

Gender Specific Learning Styles and the Adult Learner

Approved: Richard A. Rogus Date: 1/20/10

Gender Specific Learning Styles and the Adult Learner

A Seminar Paper
Presented to
the Graduate Faculty
University of Wisconsin-Platteville

In Partial Fulfillment of the
Requirement for the Degree
Master of Science
in
Education

by
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2009

Abstract

This paper explores gender differences in adult learners. The exploration of this topic will begin by briefly examining the adult learner. The paper will then transition into the introduction and explanation of the newest trends of learning. Evaluation will be given to the functions of the brain which has a substantial effect on the many distinct sexual differences between men and women. This project will conclude by illuminating the differences between and woman as it pertains to preference of learning styles.

TABLE OF CONTENTS

	Page
APPROVAL-----	i
TITLE PAGE-----	ii
ABSTRACT-----	iii
TABLE OF CONTENT-----	iv
CHAPTER I: INTRODUCTION-----	1
• Statement of the Problem	
• Purpose of the Study	
• Significance of the Study	
• Assumptions	
• Delimitations	
• Method of approach	
CHAPTER II: REVIEW OF LITERATURE -----	7
• Historic Research	
• The Brain	
• Learning styles	
CHAPTER III: MY FINDINGS-----	16
CHAPTER IV: CONCLUSION-----	17
REFERENCES-----	19

CHAPTER I

INTRODUCTION

The demographic make up of the current student population has changed dramatically by increasing enrollment of adults who have made decisions to return to school and acquire advanced degrees and educational knowledge. Presently adult learners have moved beyond the stigma of being labeled “non-traditional” and have displayed a significant presence in the undergraduate academic population. Institutions have revolutionized their academic programs to accommodate the increasing rate of adult learners. From traditional classroom education to online instruction, college campuses and vocational training programs have made significant strides to make the necessary adjustments to accommodate the educational needs of the economy and the working class citizen in pursuit of educational advancement.

Continuing education is an all encompassing term within a broad spectrum of post-secondary learning activities and programs. Recognized forms of post-secondary learning activities within the domain include: degree credit courses by non-traditional students, non-degree career training, workforce training, formal personal enrichment courses (both on-campus and online) self-directed learning (such as through Internet interest groups, clubs or personal research activities) and experiential learning as applied to problem solving. Distance learning makes it possible to earn degrees without resigning from employment. Many adult citizens presently have complex work schedules

which require that attention be given to work and family. Typically when these citizens begin considering the pursuit of continued education, such circumstances affect the decision to return to school. Institutions with programs that are designed to accommodate work and home schedules usually present the most attractive option for adult learners. Online adult education offers a wide variety of accredited degree programs that are available at ones own pace and from the comfort of ones PC. Degree programs offered range from certificates to associates degrees to bachelor's degrees and even up to doctorates. Best of all, adults can learn when they want without leaving home.

There is an important connection between adult development and adult education. According to Merriam (1984), one of the best-developed theoretical links between the two is the theory of Andragogy. The theory assumes that adults are self-directed, they bring to the classroom life experiences and knowledge, they have learning needs based on social roles, are problem centered, want to use new knowledge immediately, and are motivated to learn internally.

Based on the Andragogy Theory, many learning theories related to adult learning have developed. The newest trends are learning through transformation, self- reflection, life experiences, and, group learning. Learning through transformation is explained by Susan Imel (1998) as an evolvment, "Into a comprehensive and complex description of how learners construe, validate, and reformulate the meaning of their experience" (Cranton 1994, p. 22).

Stephen Brookfield (1995) explains learning through Self-reflection as a process by which adults take control of their own learning, in particular how they set their own

learning goals, locate appropriate resources, decide on which learning methods to use and evaluate their progress.

