Also meta-analysis revealed that performance and learning is affected when work is done in small groups, and a resulting conclusion that collaborative learning is better facilitated by technology-mediated learning environments (Waxman et al.).

Nevertheless, the focus on empirically linking affective and cognitive learning seems distant to experiential learning tenets. As stated above, those tenets suggest that education is

a lifelong process resulting in skills potentially applicable to further experiences. In the evaluation terms of figure 1, environment and its resulting outcomes are process indicators, not learning outcomes, as indicated in figure 4. In the end, skills are frequently evaluated in terms of knowledge acquisition as outcome, likewise GPA. Knowledge acquisition is a classical indicator of cognitive outcome.

Constructing learning environments has been usually evaluated in terms of satisfaction, attitudes, inventories and guidelines. Goldstein (2001) distinguished four kinds of learning, and corresponding learning environments in social work as affective (teacher is role model and colleague encouraging expression among students), perceptual, cognitive (students explore how things work in real life), and behavioral (either vicariously or actively, learner is engaged in learning). As suggested in figure 4, this research considers affective and perceptual learning as process, and cognitive learning as skills and knowledge acquisition, which are final learning outcomes.

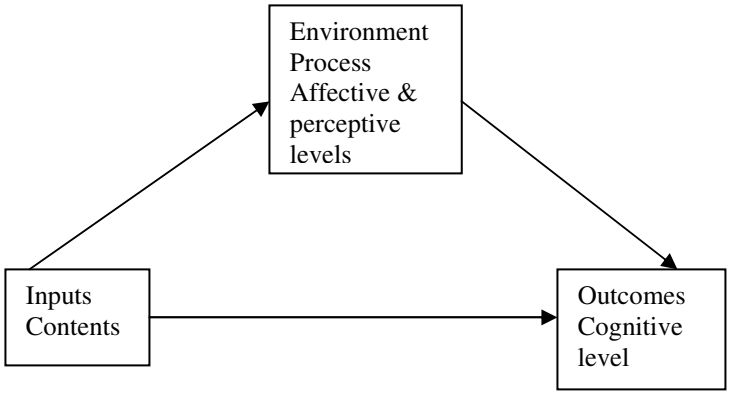

Figure 4. Kind of learning outcomes, process and outcomes.

Kolb (1984) suggested two ways for understanding effective learning environments. The first consists of tailoring the four kinds of learning environments to four kinds of individual styles. A second path is providing students with elements corresponding to each of the kinds of learning styles. Some research on Kolb cycle has focused on process, remarkably qualitative data for checking how the cycle works, not its outcomes (Taylor, 2004). Rocha (2000) proposed a framework to evaluate experiential teaching methods by using the reflective component to evaluate the quality of the experience for the students. In this model, perceived competence is the dependent measure, indeed a perceptive learning measure, not a learning outcome.

Environments have also been evaluated in terms of attitudes. In addition to good attitudes to experiential learning model, the literature frequently states that individual computer and Internet experiences have positive effects on perceived enjoyment and perceived ease of use of computers (Liaw, Chang, Hung, & Huang, 2006). In analyzing learning environments some notable prior work has focused on the institutional-level or school-level environment in colleges and universities. However, surprisingly little work has been done in higher education classrooms which is parallel to the traditions of classroom environment research at the secondary and primary school levels (Frey et al., 2003). Two useful tools have been the Adult Classroom Environment Scale (ACES) and the College and University Classroom Environment Inventory (CUCEI). See table 3 for a summary of some measures used to evaluate affective, perceptive and cognitive learning.

In terms of perceptions of learning environments, students are at a vantage point to make judgments about classrooms because they have encountered many different learning environments and have enough time in a class to form accurate impressions (Frey et al.,

Table 3. Tools to Evaluate Affective, Perceptive and Cognitive Learning

Kind of Learning	Scale	Variable
Affective	ATEUI (17 items) Quinn, 2004	Attitudes toward educational use of the internet
Affective	ATET (11 items) Iowa Educational Technology Training Institute, 1996	Attitudes Toward Educational Technology
Perceptive	Geography Classroom Environment Inventory (GCEI) (32 items) Teh, 1999; Teh, G. P. L. & Fraser, 1994	Students' perceptions of their web-based instruction (posttest use only) DV
Perceptive	Own scale developed at Dr Schoech's research practicum	Satisfaction DV
Perceptive	CSQ (22 items) Frey, Yankelov & Faul, 2003	Course satisfaction questionnaire
Perceptive	TUI (24 items) Iowa Educational Technology Training Institute, 1996; Stocks & Freddolino, 2000	Perception of proficiency/self-efficacy with technology
Affective & Perceptive	College and University Classroom Environment Inventory (CUCEI) Coll, Taylor & Fisher, 2002	Personalization Involvement Student cohesiveness Satisfaction Task orientation Innovation Individualization
Perceptive	Learning Process Inventory and Assessment (LPIA) Chickering & Gamson, 1999	Inventory of Seven principles of Active Learning
Cognitive	Retention & Transfer Mayer, 1999	Remembering Understanding
Cognitive/ Behavioral	Interviewing Skills Rating Instrument Ouellette, Westhuis, Marshall, & Chang, 2006	Skills acquisition

2003). The principles of active learning environments described above were thought to be measured by using perception of learning as outcome; more specifically, active learning principles are evaluated by using inventories evaluating process, not outcomes. In an effort to evaluate how their principles work, Chickering and Gamson (1999) developed self-assessment instruments for faculty, institutions and students (Chickering & Gamson, 1999). Also based on these principles, Webster developed the Learning Process Inventory and Assessment (LPIA), a survey-guided assessment of faculty, institutional and student perceptions of learning (Chickering & Gamson, 1999).

Whether affective and perceptive learning are process and not outcomes measures, why are terms such as attitudes to learning environment, attitudes to technology, satisfaction, perceptions of learning, and so on important? A theoretical answer to that question is because learning is a lifelong process, difficult to evaluate in short-term research. Good attitudes towards education improve perceptions of education, and then will improve general satisfaction with being a long-life learner, which is a desirable long-term outcome of education. Short-terms outcomes are evaluated just because this is necessary to assure that skills are improving. They are, however, only partial and frequently weak measures of what occurs in the long-term cycle called human life. Also, dropout rate is a big issue in online learning. According to Brabazon (2002), affective and perceptive measures are also important because schools and universities are the formal institutions for delivering education, and good attitudes and satisfaction translates into more students.

Another answer is emerging from research. Affective (attitudes, satisfaction) and perceptive measures corresponding to learning environments are important as control in

order to be sure that despite differences in terms of those measures, learning models work. Huff (2000) compared live instruction versus interactive television for teaching MSW students critical thinking skills and established control for individual differences by using a two-step procedure. The first model was analyzed by using Analysis of Covariance. Once that sample proved homogeneity of variances, critical thinking skills (a cognitive measure) were analyzed by using Multiple Analysis of Variance. Thurmond et al. (2002) did not find influence of individuals' characteristics in their perceptions of learning environments after using control based on Analysis of Covariance and Hierarchical Regression statistical procedures. Controlling for individual differences is an important issue because differences in learning performance may be attributed to variations in ability; intelligence; socio-economic background; teacher characteristics; attitudes towards the professor, learning environments or technology (De Jong et al., 2004).

Mayer (1999) proposed a multimedia cognitive theory. According to that theory, principles of learner-centered construction of multimedia learning environments should derive from cognitive theory, and be consistent with empirical research, and feasibly applied to new multimedia learning situations. He stated that the human brain learns by joining what people hear and see, then process in terms of remembering and understanding, which might be measured as quantity of recall and transfer of knowledge.

Evaluating Listening Skills

Communication skills are basic tools for social workers, no matter if they work at the individual, family, group or community level. Different aspects imply different meanings for different people in different contexts. Consequently, communication skills represent a

starting point for understanding how people feel and see the world around them, and are a crucial social work technique (Trevithick, 2002). Good communication is fundamental to the basic performance of a social worker (Diggins, 2004). Research, however, also supports that intentional listening skills used in counseling have a positive client impact of satisfaction. It could be that listening to a person is equally as important as anything that the social worker might actually say or do (Ivey, Ivey & Bradford, 2002).

As shown in a large survey among educators, students, service users and caregivers in the United Kingdom there is no consensus in a basic poll of basic communication skills for social workers (Diggins, 2004). However, the same survey found a certain agreement that *active listening* and *interviewing* are the most basic communication skills for social workers (Diggins, 2004; Trevithick, 2002). A definition for active listening might be "being psychologically, socially and emotionally present." By active listening, a social worker might be sure that a client is transmitting information and that he/she understands how the client feels about.

A typical textbook used in MSW/BSW courses (Cournoyer, 2000) states that active listening is a result of four simple skills—talking, body language, listening, and active listening. In talking skills, "do nots" include neglecting to consider cultural meanings, using terms that stereotype people, offering solutions too early, prematurely disclosing one's own feeling, confronting before establishing a base, using clichés and jargon, and making critical comments about others. Recommendations in assertive body language include adoption of an open/accessible body position, not communicating impatience by watching the clock or related activities, being informal/relaxed, not suggesting fatigue, allowing but not forcing eye

contact, not staring, paying attention (facial expressions showing interest combined with slight inclination toward the other person), and positioning chairs between 90-130 degrees (Cournoyer, 2000). Listening skills also include hearing the other's words and speech, observing their non-verbal gestures, expressions and movements, encouraging the client to express him/herself, and remembering what a client communicates. The objectives of listening skills are gathering information, helping clients feel better, encouraging, and enhancing the value of social workers for clients. A good listening scenario portrays assertive use of silence, not rushing to conclusions, and diminishing physical and psychological noise. As stated above, active listening includes inviting, body position, facial expression, voice and speech), listening (as the sum of hearing, observing, encouraging and remembering) and reflecting, a synonym to paraphrase. Paraphrasing is a skill that mirrors client's feelings by using equivalent words expressing facts. At the end, active listening is meant for clients to feel well understood, a principle for other more complex social work skills (Cournoyer, 2000).

Because of its Spanish translation, a well known textbook in Mexico is Trevithick (2002). The author enumerates six basic skills related to the listening activity: (1) staying open and intuitive, (2) keeping eye contact, (3) adopting body orientation and postures showing that listener is also paying attention (body position in Cournoyer terms), (4) paying attention to nonverbal cues, (5) using silence, and (6) proxemics. A classic author in teaching listening and interviewing skills is Ivey (Ivey et al., 2002). Consistent with Cournoyer and Trevithick, Ivey has proposed that the basic listening sequence includes stating open and

closed questions to encourage clients to provide more details, observing the client, encouraging, paraphrasing, and summarizing.

The most common pattern for teaching and learning listening skills is the inclusion of a dedicated module early in a generalist practice course, or a strong component within an early module about communication methods, skills and practice (Diggins, 2004). Then specific active listening training is limited to a few sessions. Technological devices in technology-supported learning environments have included video (Jerry & Collins, 2005; Ouellette et al., 2006) and introductory components of artificial intelligence tutors (Resnick, 1998; Torgerson & Elbourne, 2002). The typical way to learn listening skills, either in face-to-face (F2F) (Diggins, 2004; Ivey et al., 2002; Nugent & Halvorson, 1995) or technology-supported learning environments (Ouellette), is using a diversity of role-plays, including social worker-supervisors, social worker-clients, stakeholders roles, and so on.

Resnick developed *Better Listening: Paraphrasing and Perception Checking* (Hansen, Resnick & Galea, 2002; Resnick, 1998) software used in teaching basic listening skills. The prototype employs graphics to increase the attractiveness of the program and multiple interactive video clips. *Better Listening* consists of components such as definitions, comprehension checks, email, graphics, cartoons, audio narrations, and exercises. No experimental evaluations suggested the effectiveness of *Better Listening* (Hansen et al.).

Cummins and colleagues (2006) developed *Social Work Skills Demonstrated*. This material consists of a textbook and a multimedia learning environment (CD-ROM) combining video lectures, PowerPoint presentations, conceptual maps, video role-plays and video exercises. Students can watch videos displaying role-plays by social workers and

clients and evaluate their own performance by answering prompt questions and receiving feedback from each main communication skill. Also students can access role-play interviews from different stages in the intervention period, receiving clues from clients' development. A final quiz is provided to complete self-evaluations. Something especially useful is that Cummins provided exercises and information for both skills and common pitfalls.

There are two main issues to consider at this point. The first one is related to the research designs' strengths. The second one is related to the lack of standardized paths in assessing skills acquisition, which is proposed as the main dependent variable in this research study. In relating to the first one, it should be said that, in technology-assisted teaching of listening skills, a meta-analysis supported the no significant differences phenomenon in comparing computer software and conventional teaching in the didactics of spelling, a related activity, even if not derived from social work education. However, uses of software to support teaching of listening skills have mirrored the distance education evaluation critique by Bernard and colleagues (2004). Those critiques have pointed out that evaluation of distance education is frequently weak because it lacks experimental or statistical control, and well designed dependent measures that are reliable and valid (Abrami & Bernard, 2006; Bernard et al., 2004).

In relating to the second issue, the first aspect to comment on is, because learning outcomes are typically tailored to learning objectives, there are no standardized tools for evaluating learning skills acquisition. In the particular case of communication skills, most texts related to teaching those kinds of social work skills do not include a method to evaluate such acquisition, beyond pair comments about role-plays (Cournoyer, 2000; Cummins et al.,

2006; Diggins, 2004; Ivey et al., 2000; Trevithick, 2002). A fancy research design was reported by Ouellette et al. (2006) to assess interviewing skills acquisition. They designed a quasi-experimental research design that showed that training in interviewing skills by using an online instructional environment was as effective as training in a classroom environment in terms of satisfaction, perception of learning gains and interviewing skills acquisition. BSW students performed role-plays between themselves, playing as clients or social workers. Subsequently, they videotaped role-plays for self-assessment and received feedback from peers and instructor. In assessing interviewing skills, they used a 21-item scale to assess interviewing skills acquisition shown in a final role-play. Three graduate-level and one undergraduate senior level social work students trained to role play a simulated client role scenario. A blind rater watched the video after the sessions and rated twice, waiting several days between the first ratings and the second (Ouellette et al., 2006). Siebert et al. (2006) also designed a quasi-experimental design to evaluate (self-perception and skills acquisition) an online course on clinical social work skills by using an external rater. Similar approaches using external raters to assess communication skills acquisition in simulated scenarios have been used in other fields, such as medicine (Schirmer, Mauksch, Lang, Marvel, Zoppl, Epstein, Brock & Pryzbylski, 2005) or law (Brewer, Harvey & Semmler, 2004; Masson & Waldron, 1994).

Another interesting research design to assess acquisition of listening skills in social work education was used by Nugent and Halvorson (1995). While they did not study how social work students acquire skills, they did design four pretest-posttest experiments to observe the effects of active listening in short-term client affective outcomes. Their work is

pertinent to this study because it is a good path to evaluate role-play as process was proposed. Their studies involved multiple dependent variables first analyzed using Multivariate Analysis of Covariance (MANCOVA) procedures. Subsequent regression models were analyzed only if the overall MANCOVA was significant. According to Nugent and Halvorson (1995), this two-step procedure helps to control for inflated type 1 error associated with statistical tests involving multiple dependent variables. In addition to student attitudes proposed by Bernard et al. (2004), Nugent and Halvorson introduced pretest scores as covariates in MANCOVA models.

Summary

Globalization and new social conditions place demands on social work to find new ways to solve social problems. Throughout the entire twentieth century a growing corpus of discussion centered learning on learners. In social work, constructivism and learner-centered discussions built a consensus to use experiential learning as a plausible teaching technique. Experiential learning as a cycle of experience, research, reflection and exercising has not been as frequently constructed as proposed, and even less often been evaluated. Experiential learning focuses its attention to how students learn; their contexts, situations and environments. A learning environment is a set of teaching and learning tools designed to enhance a student's learning experience. The principal components of an LE package include curriculum mapping (breaking curriculum into sections that can be assigned and assessed), support for both teacher and student, communication strategies (conversations, guidelines for written communication), and links to outside curriculum resources. Learning environments can be based on F2F interactions, paper interactions, multimedia interactions, and so on. For

the purposes of this research, two kinds of interaction will be assessed, which are F2F and multimedia. This research uses multimedia to designate the complex of video, pictures, audio, games and text tools delivered by using computer-based platforms (Mayer, 1999). No matter whether distance or face-to-face, education in global times is frequently assisted by multimedia. However, the focus of comparing multimedia and F2F learning environments has overlooked discussion on pedagogy issues. This review of literature suggests a crossover between discussions on social work teaching techniques and learning environments (F2F, multimedia). There is a relative abundant use of technology in social work education, in comparison to the relative scarcity of research on how to better use that technology. In addition, comparative studies frequently have overlooked research standards as Abrami and Bernard (2006) have pointed out.

In evaluating learning, there is a huge discussion in the education field about the importance of affective, perceptive and cognitive factors. While the links between those factors have not consistently been supported by the literature, as delineated in this chapter, research suggest that affective and perceptive factors are important enough to consider them in researching learning outcomes. Whether or not affective and perceptive factors might be considered control or dependent variables depends on the intended use of education research. Table 2 shows a model stemming from this topic. Role-plays and discussions are consistently repeated in the literature as good teaching tools in experiential learning. While the links between particular factors of the experiential learning cycle appear difficult to explore without broader evidence of effective learning, the literature review suggests that affective and perceptive factors have to be considered as process and evaluated as a whole.

In summary, evidence suggests a need for testing the effectiveness of different teaching techniques in F2F and multimedia learning environments. There is not enough evidence observing main effects and measuring how different learning environments interact with different teaching techniques. This research seeks main and interaction effects of two teaching techniques and two learning environments, and anticipates that experiential learning is a more effective teaching technique than lecture plus discussions, in F2F and multimedia learning environments.

Social work mission is helping people; that is why how social workers are educated is so important. Figure 5 illustrates a proposed path for research arising from this literature review. Experiential learning might be evaluated by using affective, perceptive and cognitive factors as dependent variables, no matter if they are process or learning outcomes. Figure 5 adds inputs, in terms of active listening skills.

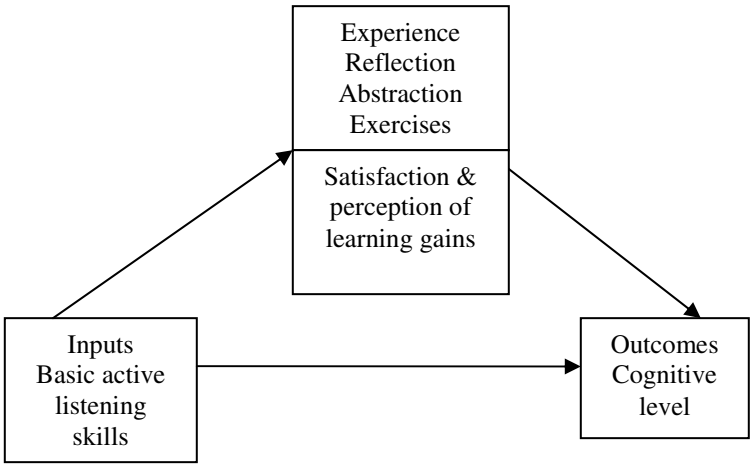

Figure 5. A model to teach and evaluate active listening skills in F2F and multimedia learning environments.

