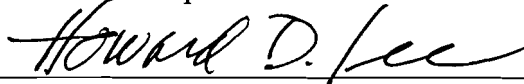AN ANALYSIS OF THE EFFECTIVENESS OF STORYTELLING

WITH ADULT LEARNERS IN

SUPERVISORY MANAGEMENT

by

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A Research Paper
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ABSTRACT

As a result of the constant and unceasing change in demands across nearly every field of employment, adults who are employed in or who are preparing for specific fields of study are finding that they need to be capable of learning new information at increasingly rapid paces just to keep up with minimum industry standards. Organizational trainers and other adult educators are responding to this information demand by employing training strategies and identifying less traditional teaching methods to more effectively convey the information needed within decreased timeframes. Storytelling has emerged as one such teaching method that has proven to be an effective teaching pedagogy and learning process.

There is consensus in literature that storytelling offers a highly natural and powerful means to convey, learn, and retain information. A variety of educational researchers offer learning theories that support storytelling from a number of perspectives including brain-based

learning theories, experiential learning theories, reflective learning theories and transformational learning theories. Several studies are available that underscore the ability of learners to learn, retain and retrieve information when presented in a story format. Furthermore, neuroscience research reports that the human brain is naturally wired to receive and remember every human experience within a structure of a story.

The purpose of this study is to research and document how storytelling as a teaching and learning method has an impact on the learning and information retention of adult students who are enrolled in the Supervisory Management Program at Western Wisconsin Technical College (WWTC). To further examine the effectiveness of storytelling as a teaching pedagogy and learning method, a study was conducted with 17 adult learners who are enrolled in the Supervisory Training program at a Wisconsin technical college.

Within this study, learners are exposed to a lesson that utilizes storytelling as the primary means for conveying the course content. Prior to the course lesson, learners participate in a short pre-test to measure any prior knowledge on course content. Subsequent this lesson, an opinion/reaction survey is administered to measure the learners experience with the storytelling activity. Items included on the survey include attention fixation, visualization, personal identification, and information transferability among others. In addition, a post-test on the course content is administered a week later to measure the amount of information retained from the storytelling lesson.

The conclusions of this study are highly congruent with the learning theories of storytelling as an effective learning tool and teaching method. The findings of the study indicate that storytelling has a powerful impact on learning, especially as it relates to theories that espouse the experiential characteristics of storytelling and learner information retention.

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Chapter I: Introduction

We live in an information age where knowledge is more than doubling every three years in the majority of occupations (Rose & Nicholl, 1997). The employed and the unemployed are finding that the skills they attained a few years ago are already obsolete in a world where constant change is the norm. Furthermore, repetitive, low skill jobs are rapidly being replaced by automation and the jobs that are available require increased educational levels and/or specific areas of expertise. As a result, employers are investing more dollars in their human resources through employee education and training programs to maintain a competitive edge in their markets. Similarly, the typical college student is no longer 18-25 years old as people are attending in record numbers who are in their thirties, forties and fifties as they strive to maintain and upgrade their skills.

Both two and four year colleges have reacted to this change in demographics and demand by offering accelerated and shorter-term training programs that are more accessible for the working adult. Accelerated training programs should be more than condensed, high intensity courses offered at times and locations convenient for the adult nontraditional learner (Rose & Nicholl, 1997). Good quality accelerated training programs offer specific accelerated training methods otherwise known as brain-based teaching and learning.

Brain-based learning theory is built upon the structure of the brain how the brain receives and interprets information (Dwyer, 1998). Brain-based theories promote teaching and learning methods that appeal to a variety of learning styles and intelligences with the ultimate goal of increasing learning within a shorter time frame. As more research is compiled on brain-based learning methods, instructors and trainers have become more knowledgeable about various teaching and learning pedagogies that meet their instructional parameters with a primary focus on effective learning.   In fact, brain-based learning research has resulted in the questioning of

and the rejection of many traditional teaching and learning methods that do not follow the premises of brain-base learning theories.

According to the authors of *Brain/Mind Learning Principles in Action* (Caine, R., Caine, G., McClintic, C., & Klimic, C., 2005), educators must employ three elements of brain-based learning in order for effective learning to take place:

1) Relaxed Alertness: A state of mind that should be created in brain-based classrooms so students can attain levels of higher order thinking. An atmosphere of low threat and one that creates a sense of community contribute to a state of relaxed alertness.

2) Planned Immersion: The creation of an environment where students are exposed to or engaged in experiences relative to the objectives of the course or particular lesson.

3) Active Processing: Utilization of learning methods that encourage the students to reflect and integrate the information in a manner that is personally meaningful (p.233).

While the subject of brain-based teaching is not particularly new, a teaching method that meets brain-base learning theories that has been receiving increasing attention is narrative storytelling (Rossiter, 2002). Additionally, storytelling as an effective teaching and learning method is touted by a number of other educational theorists and researchers who underscore storytelling as a reflective, transformative, and/or experimental teaching pedagogy.

Storytelling is a form of communication that predates written human history as a means of teaching lessons and passing history down from one generation to another (Rossiter, 2002). In addition, narrative storytelling provides the basic structure of how we create meaning out of our existence and everyday lives. Moreover, neuroscience is discovering that the brain is wired to organize, retain and access information through story and that every relationship experience and

object is recorded in the mind as a story (Caine et al. 2005). Consequently, stories lay the foundation of how people communicate to each other and are now being touted as a powerful means for increasing learning information retention and transfer in today's classrooms and business settings (Denning, 2004; Kaye & Jacobson, 1999; Morgan & Dennehy, 1997; Richter & Koppett, 2000).

Literature reveals that narrative storytelling improves learning by actively engaging learners in the information they are being exposed to versus passive student participation often found in traditional classroom settings (Richter & Koppett, 2000). Even more, it appears that narrative storytelling in a learning community meets the criteria of brain-based and several other learning and teaching theories on many levels.

First, storytelling enhances the classroom environment and atmosphere. A good story can relax learners and reduce fears because they are entertaining and at times, humorous. According to Richter and Koppett (2000) a well told story can bring about a sense of community and belonging in learning communities better than most traditional teaching methods.

Second, storytelling engages students on a level that many teaching methods do not (Rossiter, 2002). Not only do learners hear the information, but they are immersed in the content on a deeper and richer level through emotional and personal connections and visual imagery (Abrahamson, 1998; Morgan & Dennehy, 1997). The fact that stories evoke emotions adds to their learning effectiveness because learning experiences associated with emotions are more easily stored and recalled (Morgan, 1997; Weiss, 2000). Similarly, Perry (2000) supports this premise stating that when stories stir emotions, the cognitive parts of the brain are activated to store the new information.

Third, storytelling has many of the benefits of experiential learning due to the level of active engagement created (Richter & Koppett, 2000). The vivid images stimulated by

storytelling promote character identification thus engaging the student as an active participant in the learning process. When learners are engaged in this way, research reveals improved understanding and ability of the learner to apply what they have learned in the work setting. McDrury and Alterio (2003) promote the experiential aspect of storytelling and contend that storytelling is an especially beneficial teaching strategy for young professionals for this reason. Likewise, Heo (2003) states that stories allow individuals to experience the world well beyond their own lives.

What's more, storytelling appeals to auditory, visual and kinesthetic learning styles and many of the intelligence areas including spatial, linguistic, interpersonal, and intrapersonal intelligence (Rose and Nicholl, 1997). The wide scope of impact that storytelling has on learning factors and needs cannot be cited for many other nontraditional or traditional teaching methods.

In brief, it appears that storytelling as a teaching pedagogy presents a natural and highly effective approach to teaching, learning and retaining information. Conversely, the majority of the literature and research available discusses storytelling from the teaching perspective or as applied to younger learners (Mello, 2001; Vance 1991). This begs the questions of "how do adult learners perceive storytelling as a learning tool?" And, "do adult learners retain and apply new knowledge gained through narrative storytelling?"

Accelerated teaching and learning methods are actively supported in the Wisconsin Technical College System (WTCS) (Walsh, 2002). This is reinforced by new a new policy that includes course work in brain-based teaching methods as part of a series of courses needed for instructional certification for faculty in the WTCS ("How to Become Certified", 2005). Deb Walsh is a certified brain-based trainer and the program head of the Supervisory Management program at Western Wisconsin Technical College (WWTC) in La Crosse,

Wisconsin. The Supervisory Management program at WWTC is offered in an accelerated

format and attracts students who are older and experienced in specific career areas such as

telecommunications, manufacturing, city government, and more. Ms. Walsh has applied brain-

based teaching methods within the supervisory management program for over 10 years and has

experimented with a plethora of brain-based teaching strategies. However, in spite its many

benefits; narrative storytelling has not been an integral part of the teaching methods employed in

this program. As a result of recent exposure to the merits of storytelling as a valuable learning

strategy, Ms. Walsh wishes to further explore storytelling as an effective learning tool in

conjunction with this study (D. Walsh, personal communication, June 4, 2005).

Problem Statement

The information age has left individuals and organizations searching for ways to learn

faster and retain information better. Storytelling as an effective teaching and learning strategy

appears to offer some promising results in this regard. Despite our long human history with

storytelling as a primary medium of communication and learning, narrative storytelling as a

planned teaching and learning pedagogy is relatively new in adult education (Vance, 1991). As

stated previously, most of the literature available supports storytelling as an effective way of

teaching from the instructional viewpoint or as it applies to younger learners. Not as much

research is available that reveals the impact storytelling as learning and teaching strategy has on

adult learners or its measured effectiveness in retention and transferability to the workplace.

Purpose Statement

The purpose of this study is to research and document how storytelling as a teaching and

learning method has an impact on the learning and information retention of adult students who

are enrolled in the Supervisory Management Program at Western Wisconsin Technical College

(WWTC). Examined was the learners' ability to retain and apply the information taught and the

level of learner engagement during the storytelling activity during a specific course lesson in March of 2006. Measures included objective tests of information retention, researcher observations for both groups of learners and an opinion survey administered to measure the perceptions of storytelling as a teaching method for the group exposed to the storytelling activity. In addition, other outcomes of storytelling were be discussed as revealed in the findings of this study.

Research Objectives

There are seven specific objectives this study will attempt to accomplish. They are as follows:

1) To determine the learners' level of engagement during the course lesson using a storytelling activity.

2) To determine the ability of the learner to engage in reflective learning as a result of the storytelling exercise.

3) To determine the ability of the learner to transform previously held opinions or perspectives as a result of the storytelling exercise.

4) To determine the level of information retention that has taken place as a result of storytelling exercise.

5) To determine the ability of the learners exposed to storytelling transfer learning to real work settings as a result of the storytelling exercise.

6) To determine learners' perception/opinion of using storytelling as an effective teaching and learning method.

Importance of the Study

This study is important for the following reasons:

1) Adult learners need to find ways to quickly learn and apply information in order to stay competitive in today's job market. Research on storytelling as an effective learning tool may assist students in reaching their learning goals within the limited time frame available.

2) Due to limited time and resources, instructors and industry based trainers need to be able to apply effective teaching and learning techniques to meet expected learning objectives. Research supporting or negating storytelling as a useful learning method may support trainer selection of effective teaching methods.

3) Industry needs human resources with relevant skills, knowledge and abilities to stay competitive and reach organizational goals. Additional research on effective learning tools may support employers' needs for skilled workers.

4) If storytelling proves an effective teaching and learning method with students in the Supervisory Management program, it may also prove useful for adult students in other educational settings.

Definition of Terms

1) Brain-based/Accelerated Learning: the ability to absorb, understand and retain information quickly (Rose & Nichol, 1997). A holistic approach to learning that accommodates different learning styles and needs. Accelerated learning methodologies engage all parts of the brain, which dramatically increases a student's learning and retention (Walsh, 2002).

2) Experiential Learning: Experiential education is a philosophy and methodology in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills and clarify values ("What is Experiential Education", n.d.).

3) Learning: The ability to retain and integrate new knowledge (Richter & Koppett, 2001).