Group learning requires students to work in groups to solve problems that are authentic and interdisciplinary. The group decides how to approach the problem, and the resources and activities to use. The group also analyzes synthesis and derives knowledge from information they gather. The educator's role in this process is to provide advice and guidance, rather than direct and manage.

Experiential learning is grounded on the belief that adult teaching should be centered on adults' experiences, and that these experiences represent a valuable resource. This can be achieved through the use of games, simulations, case studies, psychodrama, role play and internships. Educator and researcher, Peter Jarvis, a speaker on all aspects of adult education developed a theory about the process of learning through social experiences. According to the learning process model Jarvis considers an experience as a learning process adults need along with a reflective action. Many adults might gain little or nothing from experiences. This can be good or bad, because the experiences turn out to be a routine for that person. Jarvis (1987) set out nine routs of responses for the potential learning situation. He categorized these routs into three levels which are non-learning, non- reflective learning, and reflective learning.

Level One: Non-learning

In the first three routs or choices of the nine routs no learning takes place:

1) **Presumption** people react through mechanical response (like saying hello) or a presumption that what has previously worked will work again.

2) **Non-consideration** when a person does not respond to a potential learning situation.

3) **Rejection** when a person consciously chose to reject the opportunity to learn.

Level Two: Non-reflective learning

The second three routs of the nine include a small amount of learning occurring for the individual:

4) **Pre-conscious** when having experiences in daily living that are not really thought about.

5) **Practice** when a person practices a new skill until it is learned. An example would be training for a particular physical skill or the acquisition of a language.

6) **Memorization** when acquiring presented information the learner learns the information so it can be reproduced at a later time.

Level Three: Reflective learning

The final three routs of the nine considered choices of reflective learning.

7) **Contemplation** when a person thinks about what is being learned.

8) **Reflective practice** when there is reflection prior to an action and during the action.

An example would be problem solving.

9) **Experiential learning** when there is actual experimenting on one's environment. It is postulated this might be the way to learn pragmatic knowledge.

Jarvis's model gives explanation that, adult lifelong experiences can be used as a foundation to build on learning, an adult's self-concept of independence empowers learners, and the development of adults' social roles enhances their motivation to learn.

Purpose of Study

The purpose of this paper is to examine the various functions of the adult learner and the similarities and differences associated with specific gender specific learning styles and abilities.

Significance of the study

Facilitators and educators of adult learners need to be equipped with an assortment of teaching approaches to ensure all students are offered equitable information in order to gain new and applicable knowledge. This study contains research on brain-sex difference in adult learners associated with learning styles.

Assumptions

For the purpose of this paper, it is assumed that all the research reviewed and used was accurately reported. It is assumed that the literature in this paper would offer information on the gender differences in learning.

Delimitation of the Research

The research for this paper was conducted in and through the Milwaukee Public Library located at 814 W. Wisconsin Ave. Milwaukee, WI 53221 for fifteen (15) days. Primary search was conducted via Internet through EBSCO host, books. Google, and scholar. Google. Key search topic included, "The Adult Learner, "How Adults learn," Continuing education for adults," and brain sex differences between adult learners.

Method of approach

A review of literature, study, and annotated evidence of the study will be conducted. The finding will be summarized and recommendations made.

CHAPTER II

REVIEW OF RELATED LITATURE

Historic Research

Many developmental theorists, such as Piaget, Freud, Erikson and Levinson, based their research on white, middle-class men. When women examples were included in their research they were included for their unusual abilities or situations, not as representatives of their gender. Authors such as Rosemary Caffarella, Carol Gilligan and Mary Field Belenky et al. propose women have different ways of growing and knowing, generally characterized as follows: For women, identity is linked to relationships, connection with others, and intimacy rather than being a separated, self-defined individual. They prefer cooperation rather than competition, and moral decisions are based on an ethic of caring rather than an ethic of justice (Sandra Kerka 1993).

Cross and Madson (1997b) discovered that men and women are motivated to social connectedness from varying perspectives. According to the authors, men seek relationships and enhanced individuation and separation from others through social competition, whereas women develop connectedness through intimacy and physical proximity.