This research will address the answer to the next research question: What are the main and interaction effects of using experiential learning versus lecture plus discussions in F2F and multimedia in learning environments designed to teach the principles of active listening skills?"`

CHAPTER III

METHOD

This research will observe the main and interaction effects of teaching techniques (experiential learning vs. lecture plus discussions) and learning environment (F2F vs. multimedia) on the learning of basic active listening concepts. The method section first summarizes the literature review in order to state the hypotheses under study. Second, the research design explains the nature, arrangement and manipulation of variables and the interventions (learning environments) used in this research study. Third, the variables and measures are enumerated and described. Fourth, participants' selection and sample size details are described. This research study asks for the effects of using experiential learning (compared to lecture plus discussions) in F2F and multimedia learning environments in learning basic active listening concepts.

Hypotheses

To understand the hypotheses, the literature review is again summarized. A good corpus of evidence suggests that beyond learning environment, teaching techniques will differentiate learning. Experiential learning supporters have sustained that better learning environments influence learners to enjoy the experience. As a result, learners become more satisfied, also perceiving that they learn more than people without a hands-on practice approach. However, such variables as satisfaction and perception of learning gains are not related to how much people learn at the end.

Multimedia learning environments are supposed to have a focus on practice approach, but they are not always designed to act as hands-on practice tools and a cause for reflective learning. However, a good corpus of research-based on theory suggests that whether it is designed to take into account effective principles of teaching, multimedia might function to construct more effective learning environments. That is, multimedia learning environments might interact with experiential learning teaching techniques to construct better learning. The hypotheses for this study postulates main and interaction effects of the interventions. The relationships between variables can be modeled as showed on figure 6.

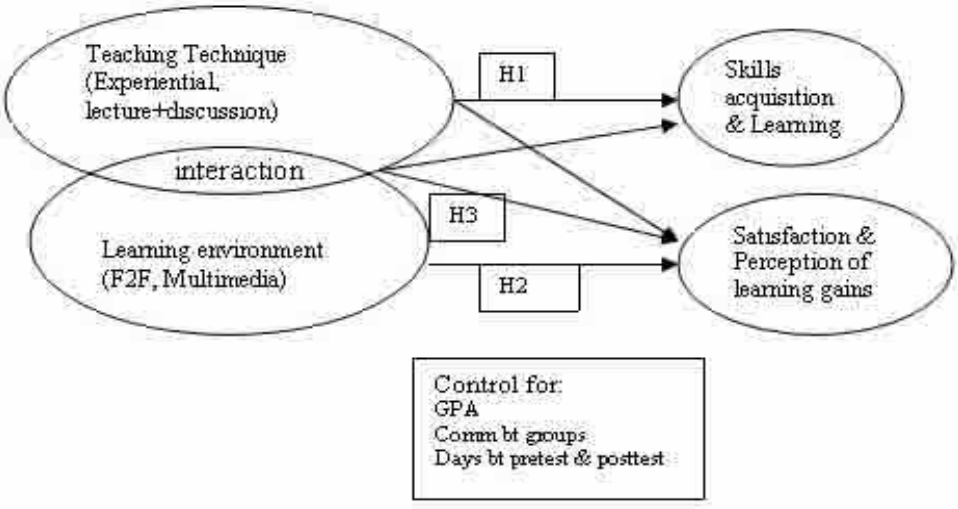

Figure 6. Model of main and interaction effects of teaching technique and learning environments on learning active listening skills for social services practice.

The overall hypotheses of teaching techniques state that **Exposure to different teaching techniques** results in different scores in **satisfaction, perception of learning gains**, **learning and skills acquisition.**

H1. Exposure to experiential learning relates to statistically higher scores on satisfaction than **exposure to lecture plus discussions.**

H2. Exposure to experiential learning relates to statistically higher scores on perception of learning gains than **exposure to lecture plus discussions.**

H3. Exposure to experiential learning relates to statistically higher scores on learning than **exposure to lecture plus discussions.**

H4. Exposure to experiential learning relates to statistically higher scores on skills acquisition than **exposure to lecture plus discussions**.

The overall hypotheses of learning environments state that Exposure to different learning environments relates to different scores on **satisfaction** and **perception of learning gains** but not on **learning and skills acquisition**.

H5. Exposure using a Multimedia Learning Environment relates to statistically higher scores on satisfaction than exposure using a F2F learning environment**.**

H6. Exposure using a Multimedia Learning Environment relates to statistically higher scores on perception of learning gains than a F2F Learning Environment.

The overall interaction hypotheses state that the effectiveness of the learning environment depends on the teaching technique.

H7. A Multimedia Learning Environment relates to statistically higher scores on **satisfaction** when using experiential learning rather than lecture plus discussions.

H8. A Multimedia Learning Environment relates to statistically higher scores on **perception of learning gains,** when using experiential learning rather than lecture plus discussions.

H9. A Multimedia Learning Environment relates to statistically higher scores on **learning,** when using experiential learning rather than lecture plus discussions.

H10. A Multimedia Learning Environment relates to statistically higher scores on **skill acquisition**, when using experiential learning rather than lecture plus discussions.

Research Design

The research design is a 2X2 Nonrandomized Multiple Comparison Groups Design with Pretest from each Group (Shadish, Cook & Campbell, 2002). This design tests the relationships between teaching technique, learning environment, and four dependent variables (satisfaction, perception of learning gains, learning and skills acquisition), resulting 4 cells. *Learning environment* (A) was manipulated by using two levels, face-to-face (A1) and multimedia (A2). *Teaching technique* (B) manipulated the following two levels, experiential learning, and lecture plus discussions. Four experimental (educational intervention) groups resulted in combined cells by using A and B variables (see table 4).

Group 1 – F2F (A1) and experiential learning (B1)

Group 2 – F2F (A1) and lecture plus discussions (B2)

Group 3 – Multimedia (A2) and experiential learning (B1)

Group 4 – Multimedia (A2) and lecture plus discussion (B2)

Groups combined variables as follows:

Group 1 – F2F (A1) and experiential learning (B1)

Group 2 – F2F (A1) and lecture plus discussions (B2)

Group 3 –Multimedia (A2) and experiential learning (B1)

Group 4– Multimedia (A2) and lecture plus discussion (B2)

Table 4. Multiple Comparison Groups Design (2X2)

Learning Environment		Teaching Technique	
		B1. Experiential learning	B2. Lecture plus discussion
	A1. F2F	G1. $DV_{Satisfaction}$ $DV_{Perception\ of\ LGains}$ $DV_{Learning}$ $DV_{Skills\ acquisition}$	G2. $DV_{Satisfaction}$ $DV_{Perception\ of\ LGains}$ $DV_{Learning}$ $DV_{Skills\ acquisition}$
	A2. Multimedia	G3. $DV_{Satisfaction}$ $DV_{Perception\ of\ LGains}$ $DV_{Learning}$ $DV_{Skills\ acquisition}$	G4. $DV_{Satisfaction}$ $DV_{Perception\ of\ LGains}$ $DV_{Learning}$ $DV_{Skills\ acquisition}$

The procedure described below presents details about the pretest, interventions and posttests. Table 5 summarizes the whole research design.

It should be said that not all measures were used at any time that participants were observed. As shown in table 5, just the scale used to measure skills concepts knowledge (Preknowledge/Learning) was used in both pretest and posttest. Satisfaction, Perception of Learning Gains and Skills Acquisition were just measured in posttests. Satisfaction and Perception of Learning Gains were measured by self-administered questionnaires, while Skills Acquisition was measured indirectly by using external raters filling in forms at the time they watched videotaped reality-plays. In other words, Learning was measured in a design Pretest – Stimulus – Posttest, but the other measures were assessed by using a design Stimlus-Posttest. See Measures' section for definitions.

Table 5. Nonrandomized Multiple Comparison Groups Design with Pretest from Each Group

Group 1	NR	$Pretest_{Learning}$	X_1	$Posttest_{Learning}$ $O1_{Satisfaction}$ $O1_{Perception}$ $O1_{Skills}$
Group 2	NR	$Pretest_{Learning}$	X_2	$Posttest_{Learning}$ $O1_{Satisfaction}$ $O1_{Perception}$ $O1_{Skills}$
Group 3	NR	$Pretest_{Learning}$	X_3	$Posttest_{Learning}$ $O1_{Satisfaction}$ $O1_{Perception}$ $O1_{Skills}$
Group 4	NR	$Pretest_{Learning}$	X_4	$Posttest_{Learning}$ $O1_{Satisfaction}$ $O1_{Perception}$ $O1_{Skills}$

Internal and External Validity

Authors Abrami and Bernard (2006) and Shadish et al. (2002) have proposed that design quality is a moderator of the findings in research. The no significance effects in comparative literature may be due to a tradition of nonrandomized studies and small samples. Following Abrami and Bernard, research findings can be organized around credibility (to what extent the research design really finds what is proposed or the probability that results are due to rival explanations) and applicability (generalization) of the conclusions. Limitations section in chapter 5 will elaborate research design limitations and implications for issues as control and generalization.

In this study, participants were not randomly assigned and the groups did not result in matched samples. Following Abrami and Bernard (2006) a One-Way ANOVA was conducted to estimate any differences between group means at pretest. There was not significant difference ($F(3)=0.902$, $p>0.05$) at the pretest designed to measure Previous Knowledge (see table 6). The students from the four groups did not differ significantly at the start of the intervention, despite the unequal sample size and freshmen/sophomore distribution. Following Abrami and Bernard, statistical controls were run to test the influence of covariates in the variate (see appendix A). Those results are analyzed in the chapter 4. Even by using those three steps (pretest, equivalence in previous knowledge, and statistical control for covariates), results should be taken with caution, as a result of nonrandomized process of participants' selection. Certainly, a price for nonrandomization is the possible influences other than the educational interventions. This is one more reason to take the results with caution. That being said, no other plausible influences naturally emerged from the literature review as sources of secondary variance.

Table 6. Pretest ANOVA between Groups (Previous Knowledge)

	Df	F	Sig.
Between Groups	3	0.902	0.442

Participants

Participants in this study were mainly freshmen (2nd semester) social work students from the Universidad Autónoma de Nuevo Leon, Mexico (University of Nuevo León or

UANL). As the starting sample for this study was established with 136 participants, sophomore (6^{th} semester) students were also invited to participate. The whole population in the BSW program is about 600 students, with 156 in the first year. Sophomores were invited because it was not expected that all freshmen would participate, which in fact occurred. The School of Social Work (SSW) of the UANL established its BSW program in 1968. This university established the first MSW program (1971) and the first Ph.D. program in Social Work (1995) established in Mexico. This SSW has a main focus in community education, either for practice (BSW), administration (MSW) or research (Ph.D.).

Control of Type I and Type II errors

In controlling type 1 error, this research used the conventional $p<0.05$ significance level as the probability of getting a type 1 error, that is the probability of finding statistical significance when there is no effect (Rossi, Lipsey & Freeman, 2004). In controlling type 2 error, the effect size is considered a standardized measure of the differences of the groups. This research used the most common effect size formula in experimental studies, defined as the difference in the means of groups divided by their standard deviation (Hair, Black, Babin, Anderson & Tatham, 2005; Meyers, Gamst, & Guarino, 2006). Effect size directly affects statistical power, because power will be greater depending on effect size. A too small or non significant power is a general consequence of a too small effect size (Hair et al.). Therefore, statistical power is the probability that an estimate of the effect size will be statistically significant when, in fact, it represents a real effect (Rossi et al., 2004). Statistical power analysis in this research was carried out a priori (Miles, 2006) and established in 0.80.

Population and Sample

Many research textbooks (e.g., Hair et al., 2005; Meyers et al., 2006) refer to tables estimating the sample size needed to achieve a power of 0.80. However, Keppel and Wickens (2004) warn that those tables hardly consider all the possibilities in terms of form of the experiment (One-Factor, Two-Factor, Quasi-experimental), hypothesis test to be conducted, and so on. Moreover, they refer to power analysis software available online. According to Keppel and Wickens, these programs provide accurate results in estimating appropriate sample sizes according to statistical power and number of groups. More specifically, they recommend G*Power (Faul & Erdfelder, n.d.).

G*Power (Faul & Erdfelder, n.d.) was used on March 26, 2006, to estimate optimal sample sizes for the particular research design and hypotheses tested in this study. Computations in Two-Factor Analysis reduce the degrees of freedom that tests need, even though an optimal effect size is also reduced. G*Power estimated an optimal effect size=0.25. The rules for calculating the degrees of freedom in Two-Factor Analysis establish that the main effect of a factor has degrees of freedom equal to the number of levels of that factor less one (Keppel & Wickens, 2004). Because the first group of hypotheses tested main effects of teaching technique (experiential, lecture plus discussion), there was one degree of freedom. Because the second group of hypotheses tested main effects of learning environment, also there was only one degree of freedom. The rules for calculating the degrees of freedom in Two-Factor Analysis establish that an interaction has degrees of freedom equal to the product of the degrees of freedom of its separated parts (1X1=1). Considering an effect size=0.25, alpha=0.05, 4 groups, power=0.8, and df=1, G*Power estimated that 128 participants were needed to test the overall model.

Otherwise, because a 2X2 design looked like a plausible strategy for this particular study, Multiple Analysis of Variance was proposed as the most accurate statistical test to analyze results. MANOVA is robust as long as sample sizes of groups are homogeneous. Even with unequal sample sizes, Tabachnick and Fidell (2000) consider that a sample of about 20 cases in the smallest cell should ensure robustness to violations of normality. A direct consequence is that while 128 participants are considered an optimal sample size, having more than 80 participants at the end should be considered enough to detect main and interactive effects as proposed in the research hypotheses.

The BSW sample was recruited mainly from the whole freshmen population. That population was distributed in 5 classroom groups of unequal sizes. They were also 2 classroom groups of sophomores added for a total of 7 classroom groups as the final sampling frame. Members of those classroom groups were randomly assigned to the research groups.

Pretest Demographics

Table 7. Academic Level of Sample at Pretest

	Group				Total
	F2F Experiential	Multimedia Experiential	F2F Lecture + Discussions	Multimedia Lecture + Discussions	
Freshmen	31	30	28	56	145
Sophomores	18	11	0	0	29
Total	49	41	28	56	174

Table 8. Gender of Sample at Pretest

	Group				Total
	F2F Experiential	Multimedia Experiential	F2F Lecture + Discussions	Multimedia Lecture + discussions	
Male	5	1	2	3	9
Female	44	39	26	53	164
Total	49	40	28	56	173

Table 9. Age of Sample at Pretest

	Group				Total
M = 19.09 *SD* = 4	F2F Experiential	Multimedia Experiential	F2F Lecture + Discussions	Multimedia Lecture + Discussions	
17	11	12	16	21	60
18	11	8	5	15	39
19	11	8	3	11	33
20	6	5	1	6	18
21	5	3	1	1	10
22	1	4	1	0	6
23	1	0	0	1	2
24	1	0	0	0	1
25	0	0	0	1	1
31	1	0	0	0	1
35	0	1	0	0	1
49	1	0	0	0	1
50	0	0	1	0	1
Total	49	41	28	56	174

Posttest Demographics

Table 10. Academic Level of Sample at Posttest

	Group				Total
	F2F Experiential	Multimedia Experiential	F2F Lecture + Discussions	Multimedia Lecture + discussions	
Freshmen	26	26	20	42	114
Sophomore	17	7	0	0	24

Table 11. Gender of Sample at Posttest

	Group				Total
	F2F Experiential	Multimedia Experiential	F2F Lecture + Discussions	Multimedia Lecture + Discussions	
Male	5	1	2	1	9
Female	38	32	18	41	129
Total	43	33	20	42	138

The whole population in the pretest sample was 174 participants, 145 of them freshmen (see tables 7 and 8). Most of the participants were female (n=164), and most of them were between 17 and 21 years of age (n=160). Despite differences between gender and age groups, sample distribution was homogeneous across experimental conditions. No generalizations were proposed between gender or age groups. Because some participants did not participate in all required sessions, the whole population in the posttest sample was 138 participants (see tables 7 and 8). There were no data collected from people that quit

intervention before the posttest. Each group, both pretest and posttest, registered at least 20 participants, a sample size enough to test the hypotheses.

Table 12. Age of Sample at Posttest

	Group				Total
M = 19.05 *SD* = 4.22	F2F Experiential	Multimedia Experiential	F2F Lecture + Discussions	Multimedia Lecture + Discussions	
17	10	10	12	16	48
18	8	8	4	11	31
19	11	6	2	10	29
20	6	5	0	3	14
21	4	1	0	1	6
22	1	3	1	0	5
24	1	0	0	0	1
25	0	0	0	1	1
31	1	0	0	0	1
49	1	0	0	0	1
50	0	0	1	0	1
Total	43	33	20	42	138

Benefits and Informed Consent

BSW students were invited to participate as volunteers for this study. Small rewards in kind (snacks, sodas) were provided in each session. Because training in active listening skills has not been taught in the BSW program, all the participants received educational benefits just for volunteering. F2F groups met in a traditional classroom, similar to a standard classroom in an American university. Multimedia groups met in the computer lab, which is similar to a standard computer lab in an American university in form, but not in resources. In assuring participants' protection, the investigator received the Institutional Review Board (IRB) certificated training for protection of human subjects.

The researcher received clearance from the IRB under protocol 07.010s on October 31, 2006. According to this protocol, they were considered participants, not just research subjects, but also professionals participating in the Virtual Learning Environment (VLE).

Informed consent signatures were picked up from professionals participating in videos (see appendix B) and students participating as research subjects (see appendix C), who were also videotaped for evaluation purposes. An external rater evaluation of those videos was considered the second posttest. It was verbally agreed with the BSW authorities to publish the research results. Currently, publishing a poster with the results in the main public space of the Social Work School at the UANL is being considered. Publication will occur after a successful dissertation defense. Personal information will not be published in any form. Posttests were pre-numbered and distributed among the students. Raters watching videotaped role-plays also signed confidentiality letters in order to assure anonymity of participants.

Variables and Measures

Teaching technique was defined as the exposure to experiential learning (participation in experiential learning groups of the research design), or the exposure to lecture plus discussion (participation in lecture plus discussion groups) learning environments.

Learning environment was defined as the exposure to F2F (participation in F2F groups of the research design), or multimedia (participation in multimedia groups of the research design) based learning environments.

Satisfaction was defined as the sum of the scores on the 5-item satisfaction index:

5 = Extremely satisfied; 1 = not satisfied at all

I am satisfied with the readings assigned.	5 4 3 2 1
I am satisfied with the instructions provided in this workshop.	5 4 3 2 1
I am satisfied with what I learned about listening skills.	5 4 3 2 1
I am satisfied with the definitions on active listening skills.	5 4 3 2 1
I am overall satisfied with the workshop.	5 4 3 2 1

Participants scored between 5 and 25. Theoretically, participants not satisfied at all could score 5 points, because of marking 1 in each item; then participants extremely satisfied could score 25 points, because of marking 5 in each item.