4) Narrative Story: Storytelling is relating a tale to one or more listeners through voice and gesture; to re-create, through voice and gesture, a series of mental images ("Teaching Storytelling", n.d.).

5) Neuroscience: a branch (as neurophysiology) of the life sciences that deals with the anatomy, physiology, biochemistry, or molecular biology of nerves and nervous tissue and especially with their relation to behavior and learning (Merriam-Webster Dictionary, 2005).

6) Pedagogy: The art or profession of teaching; preparatory training or instruction. (Merriam-Webster Dictionary, 2005).

7) Reflective Learning: A generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations (Boud,D., Keogh,R. & Walker, D. (1985).

8) Retention: An ability to recall or recognize what has been learned or experienced; memory (Merriam-Webster Dictionary, 2005)

Assumptions and Limitations

The results of this study may be influenced by the following factors:

2) This study was confined to adult learners who are already familiar with and immersed in a variety of brain-based learning and teaching activities. As a result, these learners may already have high expectations that any learning lesson employ the use of more interactive teaching methods.

2) This study was confined to adult learners in evening classes who have already put in a full

   day of work. As a result, they may be less inclined to be as fully engaged as daytime,

   traditional students with fewer obligations outside of attending classes.

3) This study was limited to instructors who are relatively inexperienced with using narrative

   storytelling as a teaching pedagogy. The effectiveness storytelling as a learning and teaching

   tool relies heavily on the actual delivery of the story and if this is compromised, the results

   may be also.

4) This study was limited to instructors who are very familiar with accelerated/brain-based

   learning theory. The results of this study may be biased from the instructor's perspective in

   terms of an overly favorable opinion of storytelling as an effective teaching strategy.

5) The population was limited to one section of adult learners enrolled in the Supervisory

   Management program at WWTC. Additional studies may be needed to generalize the results

   to a larger population of adult learners.

6) The survey instruments were developed by the researcher and efforts were made to ensure

   content validity and reliability. The instruments were reviewed prior to their use.

Methodology Overview

   To analyze and describe the impact on learning and perspectives of narrative storytelling

on adult students, a lesson plan will be developed for a class of 17 students enrolled in the

WWTC Supervisory Management program that employs storytelling as the primary teaching

method. Prior to the lesson, students will take a short pretest to measure any prior learning and/or

previously held beliefs and opinions. A series of four short stories will be told by the researcher

that related to the course lesson. Once these stories are told, students will break into four small

groups to share their own response stories relevant to the course lesson. Subsequent to the

storytelling activity, students will be encouraged to participate in a class discussion about the

content of this learning activity. In addition students will be asked to complete a survey to measure their opinions and gauge their overall experience of storytelling as a teaching and learning tool. A post-test will be administered a week later to both groups asking them to recall the information taught and explain how they would apply this new knowledge in their work setting.

Chapter II: Literature Review

Introduction

Storytelling is a subject that has a plethora wide-ranging application to human learning, teaching and society in general. This study will focus the literature review primarily on how the learning process is enhanced through storytelling according to a number of learning theories and several studies presented in this regard. In addition, further examination will be offered on the history, roles, definitions and models of storytelling.

History of Storytelling

Storytelling and its role(s) in society predates written human history as oral storytelling was the only tool available to people to preserve and share cultural customs, beliefs and heritage. Story proved to be the oldest and the most substantiated means for humans to remember and story information (Abrahamsen, 1998). Thus, storytelling proved to be a highly effective way of coding knowledge in oral cultures because it made them more memorable and easily passed on to others. In fact, Abrahamsen claims that civilizations survived as a result of storytelling because they ensured the continuity of life experiences to subsequent generations.

The earliest record of storytelling is 4000 B.C. as stated by Ruth Sawyer in her book entitled *Tales of the Magicians* (as cited in Abrahamsen, 1998). Storytellers were highly esteemed in early Egyptian and medieval times and were also used by nomadic tribes such as the Gypsies. Stories are evident in the Roman culture as well. Even more, storytellers in ancient times were often highly esteemed members of the community as they helped people make sense of complex cultural or religious issues, offered comfort in the face of difficulties, or provided simple entertainment (Parkin, 2004; "What use is Storytelling", 2005). They often held such titles and Shamans, chief, elder, priest, or troubadours. As stated by Abrahamsen, "it appears

through a review of literature that the story is one of the most important inventions of

humankind" (para. 3)

Trends in Storytelling

Storytelling, though an ancient art and discipline, continues today as a primary means of

communication and entertainment. As a result, storytelling continues to have a strong presence

in all human institutions (Abrahamson, 1998). It is found within religions, cultures, families,

businesses and in educational organizations. In present day society, stories are present in many

forms; stories reach out from television, radio, email, magazines and books to name a few.

Stories are often the way in which people communicate to each other to retell the day's events to

friends or family, as advice is offered to a colleague, or as children are taught meaningful lessons

for their own lives and interactions with society. Moreover, educational researchers have strong

evidence of the resurgence of storytelling as a teaching pedagogy and learning tool in modern-

day educational institutions and business organizations (Parkin, 2004; "What use is Storytelling",

2005). There is also a movement toward oral storytelling in the entertainment industry as the

popularity and number of storytelling guilds increases on both national and international levels.

Abrahamsen (1998) argues that storytelling forms the very foundation of the teaching

profession. Although storytelling in education has primarily been associated with children in the

lower grades, there is now greater evidence that the use of storytelling in higher education is

being recognized as a powerful teaching and learning tool and one that has proven effective

across all academic disciplines with adult student learners. Furthermore, storytelling is being

touted as a learning strategy to employ in online education to build a more personal learning

environment and one that allows learners to make meaning and engage in genuine reflection as

they bridge old knowledge with new knowledge (Heo, 2004). McDrury and Alterio (2003)

authors of *Learning through Storytelling in Higher Education*, contend that storytelling in education is a highly reflective learning activity and one that approximates real-life experiences. They argue that storytelling is in itself a theory of learning as a result of the deeper level of processing that stories generate and the new knowledge that this creates.

Corporations and other organizations have discovered the merits of storytelling as a popular leadership tool and method for embracing organizational culture and facilitating organizational changes (Denning, 2005). Kouzes and Posner (2003) authors of *Encouraging the Heart,* state that organizational stories are crucial to leading organizations into the future because they produce a sense of personal (employee) commitment and they illustrate how to do something versus simply what someone thinks should be done. Denning points out that Peter Senge (1990) in his book *The Fifth Discipline, the Art and Practice of the Learning Organization,* alludes to a possible sixth discipline relevant to organizational thinking. Demming offers the opinion that storytelling may well be the sixth discipline that Senge alludes to because it has the characteristics that Senge envisioned such as new and expanded patterns of thinking and a discipline that encourages shared aspirations where people are learning how to learn together.

Definitions of Storytelling

Modern day educational theorists and researchers have narrowed down a variety of similar though somewhat varying judgments about what basic elements constitute a definition of storytelling.

In education, stories have come in the form of written texts, oral narration, and instructional media. They can be presented as case-studies, role-playing and simulations. Nevertheless, storytelling as defined among educational researchers is often defined on more narrow or specific terms. The National Council of Teachers of English (2005) defines

storytelling as the relating of a tale to one or more listeners, and they emphasize that it is not congruent with simply acting out a drama or reciting a story from memory or a text, but it is the creation of mental images of the elements of a story through voice and gesture to an audience. And, through the telling of a story, the teller and the audience give complete attention and engage in a learning experience ("Teaching Storytelling", n.d.).

Other theorists consider storytelling synonymous with and from the perspective of narrative inquiry whether is it written down or provided orally (Denning, 2005; Heo 2003, Rossiter, 2002). According to Heo, narrative inquiry involves the telling and retelling of stories as we reconstruct meaning from our experiences lived and then re-told. He adds that narrative is a means of making meaning out of bridging new and previously learned information and that individuals think, interpret, and make many decisions according to narrative structures and elements. Similarly, Denning, in his book, *The Leaders Guide to Storytelling*, refers to stories and the telling of them to narrative whether or not they contain a plot, a turning point, or a resolution. He contends that story and narrative are the same and are simply an account of a series of events that are casually related. Demming states that narrative inquiry is what happens when meaning is created by establishing that something is a part of a whole and that it involves human events and actions. McDrury and Alterio (2003) state "a narrative…that we call a story, deals with not just with facts or ideals or theories, or even dreams, fears and hopes, but in facts, theories, and dreams from the perspective of someone's life and in the context of someone's emotions" (p. 32).

According to Caine et al. (2005), storytelling is the primary way that people access, express, and retain information and knowledge. They argue that brain research confirms the theory that information is naturally organized in our minds according to story form. Richter and Koppett (2000) share a similar view stating that stories form the foundation of how we

communicate and that we remember and integrate new information by placing them into a story format.

A pervasive similarity in the analysis of the definition of storytelling among nearly all educational theorists and researchers on this topic is that storytelling is our fundamental human way of making meaning of our lives and experiences. Intelligence itself appears to be grounded in the ability to comprehend the world around us and how past events and old knowledge can be bridged to new experiences and new knowledge (Abrahamson, 1998).

Storytelling Models

A variety of theories exist about how stories are constructed to optimize learning are offered in professional literature. Morgan and Dennehy (1997) assert that components of an effective story embrace five sequential components:

1) The setting: a description of the time, place, characters and context so you provide something the audience can mentally image and feel a part of.

2) Build up: a sequence of events that warns the listener that something (usually some type of conflict) is about to happen. This creates suspense, interest and attention.

3) Crisis: the climax or high point of the story. This is also the place to introduce a new element and/or a turning point.

4) Learning: point out what the central character(s) learned. Here lies the lesson of the story.

5) How change ensued in the character(s) behaviors, awareness, abilities: the storyteller focuses on the learning to be retained by the listener and is cautioned to not assume that the listener always understands the lesson of the story.

Heo (2004) describes a four phased approach for using storytelling in web-based learning environments to enhance student learning. First, the instructor or trainer should provide an

introduction where the learning objectives are described and the context explained. Second, a

pre-designed story is told in an interactive mode that contains the principles of the lesson. Third,

the concepts of the story are discussed and reviewed in text and graphic formats. Fourth,

learners are required to retell the story or create their own response story in writing and then in

an oral format using the principles and concepts from the reviewed story. Heo contends that

when learners retell stories from their own similar experiences, the result is a transformative

experience that enhances learning through deeper reflection.

In the book, *Learning Through Storytelling in Higher Education,*, McDrury and

Alterio (2003) offer eight storytelling models or 'pathways' that vary according to setting, the

number of listeners and the type of stories shared. They maintain that each pathway will result in

varying levels of reflective learning and subsequent learner transformation or insight. The eight

pathways of storytelling are created through various combinations of each side of these three

elements. The following figure depicts the factors that produce the various storytelling models.

Figure 1

Storytelling Pathways
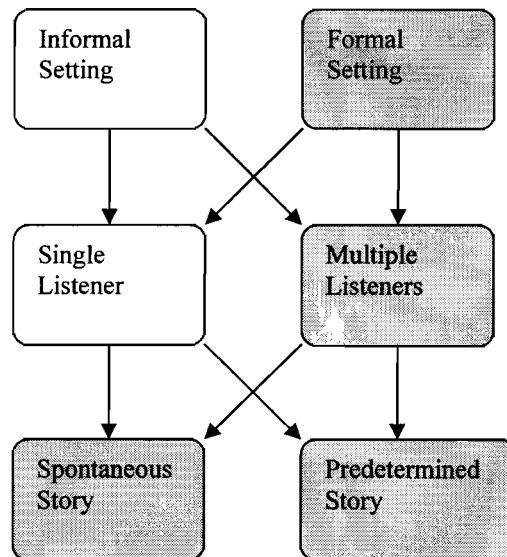
Source: From Learning through Storytelling in Higher Education (p.56-59) by J. McDrury and M.Alterio, 2003, Sterling, VA: Dunmore Press Limited.