MacKeracher in 1993 suggested that much of the literature on adult learning and development is “written by men about male behaviors which are described as ‘normal’ for all” (Hardman, 1996). But does the brain differentiate learning behaviors in men and women?

The Brain

Research on right and left brain began with Roger Sperry during the 1950s (Sperry, 1993). According to Sims 1995, "In the early 1960s Sperry and his colleagues established that the way in which we experience the world and experience teaching is fundamentally affected by which hemisphere of our brain is dominant.

Because of the gendered brain that is sexed by different hormones before and after birth, female students and male students generally exhibit different learning needs and styles based on the differing use of the left and right brain hemispheres that affect the way they learn. (deSimone & Durden-Smith. 1985).

Hardman reports Witelson, a professor of psychiatry and biomedical sciences at McMaster University, has been researching the anatomical structure of the human brain. While a brain-sex difference is a sensitive issue, she insists that male and female brains are indeed different—beginning with overall size and the connective band between the two hemispheres (Krueger, 1995). The two hemispheres (the left side and the right side) are connected by a thick band of nerve fibers (the corpus callosum) which send messages back and forth between the hemispheres. While brain research confirms that both sides of the brain are involved in nearly every human activity, research suggests that there are two major types of learners - those who are "right brain" dominant, and those that are "left brain" dominant (Kysilka et al. 1999).

According to Mostafa (2006) studies that have looked at differences in the brains of males and females are focused on the following:

Cellular connections: while men have more neurons in the cerebral cortex,

women have a more developed neuropil, or the space between cell bodies, which contains synapses, dendrites and axons, and allows for communication among neurons .

Corpus callosum: it is reported that a woman's brain has a larger corpus callosum, which means women can transfer data between the right and left hemisphere faster than men. Men tend to be more left brained, while women have greater access to both sides

Limbic size: females, on average, have a larger deep limbic system than males. This gives females several advantages and disadvantages. Due to the larger deep limbic brain women are more in touch with their feelings, they are generally better able to express their feelings than men. They have an increased ability to bond and be connected to others . Females have a more acute sense of smell, which is likely to have developed from an evolutionary need for the mother to recognize her young.

Language: two areas in the frontal and temporal lobes related to language (the areas of Broca and Wernicke) were significantly larger in women, thus providing a biological reason for women's notorious superiority in language-associated thoughts. For men, language is most often just in the dominant hemisphere (usually the left side), but a larger number of women seem to be able to use both sides for language. This gives them a distinct advantage. If a woman has a stroke in the left front side of the brain, she may still retain some language from the right front side. Men who have the same left sided damage are less likely to recover as fully. Curiously, oriental people which use pictographic (or ideographic) written

languages tend also to use both sides of the brain, regardless of gender.

Stine and Benares (1994) cited men are superior at left-brain task (linear, logical) and are harder to persuade than women. And women are superior at right brain tasks (intuitive, creative) and are more likely to be anxious about failure and blame themselves.

Researcher Amy Clements (2006) found in her study, while the brains work in the same capacity, they process information differently. When presented with the same task men and women use different parts of their brains to come up with the same answer. Magnetic resonance imaging has revealed that the male brain contains more white matter and cerebrospinal fluid (CSF) than the female brain, and that the female brain contains a relatively greater proportion of gray matter (Gur et al., 1999). Gur speculated that the increased gray matter in women's brains may allow for more efficiency and a greater capacity for processing, while the increases in white matter may enable men to transfer information to further regions within the brain, thereby, contributing to their spatial ability.