Perception of learning gains was defined as the students' perceptions of the extent to which the students learn. The College Student Experiences Questionnaire (CSEQ) (Kuh & Pace, 1998) relies on students' self-report of estimates of gains. A tailored version of the students' self-report of estimates of learning gains was used to assess perception of learning gains. This scale used the sum of scores in a 10-item scale. Participants scored between 10 (scoring 1 in each item) to 50 (scoring 5 in each item). The 10-item scale was used:

"To what extend do you feel that you have gained or made progress in the following areas?"

5 = "A lot"; 1 = "Nothing"

Acquiring knowledge and skills applicable to social work practice.	5 4 3 2 1
Acquiring background and specialization for further education in Social Work.	5 4 3 2 1
Gaining a broad education on active listening concepts and skills.	5 4 3 2 1
Gaining a range of information that may be relevant to my career.	5 4 3 2 1
Developing your own values and ethical standards.	5 4 3 2 1
Understanding yourself, your abilities, interests, and personality.	5 4 3 2 1
Developing the ability to get along with different kinds of people.	5 4 3 2 1
Think analytically and logically.	5 4 3 2 1
Learning on your own, pursuing ideas, and finding information you need.	5 4 3 2 1
Learning to adapt to change (new technologies, different personal circumstances)	5 4 3 2 1

Dependent Variables

Statements	True	False	Do not know
1. Verbal impatience is a way to indicate to somebody that he/she is wasting your time.	1	2	3
2. Empathy means stating something negative about the individual.	1	2	3
3. Paraphrasing means to summarize the main facts of a client speech.	1	2	3
4. One good way to start a conversation appropriately is through encouragement, giving them a clue about you are listening attentively.	1	2	3
5. It is important to invite to the client to express openly and freely what he/she feels. One way to do that is through warmth, which means deliberately saying something to make the other person feel more comfortable.	1	2	3
6. An excellent verbal following consists in following topics introduced by the client.	1	2	3
7. A poor verbal following consists in making frequent and/or inappropriate jumps in topics.	1	2	3
8. An excellent attentiveness consists in slumping back and/or rests on arm in an overly casual manner.	1	2	3
9. An excellent eye contact consists in looking at client in a direct and spontaneous manner.	1	2	3
10. A poor eye contact consists in frequently looking down or away from the client.	1	2	3
11. One goal of emphatic response is to invite to the client to openly and freely express feelings.	1	2	3
12. Reflection of feelings conveys to communicate understanding of feelings being expressed.	1	2	3
13. Summarizing responses, as reflection of major content and feeling themes in the client's communication is a major fact in active listening.	1	2	3
14. A social worker should not have to self-disclosure, personal questions should remain avoided.	1	2	3
15. Facial expressions and other physical cues indicating that an individual is wasting his/her time is a negative listening skill.	1	2	3
16. In listening, it is a good idea to make generalizations about the client's race or gender ("Yes, that is what all females usually do").	1	2	3

Learning of active listening concepts and skills is operationalized as to what extent people recall definitions and concepts of active listening skills (Mayer, 2001). This measure reflects the total of the correct answers to 16 items. It was originally designed as a 20-item scale. However, item analyses in the pilot test showed that some of them were not discriminated by participants. Following Aiken (2000), those items that were not discriminated between people that learned and people that had not learned were taken out from the final questionnaire. When this scale was used in pretest, the results were considered the control variable (covariate) Previous Knowledge. When used in posttest, the measure was considered the dependent variable Learning. Participants scored between 0 and 16. In other words, this variable was used as a dichotomous one, scoring 0 for a wrong answer and 1 for a correct one (see scale above):

Listening skills acquisition is defined as the mean of the external evaluations from two external raters that use a video from the final role-play exercise. As it was described above, a final 10-minute role-play was performed with a Master student acting as a client. Three raters assessed interviews using the 15-item scale as follows based on Ouellette et al. (2006). As the validity and reliability of the measures section described below, two raters were finally selected because of their correlated scores. Each rating was composed of the mean of the 15 items scoring between 1 to 5. Then the final rating used the mean of the two raters. The final index theoretically was able to score from 15 to 75. In other words, the fewest case could score 1 in each item from each rater, for a total of 15 points, and the best case could score 5 in each item from each rater, for a total of 75 points.

5 = Skill appropriately displayed; 1 = Skill inappropriately displayed

1.	Invites to the client to express openly and freely what he/she feels. One way to do that is through warmth, which means deliberately saying something to make the other person feel more comfortable.	5 4 3 2 1
2.	Leans slightly toward and faces client squarely (Attentiveness).	5 4 3 2 1
3.	Establishes eye contact by looking at client in a direct and spontaneous manner.	5 4 3 2 1
4.	Maintains a posture and overall comfortable physical presentation (Relaxed)	5 4 3 2 1
5.	Communicates in a non-evaluative and respectful manner (Positive regard)	5 4 3 2 1
6.	Shows open, non-defensive and authentic; no mask of impersonality (Genuine)	5 4 3 2 1
7.	Gives and takes easily in interview (Mutuality)	5 4 3 2 1
8.	Shows verbal impatience as inappropriate jumps in topics.	5 4 3 2 1
9.	Accurately perceives and communicates overt feeling and meaning of client's communication (Empathy).	5 4 3 2 1
10.	Communicates accurate understanding of the content of client communication (Paraphrase).	5 4 3 2 1
11.	Presents frequent nonverbal prompts that elicit further elaboration from the client, e.g. nodding (Encouragement).	5 4 3 2 1
12.	Shows excellent verbal following of topics introduced by the client.	5 4 3 2 1
13.	Reflects feelings by communicating understanding of feelings being expressed.	5 4 3 2 1
14.	Explores alternative courses of action or solutions to problems presented.	5 4 3 2 1
15.	Shares information about self in appropriate and selective way (self-disclosure).	5 4 3 2 1

Intermediate Variables

Self-reported GPA was operationalized by the question: What was your final High School GPA?

Communication among groups was operationalized as the sum of two questions: "Did you know details about something occurring in other learning groups?" (Y/N) and "Please elaborate as extensively as you know what was occurring in other learning groups."

The answers to the second question were codified post hoc as to the extent participants know about that was occurring in other learning groups (1 for nothing, 5 for extensive details).

Days spent between the pretest and the posttest and Days spent between the pretest and the interview were also postcodified as intermediate variables.

Validity and Reliability

Two training/pilot sessions were run in a convenience sample of Bachelor in Psychology students. They ran in November 2006 and February 2007. Those training sessions were specifically useful for two purposes. First, they validated that instructors understood the nature and logic of the whole intervention. Also, time assumptions from the evaluation were able to be evaluated in real settings. Second, posttest gathered on February 2007 ran validity, reliability and item analyses. The posttest was applied just in one pilot session (February 2007).

Satisfaction

An exploratory factor analysis was performed to test construct validity from the Satisfaction measure. Principal factors extraction with varimax rotation was performed through SPSS 14 on the 5-items Satisfaction scale for a sample of 41 BPsych students. Because only one factor was extracted, varimax rotation could not be performed. As it was indicated by the initial communalities, the factor is internally consistent and well defined by the variables. Loadings of variables on the factor, communalities, and percentages of variance are shown in table 13. Cronbach's Alpha was performed to evaluate internal consistency from the Satisfaction measure. The reliability coefficient resulted 0.78, which

Table 13. Factor Loadings, Communalities (h^2), and Percentage of Variance for Principal Factors Extraction on Satisfaction Items

Item	Satisfaction	h^2
I am satisfied with the readings assigned.	0.787	0.619
I am satisfied with the instructions provided in this workshop.	0.613	0.375
I am satisfied with what I learned about listening skills.	0.799	0.639
I am satisfied with the definitions on active listening skills.	0.858	0.736
I am overall satisfied with the workshop.	0.838	0.702
Percent of variance	100.000	

was considered a good evidence of internal consistency, taking into account that there are just 5 items on the scale.

Perception of learning gains. This was measured as a 10-item measure adopted from The College Student Experiences Questionnaire (CSEQ) (Kuh & Pace, 1998), was analyzed to ascertain content validity. In this particular case, content validity is concerned with whether the content of this 10-item measure elicits a range of responses that is representative of perception of learning. All items were carefully evaluated to be sure that they were asking perceptions about the Learning Environments under study. Cronbach's Alpha was performed to evaluate internal consistency from the Satisfaction measure. The reliability coefficient was 0.813, which was considered a good evidence of internal consistency.

Learning. This 16-item scale was analyzed to ascertain content validity. In this particular case, content validity is concerned with whether the content of this 16-item measure asked for the real contents that the measure is supposed to measure (contents on Learning Environments). Kuder-Richardson Formula 21 (KR21) was performed to measure internal consistency. This is a standard reliability procedure to test Learning measures. The formula requires only the test mean (M), the variance (s^2), the number of students (n), and

the number of items on the test (*k*). It assumes that all items are of approximately equal difficulty. This is particularly true in this case because item analyses were performed and described previously. The internal consistency coefficient was 0.77, which was considered a good evidence of internal consistency.

Because Learning is considered one crucial variable for this study, item analysis was performed for this specific measure. An analysis of responses given by a group of people to the individual items on a test served several functions. The major aim of such an item analysis was to help improve the test by revising or discarding ineffective items. One important function of an item analysis, specifically of a learning test, is to provide diagnostic information on what participants know (Aiken, 2000). Item difficulty and discrimination indexes were computed by using the following statistical indexes from scores on the upper (+0.05 z scores) and lower (-0.05 z scores):

$$p = U_p + L_p / U + L$$

$$D = U_p - L_p / U$$

U_p and L are the numbers of people in the upper and lower groups, respectively, who got the item right; V and L are the total number of people in the Upper and Lower groups. The value of *p* is referred to as an *item difficulty index* and *D* as an *item discrimination index* (Aiken, 2000). In this particular case, the item difficulty index tested if any specific item was too easy or difficult for participants under study. Items ranked lower than 0.20 and upper than 0.80 were candidates to be discarded. The item discrimination index (D) is a measure of the effectiveness of an item in discriminating between high and low scorers. The higher the value of D is the more effective the item is in discriminating between those with high scores and those with low scores on the test as a whole. An item is usually considered acceptable if it

has a D index of 0.3 or higher (Aiken, 2000). Discrimination index was considered more important than difficulty index for the learning measure. A poor item in difficulty index was retained if it matched the scores of discrimination index, but not the opposite one. Four items were discarded for the original measure and the final score was composed of 16 items.

Listening skills acquisition**.** This 15-item scale was analyzed to ascertain content validity. In this particular case, content validity is concerned with whether the content of this 16-item measure asked for the real skills that the measure is supposed to measure (skills displayed on Learning Environments). A Pearson correlation was computed to estimate inter-raters reliability. Table 14 shows that Rater 1.1 (Mexico) positively correlated (0.441, $p<0.001$) with Rater 1 (US), and Rater 2 (0.619, $p<0.001$). Rater 2 failed to agree with Rater 1 ($p=0.231$). It should be said remembered that all data were blindly, independently gathered.

Table 14. Inter-raters Reliability

		Rater 1	Rater 1.1	Rater 2
Rater1 (USA)	Pearson Correlation Sig. (2-tailed)	1	0.441(**) 0.000	0.199 0.231
	N	93	78	38
Rater 1.1 (Mexico)	Pearson Correlation Sig. (2-tailed)	0.441(**) 0.000	1	0.619(**) 0.001
	N	78	79	27
Rater 2 (USA)	Pearson Correlation Sig. (2-tailed)	0.199 0.231	0.619(**) 0.001	1
	N	38	27	38

**Correlation is significant at the 0.01 level (2-tailed).

Then the final measure was composed of the mean of Rater1 (USA) and Rater 1.1 (Mexico) scores. This implies a limitation that is discussed in chapter 5.

Procedure

The complete intervention phase lasted four different sessions along a four-week period (March 1-30, 2007). They were three different stages, such as a pretest, three intervention sessions, and two posttests. However, it should be remembered that not all measures were used at any time that participants were observed. As shown in table 5 and elaborated in measures definitions, just the scale used to measure skills concepts knowledge (Preknowledge/Learning) was used in both pretest and posttest. Satisfaction, Perception of Learning Gains and Skills Acquisition were just measured in posttests. Satisfaction and Perception of Learning Gains were measured by self-administered questionnaires, while Skills Acquisition was measured indirectly by using external raters filling in forms at the time they watched videotaped reality-plays.

Pretest

In the first intervention week pretests were administered to each group in the first session,. The pretest was applied by the main researcher to the whole sample. All participants signed informed statements (consent informed letters) before answering the pretests. All questions asked by the students were answered in a comprehensive manner. About 20 students refused to participate once they heard such answers; most of those reported that they did not have enough time to spend in the educational intervention. People who refused to participate were invited to leave the classroom but also they were invited to come back at any time in the next week. One person returned after having dropped out.

Interventions were designed to deliver contents on nine basic active listening skills: (1) empathic responding, (2) self disclosure, (3) positive feedback, (4) summarizing responses, (5) reflecting feelings, (5) paraphrasing, (7) nonverbal behavior, (8) eye contact, and (9) encouragement (see appendix D). Licensed clinical social workers volunteered to act as professionals on videos used in all the learning environments.

It should be remembered that Intervention Groups combined variables as follows:

Group 1 – F2F (A1) and experiential learning (B1)

Group 2 – F2F (A1) and lecture plus discussions (B2)

Group 3 –Multimedia (A2) and experiential learning (B1)

Group 4– Multimedia (A2) and lecture plus discussion (B2)

It is important to remember that **Learning environment** was defined as the exposure to either F2F (participation in F2F groups of the research design), or multimedia-based (i.e., participation in multimedia groups of the research design) learning environments.

Contents were the same throughout all the groups and delivered by using the same PowerPoint presentation. Also all groups watched the same video examples of role plays between a clinical licensed social worker and a social work Ph.D. student. Before starting, an introduction with directions was provided to all participants. In the F2F environments, a standard verbal introduction was provided, followed by asking participants if they had completely understood the directions. A written introduction was provided in Multimedia Learning Environment sessions. F2F discussions between instructors and students took place in all the groups, including Multimedia. Different tools were tested to perform synchronous communication in place of F2F in Multimedia Learning Environments. However, computers

in the computer lab were found to have limited capabilities due to hardware requirements and also university rules banning any well-acknowledged synchronous communication tools (e.g., Instant Messenger, Java-based chat rooms, Yahoo chat rooms). These limitations required the use of F2F discussions instead of Web-based chat in Multimedia, as originally planned. Lab technical limitation improved the research design because the discussions' stimuli were kept equal in all experimental conditions.

Teaching technique was defined as the exposure to experiential learning (participation in experiential learning groups of the research design), or exposure to lecture plus discussion (participation in lecture plus discussion groups) learning environments. In experiential learning groups, each session from the educational intervention consisted of a four-step procedure as follows:

1. Participants observed a 3-minute video example of two persons (social worker and client) talking in a neutral setting. Licensed social workers using professional reality-based dialogues with active listening skills took part in the video.

2. Participants discussed the video using several discussion guidelines. The facilitator called for agreements and critiques with active listening skills that had been observed before.

3. Participants received a lecture on listening skills supported with PowerPoint presentations (F2F or multimedia-based).

4. Participants performed experiential exercises.

Lecture plus discussions groups were equal in (1), (2) and (3). When F2F, participants were assigned to five-member groups, and performed role-plays, interchanging professional or client roles throughout the intervention sessions. When multimedia, participants watched

Table 15. Groups Description and Component Table

Group	Stage from Kolb cycle	LE Components	Activities
Group **1** (F2F and experiential learning)	Concrete experience	Reality-plays	Participants observed a 3 minute video of two people (social worker & client) talking in a neutral setting. Licensed social workers using professional reality-based dialogues with active listening skills performed the video.
	Reflection / discussion	Discussion	Participants discussed the video using several discussion guidelines; facilitator called for agreements and critiques with active listening skills observed before.
	Research / Lecture	Lecture	Facilitator lectured on listening skills supported with PowerPoint presentations
	Exercising	Role-plays	Participants were assigned to five-member groups, and performed role-plays, either randomly selected to play as a professional or client. Students scored the role-play using a paper pencil form in terms of listening skills exhibited. Students exchanged papers at the end of each role-play and graded the papers in order to provide a feedback score. Roles were changed in the same group; at the end, all of them participated in the role-plays at any way.
Group **2** (F2F and lecture and discussion)	Research / Lecture	Reading	Participants read paper-based lessons on active listening concepts.
	Research/ Lecture	Lecture	Facilitator lectured on listening skills supported with PowerPoint presentations.
	Reflection/ Discussion	Discussion	Participants discussed the contents using several discussion guidelines; facilitator called for agreements and critiques with active listening skills lectured before.

Table 15—*Continued*.

Group **3** Multimedia; experiential learning	Concrete experience	Reality-plays	In a CD multimedia environment, participants observed a 3-minute video of two persons (social worker & client) talking in a neutral setting. Licensed social workers using professional reality-based dialogues with active listening skills participated in the video.
	Reflection / Discussion	Discussion	Participants discussed the contents using several discussion guidelines; facilitator called for agreements and critiques with active listening skills lectured before.
	Research / Lecture	Lecture	In a CD multimedia environment, participants read a PowerPoint lesson on active listening concepts.
	Exercising	Videogame	In CD a multimedia environment, participants ran an exercise. They watched a video and then selected one of three options. They received feedback that the option selected as correct or wrong.
Group **4** Multimedia; lecture; discussion	Concrete experience	Reality-plays	In a CD multimedia environment, participants observed a 3 minute video of two people (social worker & client) talking in a neutral setting. Licensed social workers using professional reality-based dialogues with active listening skills performed the video.
	Reflection / Discussion	Discussion	Participants discussed the contents using several discussion guidelines; facilitator called for agreements and critiques with active listening skills lectured before.
	Research /Lecture	Lecture	In a CD multimedia environment, participants read a PowerPoint lesson on active listening concepts.

role-plays videos and then selected 1 of 3 options. They received feedback that the option selected was correct or incorrect. The complete intervention strategy and component table is described in table 15 (see also appendix D for a description of Multimedia Learning Environment contents, mainly role-plays).

Some participants did not take all the intervention sessions, because they arrived late or left the classroom before they completed one or more sessions. The interventions were applied by two Ph.D. candidates with MSWs and who were ABD (current Ph.D. candidates, all but dissertation) in social work. These two Ph.D. candidates also had similar backgrounds working with female and gerontology clients. Three training sessions were performed in November 2006 and February 2007 in order to ensure that the instructors had a comprehensive understanding of contents and teaching techniques to be used in the learning environments—both face-to-face and virtual. The instructors did not receive information about the research hypotheses until June 2007. All of the instructors' questions about the learning environments were answered, but the instructors were warned that any question about the research would not be answered. Instructors were randomly assigned to the experimental conditions one day before the intervention period.