In terms of the setting, McDrury and Alterio (2003), state it can be formal or informal. Informal storytelling settings described as casual encounters such as lunch breaks, hall way conversations and so on and are likely to result in storytelling that is unplanned and one that evolved as it is told. This setting is less likely to produce as much learning as a formal setting and productive discussion is less likely to occur. Conversely, formal settings promote more meaningful dialogue and provide a better environment to explore various perspectives and practice situations.

The second element that determines a storytelling pathway is the listeners. McDrury and Alterio (2003) compare types of listeners in terms of the number of listeners present at the time of storytelling in that the number involved will determine the level and form of dialogue that ensues. They maintain that having more than one listener is more conductive to effective learning because there is the increased possibility that dialogue will occur that will offer more than one perspective and additional insights. In addition, dialogue between storyteller and listeners following a storytelling session can be in the form of a response discussion/discourse or a response story from the listener's perspective. McDrury and Alterio prefer the response discussion arguing that a response story from the listener(s) is more likely to digress away from the primary focus of the original story and the lesson plan within it. If the size of listeners is more than one, the preferred format of a productive response discussion is more likely to occur.

The third and final element that determines a storytelling pathway is the story itself. If the story is preplanned and the teller has had time to integrate specific content areas and learning lessons, reflective learning is more likely to be the outcome (McDrury & Alterio, 2003). Yet,

spontaneous stories tend to be the norm and still can have a strong affective impact on the learners or listeners.

The previous definition of storytelling offered by the National Council of Teachers of English (2005) most closely approximates the storytelling activity to take place within this study. Additional emphasis will be placed on how the story is told. Of the eight storytelling pathways offered by McDrury and Alterio (2003), this study will employ pathway numbers 7 and 8 that includes a formal setting, multiple listeners and preplanned and spontaneous stories. These pathways are illustrated in the grey shaded areas in Figure 1. According to McDrury and Alterio, pathways 7 and 8 appear to offer the best opportunity for reflective learning and increased information retention because having more than one listener offers the opportunity to clarify and expand ideas and concepts. Additional discussion of the details of the study itself will be offered in more depth in Chapter 3.

Theories of Learning

Educational theorists and researchers offer a number of theories that further explain why storytelling has such a positive impact on learning. Erickson and Rossi (1976) offer a theory in support of storytelling as a teaching and learning tool that surrounds the concepts of learner receptivity or hypnotic trance. Other theorists support storytelling as a brain-based learning activity and teaching pedagogy because it fulfills many of the criteria that comprise brain-based learning theory (Cain, et. al, 2005). Similarly, McDrury and Alterio (2003) tout the merits of storytelling as a result of its impact on reflective and experiential learning.

Milton H. Erickson has been described as a leader of storytelling and trance induction (Abrahamson, 1998). Erickson and Rossi (1976) argue that storytelling is capable of inducing a state of openness or receptiveness that allows for unconscious learning to take place. Erickson adds that accelerated learning is likely to happen in this state because a learner's usual frames of

reference and beliefs are temporarily changed which allows them to assimilate new knowledge. This state of receptivity is also referred to as a hypnotic trance.

Erickson and Rossi (1976) offer a five stage model that further supports their learning theory as it applies to storytelling and the conversational induction of a hypnotic trance. The five stages of conversational trance induction include the following:

1) Fixation of Attention: This stage includes encouraging students to focus on their current situation and feelings/sensations and to let go of other concerns or stresses. The introduction of a story is believed to produce this state.

2) Depotentiating Habitual Frameworks and Belief Systems: If the first stage is successful, the student should become completely immersed into the story that the instructor is telling. It is this stage that is referred to as the 'hypnotic trance' where students are much more receptive to new ideas, concepts and knowledge in general. While in this state, students often do not acknowledge previously learned limitations and are better able to alter their frames of reference and create new knowledge.

3) Unconscious Search: This stage refers to students' automatic tendency to unconsciously search their memories in an effort to make sense of new information. However, when immersed in a storytelling activity, students are more likely to do a creative search that reorganizes old frames of reference (previous knowledge) thus producing new insights and knowledge.

4) Unconscious Process: In storytelling, the storyteller is encouraging a variety of unconscious processes by indirect forms of suggestion. It is these unconscious actions which allow the student to form and be open to new concepts and form new insights.

5) The Hypnotic Response: The hypnotic response is the result of the processes induced by the storytelling activity. As a result of the unconscious processes, this trance appears to occur automatically and autonomously. Erickson argues that the hypnotic response is not something

that only occurs in hypnotherapy but is a state that is achieved when a variety of other factors are present, such as they are with many storytelling activities.

To summarize, according to Erickson and Rossi's (1976) theory of storytelling producing a state of hypnotic trance or state or receptivity, storytelling is a procedure that produces effective learning and legitimate education. The immersion aspect of Erickson and Rossi's theory is also found in the principles of brain-based or accelerated learning theory.

In the past twenty-five years or so, theories of learning and cognition have come to the forefront of educational research as individuals and organizations struggle to keep up with new knowledge, change, and the basic need for lifelong learning (Peace, T., Mayo, K., & Watkins, R. 1998). As a result, theories of brain-based learning, also known as accelerated learning, have been receiving increasing attention. Principles of brain-based learning theories also offer a substantial amount of support for storytelling as an effective teaching pedagogy and learning method.

According to Caine et al. (2005), authors of *Brain/Mind Learning Principles in Action*, the primary objective of brain-based learning is to move away from memory based teaching and learning to teaching and learning that creates meaning making on the part of the learner. Their theories of brain-based learning are based on neuroscience theories and educational research. They propose that all learning should encompass three primary interactive elements including relaxed alertness, planned emersion and active processing. What follows is an explanation of each of these principles and how they support storytelling as a brain-based teaching and learning method.

The first principle of relaxed alertness refer to a state of mind on the part of the learner that when created, improves receptiveness to learning (Caine, et al., 2005). To create this state in a learning environment, teachers are encouraged to provide an atmosphere of low threat and relaxation while presenting a significant challenge to learning. Once an environment of relaxed alertness is created, learners should feel at ease with themselves and their learning environment and emotionally engaged in learning the course content. In contrast, a learning environment that creates fear and alarm will only serve to block the ability of a student to process information resulting in learning on a very limited level or no learning at all. Furthermore, this reactive or reflexive learning is likely to produce behaviors of fatigue, helplessness, defensiveness, resistance and even aggression. Neuroscience research confirms the benefits of a relaxed, non-threatening learning environment based strictly on the various functions of different regions of the brain (Dwyer, 2002; Rose and Nicholl, 1997). Dwyer adds that once any sensory information is received by the brain, it is screened through the hypothalamus and sent to the amygdala and the hippocampus. The amygdala checks the information for emotional content and if there is high stress, fear or other negative emotions present that may be a threat to self preservation, the connections to the 'thinking' part of the brain or the executive section will be shut down in an effort to produce a series of interactions within the reptilian brain that will produce a flight or fight response. It is for this reason that students often claim that 'their mind went blank' when faced with a timed test or one that causes them high stress. On the other hand, when students are relaxed and enjoying their learning experience, the brain releases endorphins which in turn affect neurotransmitters in the brain allowing connections to be made that improve learning and retention of new information (Rose and Nichol, 1997).

Storytelling within a learning environment contributes to a state of relaxed alertness for a number of reasons. First, stories provide a social context to learning and a healthy social

environment is critical to learning and the human brain's ability to function properly (Caine et al., 2005). Second, storytelling creates a sense of meaning making and forms the very foundation of how humans make meaning of themselves and their environments (Rossiter, 2002). When one realizes the meaning of something, their confidence increases, thus improving their state of relaxed alertness and emotional engagement in the learning process. Last, storytelling involves learner emotions and neuroscientists confirm that emotions and learning are highly linked together (Caine et al., 2005; Weiss, 2000). The fact that stories evoke emotions is one of the primary reasons that storytelling is hailed as an effective teaching and learning method; stories not only improve an environment of relaxed alertness, but they also significantly increases learning retention because learning experiences associated with emotions are more easily stored and recalled (Weiss).

The second brain-based principle that supports effective learning is the ability of the teaching/course lesson to immerse students in the course content (Morgan & Dennehy, 1997). Caine et al. (2005) assert that planned immersion in the course content should result in higher student information retention and the ability of the student to access executive functions of their brain. They add that immersion in the course content will create an enriching environment that will allow students to perform better at complex tasks. During a storytelling activity, not only do learners hear the information, but they experience the content on a deeper and richer level through emotional and personal connections and visual imagery (Morgan & Dennehy). Neuroscience research substantiates that the creation of visual imagery may be a key element in building intelligence and in creating effective educational programs ("Teaching Storytelling", n.d.) Even more, the imagery offered through storytelling actually increases the size of the brain through the growth of new dendrites which facilitate impulses toward the body of a nerve cell thus speeding up communication between cells and the brain (Kinsella, n.d.). Additionally,

storytelling brings together various pieces or parts of information and makes them whole by providing a context that provides bridging information and general meaning-making. Understanding how parts make up more global ideas or concepts is an essential factor to meaningful learning (Caine et al., 2005).

The third and final brain-based learning concept supported by storytelling is its effect on the active processing of the material being taught. Active processing is "the art of digesting, thinking about, reflecting on, and making sense of experience and of consolidating learning" (Caine et al., 2005, p. 179). Active processing also supports metacognition or the student's ability to learn how to learn. When students actively process new information on a deeper level, they are more likely to be able to apply new information in a real life context.

Storytelling as a teaching and learning activity supports active processing of information in a number of ways. First, according to Rose and Nicholl (1997), the vivid images stimulated by storytelling promote character identification thus engaging the student as an active participant in the learning process. When learners are engaged in this way, research reveals improved understanding and ability of the learner to apply what they have learned in the work setting. What's more, storytelling appeals to all learning styles including auditory, visual and kinesthetic and many of the intelligence areas including spatial, linguistic, interpersonal, and intrapersonal intelligence (Caine et al., 2005). Second, active processing is necessary for long-term information retention. Again, because storytelling is often an entertaining, visual, experiential, and emotionally evoking activity, students are much more likely to retain the course content taught in story format settings (Denning, 2004; Kaye & Jacobson, 1999; Morgan & Dennehy, 1997; Richter & Koppett, 2000). The National Council of Teachers of English position statement from "Teaching Storytelling" (2005) effectively summarizes the benefits of storytelling in terms of imagery and retention: "Teachers discovered that children could easily

recall whatever historical or scientific facts they learned through story. Children realized they made pictures in their minds as they heard stories told, and they kept making pictures even as they read silently to themselves" (p.1).

In their book, *Learning through Storytelling in Higher Education*, McDrury and Alterio (2003), tout the merits of storytelling as a teaching pedagogy due to its ability to engage learners in reflective learning and that this quality of reflection is especially beneficial for young professionals and others seeking work-based learning experiences.

Theories of reflective learning are defined in a number of ways by various educational theorists. McDrury and Alterio (2003) embrace the definition of reflective learning as "a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations" (p. 21). They stress that storytelling has considerable advantages for the adult learner who is engaged in learning a professional practice because storytelling offers them a way to reflect on their new experiences, generalize the experience to other situations, decide how to translate their learning into future actions, and then evaluate the result of their actions.

The value of reflective learning and reflective learning theories were brought about to bridge the gap between theories and theories in actual practice (McDrury and Alterio, 2003). Reflective learning through storytelling offers a vehicle for students to be exposed to practitioner's tactic knowledge or the kind of knowledge that comes from experience. And, storytelling as a reflective learning practice offers professionals a way of making sense of complex and diverse situations encountered in everyday practice. Furthermore, storytelling offers many of the merits of experiential learning as it is not only capable of creating tactic knowledge, but is also responsible for creating episodic memory; memories based upon experience that are stored in longer term memory and more easily retrieved (Swap, Leonard,

Shields and Abrams, 2001).