The Society for Women's Health (2004) performed imaging studies of the brain and established the differences in the way men and women process spatial information. Men were found to activate a distributed system of different brain regions on both sides of the brain while performing a spatial task. Women, however, activated these regions on only the right side of the brain. Their brain imaging studies also concluded that there are gender differences in some aspects of language processing. Such as women neurons on both sides of the brain are activated when they are listening, while in men neurons on only one side of the brain are activated. Men and women appear to process single words

similarly, but in the interpretation of whole sentences, women use both sides of the brain while men use one side.

American psychologist Moir and Jessel (1991) found that girls out mastered the boys in language. Additionally in a 15 year study they found differences between gifted school-age boys and girls in the area of math. The research concluded that for every exceptional girl there were more than 13 exceptional boys. They also confirmed the brain works in the same capacity for both male and female, but processing information different and that there are also differences in their learning styles.

Learning Styles

In a time of increasing diversity, educators can enhance learning opportunities of all students being more aware of learning differences. According to Hilton, 2002 (as cited in Litzinger & Osit 1993) “It has been well established that individuals develop a preferred consistent set of behaviors or approaches to learning. This set of behaviors otherwise known as a learning style can be described in terms of four layers (Curry, 1983) with different learning style tending to concentrate on one of the layers.

1. The personality layer describes an individual’s basic personality, often in a continuum from introvert to extrovert.
2. The information processing layer centers refers to the way a learners prefers to take in and process information.
3. The social interaction layer centers on how students behave and in the classroom (e.g., focused solely on learning or on grades)
4. The instructional preference layer describes the mode in which learning occurs most easily (e.g. listening, reading, and direct experience).

In the end, much of the responsibility for learning lies with the individual student.

Ned Herrmann (1996), the "Father of brain dominance technology", developed the theory brain dominance where people develop a dominant mode of thinking preference. These can range from an analytical "left brain" approach to "right brain" approaches involving pattern matching and intuitive understanding. Herrmann then developed the four-quadrant model of cognitive preferences and a questionnaire called the Herrmann Brain Dominance Instrument (HBDI). Herrmann's system does not try to be an accurate model of the way the brain functions. Instead it should really be thought of as a model of different styles, partially inspired by the brain.

The inspiration for this model came from dividing the brain into as four different systems with four preferred styles:

- ***Male Dominated Side:***
 - A: Left cerebral hemisphere - analytical
 - B: Left limbic system - sequential
 - **A Quadrant: Analytical thinking.**
 - Key word: logical, factual, critical, technical and quantitative.
 - Preferred activities: collecting data, listening to informational lectures, reading textbooks. Judging ideas based on facts, criteria and logical reasoning.
 - **B Quadrant: Sequential thinking.**
 - Key word: conservative, structured, organized, detailed, and planned.
 - Preferred activities: following directions, repetitive detailed homework problems, time management and schedules.

- ***Female Dominate Side:***
 - **C Quadrant: Interpersonal thinking**
 - Key word: kinesthetic, emotional, spiritual, sensory, feeling.
 - Preferred activities: listening to and sharing ideas, looking for personal meaning, sensory input, and group study.
 - **D Quadrant: Imaginative thinking.**
 - Key word: Visual, holistic, intuitive, innovative, and conceptual.
 - Preferred activities: Looking at the big picture, taking initiative, simulations (what if questions), visual aids. Appreciate beauty of a problem, brainstorming.

Kysilka et al. (1999) confirms these findings with their assertion that although there are many exceptions, females tend to be right-brain dominant. Right-brained learners tend to be intuitive, imaginative, and impulsive; they prefer to start with a broad idea and then pursue supporting information. They learn best by seeing and doing in an informal, busy, and somewhat unstructured environment. In addition, they prefer group discussions, simulations, panels, and other activity-based learning. Males tend to be left-brain dominant. Left-brain learners tend to be analytical, rational, and objective; they prefer putting together many facts to arrive at a general understanding. The traditional lecture/demonstration approach and assigned readings is typically more effective with male learners rather than female students

In a study using a survey of 72 people, Boverie et al. (1995) also found that “traditional education is directed towards and appeals more to males since it is primarily abstract and reflective. Females learn better in hands-on and practical settings,

emphasizing the realm of the affective and doing. Based on the result of this study, if females are watching and feeling or doing and thinking, they learn best. If males are thinking and watching, they learn best.”