Posttests

After the interventions, a posttest was given to participants in the classrooms. After that participants were asked to perform a final role-play with a previously trained graduate student acting as a client. Training emphasized a standard procedure in order to avoid that different student's behaviors might be the reason for different role-play outcomes. The scenario of the role-play consisted of a university social worker interviewing a student misbehaving as a result of stress and burned out by working and studying full time.

Final role-plays were video recorded and then distributed among two different raters selected from a team of three raters. Two of those raters were licensed clinical social workers and one was an instructor.

CHAPTER IV

RESULTS

Final Sample Size

The key data to be examined were (1) the change in scores from pretest to posttest for the Learning variable across the four comparison groups and (2) the difference in scores from Skills Acquisition variable across the four comparison groups.

Multiple Analysis of Variance (MANOVA) procedures were established to detect any changes. MANOVA was used to see the main and interaction effects of categorical variables on multiple dependent interval variables. MANOVA uses one or more categorical independents as predictors, like ANOVA, but unlike ANOVA, there is more than one dependent variable. Where ANOVA tests the differences in means of the interval dependent for various categories of the independent(s), MANOVA tests the differences in the centroid (vector) of means of the multiple interval dependents, for various categories of the independent(s).

Table 16 reflects final sample size. The first number after each variable shows the sample in the specific experimental group. The second number shows the final sample size for that particular variable. Attrition at the final stage was due to the fact that the interviews were chosen by students just in the mornings. Students reported that they formerly used the afternoons and night for assignments and community work, so the only possibility to attend interviews was in the mornings. All the interviews ran in a three-week period for two

reasons—to avoid the influence of time and loss of memory as a secondary variance and to finish before a two-week spring break period that students had just after those three weeks of interviews. Attrition rates suggest the need to run Skills Acquisition separately to all the other dependent variables because it caused strong heterogeneity in the sample sizes of the DVs. Attrition rates also suggests a limitation of the analysis because there were not 20 cases in F2F*Lecture plus discussions group, as recommended by Tabachnick and Fidell (2007). This limitation is discussed in chapter 5.

Table 16. 2X2 Final Sample Size

	EXP + DISC	Experiential
F2F	Previous Knowledge[a] (n_1=22 / n=154) Satisfaction[b] (n_1=18 / n=134) Perceived Learning[b] (n_1=18 / n=133) Learning[b] (n_1=18 / n=132) Skills Acquisition[c] (n_1=9 / n=94)	Previous Knowledge[a] (n_2=46 / n =54) Satisfaction[b] (n_2=n=134 Perceived Learning[b] (n_2=43 / n =133) Learning[b] (n_2=42 / n=132) Skills Acquisition[c] (n_2=39 / n=94
Multimedia	Previous Knowledge[a] (n_3=48 / n=154) Satisfaction[b] (n_3=38 / n=134) Perceived Learning[b] (n_3=38 / n=133) Learning[b] (n_3=38 / n=132) Skills Acquisition[c] (n_3 = 25 / n=94)	Previous Knowledge[a] (n_4=38 / n=154) Satisfaction[b] (n_4=34 / n=134) Perceived Learning[b] (n_4=34 / n=133) Learning[b] (n_4=34 / n=132) Skills Acquisition[c] (n_4=21 / n=94)

[a]Pretest; [b]Posttest; [c]External raters

Model Assumptions

Before proceeding with MANOVA, linear model assumptions should be assessed, such as influence of outliers, normality, independence, linearity, and multicollinearity.

Multivariate Outliers

A check for multivariate outliers was accomplished by computing a Malahanobis distance measure for each case. Extreme values of the Malahanobis Distance measure showing scores greater than 13.816 were discarded as recommended by Meyers, Gamst and Guarino (2006). A total of five cases were eliminated from the analysis, leaving a total of 133 participants at posttest. Distance measures were evaluated with a chi-square criterion at alpha=$p<0.001$.

Normality

To address the assumption of normality for the quantitative variables, skewness and kurtosis values were examined for Preknowledge, Satisfaction, Perception of Learning Gains,Learning and Skills Acquisition as shown in table 17. Skewness and kurtosis values are within the 1.0 to -1.0 range for Preknowledge, Perception of Learning Gains, Learning

Table 17. Normality Outcomes for Quantitative Variables

	Skewness	Kurtosis	Kolmogorov-Smirnov
Satisfaction	-1.069	0.539	0.166 (134)*
Perceived Learning	-0.731	-0.004	0.112 (133)*
Knowledge	-0.856	0.418	0.184 (137)*
Skills acquisition	0.247	0.447	0.08 (82)**
Preknowledge	-0.221	-0.138	0.122 (154)*

*$p<0.001$; **$p>0.200$

and Skills Acquisition. Table 17 also shows that the Kolmogorov-Smirnov tests are statistically significant, indicating that some normality violations are present in the measures (Mayers, Gamst & Guarino, 2006). However, the normal Q-Q plots in figure 7 look reasonably normal for all the dependent variables, showing that data are ready for analyses.

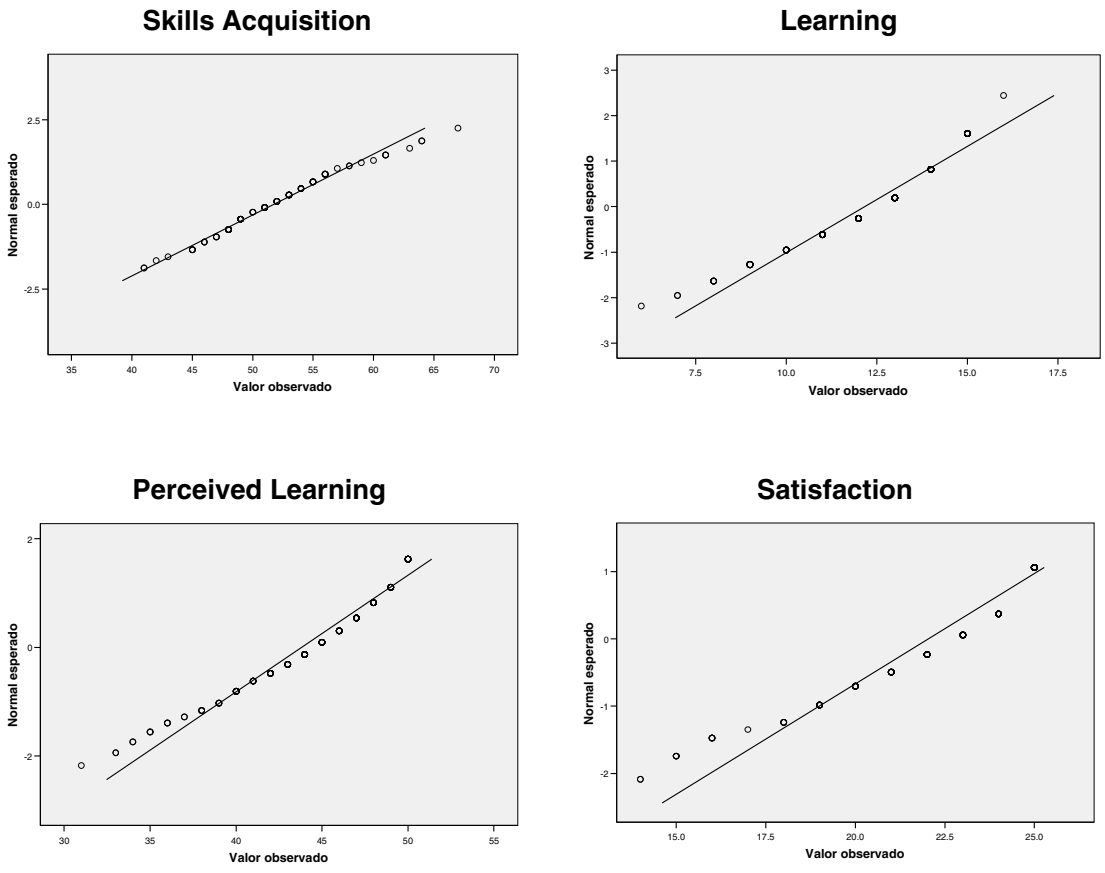

Figure 7. Normal Q-Q plots for dependent variables.

Linearity and Covariates

A bivariate correlation was computed to test the association between the dependent variables. Pearson correlation also tested the variables supposed to potentially influence the dependent variables (covariates). Table 18 shows the Pearson correlations for the dependent

Table 18. Correlations of DVs and Covariates

Variables	Type of Correlation Used & Significance	Skills	Satisfaction	Perception of Learning Gains	Learning
Days between last session & posttest	Pearson Corr.	-0.040	-0.091	-0.071	-0.055
	Sig. (2-tailed)	0.704	0.295	0.416	0.533
Skills acquisition	Pearson Corr.	1	-0.093	0.005	0.102
	Sig. (2-tailed)	--	0.408	0.065	0.374
High school GPA	Pearson Corr.	0.268*	-0.005	0.109	0.041
	Sig. (2-tailed)	0.013	0.956	0.241	0.658
Satisfaction	Pearson Corr.	-0.093	1	0.590**	0.446**
	Sig. (2-tailed)	0.408	0.000	0.000	0.000
Perception of learning gains	Pearson Corr.	0.005	0.590**	1	0.296
	Sig. (2-tailed)	0.965	0.000	--	0.001
Learning	Pearson Corr.	0.102	0.446**	0.296**	1
	Sig. (2-tailed)	0.374	0.000	0.001	--
Days between last session & interview	Pearson Corr.	0.285**	-0.091	0.070	0.069
	Sig. (2-tailed)	0.006	0.410	0.537	0.550

** Significant at the 0.01 level (2-tailed); * Significant at the 0.05 level (2-tailed).

variables Satisfaction, Perception of Learning Gains, Learning and Skills Acquisition, and for the covariates High School GPA, Days spent between the last day and the questionnaire (considered a possible alternative explanation at the questionnaire), and Days spent between the last day and the interview (considered a possible alternative explanation to influence Skills Acquisition). The analysis found linearity between Satisfaction and Perception of Learning Gains (0.590, $p<0.001$) and also Learning (0.446, $p<0.001$). Also Perception of Learning Gains and Learning were positively associated (0.296, $p<0.001$). Person coefficients show that covariates of High School GPA, Days spent between the last day and the questionnaire, and Days spent between the last Day and the Interview did not influence Satisfaction, Perception of Learning Gains or Learning. Otherwise, Skills Acquisition was not associated with any other dependent variable. Instead of that, Skills Acquisition was positively associated with the covariates High School GPA (0.268, $p<0.05$) and Days Spent between the last session and the interview to display skills acquisition (0.285, $p<0.001$). Those findings suggested that Satisfaction, Perception of Learning Gains and Learning could be analyzed throughout a Multiple Analysis of Variance, but Skills Acquisition analyses need a double-step procedure to correct the influence of covariates in its results.

Tests of the Hypotheses

It should be remembered here that there were three groups of hypotheses. To understand the hypotheses, the literature review is once more summarized. A good corpus of evidence suggests that beyond learning environment, teaching techniques will differentiate learning. Experiential learning supporters have maintained that better learning environments influence whether learners enjoy the experience. As a result of enjoying learning experiences, learners become more satisfied, and also perceive that they learn more. However, such

variables as satisfaction and perception of learning gains are not related to how much people learn at the end. The literature suggests that Multimedia learning environments have a hands-on practice approach, but they are not always designed to act as hands-on practice tools and a cause for reflective learning. A good corpus of research based on theory suggests that whether or not it is designed to take into account effective principles of teaching, multimedia might function to construct more effective learning environments. That is, multimedia might interact with experiential learning to produce better learning. The following hypotheses suggest the main and interaction effects of the interventions.

The overall hypotheses of teaching techniques state that **Exposure to different teaching techniques** results in different scores in **satisfaction, perception of learning gains**, **learning and skills acquisition.**

H1. Exposure to experiential learning relates to statistically higher scores on satisfaction than **exposure to lecture plus discussions.**

H2. Exposure to experiential learning relates to statistically higher scores on perception of learning gains than **exposure to lecture plus discussions.**

H3. Exposure to experiential learning relates to statistically higher scores on learning than **exposure to lecture plus discussions.**

H4. Exposure to experiential learning relates to statistically higher scores on skills acquisition than **exposure to lecture plus discussions**.

The overall hypotheses of learning environments state that Exposure to different learning environments relates to different scores on **satisfaction** and **perception of learning gains** but not on **learning and skills acquisition**.

H5. Exposure using a Multimedia Learning Environment relates to statistically higher scores on satisfaction than exposure using a F2F learning environment**.**

H6. Exposure using a Multimedia Learning Environment relates to statistically higher scores on perception of learning gains than a F2F Learning Environment.

The overall interaction hypotheses state that the effectiveness of the learning environment depends on the teaching technique.

H7. A Multimedia Learning Environment relates to statistically higher scores on **satisfaction** when using experiential learning rather than lecture plus discussions.

H8. A Multimedia Learning Environment relates to statistically higher scores on **perception of learning gains,** when using experiential learning rather than lecture plus discussions.

H9. A Multimedia Learning Environment relates to statistically higher scores on **learning,** when using experiential learning rather than lecture plus discussions.

H10. A Multimedia Learning Environment relates to statistically higher scores on **skill acquisition**, when using experiential learning rather than lecture plus discussions.

Hypotheses for Satisfaction, Perception of Learning Gains and Learning

A two-way between-subjects multivariate analysis of variance (MANOVA) was conducted on three dependent variables—satisfaction, perception of learning gains, and learning. The independent variables were teaching techniques (Lecture plus discussions, experiential) and learning environments (F2F, multimedia). Because of the correlation with covariates and different sample sizes described above, hypotheses for skills acquisition were

tested using a two-way analysis of covariance. MANOVA procedures were described previously.

The Box's Test of Equality of Covariance Matrix presented in table 19 is statistically significant (Box's M=37.114, *p*=0.009) indicating inequality of variance-covariance matrices of the dependent variables across levels of the independent variables. Heterogeneity is a potential distortion source of alpha levels. Theoretically, it is possible that test robustness is not guaranteed. However, there is no consensus about how gaining homogeneity or whether corrections are appropriate at all (Meyers, Gamst & Guarino, 2006; Tabachnick & Fidell, 2007).

Table 19. Box's Test of Equality of Covariance Matrices*

Box's M	37.114
F	1.960
df1	18.000
df2	24046.267
Sig.	0.009

* Design: Intercept+TeachingTechnique+LearningEnvironment+ TeachingTechnique; * LearningEnvironment.

In the case of heterogeneity, Pillai's criterion is recommended instead of the standard Wilk's criterion to evaluate the significance of the multivariate effect (Meyers, Gamst & Guarino, 2006; Tabachnick & Fidell, 2007). Heterogeneity is another reason to take caution with the results, and a limitation to be discussed in chapter 5. Using Pillai criterion (see table

Table 20. Omnibus MANOVA from Teaching Technique and Learning Environment

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	0.991	4719.200 (a)	3	123	0.000	0.991
Teaching technique	Pillai's Trace	0.178	8.867 (a)	3	123	0.000	0.178
Learning environment	Pillai's Trace	0.132	6.235	3	123	0.001	0.132
Teaching technique * Learning environment	Pillai's Trace	0.128	6.019	3	123	0.001	0.128

(a) Exact statistic; b Design: Intercept + Teaching Technique + Learning Environment + Teaching Technique *Learning Environment

20), the overall model (dependent variate) composed from satisfaction, perception of learning gains, and learning was significantly affected by the main effects of teaching techniques, Pillai's trace=0.178, $F(3, 123)=8.86$, $p<0.001$, partial $\eta^2=0.178$. Also the dependent variate was significantly affected by the main effects of learning environment, Pillai's trace=0.132, $F(3, 123)=6.23$, $p<0.001$, partial $\eta^2=0.132$. In addition, the dependent variate was significantly affected by the main effects of the interaction, Pillai's trace=0.128, $F(3, 123)=6.01$, $p<0.001$, partial $\eta^2=0.128$. This finding partially supported hypotheses 1, 2 and 3. In other words, exposure to different teaching techniques (H1), different learning environments (H2) and an interaction between different teaching techniques and different learning environments (H3) did result in different scores in satisfaction, perception of learning gains and learning.

Teaching Technique Effects on Satisfaction
Perception of Learning Gains and Learning

H1. Exposure to experiential learning relates to statistically higher scores on satisfaction than **exposure to lecture plus discussions.**

H2. Exposure to experiential learning relates to statistically higher scores on perception of learning gains than **exposure to lecture plus discussions.**

H3. Exposure to experiential learning relates to statistically higher scores on learning than **exposure to lecture plus discussions.**

Univariate ANOVAs were conducted on each dependent measure separately to determine the locus of the statistically significant multivariate main effect of teaching techniques. From table 21 it is observed that teaching technique weakly but significantly affected satisfaction, $F(1, 125)=20.884$, $p<0.001$, partial $\eta^2=0.143$; perception of learning

gains, $F(1, 125)=10.599$, $p<0.001$, partial $\eta^2=0.08$, and learning, $F(1, 125)=13.187$, $p<0.001$, partial $\eta^2=0.10$.

Table 21. Univariate Tests for Teaching Technique

Dependent Variable		df	F	Sig.	Partial Eta Squared
Satisfaction	Contrast	1	20.884	0.000	0.143
	Error	125			
Perception of learning gains	Contrast	1	10.599	0.001	0.078
	Error	125			
Learning	Contrast	1	13.187	0.000	0.095
	Error	125			

The F tests the effect of Teaching technique. This test is based on the linearly independent pairwise comparisons between the estimated marginal means.

Table 22. Estimates for Teaching Technique

Dependent Variable	Teaching technique	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Satisfaction	Lecture plus discussions	20.431	0.397	19.646	21.215
	Experiential	22.755	0.319	22.125	23.386
Perception of learning gains	Lecture plus discussions	42.000	0.631	40.751	43.249
	Experiential	44.637	0.507	43.633	45.641
Learning	Lecture plus discussions	11.417	0.276	10.871	11.963
	Experiential	12.702	0.222	12.263	13.140

An inspection of teaching techniques group means (see table 22) suggested that indeed experiential learning students had significantly higher scores in Satisfaction

(*M*=22.76, *SE*=0.319) than did lecture plus discussions students (*M*=20.43, *SE*=0.40). It also suggested that experiential learning students had significantly higher scores in Perception of Learning Gains (*M*=44.6, *SE*=0.5) than did lecture plus discussions students (*M*=42.8, *SE*=0.63). In addition to experiential learning students had significantly higher scores in Learning (*M*=12.7, *SE*=0.22) than did lecture plus discussions students (*M*=11.76, *SE*=0.28). Therefore, H1, H2, and H3 were supported.

Learning Environment Effects on Satisfaction, Perception of Learning Gains and Learning

H5. Exposure using a multimedia learning environment relates to statistically higher scores on satisfaction than exposure using a F2F learning environment.

H6. A Multimedia Learning Environment relates to statistically higher scores on perception of learning gains than an F2F learning environment.