McDrury and Alterio (2003) offer a five stage model for reflective learning through storytelling that also coincides with a Map of Learning as espoused by Moon (1999). Moon's theory discusses surface and deeper learning as learners' progress through various stages of learning. His is a general learning theory as applied to how learners make meaning out of any new information as presented in a classroom or other setting. The Reflective Learning through Storytelling Model coincides with Moon's Map of Learning. Furthermore it clearly goes well beyond the mere telling of a story to the dialogue, analysis, and at times, the transformation that follows in subsequent individual or class discussions. The Reflective Learning through Storytelling Model is as follows:

1) Story finding-stories that are found and told are often emotionally evoking. Stories are often identified based upon the learner's prior knowledge and how they affect them emotionally. This stage coincides to Moon's stage of learning referred to as 'noticing' where students are functioning at a surface level of learning.

2) Storytelling-the actual telling of a selected story offers listeners the opportunity to make sense of the context of the story and the human experience within the story. Learning remains on a surface level since learners are more focused in learning the material at hand and are not yet linking it to prior knowledge and experiences in any meaningful way. Storytelling corresponds to Moody's second level of learning entitled 'making sense'.

3) Story expanding-during this phase, listeners and storytellers begin to make more connections to prior knowledge and can actively reflect allowing new knowledge into their cognitive structures. Story expanding often involves the teller explaining more about why certain events

occurred and dialogue begins to occur between the teller and the listener. Story expanding coincides with Moody's learning stage of 'making meaning'.

4) Story processing-as stories are processed, the listeners are highly engaged in reflective dialogue where multiple perspectives are offered in relationship to the story told and the concepts inherent within the story. The amount and quality of reflective questioning will determine the level of learning taking place. This phase represents much deeper learning than the others and coincides with Moon's learning stage of 'working with meaning' where students strive to clarify, problem solve and review the material being taught.

5) Story reconstructing-the fifth and final stage of the model of reflective learning through storytelling involves more self awareness as tellers and listeners learn more about what has shaped their own opinions or behaviors. Solutions and outcomes are evaluated from a variety of perspectives. As a result of this much deeper level of learning, listeners and tellers alike may often experience a type of transformation that will result in a permanent change of perspective or practice. Story reconstruction corresponds with Moon's learning stage of 'transformative learning' where students are able to evaluate their own thinking and behaviors and judge the value of the new knowledge presented (p. 47-50). Rossiter (2002) and Heo (2003) also highlight the transformative nature of storytelling stating that stories link the familiar to the unfamiliar and thus provide an opening for personal growth and change. Additionally, Rossiter claims that transformative learning is particularly powerful through the sharing and interpreting personal life stories where students become more empowered by and evaluative about their own experiences and are better able to achieve positive changes.

The following diagram represents the Reflective Learning through Storytelling model offered by McDrury and Alterio and how it relates to Moon's (1999) Map of Learning.

Figure 2

Reflective Learning through Storytelling and the Map of Learning

Map of Learning (Moon, 1999)	Learning through Storytelling (McDrury and Alterio, 2003)
Noticing ⟵⟶	Story finding
Making sense ⟵⟶	Story telling
Making meaning ⟵⟶	Story expanding
Working with meaning ⟵⟶	Story processing
Transformative learning ⟵⟶	Story reconstructing

Source: From Learning Through Storytelling in Higher Education (p.47) by J. McDrury and

M.Alterio, 2003, Sterling, VA: Dunmore Press Limited.

McDrury and Alterio (2003) summarize that if educators and students practice reflective

learning through storytelling, the end result will be learning that is more meaningful, challenging

and stimulating. In addition, reflective learning through storytelling offers the additional benefit

of creating transformative self knowledge and personal growth. By sharing stories and listening

to others, students process information on a deeper and more meaningful level thus constructing

new knowledge and practices.   For these reasons, McDrury and Alterio conclude that

storytelling is a theory of learning all by itself.

In summary, the merits of storytelling as an effective teaching and learning strategy are

well documented. As stated by Caine et al. (2005) "there is a notable difference in the

engagement of students (at any age) between when a story is told and when facts are simply

presented" (p.124). Furthermore, neuroscience research confirms that the human brain is wired

to organize, retain and access information through story and that every human relationship and experience is recorded in the mind as a story (Caine et al.).

Studies on Storytelling

Research on the effectiveness of storytelling in today's classrooms remains limited (Mello, 2001). Due to the majority of storytelling applications taking place with younger learners, most of studies conducted have been with elementary age school children. However, several studies have been found that provide substantial support for storytelling as a teaching and learning technique. The first study to be examined was a qualitative study conducted by Robin Mello (2001), Professional Storyteller and Associate Professor in the College of Education at the University of Wisconsin-Whitewater. The results have since been published in the International Journal of Education & the Arts. The focus of this study was to investigate the impact of prolonged exposure to narrative storytelling had on the overall development and learning of a group of 4th grade students. The second study to be discussed examines the impact of storytelling on Stanford MBA students as compared to four other teaching methods (Martin and Powers, 1983) as published in the text *Psychological Foundations of Organizational Behavior* (Staw, 1983).

Mello (2001) conducted her research by exposing her subjects to bi-monthly storytelling sessions over the course of a full nine month school year. Data was gathered through in-depth interviews with each of the participants after each of the storytelling sessions. The stories presented were varied including old folk tales, hero-based stories, conformist and nonconformist character stories, and other stories selected for their ethical content as it related to specific course lessons.

The conclusions of this study were based on the information provided by the students during the multitude of interviews conducted by the researcher. In regard to general student opinion, the students found storytelling to be enjoyable, entertaining and interesting. And, as mentioned earlier in the section of storytelling models, students appeared to place more emphasis on how the story was told over content in terms of it holding their interest and attention (Mello, 2001). In the initial part of the study, students' reactions were more on the surface level in regard to the content, plot, and so on. However, as the study progressed, the researcher reported that students were reacting on a much deeper level revealing more reflection and critical analysis of the information inherent in the story. Additionally, students began reacting on a much more emotional level linking their emotional responses with their thinking or cognitive abilities. Students reported vivid visual imagery that revealed immersion in the story itself as well as statements showing how they were linking new information to previously learned knowledge. Mello reports that students displayed evidence of transformational connections as they learned more about themselves and others. Moreover, the students revealed improved overall learning comprehension, listening skills and improved interactions with other classmates and adults.

Mello's findings in this research are highly indicative of the learning theories presented earlier in this chapter. In particular, the Reflective Learning through Storytelling Model presented by McDrury and Alterio (2003) is evident in how the students progressed from their initial reactions towards making deeper understandings and personal associations as they reflectively engaged in critical analysis and changed behaviors/knowledge about themselves and others. Similarly, the brain-based learning theories are supported in the findings of this study in that students reported being more at ease in their classroom (relaxed alertness), the level of immersion in course content creating active visual imagery, and the active processing of the

stories by the students resulting in various levels of self reflection, transformation, and improved

overall learning of the material being taught.

In light of several other qualitative studies revealing the nature of storytelling in

organizations, Joanne Martin and Melanie E. Powers, professors of Organizational Management

at Stanford University conducted two scientific studies in 1983 to prove or disprove the effect of

organizational storytelling on employee trust and commitment to organizational values, policies

and product. Their experiments set out to prove or disprove that storytelling will improve

employee commitment to organizational philosophies and that stories will be more persuasive or

effective in producing this commitment than other forms of information.

Both studies included Stanford MBA students as the subjects of the study (Martin and

Powers, 1983). In each study the students were provided with an organizational philosophy

statement. Then the students were divided into three groups depending on how they were

presented with additional supportive information of the given philosophy statement. In one

group, the subjects were given a story, in another group, the subjects were provided only with

statistical data, in the third group, the subjects were given both the data and the story.

The first of the two studies involved an advertisement for a winery that claimed it used

many of the same processing techniques as wineries in France and was therefore, the same in

quality to European wine. To support this claim, the three groups of students were provided with

either a story revealing the family history of winemaking and how they decided what process to

use, or data portraying a table of information comparing various winemaking recipes, or they

received both the story and the data to further explain why this was supposedly true. The

hypothesis of the study was that the story by itself would have the greatest impact followed by

the story/data combination and then the data only information. The results revealed the

hypothesis to be true. The students who read the story only were more likely to believe that this

winery would continue to make wine as they professed they would and they were also more likely to believe that the winery was providing legitimate information.

In the second study by Martin and Powers (1983), the subjects were provided with a company policy statement that promised it would avoid mass layoffs in the face of company economic difficulties by requesting that employees concede to a 10% cut in pay instead. Again, the subjects were divided into three groups where one group was provided with a story to back up this promise, the second only a table of statistics revealing turnover and past pay-cuts with the third receiving both pieces of information provided to the first two groups. As predicted in the experiment's hypothesis, the first group that read the story only was more likely to believe that they company's policy was truthful and that the company would avoid any mass layoffs. The group exposed to the story only also indicated the most commitment to such an employer in that they would need to have a significant raise in salary before they would leave for a similar job in another company.

Marin and Power's (1983) studies on storytelling reveal the enormous power that stories have in organizations with respect to employee commitment and trust. Stories alone prove to produce an audience who is more likely to believe a message and/or commit to the values inherent in the story. This also speaks well to using storytelling as a learning tool to emphasize various academic theories and other factual information and to possibly improve student motivation to learn new information and practice new skills. Furthermore, the results of these experiments reveal the transformative nature of storytelling as previously discussed by Rossiter (2002), Heo (2003) and McDrury and Alterio (2003). However, Martin and Powers caution the use of storytelling as a leadership tool in organizations because it has the potential to be abused if applied only for organizational propaganda or other unethical motives due to its influential strengths.

Conclusion

The literature review includes a multitude of information about the history of storytelling, current trends in storytelling, definitions of storytelling, and various storytelling models and learning theories. Particular emphasis was placed on the learning theories and past studies on storytelling as learning and teaching method because the objectives of this research study are based upon this information. It is highly evident that storytelling has played a core role in human lives and cultures that has been and remains central to the human experience today. Research confirms that it is undoubtedly an effective means of conveying and learning new information and educational theorists agree that storytelling is our fundamental human way of making meaning of our lives and experiences.

Educational researchers offer a number of perspectives on why and how storytelling is a successful learning and teaching tool. In particular, Caine et al. (2005) promote storytelling in today's classrooms because it links well with brain-based and neuroscience research on how the brain learns best. McDrury and Alterio (2003) espouse the merits of storytelling as a successful exercise in reflective learning thus making it especially useful as an experiential learning tool. They add that storytelling is a theory of learning in and of itself. Erickson and Rossi (1976), explain the virtues of storytelling in terms of its' ability to create a trance-like state or state of learner openness that promotes processing new information on a deeper, more meaningful level. Most theorists tend to agree that storytelling offers the opportunity for improved learner engagement, information processing, and information retention over other more traditional forms of teaching and learning.

Several studies were discussed on storytelling that underscores the transformational aspect of storytelling and the ability of storytelling to promote reflective learning. In particular, the study by Mello (2001) related well to and reinforced the reflective learning theories offered

by McDrury and Alterio (2003) and the brain-based learning theories discussed by Caine et al.

(2005). The Stanford studies emphasized the high degree of transformative power that

storytelling can have which coincides well with the theories offered by Erickson and Rossi

(1976) and those of Rossiter (2002) and Heo (2003).

Chapter III: Research Methodology

Introduction

The purpose of this study was to research and determine the impact of storytelling as a

teaching and learning method on the learning and information retention of adult students who

were enrolled in the Supervisory Management Program at Western Wisconsin Technical College

(WWTC). The type of storytelling used was oral narration of a sequence of events that are

designed to teach specific parts of course content within one class session of the Human

Resources Management course.

The following sections offer a detailed account of the participants in the study, the

instruments that will were used, the data collection procedures, how the data was analyzed, and

the limitations of the study.