According to Alan Rogers (2003) there are two contrasting approaches to learning: task-conscious/acquisition learning and learning-conscious/formalized learning. Acquisition learning is seen as going on all the time. It is 'concrete, immediate and confined to a specific activity; it is not concerned with general principles' (Rogers 2003: 18). Examples include much of the learning involved in parenting or with running a home. This type of learning appeals more to females. Formalized learning arises from the process of facilitating learning. It is 'educative learning' rather than the accumulation of experience. An Example of formalized learning is planned learning that derives from activities within a structured learning setting. This type of learning appeals more to males.

Manbeck and Bruhl (1997) identify several other precepts of adult learning that they assert are accepted differently by male and female learners. These include:

- Learning through transformation is more acceptable to women
- Learning through self-reflection is more acceptable to women
- Learning through life experience either self or other is more acceptable to women
- Women prefer learning oriented to relationships and men prefer learning related to action
- Group learning is more acceptable to women
- Women attach and dominate males who try to express their feelings and

males try to dominate by expressing options.

Belenky et al. (1992) concludes with their findings in terms of classroom implications, that schools are geared more to the learning styles of white males, which tend to be individualistic and competitive. In contrast, many females prefer cooperation over competition, acknowledging and building on each other's ideas to define common meanings over individual contributions, and understanding over assessment. Also, females are more social and comfortable in group situations. As a result, females are likely to be more productive in situations involving group instruction, including cooperative learning.

CHAPTER III

MY FINDINGS

According to the literature reviewed, historically the research done on adult learning and development was conclusive of all adult learners. As the demographics of adult learner change, the research needs to stay abreast. More research needs to be done in the area of adult gender equity. Despite the limited scope of research, my findings indicate that gender differences play an essential role in teaching and learning. Students differ in their learning styles which indicate the way they learn. Males generally have more developed left hemisphere. Left-brain learners tend to be analytical, rational, and objective; they prefer putting together many facts to arrive at a general understanding. Women tend to be right-brain dominate. Right-brained learners tend to be intuitive, imaginative, and impulsive; they prefer to start with a broad idea and then pursue supporting information. They learn best by seeing and doing in an informal, busy, and somewhat unstructured environment.

CHAPTER VI

CONCLUSION

In the creating of an environment that is equitable and inclusive, there is no one theory or teaching approach that will satisfy all learners. Therefore, educators must always assess their learners and remain flexible in their teaching approaches. Kerka, (1993) states if educational institutions are based on a model of one type of thought, then those whose ways of thinking are more subjective or inductive and may feel alienated in the learning environment. Women are asked “to learn the experiences of men and accept them as representative of all human experience” (Gallos 1992, p5). Parson (1992) suggests identifying students’ individual learning style preference and designing environment that allow for diversity of temperament, style and culture.

So often in creating a multi-cultural environment, gender is superseded by race and ethnicity. It’s amazing how something so obvious can be disregarded. Clearly men and women think and approach things differently, and this is apparent even in learning. There is no teaching approach that will suite everyone’s learning style. Some women are proficient in math and some men are skilled in expressing their emotions. This is why assessment is crucial in the planning process of teaching. According to the Blooms Mastery of Learning theory people can learn if they are provided with the appropriate learning conditions (Kidd 1998).

Facilitators and educators should teach and design classes to be more whole-brained orientated. Incorporating for the right-brain and left-brained learner. Facilitators and educators should use more visuals and role playing for the right-brained learner, and

more scenarios and analytical activities for the left-brained learner. Learners need to be equipped with an assortment of teaching approaches to ensure all students are offered equitable information in order to gain new and applicable knowledge.

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