Univariate ANOVAs were conducted on each dependent measure separately to determine the locus of the statistically significant multivariate main effect of learning

Table 23. Univariate Tests for Learning Environment

Dependent Variable		df	F	Sig.	Partial Eta Squared
Satisfaction	Contrast Error	1 125	12.877	0.000	0.093
Perception of learning gains	Contrast Error	1 125	11.797	0.001	0.086
Learning	Contrast Error	1 125	7.566	0.007	0.057

The F tests the effect of Learning environment. This test is based on the linearly independent pairwise comparisons between the estimated marginal means.

environment. From table 23 it is observed that learning environment weakly but significantly affected satisfaction, $F(1, 125)=12.877$, $p<0.001$, partial $\eta^2=0.093$; perception of learning gains, $F(1, 125)=12.877$, $p<0.001$, partial $\eta^2=0.08$, and learning, $F(1, 125)$ 7.566=,$p<0.001$, partial $\eta^2=0.06$.

An inspection of learning environment groups' means (see table 24) suggested that indeed multimedia students had significantly higher scores in Satisfaction (M=22.5, SE=0.33) than did F2F students (M=20.68, SE=0.39). Multimedia students also had significantly higher scores in Perception of Learning Gains (M=44.7, SE=0.52) than did F2F students (M=41.9, SE=0.62). Otherwise, multimedia students had significantly higher scores in Learning (M=12.5, SE=0.23) than did F2F students (M=11.58, SE=0.27). Therefore, H1, and H2 were supported, and also a non predicted relationship was found concerning differences between multimedia and F2F learning environment on learning.

Table 24. Estimates for Learning Environment

Dependent Variable	Learning Environment	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Satisfaction	F2f	20.680	0.388	19.911	21.449
	MLE	22.506	0.329	21.856	23.156
Perception of learning gains	F2F	41.928	0.618	40.704	43.151
	MLE	44.709	0.523	43.674	45.744
Learning	F2F	11.572	0.270	11.038	12.107
	MLE	12.546	.229	12.094	12.998

Interaction Effects on Satisfaction, Perception of Learning Gains and Learning

H7. A Multimedia Learning Environment relates to statistically higher scores on **satisfaction** when using experiential learning rather than lecture plus discussions.

H8. A Multimedia Learning Environment relates to statistically higher scores on **perception of learning gains,** when using experiential learning rather than lecture plus discussions.

H9. A Multimedia Learning Environment relates to statistically higher scores on **learning,** when using experiential learning rather than lecture plus discussions.

There was an interaction effect of learning environment and teaching technique. From Table 25 it is observed that the interaction weakly but significantly affected satisfaction, $F(1, 125)=14.311$, $p<0.001$, partial $\eta^2=0.103$; perception of learning gains, $F(1, 125)=6.075$, $p<0.05$, partial $\eta^2=0.05$, and learning, $F(1, 125)$ 9.356=, $p<0.001$, partial $\eta^2=0.07$.

Table 25. Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	F	Sig.	Partial Eta Squared
TeachingTechnique* Learning Environment	Satisfaction	108.030	1	14.311	0.000	0.103
	Perception of learning gains	116.222	1	6.075	0.015	0.046
	Learning	34.167	1	9.356	0.003	0.070
Error	Satisfaction	943.581	125			
	Perception of learning gains	2391.365	125			
	Learning	456.492	125			

An inspection of the interaction group means (see table 26) suggested that F2F students using lecture plus discussions resulted in the lowest scores across all groups. Those students consistently scored lower in satisfaction (*M*=18.56, *SE*=0.65) than all the other students (*M*=22, *SE*=4). Also F2F students using lecture plus discussions scored lower in perception of learning gains (*M*=39.61, *SE*=1.03) than F2F students using an experiential teaching technique (*M*=22.81, *SE*=0.43), multimedia students using a lecture plus discussions teaching technique (*M*=44.39, *SE*=0.73), and multimedia students using an experiential teaching technique (*M*=45.03, *SE*=0.75). Besides, F2F students using a lecture plus discussions teaching technique scored lower in learning (*M*=10.39, *SE*=0.45) than F2F students using a experiential teaching technique (*M*=12.76, *SE*=0.3), multimedia students using a lecture plus discussions teaching technique (*M*=12.44, *SE*=0.32), and multimedia students using an experiential teaching technique (*M*=12.65, *SE*=0.33).

Table 26. Teaching Technique * Learning Environment

Dependent Variable	Teaching Technique	Learning Environment	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Satisfaction	Lecture plus discussions	F2F	18.556	0.648	17.274	19.837
		MLE	22.306	0.458	21.399	23.212
	Experiential	F2F	22.805	0.429	21.956	23.654
		MLE	22.706	0.471	21.773	23.638
Perception of learning gains	Lecture plus discussions	F2F	39.611	1.031	37.571	41.651
		MLE	44.389	0.729	42.946	45.832
	Experiential	F2F	44.244	0.683	42.892	45.596
		MLE	45.029	0.750	43.545	46.514
Learning	Lecture plus discussions	F2F	10.389	0.450	9.497	11.280
		MLE	12.444	0.319	11.814	13.075
	Experiential	F2F	12.756	0.298	12.165	13.347
		MLE	12.647	0.328	11.998	13.296

Graphical approaches were used in helping to evaluate the interaction effects of learning environment and teaching technique on satisfaction, perception of learning gains and learning. Figure 8 illustrates the interaction effects of Learning environment and Teaching technique on Satisfaction, Perception of learning gains, and Learning, respectively. Notice that Figure 8 clearly supports the interaction effect on Satisfaction and Learning. Otherwise, that interaction effect on perception of learning gains is not clear as showed in Figure 8. Based on those findings, H7, H8, and H9 were considered weakly supported.

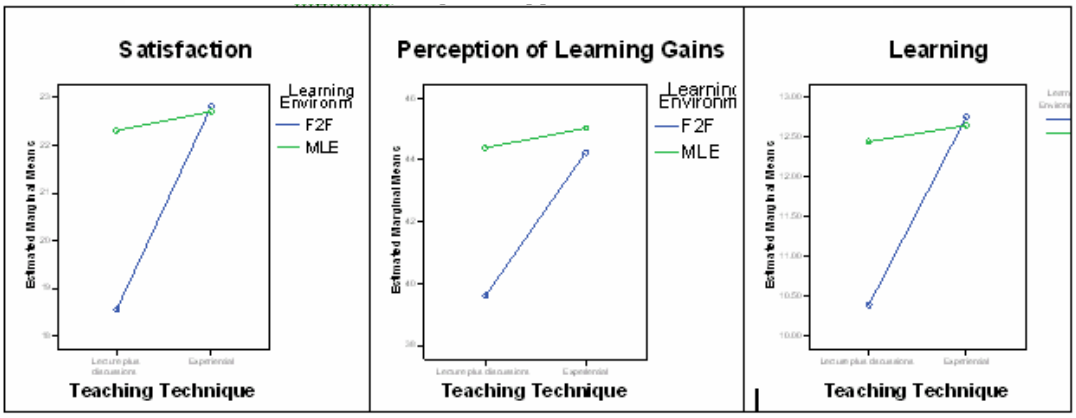

Figure 8. Graphical approach for interaction effects.

Hypotheses for Skills Acquisition

To help the reader, the main hypotheses and related hypotheses for skills acquisition are repeated here.

H1. Exposure to different teaching techniques results in different scores in **satisfaction, perception of learning gains**, **learning and skills acquisition.**

H4. Exposure to experiential learning relates to statistically higher scores on skills acquisition than **exposure to lecture plus discussions**.

H10. A Multimedia Learning Environment relates to statistically higher scores on **skills acquisition**, when using experiential learning rather than lecture plus discussions.

A 2 X 2 between-subjects analysis of covariance was performed on skills acquisition. The independent variables were teaching techniques (Lecture plus discussions, experiential) and learning environments (F2F, multimedia), factorially combined. Covariates were High School GPA and Days spent between the pretest and the interview. Analyses were performed by SPSS GLM.

Covariates Assumptions

Multicollinearity. Covariates were moderately correlated (0.222, $p<0.05$). In addition, Days spent between the pretest and the interview (0.285, $p<0.01$), and High School GPA (0.268 , $p<0.05$) resulted also associated with Skills Acquisition as the DV (see table 27). Multicollinearity test was considered acceptable.

Table 27. Multicollinearity Outcomes

		Days spent between the Last Session & Interview	High School GPA	Skills Acquisition
Days spent between last session & interview	Pearson Correlation	1	0.222*	0.285**
	Sig. (2-tailed)	--	0.042	0.006
	N	94	85	92
High School GPA	Pearson Correlation	0.222*	1	0.268*
	Sig. (2-tailed)	-0.042	--	0.013
	N	85	153	85
Skills Acquisition	Pearson Correlation	0.285**	0.268*	1
	Sig. (2-tailed)	0.006	0.013	--
	N	92	85	94

* Significant at the 0.05 level (2-tailed); ** Significant at the 0.01 level (2-tailed)

Table 28. Normality Outcomes for Quantitative Variables

	Skewness	Kurtosis	Kolmogorov-Smirnov
Days between pretest and interview	0.290	-0.319	0.139 (0)
High School GPA	0.588	0.141	0.258 (0)

Normality. To address the issue of normality for the covariates, skewness and kurtosis values were examined for Days spent between the pretest and the interview and High School GPA as shown in table 28. Skewness and kurtosis values are within the 1.0 to -1.0 range for both variables. Table 28 also shows that both of the Kolmogorov-Smirnov tests are not statistically significant, indicating that data are ready for analyses.

Homogeneity of variance. The Levene's Test of Equality of Error Variances presented next in table 29 was not statistically significant ($F(3,79)=0.694$, $p=0.558$) indicating equality of variances of the covariates across levels of the factors. This was the expected result to consider homogeneity of variance as acceptable.

Table 29. Homogeneity of Variance
Dependent Variable: Skills Acquisition

F	df1	df2	Sig.
0.694	3	79	0.558

Linearity. To determine if the covariates were linearly related to each other, a scatter plot was computed. Although not a perfect oval, figure 9 shows enough linearity in the relationships of the variables to proceed with the analysis.

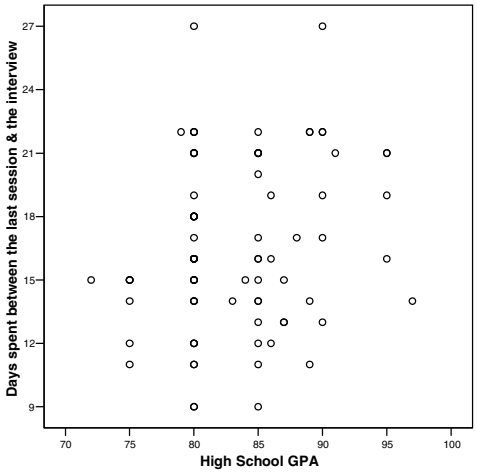

Figure 9. Linearity of covariates.

Multivariate outliers. A check for multivariate outliers was accomplished by computing a Cook's distance measure for each case. No outliers influencing the variate were found.

In summary, results of evaluation of the assumptions of normality of sampling distributions, linearity, and homogeneity of variance of covariates were satisfactory.

Overall Effects on Skills Acquisition

Because of the association of the covariates with skills acquisition, a two-way analysis of covariance was computed to test the effects of teaching technique and learning environment on skills acquisition. Table 30 shows that no statistically significant main or interaction effect for skills acquisition was found in a two-way analysis of variance. However, after adjustment by high school GPA and days spent between the pretest and the interview, skills acquisition varied significantly with teaching technique, with F (2, 77)=11.749, p<0.01. The strength of the relationship between skills acquisition and teaching

technique was moderate but indeed the best prediction in the whole study, with η^2=0.23. This finding partially supported H1. No statistically significant main effect of learning environment was found, partially supporting H2 and H2.4. H3 was also partially supported, because the interaction between teaching technique and learning environment varied significantly after adjustments for covariates, F (1, 77)=5.105, p<0.05.

Table 30. Tests of Between-Subjects Effects for Skills Acquisition

	ANCOVA (Controlling for covariates)				ANOVA		
	df	F	Sig	η^2	df	F	Sig
Teaching Technique	2	11.749	0.000	0.234	1	3.939	0.05
Learning Environment	1	0.723	0.398	0.009	1	0.120	0.73
Interaction	1	5.105	0.027	0.062	1	0.002	0.961
HGPA	1	305.878	0.000	0.800			
Days bt pt & Interview	1	9967.706	0.000	0.992			
Error	77				89		

Teaching Technique Effects
on Skills Acquisition

H4. Exposure to experiential learning environments will be related to better results than exposure to lecture plus discussion, on skills acquisition.

The adjusted marginal means of teaching technique on skills acquisition, as they are displayed in table 31, show that better skills acquisition scores were held by students trained with the experiential teaching technique (M=3.46, SE=0.04), than students trained with the lecture plus discussions teaching technique (M=3.35, SE=0.08). This finding supported H4.

Table 31. Estimated Marginal Means of Teaching Technique on Skills Acquisition

			95% Confidence Interval	
	Mean	Std. Error	Lower Bound	Upper Bound
Lecture plus discussions	3.348 (a)	0.078	3.192	3.504
Experiential	3.463 (a)	0.044	3.375	3.551

a Covariates appearing in the model are evaluated at the following values: Days spent between the last session & the interview=16.72, High School GPA=83.31.

Interaction Effects on Skills Acquisition

H10. Multimedia will relate to better results on **skills acquisition**, when using an experiential learning mode rather than a lecture plus discussions teaching technique.

An inspection of the interaction group means (see table 32) suggested that indeed F2F students using a lecture plus discussions teaching technique resulted in the lowest scores for skills acquisitions. Those students consistently scored lower (*M*=3.14, *SE*=0.14) than F2F students using an experiential teaching technique (*M*=3.48, *SE*=0.05), multimedia students using a lecture plus discussions teaching technique (*M*=3.56, *SE*=0.08), and multimedia students using an experiential teaching technique (*M*=3.44, *SE*=0.07). The graphical approach used in figure 10 shows clearer than the groups performed skills acquisition in the opposite direction as stated in H10. In other words, the interaction was in the opposite direction as it was predicted by the hypothesis, failing to be supported. Indeed multimedia groups performed better when using a lecture plus discussions teaching technique than using an experiential approach. Meanwhile, F2F groups performed as it was expected, showing better performance in experiential than in lecture plus discussions teaching technique.

Table 32. Estimated Marginal Means of the Interaction on Skills Acquisition

Teaching Technique	Learning Environment	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Lecture plus discussions	F2F	3.142 (a)	0.144	2.855	3.428
	MLE	3.555 (a)	0.080	3.396	3.714
Experiential	F2F	3.484 (a)	0.051	3.383	3.585
	MLE	3.442 (a)	0.072	3.299	3.586

(a) Covariates appearing in the model are evaluated at the following values: Days spent between the last session & the interview=16.72, High School GPA=83.31.

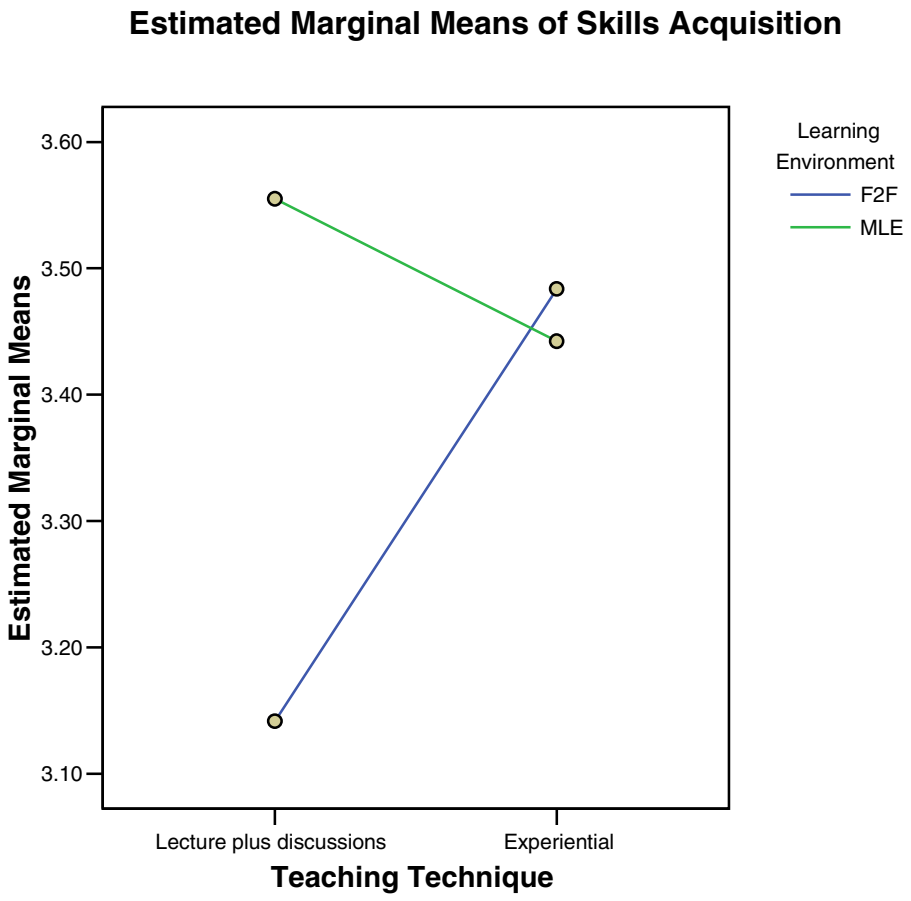

Figure 10. Graphical approach of marginal means of skills acquisition.

CHAPTER V

DISCUSSION

Limitations

It should be remembered that results should be read with caution. The main limitation for this study is the lack of a randomized procedure for assigning students to the 4 groups in this study. Textbooksindicate that research has to find maximum levels of internal and external validity. However, Abrami and Bernard (2006) state that a reciprocal relationship is often found between internal and external validity. The specific research design used for this dissertation did not assume that findings would have statistical significance, but practical significance. In other words, this study is exploratory and inductive, and then findings are considered rough estimates about what happens in this particular, controlled setting when using Multimedia and Learning Experience. Results can not be statistically generalized to the population, which is where data comes from. The plausibility of using a research design is to conclude that results would not be due to chance. In this particular case, the goal is to observe that results are due to the teaching technique and learning environment behind the learning environments indeed, but not due to chance as a second variance.

A classical textbook (Shadish et al., 2002) on experimental designs has evolved since the original edition (Campbell & Stanley, 1963) to accept the generalized use of nonrandomized designs (Abrami & Bernard, 2006). Abrami and Bernard compared pre-experimental, experimental, and nonrandomized designs in their ability to test for the

probability of finding effects when they exist and also in their probability to detect accurate effect sizes. Crucial to the strength of findings was the existence of pretest and more than one comparison group. This was especially true in nonrandomized designs. Nonrandomized designs were considered weak when lacking a pretest, but considered to have good internal validity when comparison groups resulted statistically equivalent (homogeneous variances) in at least in one crucial measure. By using these two preconditions (pretest and equivalence in at least one crucial measure), rival explanations are less probable explanations of the findings than a treatment effect (Abrami & Bernard, 2006). In addition, those authors recommended statistical control as an alternative to experimental control to help eliminate threats to internal validity.