Subject Selection and Description

The participants in this study were adult students enrolled in the Human

Resources Management course within the Supervisory Management Program at WWTC. The

reason that these subjects were selected is because these students are accustomed to a variety of

brain-based learning and teaching strategies as these practices form the basis for the definition of

their program being an accelerated program. Training programs offered in an accelerated format

involve the use of highly interactive or brain-based teaching methods to improve the quality and

quantity of learning within a shortened time-frame as compared to traditional training programs

and teaching methods. As cited in Chapter 2, storytelling is considered a comprehensive

accelerated/brain-based teaching method. Additionally, the students in the Supervisory

Management program tend to be older than those found in the traditional programs and this

factor allows the results of the study to be more transferable to private industry training settings.

The Human Resources Management course is part of a sequence of evening courses offered in

the Supervisory Management Associate degree program. Furthermore, the instructor of record recommended these students and this course for the study because it met the time frames of the study and the topics lent themselves well to storytelling activities. The particular course lesson associated with the study was on the topic of employee selection and interviewing.

There was a minimum of 14 and a maximum of 17 students participating in the study with approximately 25% of the class being male and the other 75% female. The majority of these adult learners are employed in a variety of industry settings including manufacturing, retail, hotel/restaurant management, health services, transportation and other service based organizations. Approximately 43% of the students were between the ages of 18-25 with and 57% were 26 years of age or older. Ninety-three percent are employed and 64% of these are employed in managerial positions. The majority of students have enrolled in the Supervisory Management program to improve employment opportunities with their current employer or other opportunities in the regional job market. Each of the participants had completed at least one full semester of the Supervisory Management Program.

Classroom Procedure

To analyze and describe the impact on learning and perspectives of narrative storytelling on adult students, a lesson plan was developed on the subject of employee selection and interviewing that employs storytelling as the primary teaching method. The researcher used the storytelling model discussed by McDrury and Alterio (2005) in that the setting was a formal classroom, there were multiple listeners and the stories were predetermined and spontaneous. In addition, elements of Heo's (2004) storytelling model were duplicated in terms of requiring a response story from the students during their small group breakout sessions.

Prior to the lesson, students participated in a short pretest to measure any prior learning and/or previously held beliefs and opinions. A series of four short stories were told by the researcher that related to the course lesson. Each of the four stories had one or more specific lessons contained within them that were relevant to the subject of employee selection and interviewing. The first story entitled 'Grocery Store Rob' related the concept of not overlooking employees for future positions of responsibility that have made mistakes on the job. The second story entitled 'Bad Hire Brenda' emphasized the importance of making hiring decisions based upon factual information and specific procedures versus making decisions based upon emotions. This story also conveyed the risks of hiring overqualified candidates for entry level positions. The third story was a fable entitled 'Gregory the Goose' taken from *Tales for Change* (Parkin, 2004). This story related a tale of how leaders can come from many places within an organization and the potential risk employers have of losing potentially effective leaders to other organizations when their skills go unrecognized. The last story was an actual news story the researcher entitled 'The Basketball Player' that underscored the importance of not discriminating against people who have disabilities and how easily employers unknowingly do this. Once these stories were told, students were divided into four small groups to share their own stories relevant to the course lesson. Subsequent to the storytelling activities, students were encouraged to participate in a class discussion about the content of this learning activity. Immediately following the discussion, students completed a reaction survey to measure their opinions and gauge their overall experience of storytelling as a teaching and learning tool. A post-test was administered a week later to both groups asking them to recall the information taught and explain how they would apply this new knowledge in their work settings.

Instrumentation

Three instruments were developed to measure the effectiveness of storytelling as a

teaching and learning strategy for adult learners. These include an opinion/reaction survey to

measure student perceptions, a pre and post-test of course content and observer ratings of

classroom behavior. The format of these instruments and classroom procedures were reviewed

with the instructor of record and the research advisor prior to their use.

An opinion survey was administered to measure learner reaction and opinion of their

experience with storytelling as a primary teaching strategy. The survey was relatively short and

used a five point Likert scale of measurement with a measure of one being strongly disagree and

five being strongly agree. This instrument was created by the researcher to measure the level of

reflective, transformational, and experiential learning so these results could be compared with the

learning theories discussed in Chapter 2. Among others, some of the items measured include

learners' ability to visualize the content being taught, the learner's opinion of the effectiveness of

the storytelling activity, the learner's ability to change previously held ideas/beliefs, and the

learner's ability to identify with the information taught. The higher the rating the higher the

learner satisfaction, learner engagement, and level of reflective, transformational and experiential

learning. Measures of reliability or validity are not available as this survey was designed

specifically for this study. A copy of the opinion/reaction survey can be found in Appendix A.

An objective pre and post-test covering lesson content was administered to measure

information retention and gauge the learner's ability to apply the information learned to their

respective workplaces. This test allowed the researcher to measure levels of learning and

information retention on the specific lessons inherent in the stories shared relevant to the subject

of employee selection and interviewing. Again, this test was created specifically for this study

and measures of validity and reliability are not available. A copy of the pre and post tests can be found in Appendix B and C.

Lastly, researcher observations of subject behaviors allowed for some measurement of learner engagement. Learner engagement reveals if students were paying attention and feeling connected to the content of the lesson and the stories shared. Learner engagement is evident when students volunteer comments, questions, or their own response stories as well as the length of class and small group discussions. Observations took place during the course lesson and during the subsequent class discussions. Observation ratings included a count of questions asked by the learners, the number of learners asking questions or offering comments, relevance of stories shared, and the overall length and quality of class discussion following the storytelling or lecture learning activity.

A research matrix was developed that reveals how each of the six objectives are measured by one or more of the survey questions, the pre and post-test results and researcher observations. A copy of this matrix can be found in Appendix D.

Data Collection Procedures

The three instruments of measurement were administered as follows:

1) Opinion survey was administered immediately following the class discussion of the course lesson for utilizing storytelling as the principle teaching method.

2) A pretest on course content was administered prior to the course lesson and a post-test was administered one week after the lesson is taught.

3) Observer ratings were documented during the course lesson and subsequent class discussions.

Data Analysis

The data gathered from each of the measuring instruments was analyzed relevant to the level of data produced and according to the goals of measuring the amount of learning and the other specific research objectives. The data produced is both ordinal and interval in nature. Ordinal data was produced by the Likert ratings in the opinion/satisfaction survey and was analyzed by identifying the means and standard deviations to reveal central tendencies and variability in terms of how similar or dissimilar the opinions/reactions were between subjects. The tests of course content produced interval data which allowed for group comparisons of the mean, standard deviation, correlation coefficient, and a t test for non-independent means to establish the statistical significance of the differences. The pre and post-test results provide a comparison of scores between two sets of scores for each subject. Therefore a t test for non-independent means is effective in analyzing two sets of data for the same group of people when grouped by matched pairs; the matched pairs being the total score on the pre-test prior to being exposed to storytelling and the total score on the post-test subsequent to the storytelling activity. The pre and post-test results were also analyzed by frequency data to establish mean scores and standard deviations. Demographic information was revealed in raw numbers (n) and percentages while observer ratings were discussed in a descriptive/narrative context.

Limitations

The results of this study may be influenced by the following factors:

1) This study was confined to adult learners who are already familiar with and immersed in a variety of brain-based learning and teaching activities. As a result, these learners may already have high expectations that any learning lesson employ the use of more interactive teaching methods. Their opinions/reactions to the storytelling activity may be overly favorable or critical as a result.

2) This study was limited to adult learners in evening classes who have already put in a full day of work with their employer and who may be less inclined to be as fully engaged in various learning activities as daytime, traditional students who typically have fewer obligations outside of attending classes.

3) This study was limited to a researcher and instructor who are relatively inexperienced with using narrative storytelling as a teaching pedagogy. The effectiveness storytelling as a learning and teaching tool relies heavily on the actual delivery of the story and if this is compromised, the results may be also (Denning, 2001).

4) This study involved an instructor who is very familiar with accelerated/brain-based learning theory. The results of this study may be biased from the instructor's perspective in terms of an overly favorable or critical opinion of storytelling as an effective teaching strategy.

5) The population was limited to one section of 17 adult learners enrolled in the Supervisory Management program at WWTC. Additional studies that include a larger number of respondents may be needed to generalize the results to a larger population of adult learners.

6) The survey instruments were developed by the researcher are therefore limited in terms of ensuring content validity and reliability. The instruments were reviewed prior to their use.

7) The opinion survey provides level one evaluation of the students' learning experience as it relies solely on opinion and personal reaction thus producing subjective data that may tend to be overly positive.

8) The test of course content measured the ability to the learner to apply learned knowledge to their respective work settings by asking them to describe this in writing. Ideally, this research would include subject observation in their actual work settings to measure skills in this area but due to time limitations and other factors, these observations were not possible.

9) Observations of learner engagement were by the researcher who has limited experience with this type of measurement and who may present researcher bias.

Chapter IV: Results

Overview

The purpose of this study was to research and document how storytelling as a teaching

and learning method has an impact on the learning and information retention of adult students

who are enrolled in the Supervisory Management Program at Western Wisconsin Technical

College (WWTC). The results of this study will be reviewed in this chapter. Data and

information found in this study were analyzed in accordance with the research objectives as

stated in Chapter 1. First to be discussed are the demographics of the students who participated

in the storytelling exercise. Next, each item included on the opinion/reaction survey will we

analyzed as will the pre and post-test results as they relate to each of the six stated objectives. In

addition, researcher classroom observations will be generally noted in relationship to several of

the research objectives. Descriptive statistics were used to analyze and compute means and

standard deviations for the opinion/reaction survey. In addition to frequency data, t-tests were

used to measure and examine the relationship between the pre and post-test results.

Demographics

A classroom consisting of 17 adult students participated in the first session of this study

and 14 of these students were present during the second session a week later. Demographic data

was collected during the second session.

Table 1

Respondent's Profile

N=14	N	Percent
Gender		
Male	3	21.4
Female	11	78.6
Age		
18-25	6	42.9
25+	7	57.1
Industry		
Professional and Business Services	2	14.3
Manufacturing	2	14.3
Education		
Hospitality	4	28.6
Business		
Health	3	21.4
Transportation	3	21.4
Government		
Agriculture		
Other		
Job Function		
Management	9	64.3
Non-Management	5	35.7

The majority of students who participated in this study were female making up 78.6 % of

the total. Ages of the respondents was nearly evenly split with six or 43% being 18-25 years of

age and seven or 57% over the age of 26. Students came from a variety of industries with the

28.6% coming from the hospitality industry. Nine or 64.3% of students held management

positions while 5 or 35.7% were in non-managerial positions.

Item Analysis

The results of the reaction/opinion survey and the pre and post-tests can be found in

Tables 2 through 6. The pre and post-test results were also analyzed by learner demographics of

sex and age. Furthermore, the pre and post-tests were analyzed by frequency data and paired

sample correlations. Following Tables 2-6, the results were analyzed according to their

relationship with each of the six research objectives where additional qualitative information has

been offered to further highlight researcher observations of learning behaviors as they relate to

the areas learner engagement and reflective learning.

Table 2

Reaction/Opinion Survey

Survey Question	N	M	SD
1. The storytelling exercise held my complete attention.	17	4.47	.717
2. Time seemed to go by quickly during this class session.	17	4.29	1.047
3. I could visualize aspects of the story such as characters, setting and/or activities taking place.	17	4.53	.514
4. Using stories gave me deeper insights into the content of today's lesson.	17	4.35	.493
5. I can think of more stories that I am familiar with or have experienced myself that relate to some of the stories told.	17	4.24	.437
6. I believe that I will remember some of these stories and the lessons/implications inherent in them for a long time.	17	4.29	.588
7. I have more empathy/respect/understanding of some of my classmate's viewpoints and experiences upon hearing their relevant stories.	17	3.94	.556
8. I would like to participate in future storytelling activities in this and/or other learning experiences.	17	4.18	.636
9. I believe that I will be able to apply what I learned in today's lesson in various situations in my workplace.	17	4.35	.606
10. I believe that my initial opinions or perspective on this topic has changed as a result of today's lesson.	17	4.06	1.029

Note: Scale Key 5=Strongly Agree 4=Agree 3=Undecided 2=Disagree 1=Strongly Disagree

The opinion/reaction survey measured ten areas that support one or more of the six research objectives. Students rated each item immediately following the storytelling exercise in the first session of this study. Seventeen students completed the opinion/reaction survey according to the scale provided. All but one of the questions held a mean score above 4 or 'strongly agree'. The highest mean scores were associated with questions 1 at 4.47 (engagement) and 3 at 4.53 (visualization) while the lowest mean scores were associated with questions 7 (empathy) at 3.94 and 10 (transformation) at 4.06.

Table 3

Total Pre and Post-test Results Frequency Data/Paired Samples Statistics

Test	N	M	SD
Pre-test	14	2.57	1.22
Question 6	14	2.14	1.02
Post-test	14	3.64	.929
Question 6	14	3.21	.975

Fourteen students participated in the second session of this study and completed both the pre and post-tests. On the pretest, the total mean score was 2.57 out of 5 available points. The post-test mean score of 3.64 revealed a significant difference of 1.07 points indicating very positive results for learning new information and information. Question 6 on the pre and post-test asked an open ended question about how respondents would strive to increase the number of hiring successes or 'hits' and diminish hiring losses. The narrative responses were rated by the researcher on a scale of 1-5 based upon accuracy and quality of answers and relevance to the course material. Again, the respondants revealed marked improvement in their post-test results;

the mean score for pre-test question 6 was 2.14 and the post-test mean was 3.21 for a positive

difference of 1.07.

Table 4

Total Pre and Post-Test T-test Results/Paired Samples Test

Pair	N	M	SD	t-test score
Pre and Post-test Question 6	14	1.071	.829	4.837
Pre and Post-Test Total Score	14	1.071	1.269	3.160

A t-test/paired samples test was conducted to reveal possible levels of significance

between the total pre and post-test results for questions 1-5 and the pre and post-test results for

question number 6 at a 95% confidence interval of the difference. In order for the reported t-test

scores to be considered statistically significant, it needs to be at 2.16 or higher. Thus, total mean

scores of 4.837 for pre and post-test question 6 and a t-test score of 3.16 for questions 1-5

indicate positive levels of significance for these results. Again, this reveals a positive impact on

learning and retention relevant to the storytelling course lesson. However, for the purposes of

discussing age and gender differences in the following two tables, frequency/distributive data has

been used.

Table 5

Total Pre and Post-test Results According to Gender

Pair	N	M	SD
Pre-test	3	1.67	1.528
Male	11	2.82	1.079
Female			
Question 6 on Pre-test	3	2.67	1.155
Male	11	2.0	1.0
Female			
Post-test	3	3.33	.577
Male	11	3.73	1.009
Female			
Question 6 on Post-test	3	3.67	1.528
Male	11	3.09	.831
Female			

The mean scores for females for both the pre-and post test results revealed higher mean scores with the exception of the female mean scores on the pre and post-test question six. Males scored higher on the narrative answer to this question by .5 or higher. These results could be skewed somewhat due to the higher number of females involved in the study. The higher male score on question six may be the result of one or two of the subjects composing a more thorough narrative to this question.

Table 6

Total Pre and Post-test Results According to Age

Pair	N	M	SD
Pre-test			
18-25	6	2.17	1.72
26+	8	2.88	.641
Question 6			
18-25	6	2.17	.408
26+	8	2.13	1.356
Post-test			
18-25	6	3.5	.548
26+	8	3.75	1.165
Question 6			
18-25	6	3.17	.753
26+	8	3.25	1.165

Interestingly, students in the 18-25 age group scored slightly lower on the pre-test,

questions 1-5 but slightly higher question number 6. Post-test results revealed the same; younger

students scored better on question number 6 and slightly lower on the true/false questions in

questions 1-5. The reason the older students scored higher on the first five items may be due to

more work and life experiences.

Research Objectives

Table 7

Learner Engagement

Survey Question	N	M	SD
1. The storytelling exercise held my complete attention.	17	4.47	.717
2. Time seemed to go by quickly during this class session.	17	4.29	1.047
3. I could visualize aspects of the story such as characters, setting and/or activities taking place.	17	4.53	.514
4. Using stories gave me deeper insights into the content of today's lesson.	17	4.35	.493
5. I can think of more stories that I am familiar with or have experienced myself that relate to some of the stories told.	17	4.24	.437
Total	17	4.37	446

Note: Scale Key: 5=Strongly Agree 4=Agree 3=Undecided 2=Disagree 1=Strongly Disagree

The level and nature of learner engagement was measured by the first five survey questions and researcher observations of student's questions and class discussions. Learner engagement received a total mean score of 4.37 on a scale of 1-5 on the opinion/reaction survey. This was the second highest total mean score relevant to the other objectives. Furthermore, the total pre and post test results as documented in Tables 2 and 3 reveal higher mean scores in post-test results and a t-score of significance at the .05 level which may also be a positive indication of learner engagement during the first session of this study.

Table 8

Observations of Number of Students

Item	N	Percentage
Number of students who asked questions or volunteered comments	12	70.5

Out of 17 students, 12 (70.5%) voluntarily asked questions or shared comments and relevant response stories with the rest of the class. A total 15 comments, stories and questions were shared. One of the best indicators of learner engagement is questioning behavior and voluntary class participation (Caine, et al, 2005). However, these results may have been improved somewhat if these activities were not limited by the time constraints in this particular class session.

Table 9

Reflective Learning

Survey Question	N	M	SD
5. I can think of more stories that I am familiar with or have experienced myself that relate to some of the stories told.	17	4.24	.437
7. I have more empathy/respect/understanding of some of my classmate's viewpoints and experiences upon hearing their relevant stories.	17	3.94	.556
10. I believe that my initial opinions or perspective on this topic has changed as a result of today's lesson.	17	4.06	1.02
Total	17	4.07	.507

Note: Scale Key: 5=Strongly Agree 4=Agree 3=Undecided 2=Disagree 1=Strongly Disagree

The ability of learners to engage in reflective learning was measured by three survey questions and researcher observations of student's questions and class discussions. The total mean score measuring the ability of the learner to engage in reflective learning was 4.07. Although this was one of the lower mean scores, it still indicates a positive result in this regard. In particular, question 5 with a mean score of 4.24 may be more revealing as to the depth of reflective learning as a result of the storytelling exercise. Additionally, four students shared their own response stories shared with the rest of the class and many others were shared within small group breakout sessions that were relevant to the course lesson of employee selection and hiring. The response stories were primarily about students' own personal experiences with interviewing and hiring and those they had observed within their own organizations. These shared stories were highly indicative of learning through personal reflection.

Table 10

Learner Transformation

Survey Question	N	M	SD
7. I have more empathy /respect/understanding of some of my classmate's viewpoints and experiences upon hearing some of their relevant stories.	17	3.94	.556
10. I believe that some of my initial opinions or perspectives on this topic have changed as a result of today's lesson.	17	4.06	1.02
Total	17	4.0	.661

Note: Scale Key: 5=Strongly Agree 4=Agree 3=Undecided 2=Disagree 1=Strongly Disagree

The ability of the learner to transform previously held opinions and beliefs concerning

the course material was measured by responses from questions 7 and 10 from the

opinion/reaction survey. The total mean score measuring learner transformation was 4.0, the

lowest mean score relevant to the rest of the objectives. Part of the reason for this may be that

class time was limited and the amount of time that was devoted to the sharing of response stories

was restricted as a result.

Table 11

Learner Transferability

Survey Question	N	M	SD
3. I could visualize aspects of the story such as characters, setting and/or activities taking place.	17	4.53	.514
6. I believe that I will remember some of these stories and the lessons/implications inherent in them for a long time.	17	4.29	.588
9. I believe that I will be able to apply what I learned in today's lesson in various situations in my workplace.	17	4.35	.606
Total	17	4.39	.294

Note: Scale Key: 5=Strongly Agree 4=Agree 3=Undecided 2=Disagree 1=Strongly Disagree

The ability of the learner to transfer learning to the workplace was measured by questions

3, 6, and 9 and the results of the pre and post-test. The total mean score of 4.39 of learner

transferability was the highest cumulative mean score relevant to the other research objectives.

This may be a direct result of the learner being able to visualize the stories told. According to

McDrury and Alterio (2003), the ability of learners to visualize the stories being told is what

contributes to the experiential aspect of storytelling as a teaching and learning method. In fact,

question 3 with a mean score of 4.53 had the highest total mean score of all items on the

opinion/reaction survey. Furthermore, the positive results of the pre-and post-test as indicated in

Tables 3 and 4 support learners' reported ability to retain and apply what they learned in the

work setting.

Table 12

Learner Information Retention

Survey Question	N	M	SD
6. I believe that I will remember some of these stories and the lessons/implications inherent in them for a long time.	17	4.29	.588
9. I believe that I will be able to apply what I learned in today's lesson in various situations in my workplace	17	4.35	.606
Total	17	4.32	.35

Note: Scale Key: 5=Strongly Agree 4=Agree 3=Undecided 2=Disagree 1=Strongly Disagree

The ability of the learner to retain and recall the information learned was measured by

survey questions 6 and 9 and the results of the pre and post-test. The ability of the learner to

retain the information taught through storytelling overlaps somewhat with their ability to transfer

learning to the workplace. A total mean score of 4.32 indicates that learners reportedly believe

they will be able to remember the information learned. However, the results of the pre and post-

tests (Tables 3 and 4) indicated that the learners actually retained and retrieved what they learned

in the course lesson.

Table 13

Learner Opinion of Storytelling

Survey Question	N	M	SD
1. The storytelling exercise held my complete attention.	17	4.47	.717
8. I would like to participate in future storytelling activities in this and/or other learning experiences.	17	4.18	.636
Total	17	4.32	.498

Note: Scale Key: 5=Strongly Agree 4=Agree 3=Undecided 2=Disagree 1=Strongly Disagree

A total mean score of 4.32 indicates an overall positive opinion of the lesson utilizing storytelling as the primary teaching and learning method. However, the mean score of 4.18 may be even more indicative of learner general reaction and opinion to the storytelling activities inherent in this specific lesson.

Chapter V: Summary, Conclusions, and Recommendations

Introduction

Chapter 5 of this research study contains a brief review of the purpose, objectives, and research design utilized in order to gain a more comprehensive understanding of the effectiveness of using storytelling as a teaching and learning strategy in higher education. Central to the discussion in this chapter are the conclusions as they relate to each of the six stated research objectives. Last, further recommendations are outlined for continued study of the impact of storytelling as it relates to other groups of learners and organizations.

Summary

As a result of the rapid pace of change in today's information age, adult learners who are already in or soon to be entering today's job market need to find ways to quickly learn and apply new information in order to stay competitive. No longer is the typical college student 18-25 years old as people are attending in record numbers who are in their thirties, forties and fifties as they strive to maintain and upgrade their skills.

1)Both two and four year colleges have reacted to this change in demographics and demands by offering alternative teaching and learning strategies and shorter-term training programs that are more accessible for the working adult. Once such learning and teaching method that has been receiving increasing interest and attention is storytelling and the sharing of stories to give and receive information. Research on storytelling as an effective learning tool indicates that this learning and teaching method may help students attain their learning goals within the limited time frame available.

Storytelling and its role(s) in society predates written human history as oral storytelling was the only tool available to people to preserve and share cultural customs, beliefs and heritage. Today, neuroscientists are finding evidence that the human brain is 'wired' to receive, store, and

remember information in story format. Thus, storytelling as a teaching pedagogy presents a natural and highly effective approach to teaching, learning and retaining information and one that supports brain-based learning principles and a variety of other learning theories.

The purpose of this study was to research and describe how storytelling as a teaching and learning method has a positive impact on the learning and information retention of adult students who are enrolled in the Supervisory Management Program at Western Wisconsin Technical College (WWTC). To reach this end, a classroom study was conducted in March of 2006.