Three main conditions were observed before to run the statistical analysis. First, a pretest was applied. Second, experimental groups were evaluated in Previous Knowledge, and no significant difference was found between groups. Third, in facing the probability of students previous performance or memory losses affected learning gains, those measures were introduced as statistical controls. However, nothing replaces experimental control. Otherwise, any rival plausible explanations other than that the educational interventions were not easy to observe.

Attrition rates were important and it was not possible to elucidate at what extent people refusing to follow the whole procedure affected the results. One factor to take into account is that attrition rates were similar throughout the 4 experimental conditions, as showed in tables showing sample composition in chapter 3. In addition to traditional limits to external validity in experimental designs, that characteristic of this particular study is a strong limitation for generalization. It is not possible to assume that the results from this study might

be generalizable beyond this particular study's participants who completed the posttests. A further study should consider following up people quitting from the study, in order to elucidate drop out causes. One additional consequence of attrition rates is that high attrition makes it difficult to interpret the skills acquisition results.

It is no clear also the impact of the novelty of technology. A strong source of frequent discussion with the co-chairs of this research study was the role of technology in Mexican students' daily life. Mexican students seemed had not a familiarity with technology, and even less with technology in Social Work education. UANL's administrators have not embraced technology-based learning environments indeed, and a recent effort to amplify the use of Blackboard was not successful. As in most countries, Mexican Social Work students are not particularly skilled in technology, and the School of Social Work has been resistant to the use of technology in undergraduate courses, in comparison with other schools. Perhaps of those reasons, students in Multimedia Learning Environments seemed to react favorably to technology in education. The computer lab frequently pushed to change computers throughout sessions, because of bad condition of the initial computers, and the university ban chat rooms, limiting online conversations initially designed. However, it was considered that this stimulus kept continuous throughout people using multimedia, and that the "wow" factor would disappear after the first session, as in fact occurred. More important that technology, the changes in the overall design of learning environments resulted more novel for students, and perhaps this is the cause that F2F experiential learning environments had the greatest scores.

Assumptions from the statistical tests and variate (satisfaction, perceptions of learning gains, learning) were not fully observed, mainly in relating to homogeneity of

sample sizes and variance. This violation increased the probability of a type 1 error, mainly in relating to hypotheses for Skills Acquisition. Small sample sizes in F2F*Exposure, plus discussions condition, may also hide effect sizes as a consequence of educational interventions. Because no consensus exists about how to gain homogeneity or whether corrections are appropriate at all (Meyers, Gamst & Guarino, 2006; Tabachnick & Fidell, 2007); Pillai's criteria were used in place of Wilk's. Results were the same for each statistic, but caution should be taken for the MANOVA results because the assumptions' violations confound the interpretations of effect size.

Those limitations make it difficult to draw any conclusive statements and caution is again recommended when reading the results. Because of the exploratory nature of this study, more research is needed to provide more evidence and to strengthen the validity for the suggested conclusions presented below.

More limitations and questions for further research emerge from measures. For example, it was not clear what implications result from the rater's agreement, and only two of the former proposed three raters had certain agreement degree. Also, in spite of the tradition for using content validity in Education literature, lack of construct validity is a big issue for social services evidence-based practice. Standardization for dependent variables in Hispanic countries is another further research area. Research including more research techniques and scenarios may improve external validity for the conclusions noted above. Mixed Methods is a technique influencing studies in social sciences arena. Moreover qualitative techniques are becoming dominant in Education research. Knowing how students interact, feel, perceive, and become empathic with experiential learning and multimedia is a big question difficult to manage throughout quantitative research. As MacFadden (2005) has

suggested, empathy is a big area in developing learning environments. In researching how empathy and learning are constructed, qualitative approaches in Mixed Methods are needed.

Summary and Theoretical Implications of Findings

This study asked for the main and interactive effects of teaching techniques (experiential, exposure plus discussions) and learning environment (F2F, multimedia) on satisfaction, perception of learning gains, learning, and skills acquisition of listening skills for social work practice in Mexico. In other words, this study designed four learning

Table 33. Hypothesis Accepted or Rejected for Effects by Dependent Variables

	Hypotheses for Teaching Technique (H1)	Hypotheses for Learning Environment (H2)	Hypotheses for Interaction (H3)
Satisfaction	supported n=134 ES=0.143**	supported n =134 ES=0.093**	supported n=134 ES=0.103**
Perception of Learning Gains	supported n=133 ES=0.078**	supported n = 133 ES=0.086**	supported n = 133 ES=0.046*
Learning	supported n=132 ES=0.095**	not stated n=0.057 ES = 0.057**	supported n=132 ES=0.07**
Skills Acquisition	supported N=94 ES=0.234**		not supported n=94 ES=0.062*

Note: Controlling for Previous Knowledge, High School GPA,
Days spent between intervention and posttest, and Days spent between intervention and interview for displaying skills

environments to test how: (1) an experiential teaching technique and (2) a multimedia learning environment work in teaching social work skills in Mexico. One plausible way emerging from the literature, for observing experiential learning and multimedia learning environments, was to compare traditional ways of work; this would mean lecture plus discussions vs. experiential learning or F2F vs. multimedia. Table 33summarizes the main findings for each group of hypotheses.

Teaching Techniques

It was hypothesized that learning environments based on Experiential Learning would have higher scores in terms of Satisfaction, Perception of Learning Gains, Learning and Skills Acquisition, than learning environments based on Exposure plus Discussions. All hypotheses for Teaching techniques were supported (see table 33). Experiential learning was more effective than Lecture plus discussions for all dependent measures, even after controlling for Previous Knowledge, High School GPA, Days spent between intervention and posttest, and Days spent between intervention and interview for displaying skills. Those findings are consistent with previous research asking for experiential learning outcomes (i.e., Rocha, 2000). This is important because there are no common experiential learning outcomes well known in Mexico, and even in international environments, experiential learning outcomes are yet in infancy. A note should be stated about effect sizes. Even though hypotheses were supported, the effect sizes were not big enough to consider this study as conclusive. Therefore, resulting curriculum designs are difficult to propose. In almost all results, effect sizes were weak. An interesting result is that Teaching technique accounted for 14% of the variance of Satisfaction. The only moderate outcome was for Skills acquisition. This was the more crucial variable, but more research is needed including alternative

teaching techniques other than Exposure plus discussions to improve a conclusion from this study stated as follows: a student-centered framework works better than a traditional framework in developing social work skills in BSW students at the UANL.

Learning Environment

It was hypothesized that learning environments delivered by Multimedia would have greater scores than learning environments delivered by F2F in terms of Satisfaction and Perception of Learning Gains, but not in terms of Learning and Skills Acquisition. Multimedia resulted in greater scores than F2F learning environments in terms of Satisfaction, Perception of Learning Gains, and Learning. As a result, hypotheses for learning environment on Satisfaction and Perception of Learning Gains were supported, but not for main effects on Learning. As elaborated in the literature review, the no significance differences hypothesis proposed that learning outcomes were no different between technology-based and F2F environments. However, some other authors (e.g., Mayer, 1999) have proposed that multimedia can produce learning better than traditional approaches as a result of a combination of visual and hearing stimuli to brain connections. There was no difference between Multimedia and F2F learning environments in terms of Skills Acquisition. Again, small effect sizes make it difficult to extend recommendations in terms of curriculum design. Effect sizes were particularly weak in all cases, even though significance was very good in all hypotheses. More research is needed to extend the evidence base before recommendations are made to invest in more technology. Beyond evidence, it was clear to the researcher that BSW students were not very familiar with technology at all, Computer labs and broadband at Social Work School are poor and lab workers are burned out and poorly prepared to assist students. This is a disadvantage even in terms of a public

university in Mexico. It is not clear how this disadvantage influence learners' performance and clients' attention at the end, but it seems possible to make speculations. Another possibility is that students saw the power of multimedia curriculum delivery and overestimated it, therefore the difference between perception of learning and skill acquisition. Social workers are often fascinated with technology since they see little of it. Future research could include an attitude towards technology scale to factor out this perception.

Interaction

It was hypothesized that Teaching technique would interact with Learning environment. In other words, it was hypothesized that multimedia would result in higher scores in terms of Satisfaction, Perception of Learning Gains, Learning and Skills Acquisition when using Experiential Learning rather than Lecture plus discussions. The Teaching technique interacted with the Learning environment in the direction predicted for Satisfaction, Perception of Learning Gains and Learning, but not for Skills Acquisition. In other words, a Multimedia learning environment was more effective than a F2F learning environment when used in Experiential Learning in terms of Satisfaction, Perception of Learning Gains and Learning. However, students in a F2F learning environment had greater scores in terms of Skills Acquisition when used as an Experiential Learning approach rather than students learning from a Multimedia environment. Again, effect sizes are weak. The most interesting effect size is that the interaction accounts for 10% of the variance on Satisfaction outcomes. Although an interaction between modes and medium for delivery teaching is suggested in the literature, those hypotheses were proposed as this study's main contribution to the field of learning environments supported by technology. One possible

explanation of the fact that F2F learning environments*Experiential learning accounted for better results than Multimedia*Experiential learning is that the educational intervention for F2F was more interactive than Multimedia. It is remembered that F2F*Experiential Learning developed role-plays exercises performed for all students participating in that group. However, Multimedia*Experiential Learning did not develop any interactive exercises between students, but just with the computer. Students watched a video and then interacted with the computer to figure out some exercises. This finding might suggest that role-plays are a stronger educational tool that figure out exercises and receive feedback. At the end, it is possible that F2F would be designed more experiential than Multimedia, and that accounted for better results. Even though hypotheses for interaction effects were supported for Satisfaction, Perception of Learning Gains and Learning, more research is needed to validate the suggested conclusions emerging from this study.

Implications for Future Research

Big questions in the complex relationship between technology, learning, and social services were proposed in the starting phase of this research. The list includes questions such as: How may technology improve learning? Do student-centered teaching techniques work and how? How do students construct learning? How could professors, contents and environments help students to construct learning? Are social work students different from other students in the ways in the ways they construct learning, and if so, when and how do we know?

Big questions are difficult to answer. Because philosophical questions and extraordinary challenges outpace the limits of a dissertation study, this research focused on how a popular educational framework in social work (experiential learning) may influence

listening concepts and skills by using multimedia. A lot of questions may emerge from this study's limitations. Most of those questions could influence further research.

Implications for Social Work Practitioners and Educators

The challenges and themes identified in this study have important implications for social workers, mainly for those practicing in Mexico. Students have been both surprised and gladdened by witnessing the potential of technology applications to social work intervention and education programs. Last year this author developed a presentation to BSW students, faculty members and social work practitioners about social programs delivered in other countries, mainly in the USA, by using technology applications. Also students participating in the multimedia groups in this research were very interested in both multimedia and active listening contents. Based on statistical data and beyond that, the educational intervention the educational intervention investigated by this research sought to cause meaningful learning. Also students who participated in the study informally reported that they found the kinds of tools used for this research very useful, including multimedia, experiential learning resources, and active listening contents. Faculty members seemed more skeptical about using multimedia and also about the usefulness from the active listening contents. This gap between faculty members and students is well documented in the literature (Moore, 2003) and has been interpreted as a natural gap between different stories of socialization in learning or the difference in familiarity with technology of older teachers and younger students.

Technology is fairly expensive in the design and construction of new tools, but cheaper than F2F approaches in the long term due to ease and consistency of delivery. That is why professional acceptance and effectiveness evidence is so important, mainly in emerging

countries. The potential to train social workers in technology-assisted or technology-based interventions and education is important because developing countries such as Mexico frequently experience a lack of limited accredited social work programs in cities distant from the major Mexican cities. UANL SSW has the only Ph.D. program and the only MSSW full accredited program (in Mexican accreditation organizations) in Mexico. This fact suggests that there are not many well trained professionals delivering social services and also suggests a need to train professionals in cities distant from Monterrey in the lease expensive way possible. Multimedia resulted in greater scores than F2F learning environments in terms of Satisfaction, Perception of Learning Gains, and Learning. Even with the limitations stated in the first section of this chapter, those findings imply that technology-based training in Mexico, and also technology-based social programs, have the potential to be a reality.

Implications for Social Work Curriculum Designers and Curriculum

Implications for social work curriculum designers and curriculum may be proposed in three areas—training in communication skills, experiential learning and technology:

1. Training in human communication skills is extensively accepted as crucial to social workers' education in countries like Canada, USA and UK. However, training in communication skills is yet a novelty in Mexico. Although this topic is mentioned in the UANL BSW coursework description, it is not clear yet how that training is being developed. Informal talks with students reveal that they are attending some lectures on this topic in a Human Development course, even though they do not feel that by attending those lectures they will develop communication skills.

2. This research suggested that an experiential learning is effective in training social work students to acquire communication skills, both in Multimedia and F2F Learning Environments. More research is needed to support this finding and also to evaluate specific effectiveness of each component of learning environments. Such research may include different instrumentation approaches for reflecting, observing, exercising and evaluating stages. Also future research may include different stages of combinations of experiential learning. Other research may compare performance of social work with students from other fields in experiential learning settings. Goldstein (2001) proposed that experiential learning is a more effective approach for social work students than for other fields, but such a tenet is lacking in supportive evidence. Otherwise, participants overall reported high scores on satisfaction, perceptions of learning gains, and learning. Thus, one can speculate that participants presented a good attitude toward active listening contents, even though these attitudes were not measured by this research. More research is needed to explore attitudes to learning environments, and contents.

3. This study also suggests that social work curriculum designers need to pay attention to coursework in technology for social services or even take a more technological approach throughout the curricula. There is a discussion in the literature about practicum courses, but just with that exception, all the remaining courses seem technology-friendly. This research suggests that even delivery of skills training is possible by using computers.

Implications for Social Work Education Administrators

Technology is all about globalization. Online delivered social services are available to anyone, everywhere. This is also true with online educational programs in social work.

Once freed into cyberspace, educational programs have the capability to help anyone, everywhere. One objective from this dissertation was to provide some light to the fact that technology, experiential learning and communication skills are all topics needed for developing educational programs for social work in Mexico. A hands-on-practice approach is needed because technology implies most of the time that social work administrators open the mind, to thinking globally.

Social work education administrators are crucial to letting students develop global in a local environment. They can provide environments where faculty members and students adopt, use, discuss and learn from technology, experiential learning and communication skills. For instance, it is important to figure that Web-chats and other technological tools should not be banned, but should be encouraged for educational purposes. In addition to establishing policies for discussion, investing in technology is required to amplify the resources available and to overcome technology limitations to the extent possible. One additional step is to train faculty members in computer literacy and to establish reward mechanisms to compensate those producing creative ways to apply technology in class. Technology design is time consuming but even small university grants to encourage Web/multimedia uses for learning could work well by encouraging faculty members. The Learning Environments for this research took almost two years in its design and development, including periods for discussions, beta tests, benchmarking, video recording, and content production. However, now the CD is ready and available. As soon as this researcher gets a space server, the learning environment can be used by anyone, everywhere.

Conclusion

The use of Multimedia Learning Environments and Experiential Learning needs further research. Although this study did not provide results that could be generalized to the general population, there is some indication that Multimedia Learning Environments and, moreover, Experiential Learning could be an effective strategy to train social work communication skills in Mexico. In a country where universities frequently lack faculty members with good credentials and training in competences required to successfully survive the twenty-first century, it is important to know that Multimedia have the potential to deliver distance education along with other social programs.

APPENDIX A

GLOSSARY

Computer-mediated communication (CMC): Transmission and reception of messages using Computers As Input, Storage, Output, and Routing Devices. CMC includes information retrieval, e-mail, bulletin boards, and computer conferencing. CMC also comprises synchronous and asynchronous communication (Paulsen).

Learning *Effectiveness* is defined as accomplishing course objectives (Moore, 2003).

Experiential learning has been extensively used as a plausible teaching technique to teach social workers' skills in the UK and the US since the 1990s (Goldstein, 2001; Taylor, 2004). Kolb (1984) stated a cycle of experimentation, reflection, research and exercising. The cycle represents a solution to learners' need to develop four differential kinds of abilities. They are *concrete experience* abilities (involving themselves in new experiences), *reflective observation* abilities (observing their experiences from many perspectives), *abstract conceptualization* abilities (integrate their observations into logically sound theories), and *active experimentation* (use knowledge to solve problems and deduce implications for future action). Kolb (1984) affirms that learning is the process whereby knowledge is created through the transformation of experience. Knowledge is a social process, existing not just in books, but built in the relationship with living systems of inquiry (Kolb, 1984).

A *Face-to-face* learning environment is defined as traditional classroom learning environment with no Web content (Moore, 2003)

Facilitation technique: A manner of helping others learn. Facilitation techniques are used to carry out teaching functions. (Paulsen, 2003)

Learning environments: A learning environment is a set of teaching and learning tools designed to enhance a student's learning experience. The principal components of a LE package include curriculum mapping (breaking curriculum into sections that can be assigned and assessed), *teaching techniques* support for both teacher and student, communication strategies (conversations, guidelines for written communication), and links to outside curriculum resources. Learning environments can be based on F2F interactions, paper interactions, multimedia interactions, and so on. For the purposes of this research, two kinds of interaction are assessed, which are F2F and multimedia.

Multimedia: The complex of video, pictures, audio, games and text tools delivered by using computer-based platforms (Mayer, 1999).

Teaching device: Tool that can assist the teaching process. This definition distinguishes between these four categories of CMC-based teaching devices: information retrieval systems, e-mail, bulletin boards, and computer conferencing (Paulsen, 2003)
Teaching technique: A way of accomplishing teaching objectives. According to how the techniques prescribe student interaction with learning resources (Paulsen, 2003), the techniques are classified for this research as experiential techniques.

Variate: A composite from variables, in this particular study, dependent variables.

APPENDIX B

INFORMED CONSENT

PRINCIPAL INVESTIGATOR: Juan Enrique Huerta-Wong

TITLE OF PROJECT
Effects of Experiential Learning on Face-To-Face and Multimedia Learning Environments in the Acquisition of Active Listening Skills

This Informed Consent will explain about being a research subject in an experiment. It is important that you read this material carefully and then decide if you wish to be a volunteer.

PURPOSE
To identify the effects of using two teaching techniques and two media in teaching active listening skills

DURATION
This research study will run in UANL settings. A total of 150 students and/or Social Work professionals are expected. They will participate in 5 sessions of 1-2 hours as average, along three weeks as a maximum period.

PROCEDURES
The procedures, which will involve you as a research subject, include:

To fill questionnaires pre and post a workshop
To attend a workshop
To watch videos
To chat with other attendees and the instructor(s)
To participate in role-plays, some of them videotaped for evaluation purposes.
Two weeks after your signature, to keep confidential your participation in this study

POSSIBLE RISKS/DISCOMFORTS
The possible risks and/or discomforts of your involvement include:

To attend to UANL settings in uncommon schedules for participants
To disclosure GPA
To be videotaped

POSSIBLE BENEFITS
The possible benefits of your participation are:
To participate in innovative topics and approaches contributing to the Social Services field
To significantly increase what it is known about social services professional skills
To acquire professional social services skills
To get contacts for networking in the workshop
To have fun, by chatting, eating snacks and drinking sodas

ALTERNATIVE PROCEDURES / TREATMENTS

The alternative procedures / treatments available to you if you elect not to participate in this study are:

There are no alternatives, just quit participating at any time.