The research design consisted of exposing one class of 14-17 students to a storytelling exercise that supported a specific course lesson. To measure the effectiveness of the storytelling activity a 10 point reaction/opinion survey was administered subsequent to the class session employing a 5 point Likert scale. To measure information retention, a pre-test was administered prior to the course lesson and post-test was administered one week later on the same items. In addition, researcher observations concerning questioning/discussion behaviors were documented to shed some light on learner engagement. Learner demographics were collected and age and gender were correlated with the pre and post-test results.

Conclusions

The conclusions of this study are presented in association with each of the six stated objectives. Each of the six objectives are measured against specific questions in the reaction/opinion survey, the pre and post-test results, and the researcher observations.

Research Objective 1-To determine learners' level of engagement during the course lesson using a storytelling activity

A number of educational theorists report that one of the primary benefits to using storytelling in the classroom is its ability to fully engage learners on many different levels. In

particular, Caine, et.al, (2005) assert that storytelling immerses the student in the course content in a manner that many other traditional forms of teaching cannot. Erickson and Rossi (1976) contend that as a result of the highly engaging qualities of storytelling, learners are open to new ideas and information. As a consequence, unconscious learning to takes place because they are in a state similar to that of a hypnotic trance. Morgan and Dennehy (1997) report that during a storytelling activity, not only do learners hear the information, but they experience the content on a deeper and richer level through emotional and personal connections and visual imagery. As a result of the variety and levels of engagement in the student's experience, storytelling offers the added benefit of appealing to all learning styles including auditory, visual and kinesthetic and many of the intelligence areas including spatial, linguistic, interpersonal, and intrapersonal intelligence (Caine et al.).

This research study measured learner engagement levels in questions 1-5 on the opinion/reaction survey and researcher observations of questioning behavior and discussion levels. A total mean score of 4.37 on a scale of 1-5 indicates high learner engagement levels. Learner engagement levels were the second highest measure as compared to the other five areas measured. In particular, the mean score of question 3 regarding visualization held a mean score of 4.53, the highest mean score among all individual questions on the opinion/reaction survey. This underscores the visual imagery aspect of storytelling and its ability to engage learners.

In addition, learner engagement levels were measured by researcher observations in regard to the frequency of questions asked, voluntary comments and response stories. A total of 15 questions, comments and response stories were shared from 12 or 70.5% of learners. Above all, the response stories were clearly revealing of learners who were engaged in the content of the course lesson as they shared their own personal experiences with employee selection, hiring and interviewing.

Research Objective 2- To determine the ability of the learner to engage in reflective learning as a result of the storytelling exercise.

McDrury and Alterio (2003) in their book, *Learning through Storytelling in Higher Education,* appear to be the primary proponents of storytelling as an exercise in reflective learning. They define reflective learning as "a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations" (p. 21). McDrury and Alterio offer a five stage model to further explain how reflective learning takes place through storytelling activities. Inherent in this model is how students obtain deeper and richer meaning of new information being taught as they construct and reconstruct stories told to them and those of their own that they share with others.

This research study measured the amount of reflective learning taking place through questions 5, 7, and 10 on the reaction/opinion survey and through researcher observations of stories told in the small group break out sessions. The total mean score measuring the amount of reflective learning was 4.07 indicating a positive result. Question 5 with a total mean score of 4.24 measured to the learners reported ability to think of more stories that related to the lesson. Learners demonstrated the ability to engage in reflective learning during small group break out sessions as they told their response stories to each other and then to the class at large. The response stories, as in the discussion of learner engagement, are also evidence of reflective learning.

Research Objective 3-To determine the ability of the learner to transform previous held opinions or perspectives as the result of the storytelling exercise.

The five stage model of reflective learning offered by McDrury and Alterio also speaks to the transformative effect of storytelling (2003). In particular, stage five of this model referred to as 'story reconstructing' involves more self awareness as students learn more about how their

own experiences have shaped their ideas and behaviors and solutions and outcomes are evaluated from a variety of perspectives. As a result, students are likely to experience a transformation of previously held beliefs and ways of behaving. Rossiter (2002) and Heo (2003) also highlight the transformative nature of storytelling stating that stories link the familiar to the unfamiliar and thus provide an opening for personal growth and change. Rossiter claims that transformative learning is particularly powerful through the sharing and interpreting personal life stories where students become more empowered by and evaluative about their own experiences and are better able to achieve positive changes. Similarly, Mello (2001) in her research study on storytelling with elementary aged students reported that students displayed evidence of transformational connections as they learned more about themselves and others.

This research study attempted to measure the transformational learning in questions 7 and 10 on the opinion/reaction survey and through researcher observations of the content of personal stories told in the small group break out sessions and the reactions these stories appeared to evoke in others. The total mean score on the reaction/opinion survey for measuring the transformative nature of the storytelling exercises revealed a score of 4.0 indicating a positive result. Question 7 discussed the amount of empathy and understanding students gained for each others' viewpoints as a result of the storytelling exercise. The total mean score of this question was the lowest among those on the opinion/reaction survey with a mean score of 3.94. While this is still a positive score, it may have been improved somewhat if the response stories were not limited due to time constraints. However, the stories that were shared were of a personal nature revealing student's own experiences with hiring, interviewing within their own organization and their own efforts in looking for work which aligns well with the transformative theories offered by Rossiter (2002) and Heo (2003).

<u>Research Objective 4-To determine the ability of the learners exposed to storytelling transfer</u>

<u>learning to real work settings.</u>

A number of educational theorists emphasize the experiential effect of storytelling on its

learners or audience. Rose and Nicholl (1977), report that the vivid images stimulated by

storytelling engage students as active participants in the storytelling process. They add that

when learners are engaged in this manner, they improve their ability to apply what they have

learned in a real work setting. McDrury and Alterio (2003) promote storytelling as a teaching

method to employ with young professionals for this same reason. They report that learning

through storytelling offers a vehicle for students to be exposed to practitioner's tactic knowledge

or the kind of knowledge that comes from experience. Furthermore, storytelling as a teaching

and learning practice offers professionals a way of making sense of complex and diverse

situations encountered in everyday practice. Likewise, Caine et al. (2005) add that the active

processing involved in storytelling accounts for the ability of learners to apply information

taught through storytelling in a real life context.

This study measured the ability of learners to transfer information learned through

storytelling to their real work settings based upon their responses to questions 3, 6, and 9 on the

opinion/reaction survey and the results of their post-test. The primary limitation to measuring

learner's transferability is that the opinion/reaction survey merely measures their reported

opinion of their ability to transfer new knowledge to the work setting.   The total mean score for

learner transferability was 4.39, the highest among all other areas measured indicating a positive

result. However, the post-test results provide more objective information are thus more

indicative of the learners' ability to apply what they learned in the workplace. In particular,

question 6 on the pre and post-test asked to students to explain how they would increase the

number of hiring successes and decrease the number of hiring losses in their own workplaces.

The total mean score of the post test on this question was 3.21 a 1.07 increase over the pretest

results indicating that students demonstrated improvement in how they would apply what they

learned in the workplace versus simply self reporting this same information.

Research Objective 5-To determine the level of information retention that has taken place as a

result of storytelling.

Another primary benefit to using storytelling as a teaching method is its ability to

improve learner information retention. Caine et al. (2005) assert that the visual imagery created

and the emotions evoked through storytelling are the key elements that contribute to longer term

information retention. Neuroscience research confirms that emotions and memory are strongly

linked together because learning experiences associated with emotions are more easily stored and

retrieved (Morgan, 1997; Perry, 2000; Weiss, 2000). A number of other educational theorists

agree that because storytelling is often an entertaining, visual, experiential, and emotionally

evoking activity, students are much more likely to retain the course content taught in story

format settings (Denning, 2004; Kaye & Jacobson, 1999; Morgan & Dennehy, 1997; Richter &

Koppett, 2000). The National Council of Teachers of English position statement from "Teaching

Storytelling" (2005) effectively summarizes the benefits of storytelling in terms of imagery and

retention: "Teachers discovered that children could easily recall whatever historical or scientific

facts they learned through story. Children realized they made pictures in their minds as they

heard stories told, and they kept making pictures even as they read silently to themselves" (p.1).

This study measured the ability of learners to retain the information taught through

storytelling in questions 6 and 9 of the opinion/reaction survey and the post-test results. Again,

the opinion/reaction survey only measures reported opinion of information retention whereas the

post-test provides actual ability to retrieve the information taught. The pre and post-test results

indicate a positive level of significance at the 95% confidence level with a paired samples t-test score of 4.8 on question 6 and a t-test score of 3.1 on the pre and post-test results. According to frequency data, the post test results revealed increased mean scores of 3.21 on question 6 and 3.24 on questions 1-5, a full point above the pre-test results.

The opinion/reaction survey results showed a total mean score of 4.32 also revealing positive results for student's reported information retention. Interestingly, when asked during the second session of this study which stories were the most memorable, slightly more than half of students remembered the story of "Grocery Store Rob", a story about a devoted employee who made a significant error costing his employer a potentially large sum of money only to find himself still working there in an upper executive position many years later. A likely reason this story was remembered the most is because it was told with pauses, questions, and more emotion than some of the others. The emotions that this story and several others evoked were likely to be the primary reason for student's retention of this story and the lesson within it. This underscores the impact that emotions have on information retention and learning in general as discussed by several educational theorists in Chapter 2.

Research Objective 6-To determine learners' perception/opinion of using storytelling as an effective teaching method for those students exposed to storytelling as the primary teaching method.

Above all, this research objective is concerned with the learner's opinion of the particular course exercise that they were exposed to in this study. These results portray, to some extent, the storytelling and teaching effectiveness of the researcher as well as the selection of those stories that were told. Additionally, these results will verify or nullify those conclusions of educational theorists that stories are entertaining, interesting and engaging learning activities to employ in today's classrooms.

This research study measures the learners' perception of storytelling as an effective learning and teaching method in questions 1 and 8 of the opinion/reaction survey. The total mean scored for measuring student's perception in this regard was 4.32 indicating an overall favorable impression of the storytelling activities within this particular course lesson. Furthermore, several students offered written and verbal comments such as:

- I always like stories

- Wonderful class experience

- It was interesting getting the viewpoints of someone who has experience hiring and interviewing

- Thank you! Very interesting

Conclusion

The results of this study indicate strong support for the use of storytelling as a teaching and learning method. The opinion/reaction survey, the pre and post-test results and the researcher observations indicate that when learners are exposed to storytelling in a classroom setting they are highly engaged in the learning process and are practicing reflective learning as they process information on a deeper, more meaningful level. Furthermore, learners displayed evidence of transformational learning and the ability to transfer and possibly apply the information learned to the workplace. Even more, the learners in this study revealed the capacity to retain and retrieve the information learned through storytelling one week after the initial lesson. In terms of the learners' opinion of using storytelling as a learning method, the results revealed a positive experience with this particular exercise. As stated earlier, much of the success of using storytelling as a teaching pedagogy relies on the storytelling skills of the storyteller and the relevance of the stories to the content of the course lesson.

Recommendations

This study researched and studied the effectiveness of using storytelling as an instructional method with adult learners enrolled in a technical college program. After realizing the many benefits of using storytelling as a teaching and learning method, a number of recommendations are offered for future study that are related to but outside of the parameters of this study that may yield some interesting results for individual learners, educators/trainers and a variety of organizations in general. Recommendations for future study are as follows:

1) Study the impact of storytelling as a coaching/mentoring strategy with new faculty and/or staff within the technical college or other institution of higher education. The merits of storytelling as an experiential teaching method and leadership development tool support this strategy and it may be an effective approach when on the job training or demonstrations are not always possible.

2) Compare the effectiveness of storytelling between two groups of adult learners; one in a traditional technical college course and the other in a traditional liberal arts course within a four year college.

3) Replicate this study within a business organization and research the effectiveness of storytelling as a teaching and learning strategy in industry based training and compare the results with this study.

4) Study the impact that storytelling has on organizational development when an organization is faced with significant organizational change.

5) Study how storytelling impacts organizational strategic planning processes and outcomes as well as buy-in to organizational mission, values, and vision.

6) Repeat this study in a different content area and/or program area and compare the results with this study.

References

Abrahamson, C. (1998). Storytelling as a pedagological tool in higher education. *Education.*

118(3). Retrieved October 7, 2005 from the Ebsco Host database.

Boud,D., Keogh,R. & Walker, D. (1985) *Reflection: Turning experience into learning.*

London: Kogan Page.

Caine, R.., Caine, G., McClintic, C., & Klimic, K. (2005). *Brain/mind learning principles in*

action. Thousand Oaks, CA: Morgan Press.

Denning, S. (2001). *The springboard. How teaching ignites action in knowledge-era*

organizations. Woburn, MA: Butterworth-Heinemann.

Denning, S. (2004). The power of storytelling. *Knowledge Management, 7(4),* Retrieved May

29, 2005 from the Ebsco Host database.

Denning, S. (2005). *The leaders guide to storytelling.* San Francisco, CA: Jossey-Bass.

Dwyer, B. (2002). Training strategies for the twenty-first century: using recent research on

learning to enhance training. *Innovations in Education and Teaching International.*

Retrieved June 6, 2006 from http://www.tandf.co.uk/journals.

Erickson, M., & Rossi, E. (1976). *Hypnotic Realities.* New York: Irvington Publishers.

Fryer, B. (2003). *Happy tales: CEO as storyteller.* Working Knowledge for Business.

Retrieved June 1, 2005 from

http://www.hbsworkingknowledge.hbs.edu/pubitem.jhtml?id=3583&t=organizations

Heo, H. (2004). *Inquiry on storytelling fro the web-based environmental learning*

environment. Association for Educational Communications and Technology. Retrieved

October 7, 2005 from Ebsco Host database.

Kaye, B, & Jacobson, B. (1999, March). True tales and tall tales the power of organizational

    storytelling. *Training & Development.* Retrieved May 31, 2005, from Ebsco Host

    database.

Kinsella, M. (n.d.) *Storytelling=intelligence, x knowledge squared.* Brain Power of Storytelling.

    Retrieved October 1, 2005 from

    http://www.marilynkinsella.org/Brain%20power%20of%20Storytelling.htm

Kinsman, M. (2005, January 30). Effective presentations are more than just charts and slides.

    California Job Journal. Retrieved June 1, 2005 from

    http://www.jobjournal.com/thisweek/asp?artid=1341

Kouzes, J., & Posner, B. (2003). *Encouraging the heart.* San Francisco, CA: Jossey-Bass.

McDrury, J., & Alterio, M. (2003). *Learning through storytelling in higher education: Using*

    reflection and experience to improve learning. London, UK; Sterling, VA: Kogan Page

    Limited.

Martin, J., & Powers, M.E. (1983). The effect of organizational storytelling on employee trust

    and commitment. In B.M. Staw (Eds.) *Pyschological foundations of organizational*

    behavior. Santa Monica, CA: Goodyear Publishing Company.

Mello, R. (2001, May 1).The power of storytelling: how oral narrative influences children's

    relationship in the classroom. *International Journal of Education and the Arts, 9(2).*

    Retrieved June 7, 2005 from the Ebsco Host database.

Merriam-Webster Dictionary (2005). *Merriam-Webster Online.* Retrieved June 7, 2005

    from http://www.m-w.com

Moon, J. (1999). *Reflection in learning and professional development.* London: Kogan Page

    Limited.

Morgan, S. & Dennehy, R., (1997). The power of organizational storytelling: a management

development perspective. *Journal of Management Development, 16 (7),* Retrieved May

29, 2005, from Ebsco Host database.

Parkin, M. (2004). *Tales for change.* London, UK; Sterling, VA: Kogan Page Limited.

Peace, T., Mayo, K., & Watkins, R. (1998). Becoming consumers of our own research: what

really makes a difference in learning. *Journal of the Southeastern Regional Association

of Teacher Educators.* Retrieved June 1, 2005 from the Ebsco Host database.

Perry, B. (2005). How the brain learns best. *Scholastic Inc, 110(4).* Retrieved June 1, 2005 from

the Ebsco Host database. *Psychological foundations of organizational behavior*

Richter, M. & Koppet, K. (2000). *How to increase retention through storytelling.* StoryNet.

Retrieved June 1, 2005 from

http://www.thestorynet.com/articles_essays/retention_article.com

Richter, M. & Koppet, K. (2000). *How maximize training efficiency through storytelling.*

StoryNet. Retrieved June 1, 2005 from

http://www.thestorynet.com/articles_essays/retention_article.com

Richter, M. & Koppet, K. (2001). *Training and performance and/or team and organization

development sourcebook.* New York, NY: McGraw Hill.

Rose, C. & Nichol, M.J. (1997). *Accelerated learning for the 21st century.* Dell Publishing:

New York.

Rossiter, M. (2002). Narrative stories in adult teaching and learning. *Eric Digest.* Retrieved

June 1, 2005, from Ebsco Host database.

Senge, P. (1990). *The fifth discipline, the art and practice of the learning organization.*

New York: Currency Doubleday.

Teaching storytelling. (n.d.). National Council of Teachers of English. Retrieved June 7, 2005

from http://www.ncte.org/about/over/positions/category/lang/107637.htm?source=gs

Training, 38(3). (2001). *Once upon a time.* Retrieved May 29, 2005, from Ebsco

Host database.

Turner Learning, Inc. (n.d.). *Teaching with stories.* Retrieved June 1, 2005 from

http://www.turnerlearning.com/turnersout/storytelling/brain.html

Vance, C.M. (1991). Formalizing storytelling in organizations: a key agenda for the design of

training. *Journal of Organizational Change Management,* 4 (3). Retrieved June 5, 2005

from the Ebsco Host database.

Walsh, D. (2002*). An analysis of the competencies that instructors need to teach using

accelerated learning.* Unpublished masters thesis, University of Wisconsin, Stout,

Menomonie.

What is experiential education. (n.d.). Association for Experiential Education. Retrieved June 5,

2005 from http://www.aee2.org/customer/pages.php?pageid=47

What use is storytelling. (n.d.) Retrieved October 1, 2005 from

http://www.arts.gla.uk/STELLA/STARN/jounal/stories.htm

Weiss R. P. (2000, July). The wave of the brain. *Training and Development.* Retrieved June 5,

2005 from Ebsco Host database.

Wisconsin Technical College System (2005). *How to become certified.* Retrieved June 5, 2005

from http://systemattic.wtcsystem.org/certification/Cert/Become/become.htm

Appendix A: Opinion/Reaction Survey and Confidentiality Statement

Storytelling Activity Review

Supervisory Management Program
March, 2006

Questions: Please read each question and mark to box that matches your response to the right of each question.	Strongly Agree	Agree	Un-decided	Disagree	Strongly Disagree
1. The storytelling exercise held my complete attention.					
2. Time seemed to go by quickly during this class session.					
3. I could visualize aspects of the story such as characters, setting and/or activities taking place.					
4. Using stories gave me deeper insights into the content of today's lesson.					
5. I can think of more stories that I am familiar with or have experienced myself that relate to some of the stories told.					
6. I believe that I will remember some of these stories and the lessons/implications inherent in them for a long time.					
7. I have more empathy/respect/understanding of some of my classmate's viewpoints and experiences upon hearing their relevant stories.					
8. I would like to participate in future storytelling activities in this and/or other learning experiences.					
9. I believe that I will be able to apply what I learned in today's lesson in various situations in my workplace.					
10. I believe that my initial opinions or perspective on this topic has changed as a result of today's lesson.					

Comments:

Voluntary participation and confidentiality statement:

I understand that by returning this questionnaire, I am giving my informed consent as a participating volunteer in this study. I understand that the basic nature of the study and agree that many potential risks are exceedingly small. I also understand that potential benefits might be realized from this study. I am aware that the information is being sought in a specific manner so that no identifiers are needed and so that confidentiality is guaranteed. Your name will never appear in the compiled results and once the report is summarized, individual responses will be destroyed. I realize that I have the right to refuse to participate and that my right to withdraw from participation at any time during the study will be respected with to coercion or prejudice.

Thank you for completing this survey and participating in the storytelling project.

Sincerely,

Jill Eck

Note: Questions or concerns about participation in this research or subsequent complaints should be addressed first to the researcher, Jill Eck (507) 895-6939 or research advisor, Dr. Howard Lee (Leeh@uwstout.edu or 715-232-1251) and second to Dr. Sue Foxwell, Research Administrator, UW Stout Institutional Review Board for the Protection of Human Subjects in Research, 11 HH, UW Stout, Menomonie, WI 54751, phone (715) 232-2477.

Appendix B: Pre-test

Employee Selection and Interviewing

Pre-test

Number:_____

Question	True	False
1. Hiring an internal or external applicant who is overqualified for a particular position is likely to yield positive results		
2. An employee who has accidentally cost an employer some significant monetary losses is likely to be a continued liability for that employer		
3. Introverted individuals are equally as likely as their more extroverted counterparts to excel in leadership positions		
4. It is fairly easy to identify internal employees who will do well in leadership positions		
5. Today's employers are likely to judge applicants who have disabilities as less capable in a particular position than equally qualified non-disabled applicants		
6. Please briefly describe some specific strategies you will use to increase the number of hiring 'hits' in your organization:		

Appendix C: Post-test

Employee Selection and Interviewing

Post-test

Number:_____

Question	True	False
1. Hiring an internal or external applicant who is overqualified for a particular position is likely to yield positive results		
2. An employee who has accidentally cost an employer some significant monetary losses is likely to be a continued liability for that employer		
3. Introverted individuals are equally as likely as their more extroverted counterparts to excel in leadership positions		
4. It is fairly easy to identify internal employees who will do well in leadership positions		
5. Today's employers are likely to judge applicants who have disabilities as less capable in a particular position than equally qualified non-disabled applicants		
6. Please briefly describe some specific strategies you will use to increase the number of hiring 'hits' in your organization:		
7. Please state which story is the most memorable to you and why:		

Appendix D: Research Matrix

An Analysis of the Effectiveness of Storytelling with Adult Learners in

Supervisory Management

Research Objectives	Measurements of Research Objectives			
	Survey questions	Researcher Observations	Post-Lesson Quiz	Personal Interview
1. To determine learners' level of engagement during the course lesson using a storytelling activity	1, 2, 3, 4, 5	X	X	
2. To determine the ability of the learner to engage in reflective learning as a result of the storytelling exercise.	5, 7, 10	X		

Research Matrix

3. To determine the ability of the learner to transform previous held opinions or perspectives as the result of the storytelling exercise.	7, 10			
4. To determine the ability of the learners exposed to storytelling transfer learning to real work settings.	3,6,9		X	
5. To determine the level of information retention that has taken place as a result of storytelling.	6,9		X	
6. To determine learners' perception/opinion of using storytelling as an effective teaching method for those students exposed to storytelling as the primary teaching method.	1, 8			
7. To determine the teacher's perception and experience of storytelling as a teaching strategy.				X

Appendix E: Session One Lesson Plan

Lesson Plan for Storytelling Thesis Research

1. Introduction

2. Pretest

3. Stories

        A. Grocery Store Rob

        B. Bad Hire Brenda

        C. Gregory the Goose

        D. Basketball Player

4. Small groups (number 1-4): Tell your story of a hiring miss or hit

5. Each group select one story to tell to whole class

6. Opinion/reaction survey

Appendix F: Small Group Exercise Handout

Storytelling
Small Group Activity

Directions: Break into small groups and tell one story of a hiring 'hit' or 'miss' that you know about or have experienced and are willing to share with your small group. Each small group will then choose one story to retell to the class (please change names of the players of your story as necessary for confidentiality).

Think about the following as you tell your story:

Where did the story take place...**setting**	Who was involved... the **players**	What was the dilemma or **problem** to be solved?
What was done to address the problem..**actions**	What **reactions** or feelings were involved?	What **changes** took place as a result or what was the **lesson learned**?