CONFIDENTIALITY

Every attempt will be made to see that your study results are kept confidential. A copy of the records from this study will be stored in The University of Texas at Arlington, School of Social Work, by Dr Richard Schoech for at least three (3) years after the end of this research. The results of this study may be published and/or presented at meetings without naming you as a subject. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the UTA IRB, and personnel particular to this research (Professor Richard Schoech and PhD student Juan Enrique Huerta Wong, School of Social Work) have access to the study records. Your informed consent document and surveys will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above.

FINANCIAL COSTS

The possible financial costs to you as a participant in this research study are: (List)
Mr Juan Enrique Huerta Wong

CONTACT FOR QUESTIONS

If you have any questions, problems or research-related medical problems at any time, you may call Dr Dick Schoech at 817-272-3964. In Mexico, you may call to Dr Guillermo Zúñiga or MSW Graciela Jaime Rodríguez at (52-81) 8352-1309. Also you may call to Mr Juan Enrique Huerta Wong at (52-81) 1077-5486.

You may call the Chairman of the Institutional Review Board at 817/272-1235 for any questions you may have about your rights as a research subject.

VOLUNTARY PARTICIPATION

Participation in this research experiment is voluntary. You may refuse to participate or quit at any time. If you quit or refuse to participate, the benefits to which you are otherwise entitled will not be affected. You may quit by calling Mr Juan Enrique Huerta Wong, whose phone number is (52-81-1077-5486). You will be told immediately if any of the results of the study should reasonably be expected to make you change your mind about staying in the study.

PRINCIPAL INVESTIGATOR: _Juan Enrique Huerta-Wong_____

TITLE OF PROJEC
Effects of Experiential Learning on F2F and Multimedia Learning Environments in the Acquisition of Active Listening Skills

By signing below, you confirm that you have read or had this document read to you. You will be given a signed copy of this informed consent document. You have been and will continue to be given the chance to ask questions and to discuss your participation with the investigator.

You freely and voluntarily choose to be in this research project.

PRINCIPAL INVESTIGATOR:_____

_____

SIGNATURE OF VOLUNTEER DATE

CONSENTIMIENTO INFORMADO

INVESTIGADOR PRINCIPAL: Juan Enrique Huerta Wong

TITULO DEL PROYECTO
Efectos del Aprendizaje Vivencial y Multimedia en la Enseñanza de Habilidades de Escucha Activa_____

Este documento de consentimiento informado explicará en qué consiste participar en un proyecto de investigación. Es importante que usted lea este material cuidadosamente y que luego decida si desea participar como voluntario.

PROPÓSITO

EL propósito de esta investigación es:

A través de esta investigación, se conocerá cómo dos técnicas de aprendizaje y dos medios de enseñanza pueden ayudar a mejorar el aprendizaje de las técnicas de comunicación para la práctica del Trabajo Social.

Los hallazgos contribuirán a la mejora del entrenamiento de trabajadores sociales en México y otros países de habla hispana.

DURACIÓN

Este estudio se llevará a cabo en las instalaciones de la Universidad de Nuevo León. En él se espera la participación de 150 estudiantes y profesionales de Trabajo Social. También se espera que la participación dure cinco sesiones de 1-2 horas, a lo largo de máximo tres semanas.

PROCEDIMIENTOS

Los procedimientos que le conciernen a usted como participante en este estudio incluyen:
Llenar cuestionarios antes y después de un taller educativo.
Acudir a un taller educativo, en el grupo y horario en que la suerte lo/la haya colocado.
Observar videos.
Conversar con el grupo e instructor de los contenidos educativos.
Participar en juegos de rol, algunos de los cuales pueden ser videograbados para su evaluación.

POSIBLES RIESGOS O INCOMODIDADES

Los posibles riesgos o incomodidades asociadas con su participación en este estudio incluyen:
Acudir a instalaciones de la Universidad Autónoma de Nuevo León en horarios no acostumbrados
Que las personas a cargo de la investigación conozcan sus calificaciones
Ser videograbados

POSIBLES BENEFICIOS

Los posibles beneficios de su participación son:
Participar en temas y enfoques educativos innovadores en materia de Servicios Sociales
Incrementar significativamente su grado de conocimiento acerca de las habilidades profesionales necesarias para los Servicios Sociales
Adquirir habilidades profesionales necesarias para los Servicios Sociales
Conocer contactos profesionales útiles para su carrera
Botanas y sodas

PROCEDIMIENTOS O TRATAMIENTOS ALTERNATIVOS

Los procedimientos o tratamientos alternativos que se le podrían proveer si usted decide no participar en este estudio son:
NINGUNO, sólo dejar de participar en cualquier momento que lo desee

CONFIDENCIALIDAD

Se realizará todo esfuerzo para asegurar que los hallazgos de este estudio sean confidenciales. Copias de los documentos de este estudio serán conservados en la Escuela de Trabajo Social de la Universidad de Texas en Arlington, oficina del Dr Richard Schoech, por un periodo mínimo de tres años. Los hallazgos de este estudio podrán ser publicados o presentados en reuniones sin revelar su nombre o identidad. Se protegerá sus derechos y su privacidad, no obstante, el Secretario del Departamento de Salud y Servicios Humanos, la Junta Evaluadora de la Universidad de Texas en Arlington, y los trabajadores asociados con esta investigación (Dr Schoech y el estudiante doctoral Juan Enrique Huerta Wong, Facultad de Trabajo Social) tendrán acceso a los documentos e información relacionados con este estudio. Este documento de consentimiento informado y las encuestas que llene serán completamente confidenciales según lo indica la ley de los Estados Unidos de Norteamérica. Este no será compartido con otras personas a menos que sea exigido por la ley o de acuerdo con las especificaciones mencionadas anteriormente.

COSTO ECONÓMICO

Los posibles costos económicos asociados con su participación en este estudio son:
El responsable de cualquier posible costo económico asociado con su participación en este estudio será el Maestro Juan Enrique Huerta Wong, a quien puede encontrar en el teléfono celular (81) 1077-5486.

CON QUIEN HABLAR SI TIENE PREGUNTAS

Usted podrá comunicarse con Dr Dick Schoech al teléfono (001-817-272-3964) si usted tiene preguntas, problemas o problemas médicos asociados con esta investigación. Usted podrá comunicarse con el director de la Junta Evaluadora de la UTA llamando al teléfono (001-817) 272-1235 si usted tiene preguntas relacionadas con sus derechos como participante en un estudio de investigación. En la Facultad de Trabajo Social de la UANL, usted puede comunicarse con el Dr Guillermo Zúñiga o con la MTS Graciela Jaime Rodríguez en el teléfono 8352-1309. Por último, también puede llamar al investigador responsable, Maestro Juan Enrique Huerta Wong, al teléfono celular (81) 1077-5486.

PARTICIPACION VOLUNTARIA

Su participación en esta investigación es voluntaria. Usted puede rehusarse a participar o puede retirarse del estudio en cualquier momento que usted lo desee. Usted no perderá los beneficios a los que usted tiene derecho por el simple hecho de no participar en el estudio. Usted puede retirarse del estudio simplemente llamando a Juan Enrique Huerta Wong al siguiente número de teléfono 81-1077-5486. Se le informará inmediatamente si cualquier hallazgo de este estudio podría hacerle cambiar de parecer.

INVESTIGADOR PRINCIPAL: Juan Enrique Huerta Wong_____

TITULO DEL PROYECTO: Efectos de Aprendizaje Vivencial y Multimedia en la Enseñanza de Habilidades de Escucha Activa_____

Su firma a continuación confirma que usted ha leído este documento o que alguien se lo ha leído. Usted recibirá una copia firmada de este documento de consentimiento informado. A usted se le ha dado y se le continuará dando la oportunidad de hacer preguntas y de discutir su participación con el investigador.

Usted ha elegido participar en este proyecto de investigación libre y voluntariamente.

_____ _____

INVESTIGADOR PRINCIPAL Fecha

_____ _____

FIRMA DEL VOLUNTARIO Fecha

APPENDIX C

PARTICIPANTS' CONSENT FORM

CONSENT TO USE VIDEO AND PHOTOGRAPHS,
CONFIDENTIALITY STATEMENTS

Date: _____

I give consent to _Juan Enrique Huerta-Wong_to take video and photographs of me for use in social services education purposes.

These video and photographs may be integrated into educational software and/or Internet sites to advance social services knowledge, practice or education.

I am also committed in keeping confidentiality of other people (i.e., professionals & students) videos provided to me for Juan Enrique Huerta-Wong, based on evaluative purposes.

I am over 18 years of age.

_____
(Signature)

_____
(Print Name)

_____
(Phone)

Video maker/Photographer sign here: _____

APPENDIX D

VLE PROTOCOL

Session 1. Empathic Communication

Definition. Empathic communication involves the ability of the social worker to perceive accurately and sensitively the inner feelings of the client and to communicate his or her understanding of these feelings in language attuned to the client's experiencing of the moment (Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

1.1. Empathic responding

Definition. Empathic responding is a fundamental, yet complex skill of Empathic Communication that requires systematic practice and extensive effort to achieve competency. Skill in how the social worker refers to the client has no limit or ceiling; rather, this skill is always in the process of "becoming." In listening to their taped sessions, ever highly skilled professionals discover feelings they overlooked.

Example:

Social worker: As you were speaking about your condition, I sensed some pain and reluctance on your part to talk about it. I'd like to understand more about what you're feeling. Could you share with me what you are experiencing right now?

Client: I guess I haven't felt too good about coming this morning. I almost called and cancelled. I feel I should be able to handle my illness myself. Coming here is like having to admit I'm no longer capable of coping with him.

Social worker: So you've had reservations about coming –you feel you're admitting defeat and that perhaps you've failed or that you're inadequate- and that hurts.

Client: Well, yes, although I know that I need some help. It's just hard to admit it, I think. My biggest problem in this regard, however, is my mother. She feels that I am much more strong, then she says that we should manage this problem ourselves, and she really disapproves of my coming in.

Social worker: So even though it's painful for you, you're convinced your need some assistance in coping your cirrhosis condition, but you're torn about coming here because of your mother's attitude. I'd be very interested in hearing more about that (adapted from Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

1.2. Self-disclosure

Definition: Although the social worker and client may have much in common, the focus of the session should be on the client's concerns. When the social worker shares too much personal information, the client may assume that the social worker is a friend, not a professional (Murphy & Dillon, 2003). It is safe to say the client will be curious about you, what you think and believe. It is common for clients to ask personal questions (in part to relieve their own anxiety) in an effort to get to know the social work better. This is a common response, as the client is sharing very personal information with the social worker. Should the situation arise, ask what motivates their interest and then decide if the information requested is something you want to share. When sharing personal information, be sure to gauge the client's verbal and nonverbal reactions. Using self-disclosure appropriately takes time to learn, in part because there are some instances where self-disclosure is necessary and helpful. For example, sharing with a client that you too are a recovering alcoholic may help

move the relationship forward as rapport is established. That sense of intimacy and trust may be therapeutic.

Example

Social worker: I want to share my reaction to what you just said. I found myself feeling sad for you because you put yourself down unmercifully. I see you so differently from how you see yourself and find myself wishing I could somehow spare you the torment you inflict on yourself (taken from Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

1.3. Positive feedback

Definition. Communication in the helping process occurs in a non-evaluative and respectful manner. A crucial tool for showing respect is to show warmth and else positive feelings toward clients because of their actions or progress (Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

Example:

Social worker: I'm pleased that you have what I consider exceptional ability to "self-observe" your own behavior and to analyze the part you play in relationships. I think this strength will serve you well in solving the problems you've identified (taken from Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006, p. 118).

Exercises of session 1:

Directions: Please decide by clicking if videos show appropriate or inappropriate Empathic Communication.

Exercise of inappropriate empathic responding (giving advice):

Social worker: "I think you should tell your family that you are under a cirrhosis condition. They'll find out anyway then be upset, frustrated and sad" (adapted from Cummins, Sevel & Pedrick, 2006).

Exercise of appropriate empathic responding:

Social worker: "What are some of your concerns about your family finding out the implications of that you are under a HCV condition?" (adapted from Cummins, Sevel & Pedrick, 2006).

Exercise of appropriate self-disclosure:

Social worker: "You know, as I think about the losses you've experienced this past year, I marvel you've done as well as you have. I'm not at all sure I'd have held together as well as you have" (taken from Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

Exercise of inappropriate self-disclosure:

Social worker: "I have children, too. I know how hard it can be. Last night..." (adapted from Cummins, Sevel & Pedrick, 2006).

Exercise of appropriate feedback:

Social worker: I've been touched several times in face of this family when I've noticed that, despite your grief over your father's illness, you've reached out him to offer support (adapted from Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006, p. 118).

Exercise of inappropriate feedback:

Social worker: I don't think you are indeed fighting your fears. I mean, you are not doing what you are supposed to do.

Session 2. Verbal following

2.1 Paraphrasing

Definition. Paraphrasing involves using fresh words to restate the client's message concisely. Responses that paraphrase are more apt to focus on the cognitive aspects of client messages (i.e., emphasize situations, ideas, objects, or persons) than on the client's affective state, although reference may be made to obvious feelings (Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

Example:

Client: "Some days I am really angry because I am only 46 year old and there are so many more things I wanted to do if I were not under cancer. Other days, I feel kind of defeated, like this is what I get for smoking two packs of cigarettes a day for 25 years."

Social worker: "So sometimes you feel cheated by life and at other times that your illness is a consequence for your smoking history" (Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

2.2. Summarizing responses

Definition.

When using summarization, the social worker pulls together relevant pieces of information from the interview into a composite response. Both the feeling(s) and content of the client's message are incorporated in the social worker's summary. Summarization is used throughout the interview to focus the discussion on relevant issues as well as to make transitions from one topic to another. Summarizations are delivered as a statement, not a question. Summarizations are helpful in beginning and ending sessions. Generally, a good way to begin a session is to summarize what was discussed in the last session(s). This technique ensures continuity across sessions. Summarization can also be useful at the end of a session to highlight relevant topics from the session, and to set the agenda for the next visit. This skill is also useful as a tool to curb clients who have a tendency toward longwinded storytelling. The social worker can recap what was said and then attempt to refocus the interview to more relevant parts of the problem. For some clients, this sprawling explanation

is a good way to divert and deflect the interview process, by focusing on tangential issue (Cummins, 2006).

Example:

Client: "Mother tells me she loves me, but I find that hard to believe. Nothing I do ever pleases her; she yells at me for any minimal detail. And she goes out with her friends and leaves me alone in that old house. She knows how scared I get when I have to stay home alone. But she says, "Nancy, I can't just baby-sit you all the time. I've got to do something for myself. Why don't you make some friends or watch TV or play your guitar? You've just got to quit pitying yourself all the time" Does that sound like someone who loves you? I get so mad at her when she yells and bit me; it's all I can do to keep from run away from my house with the first man that can afford me.

Social worker: So you find your feelings toward your mother pulling you in different directions. You want to love you, but you feel unloved and resent it when she criticizes you or leaves you alone. And you feel really torn because you depend on her in so many ways. Yet at times, you feel so angry you want to hurt her heart for yelling and biting you. You'd like to have a smoother relationship without the strain (adapted from Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

2.3. Reflecting feelings

Definition:

It is one of the most important skills in the social worker's repertoire. It requires the social worker to restate and explore the client's affective (feeling) difficulty separating them from each other, and understanding how these feelings are related to one another. Social workers use reflection of feelings to understand how a client responds emotionally to life (Cormier & Cormier, 1998).

Example:

Client: I know that I have this HCV condition. I just do not know what to do. I do not like to stay in bed all the time.

Social worker: "I know that you have to transform your life a lot. You feel weak and confuse."

Exercises session 2:

Directions: Please decide by clicking if videos show appropriate or inappropriate Verbal Following.

Exercise 1. Appropriate paraphrasing

Client: I went to the doctor today for a final checkup, and she said that I was doing fine.

Social worker: She gave you a clean bill of health, then (Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

Exercise 2. Inappropriate paraphrasing

Client: I went to the doctor today for a final checkup, and she said that I was doing fine.

SW: So, do you think that this checkup is not showing cancer anymore?

Exercise 3. Appropriate paraphrasing

Client: I just can't decide what to do. If I go ahead with the divorce, I'll probably lose custody of the kids-and I won't be able to see them very much. If I don't, though, I'll have to put up with the same old thing. I don't think my wife is going to change.

Social worker: You're really torn and wonder if not seeing the children very often is too high a price to pay for a divorce. You seem pretty clear, though, that if you stay with her, there won't be any improvement (Hepworth, Rooney, Rooney, Strom-Gottfried & Larsen, 2006).

Exercise 4. Inappropriate reflection of feelings

Social worker: Now, I'm not so sure that you understand the whole problem here. You are not going to solve anything by pretending that nothing is happening. You are under cancer, believe it or not (adapted from Cummins, Sevel & Pedrick, 2006).

Exercise 5. Inappropriate reflection of feelings

Client: I know that I have this HCV condition. I just do not know what to do. I do not like to stay in bed all the time.

Social worker: Well, just think how many people dream with just having the half of time than you in the bed.

Exercise 6. Appropriate reflection of feelings

Client: Sometimes I wish to cry, but I can't. I remember myself as a kid, and my dad always was there to teach me how to drive a bike, or encouraging me in a baseball game. I can't think that it is just a matter of time and he won't be here anymore. I do not feel any willingness to study, and I know my dad wish that I study, just I can't. Nobody wants to talk me about cancer.

Social worker: I know that you feel embarrassed because your dad is expecting that you are a good student, and also you are scared because your dad is under a cancer condition right now. I consider that they are inter-related but two different things. Have you thought how you could manage your study time and your dad's attention?

Session 3. Attending behavior

Social workers must be verbally and nonverbally responsive to clients. One way that a social worker conveys interest is through the use of words and another way is through nonverbal communication. It is important for the client to feel listened to and valued. (Cummins, Sevel & Pedrick, 2006, p. 124).

3.1. Nonverbal behavior

Definition:

There are several ways that the social worker can communicate concern, caring, and involvement with the client nonverbally. Recommendations in assertive *body language* include adoption of an open/accessible body position, not communicating impatience by watching the clock or related activities, being informal/relaxed, not suggesting fatigue, not staring, paying attention (facial expressions showing interest combined with slight inclination toward the other person), locating chairs between 90-130 degrees, and touching. Touch can be perceived as positive or negative, depending on the type of touch and the context in which it occurs. Always be aware of the client's cultural background and past experiences (i.e., sex abuse), and gender-related issues. Used correctly, touch can be a very potent, nonverbal way of communicating "I care, I'm listening, and I'm concerned."

Example:

Client: I know that I have this HCV condition. I just do not know what to do. I do not like to stay in bed all the time.

Social worker: (While client talking, social worker leans slightly to him. When social worker speaks, he/she touches client's one shoulder with the hand closest to the client) "I know that you have to transform your life a lot. You feel weak and confuse."

3.2. Eye contact

Definition:

Maintaining eye contact with the client conveys understanding and responsiveness. This is not the same as staring or glaring at a client, which can cause extreme discomfort. Eye contact on the part of the client and/or social worker can demonstrate a readiness to get down to "business" and delve into the problem situation.

Example:

Client: "Some days I am really angry because I am only 46 year old and there are so many more things I wanted to do if I were not under cancer. Other days, I feel kind of defeated, like this is what I get for smoking two packs of cigarettes a day for 25 years."

Social Worker: (While client talking, social worker interchangeably see up and the client. When social worker speaks to the client, observes him/her directly) "So sometimes you feel cheated by life and at other times that your illness is a consequence for your smoking history."

3.3. Encouragement

Definition:

Through verbal or non verbal acknowledgement, social workers show that they are listening to clients. This skill includes nodding the head or using brief words or phrases (mmm, yes, of course…). This skill constitutes an excellent way for following a conversation because the social services user has a clue that he/she is being carefully listened.

Example:

Client: "Mother tells me she loves me, but I find that hard to believe. Nothing I do ever pleases her; she yells at me for any minimal detail. And she goes out with her friends and leaves me alone in that old house. She knows how scared I get when I have to stay home alone. But she says, "Nancy, I can't just baby-sit you all the time. I've got to do something for myself. Why don't you make some friends or watch TV or play your guitar? You've just got to quit pitying yourself all the time" Does that sound like someone who loves you?

Social Worker: (Seeing to the client, nods the head and encourage her to continue talking) "Mmm, mjm"

Client: I get so mad at her when she yells and bit me; it's all I can do to keep from run away from my house with the first man that can afford me.

Exercises of Session 3

Directions: Please decide by clicking if videos show appropriate or inappropriate attending behavior.

Exercise 1. Inappropriate touching.

Client: I know that I have this HCV condition. I just do not know what to do. I do not like to stay in bed all the time.

Social worker: (While client talking, social worker leans slightly to him. When social worker speaks, he/she touches client's one shoulder by using both hands) "I know that you have to transform your life a lot. You feel weak and confuse."

Exercise 2. Showing impatience.

Client: I know that I have this HCV condition. I just do not know what to do. I do not like to stay in bed all the time.

Social worker: (While client talking, social worker repeatedly watch a clock. As the time is speaking to the client, social worker closes his/her arms) "I know that you have to transform your life a lot. You feel weak and confuse."

Exercise 3. Squirming or rocking in chair

Client: I know that I have this HCV condition. I just do not know what to do. I do not like to stay in bed all the time.

Social worker: (While client talking, social worker repeatedly squires in chair. As the time is speaking to the client, social worker closes his/her arms) "I know that you have to transform your life a lot. You feel weak and confuse."

Exercise 4. Hand over mouth

Client: I know that I have this HCV condition. I just do not know what to do. I do not like to stay in bed all the time.

Social worker: (While client talking, social worker put a hand over his/her mouth. As the time is speaking to the client, social worker closes his/her arms) “I know that you have to transform your life a lot. You feel weak and confuse.”

ESPAÑOL

Sesión 1. La comunicación empática

Definición. La comunicación empática involucra la capacidad de un/una trabajadora social de percibir de manera precisa y sensible los sentimientos de una persona y comunicarle su comprensión en un lenguaje a tono con la experiencia de esa persona en ese momento.

1.1 La Respuesta empática

Definición. La respuesta empática es una habilidad fundamental, pero compleja, de la comunicación empática, la cual requiere de práctica sistemática y esfuerzo extensivo para alcanzar competencia. La habilidad de cómo el trabajador social refiere al cliente no tiene límites. Es frecuente que trabajadores sociales con mucha experiencia no hayan desarrollado esa competencia apropiadamente.

Ejemplo

Trabajador(ra) social: Mientras tú hablabas acerca de tu condición, yo sentí algo de dolor y resistencia de tu parte para hablar de ello. Me gustaría comprender más acerca de cómo te sientes. ¿Podrías compartirme lo que experimentaste mientras hablabas?

Cliente: Yo no me sentía bien para venir aquí hoy. Estuve a punto de no venir y cancelar. Siento que debo ser capaz de manejar mi enfermedad solo. Venir aquí significa admitir que no soy capaz de manejarlo yo solo.

Trabajador(ra) social: Así que tú tenías una cita para venir, te sientes que has admitido que no puedes y que has fallado, y eso te molesta.

Cliente: Bueno, sí, yo sé que necesito ayuda. Pero es difícil admitirlo. Mi principal problema es mi mamá. Ella siente que yo soy muy fuerte, entonces considera que debemos manejar este problema nosotros solos, y ella realmente desaprueba que yo venga.

Trabajador(ra) social: Así que pese a que es doloroso para ti, tú estás convencido de tu necesidad de alguna ayuda para manejar el estrés de tu condición de cirrosis, pero tú no estás convencido de venir aquí debido a la actitud de tu madre. Me interesa mucho que me sigas hablando de eso.

1.2. Compartir información personal

Definición: Los trabajadores sociales y sus clientes tienen mucho en común, pero el foco de la sesión debe estar en las preocupaciones de los clientes. Cuando un trabajador(ra) social comparte demasiada información personal, el cliente puede asumir que su relación es de amistad, no profesional. Seguro que el cliente tendrá curiosidad por la persona con quien trabaja, qué piensa y en qué cree. Es común para los clientes hacer preguntas personales (en parte para aliviar su ansiedad) en un esfuerzo para conseguir conocer mejor al trabajador social. Ésta es una respuesta común, debido a que el/la cliente comparte mucha información personal con el trabajador(ra) social. Si ello sucede, pregunta qué motiva ese interés y luego decide si la información solicitada es algo que quieres compartir. Al compartir información personal, asegúrate de observar las reacciones verbales y no verbales del cliente. Compartir información personal apropiadamente toma tiempo de aprender, en parte debido a que hay algunas instancias

donde esas infidencias son necesarias y útiles. Por ejemplo, compartir con un cliente que tú también eres una persona alcohólica recuperada puede ayudar a mover la relación, con base en la confianza. Ese sentido de intimidad y confianza puede ser terapéutico.

Ejemplo
Trabajador(ra) social: Quiero compartir mi reacción a lo que acabas de decir. Me sentí triste porque considero que no te mereces verte así. Lo veo diferente de cómo tú lo ves y deseo que pueda hacer algo para aliviar el tormento que te estás infringiendo tú sola.

1.3. La retroalimentación positiva

Definición. La comunicación en el proceso de ayuda ocurre de manera respetuosa y no evaluativa. Una herramienta crucial para mostrar respeto es mostrar calidez y sentimientos positivos hacia los clientes debido a sus acciones o progreso.

Ejemplo
Trabajador(ra) social: Me hace sentir bien que tienes lo que considero una gran habilidad para observar tu propio comportamiento y analizar la parte que juegas en las relaciones. Pienso que esta fortaleza servirá bien en solucionar los problemas que tú has identificado.

Ejercicios de la sesión 1.

Instrucciones: Por favor decide si los videos muestran Comunicación Empática apropiada o inapropiada.

Ejercicio 1. La respuesta empática inapropiada.
Trabajador(ra) social: Pienso que debes decirle a tu familia que una condición de cirrosis te ha sido diagnosticada. Ellos lo sabrán de cualquier modo y entonces se sentirán molestos, frustrados y tristes.

Ejercicio 2. La respuesta empática apropiada.
Trabajador(ra) social: ¿Qué te preocupa de que tu familia conozca las implicaciones de tu condición de Hepatitis C?

Ejercicio 3. Compartir información personal apropiadamente.
Trabajador(ra) social: Cuando pienso en todo lo que ha experimentado recientemente, realmente me impresiona cómo lo ha manejado usted. No estoy segura de que yo lo habría sabido manejar tan bien como usted lo ha hecho.

Ejercicio 4. Compartir información personal inapropiadamente.

Trabajador(ra) social: Tambien tengo niños y sé lo difícil que es. Mire, el otro día…

Ejercicio 5. Retroalimentación positiva apropiada
Trabajador(ra) social: Me ha conmovido frecuentemente cómo esta familia, pese a sentirse mal acerca de la enfermedad de su papá, ha podido apoyarlo.

Ejercicio de retroalimentación inapropiada

Trabajador(ra) social: No pienso que usted esté trabajando para combatir sus temores. Usted no está haciendo lo que se supone que deba hacer.

Sesión 2. Seguimiento verbal.

Definición. El seguimiento verbal o inducción se utiliza para alentar a la persona entrevista a hablar de tópicos introducidos con anterioridad. Se puede realizar provocando nuevos comentarios a través de una sugerencia directa, relacionar una afirmación con otra o ayudar a retomar frases o comentarios inacabados; es preciso sólo ayudar, no completar las frases, es importante que cada usuario termine sus pensamientos en sus propios términos.

2.1. Parafrasear

Definición. Parafrasear involucra usar palabras frescas para replantear concisamente el mensaje del cliente. Las respuestas de la paráfrasis son más aptas para enfocar los aspectos cognitivos de los mensajes de los clientes (por ejemplo, enfatizar situaciones, ideas, objetos o personas) que su estado afectivo, aunque la referencia puede ser hecha a sentimientos cuando son obvios.

Ejemplo.
Cliente: Algunos días me siento enojado porque tengo sólo 46 años y hay tantas cosas que quisiera hacer si no tuviera cáncer. Otros días, me siento derrotado, como que ésta es la consecuencia de fumar dos cajas de cigarros todos los días por 25 años.
Trabajador(ra) social: Así que algunas veces usted se siente burlado por la vida y otras veces que su enfermedad es una consecuencia de su historia como fumador.

2.2. Sintetizar respuestas
Definición. Cuando se usa la síntesis, el/la trabajador social reúne piezas relevantes de información de una entrevista en una sola respuesta. El sentimiento(s) y el contenido del mensaje de un cliente son incorporados en la síntesis. La síntesis es usada a través de la entrevista para centrar la discusión en temas relevantes también como para hacer transiciones de un tópico a otro. Las síntesis son entregadas como una propuesta, no como una pregunta. Las síntesis son útiles al empezar y terminar sesiones. Generalmente, un buen modo de empezar una sesión es sintetizar lo que fue discutido en la(s) última(s) sesion(es). Esta técnica asegura continuidad a través de las sesiones.
Sintetizar también puede ser útil al fin de una sesión para subrayar tópicos relevantes de la sesión, y para establecer la agenda para la próxima visita. Esta habilidad es también útil como una herramienta para acotar clientes con tendencia a extenderse al contar historias. El(la) trabajador social puede recapitular lo que fue dicho e intentar reenfocar la entrevista a partes más relevantes del problema. Para algunos clientes, esta explicación es un buen modo de diversificar el proceso de la entrevista, centrándose en un asunto aparentemente tangencial.

Ejemplo
Cliente: Mi mamá me dice que ella me ama, pero es difícil de creer. Nada la complace, ella me grita por cualquier motivo. Y luego se va con sus amigos y me deja sola en esa casa vieja. Ella sabe que a mí me da miedo estar sola en la casa. Pero me dice, "Nancy, no te puedo estar cuidando todo el tiempo. Tengo que hacer algo por mi cuenta. ¿Por qué no te vas con tus amigos o ves tele o tocas tu guitarra? Todo el tiempo te estás nomás quejando." ¿Así es como ella me ama? Me pone tan mal cuando ella me grita y me pega, que todo lo que puedo hacer es irme con el primer pelao que pueda mantenerme.
Trabajador(ra) social: Así que tú hallas tus sentimientos hacia tu madre juntándote en diferentes direcciones. Tú quieres que te quiera pero te sientes resentida cuando ella te critica o te deja sola. Y te sientes realmente mal porque dependes de ella de tantas maneras. A veces te sientes enojada y la quieres lastimar porque te grita y te pega. Te gustaría tener una mejor relación con ella.

2.3. Reflejo de sentimientos
Definición. Enunciar y explorar las propuestas afectivas (sentimientos) del usuario. Indicar con palabras la comprensión del usuario de la emoción expresada.
Ejemplo
Cliente: Es solo que no sé qué hacer. No me gusta estar tirado en la cama todo el tiempo.
TS: Sé que es mucho lo que tienes que digerir. Te sientes débil y muy confuso.

Ejercicios sesion 2
Instrucciones. Por favor decide si los videos muestran seguimiento verbal apropiado o inapropiado.

Ejercicio 1. Parafraseo apropiado
Cliente: Fui con la doctora hoy para un chequeo final, y ella me dijo que yo estoy bien.
TS: Entonces ella te dio un diagnóstico negativo.

Ejercicio 2. Parafraseo inapropiado
Cliente: Fui con el doctor hoy para un chequeo final, y ella me dijo que yo estoy bien.
TS: ¿Así que usted piensa que sólo por ese chequeo ya no tiene cáncer?

Ejercicio 3. Parafraseo apropiado:
Client: No sé qué hacer. Si sigo adelante con el divorcio, probablemente perderé la custodia de los niños y no los podré ver mucho. Si no sigo adelante, tendré que vivir la misma historia todo el tiempo. No creo que mi esposa vaya a cambiar.

TS: Así que usted realmente está indeciso y se pregunta si no ver a los niños frecuentemente es un precio muy alto para pagar por un divorcio. También le parece claro, sin embargo, que si usted sigue con ella, no habrá ninguna mejora.

Ejercicio 4. Reflejo inapropiado de sentimientos

Cliente. Yo sé que tengo Hepatitis C. Pero no sé qué hacer, no me gusta estar tirado en la cama todo el tiempo.

TS: Bueno, piense que mucha gente soñaría con poder dormir la mitad de lo que usted descansa ahora.

Ejercicio 5. Reflejo apropiado de sentimientos.

Cliente: Algunas veces quiero llorar, pero no puedo. Recuerdo que cuando era niño, mi papá siempre estuvo ahí para enseñarme, por ejemplo, a andar en bicicleta, o echándome porras en un juego de béisbol. No siento ganas de estudiar, y yo sé que mi papá desea que yo estudie, sólo que no puedo. Nadie quiere decirme nada acerca de su cáncer.

TS: Yo sé que usted se siente avergonzado porque su papá está esperando que usted sea un buen estudiante, y también usted se siente asustado porque su papá tiene cáncer. Pero considero que son dos temas apenas ligeramente interrelacionados. ¿Ha pensado cómo podría manejar su tiempo de estudio y la atención de su papá?

Sesión 3. Comportamiento no verbal.

Los y las trabajadores sociales deben ser verbal y no verbalmente responsables con los clientes. Un modo de que un trabajador social conlleve interés es a través del uso de palabras y otro modo es a través de la comunicación no verbal. Es importante para el cliente sentirse escuchado y valorado.

Comportamiento no verbal

Definición. Se estima que el lenguaje corporal, o formas no verbales de comunicación, es más importante (66%) que el contenido hablado de una conversación (33%). Las recomenaciones de lenguaje corporal para una buena escucha activa incluyen a) adoptar una posición corporal abierta, b) no comunicar impaciencia, c) ser informal/relajado, d) no sugerir fatiga

Ejemplo

Cliente. Yo sé que tengo Hepatitis C. Pero no sé qué hacer, no me gusta estar tirado en la cama todo el tiempo.

TS: (Mientras habla el cliente, el(la) TS se inclina ligeramente hacia él/ella. Cuando el TS habla, le toca a la cliente un hombre con la mano más cercana a ella). Sé que es mucho lo que usted tiene que digerir. Se siente débil y con mucha confusión.

3.2. Contacto visual

Mantener contacto visual con el cliente conlleva comprensión y responsabilidad. El contacto visual no debe ser tanto que moleste al cliente. El contacto visual puede demostrar una apertura a tratar rápidamente el tema y llegar a la solución.

Cliente: Algunos días me siento enojado porque tengo sólo 46 años y hay tantas cosas que quisiera hacer si no tuviera cáncer. Otros días, me siento derrotado, como que ésta es la consecuencia de fumar dos cajas de cigarros todos los días por 25 años.

Trabajador(ra) social: (Mientras el cliente habla, el trabajador social la ve algunas veces, y otra hacia arriba. Cuando el TS habla al cliente, sí le observa directamente). Así que algunas veces usted se siente burlado por la vida y otras veces que su enfermedad es una consecuencia de su historia como fumador.

3.3. Asentir

Definición. Al asentir, se hace un reconocimiento verbal o no verbal para indicar que se está escuchando. Ello incluye mover la cabeza o usar palabras o frases cortas (Mmm, sí, claro). Es un buen modo de seguir una conversación porque se le da una pista al usuario de que se está escuchando atentamente.

Ejemplo

Cliente: Mi mamá me dice que ella me ama, pero es difícil de creer. Nada la complace, ella me grita por cualquier motivo. Y luego se va con sus amigos y me deja sola en esa casa vieja. Ella sabe que a mí me da miedo estar sola en la casa. Pero me dice, "Nancy, no te puedo estar cuidando todo el tiempo. Tengo que hacer algo por mi cuenta. ¿Por qué no te vas con tus amigos o ves tele o tocas tu guitarra? Todo el tiempo te estás nomás quejando." ¿Así es como ella me ama?

Trabajador(ra) social: (Ve a la cliente, asiente con la cabeza y la motiva a seguir hablando) "Mjm, mjm."

Me pone tan mal cuando ella me grita y me pega, que todo lo que puedo hacer es irme con el primer pelao que pueda mantenerme.

Ejercicios de sesión 3

Instrucciones: por favor decide si los videos muestran comportamiento no verbal apropiado o inapropiado

Ejercicio 1. Tocar inapropiadamente

Cliente. Yo sé que tengo Hepatitis C. Pero no sé qué hacer, no me gusta estar tirado en la cama todo el tiempo.

TS: (Mientras habla el cliente, el(la) TS se inclina ligeramente hacia él/ella. Cuando el TS habla, le toca a la cliente los hombros con las dos manos). Sé que es mucho lo que usted tiene que digerir. Se siente débil y con mucha confusión.

Ejercicio 2. Impaciencia

Cliente. Yo sé que tengo Hepatitis C. Pero no sé qué hacer, no me gusta estar tirado en la cama todo el tiempo.

TS: (Mientras habla el cliente, el(la) TS ve su reloj. Cuando el TS habla, se cruza de brazos). Sé que es mucho lo que usted tiene que digerir. Se siente débil y con mucha confusión.

Ejercicio 3. Columpiarse

Cliente. Yo sé que tengo Hepatitis C. Pero no sé qué hacer, no me gusta estar tirado en la cama todo el tiempo.

TS: (Mientras habla el cliente, el(la) TS se columpia en la silla. Cuando el TS habla, se cruza de brazos). Sé que es mucho lo que usted tiene que digerir. Se siente débil y con mucha confusión.

Ejercicio 4. Mano en la boca
Cliente. Yo sé que tengo Hepatitis C. Pero no sé qué hacer, no me gusta estar tirado en la cama todo el tiempo.
TS: (Mientras habla el cliente, el(la) TS se pone una mano en la boca. Cuando el TS habla, se cruza de brazos) Sé que es mucho lo que usted tiene que digerir. Se siente débil y con mucha confusión.

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