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The concept of self-directed learning in adult education

Abstract

The concept of self-directed learning in adult education is still not fully understood. As most scholars do not agree with the theory of andragogy, there is more confusion. However the concept of self-directed learning in adult education in the United States "contains an amazingly rich body of ideas, folk knowledge, bona fide theory and impeccable history" (Courtney, 1992, p. 158). The real question is to understand how self-directed learning motivates the adult learner to perform the various roles as demanded in the society.

The concept of self - directed learning in adult education

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Introduction

By the year 2000 everyone will need to be educated to the standard of semi – literacy of the average college graduate. This is the minimum survival level of the human race (Clarke cited in Longworth & Davies, 1996, p.7)

Adult education has become a buzzword in the recent past, propagated by the new revolution of lifelong learning. Such issues as job change and obsolescence, the need for new skills, and new knowledge, global demographics, restructuring of the industry, influence of science and technology, and new global power structures have fanned the recent emphasis on adult education and training.

The history of education in the United States demonstrates that early public schooling was a one – man – show (Longworth & Davies, 1996). Teachers were responsible for a group of students in their own classrooms. The teacher, main source of information, stood at the blackboard or sat at his/her desk to teach. The teacher was synonymous to authority in the classroom and the teaching involved lecturing or demonstrating. If students did not comply with the teacher's authority, they were expelled. Today, society has changed; this country has evolved from an agrarian culture through the industrial revolution to a highly complex and technologically based economy. With this change has come the need for more education and an increasing need for specialized training. Now students and adults must be literate in language and skills in order to compete for employment.

“Today, more than ever, America depends on adult education systems to spread information and knowledge, develop skills, and shape attitudes” (Longworth & Davies, p.xi). The belief that education must be lifelong is now prevalent in the

American society. As society has become more complex, traditional learning values have been questioned (Fishbaugh, 1997). Adult education is "the institutionalized process of teaching and learning that exist for those individuals who are regarded as adults irrespective of the sector of society in which it occurs" (Tuijnman, 1996, p.158).

Lifelong learning concepts will change the way in which social, economical, educational and business needs are perceived over the next decade. It is changing "...our educational structure from one based on content to one based on individual skills" (Longworth & Davies, 1996, p.3). Most adults spend considerable time acquiring information and learning skills that will keep them competent in the workforce. There has been a rapid change in the workforce and the emergence of the need for the creation of new knowledge. According to Tuijnman (1996), learning takes place at the individual's initiative, even if available in formal settings.

Rhoder & French (1995) emphasize that an adult education situation can and does help the adult learner "do more than decode or re-organize words and read simple, essential materials" (p. 111). This is appropriate for skills training. The adult today is motivated by the competitive world to improve his/her skills in order to join the job market. "Today more than ever, American society depends on adult education systems to spread information and knowledge, develop skills, and shape attitudes" (Stubblefield & Keane, 1994, p. xi).

To understand adult education or training, one must review the need for the education. Often the process of learning, subject matter or nature of clientele is tied strongly to some institution. Thus to understand why the revolution for adults to

learn, one must analyze where and how learning takes place. One must also consider informal learning and formal learning settings. Adults learn in social settings where learning takes place and can be observed (Courtney, 1992). Most adults spend considerable time acquiring information and learning new skills, which is activated by rapidity of change, the continuous creation of knowledge and an ever-widening access to information. Much of the adult learning takes place at the learner's initiative, even if available in formal settings (Tuijnman, 1996).

The purpose of this literature research is to define adult education and the concept of self directed learning in adult education. It is an attempt to expound on the adult learner as self-directed. This research traces the history of adult education in America, the history of self - directed learning, and defines the role of self - directed learning in adult education using a humanistic approach. Therefore this research aims at fostering and encouraging the development of self - directed individuals.

History of Adult Education in America

"Early histories in adult education emerged from the efforts of philanthropic foundations and adult education associations between the 1920's and the 1950's, to promote adult education as a new and distinct educational domain" (Longworth & Davies, p.). The history of adult education in America could be divided into two eras as outlined by Stubblefield & Keane (1994). In this research adult education is operationally defined "the institutionalized processes of teaching and learning that exists for those individuals who are regarded as adults, irrespective of the sector or society it occurs" (Jarvis cited in Tuijnman, 1996, p. 158).

Adult education in early America

During this time education was defined in relation to the old industrial society of meeting the minimum required working standards. The emphasis in adult education was to know appropriate skills to perform work. At this time many early Americans required only a limited education that would give them the basic literacy skills needed for life and literacy. Adult education did not shape around a single institutional form. Activities grew out of the efforts of individuals to improve themselves in various ways (Stubblefield & Keane, 1994). In other instances, people with a common interest formed associations for specific educational purposes. In Western Europe and the United States, adult education accompanied the rise of democracy and the industrial revolution.

Adult education in the era of modernization

In the half - century from the end of the Civil War to the eve of World War I, educative institutions and learning opportunities for adults proliferated (Stubblefield & Keane, 1994). Adult education expanded and changed as scientific agriculture and industrialization rendered obsolete old forms of informal learning and craft training. In response to these changing conditions new forms of education for work evolved. Some adults received training and education through private trade schools, correspondence study and others became involved in apprenticeship programs.

In the current era, there is a lot of emphasis on adult education in schools and businesses. The emphasis is that every individual has a learning potential and that the individual can and should engage in a learning process. The knowledge gained from

adult education is important to the individuals, they find a way to meet their physical social and economical needs (Longworth & Davies, 1996).

The workplace has evolved with time and this has contributed to the changes in adult education and training (Rosenberg, 1997). There are three major revolutions that have strongly impacted the workplace and education/knowledge.

- During the industrial revolution, the worker had no sense of control for work. Every worker was assigned a routine task and expected to accomplish it.
- As enterprise grew larger, problems with organization became obvious. Frederick Taylor initiated the scientific management to try and solve the problem. He emphasized that it was the management's sole responsibility and duty to solve control every facet of labor's activity. Management was the sole authority and their word was final. There was very little learning required during this age.
- The technology age has threatened management's authority. There is more information available and new things to learn that many organizations are resolving to teams. There is a high need for everybody to catch on with the information highway to keep abreast with events.

Historically, adult education has often employed a pedagogy where language, discussion and a democratic approach to curriculum making have been central e.g. Paulo Freire's Pedagogy of the oppressed (Tuijnman, 1996). The term adult education appears to have been used in Northwest Europe, and North America in the eighteenth century (Tuijnman, 1996). Fundamentally the spread of adult education

worldwide has been inspired by the belief that all adults can learn and that learning is lifelong (Tuijnman, 1996).

Adult education is much younger than the school system, "a child of the Enlightenment movement" (Tuijnman, 1996, p.136) and its history is also a history of institutions, organizations, people and their motives for lifelong learning (Tuijnman, 1996). Initially, the teacher was the narrator who presented knowledge by storytelling and informal methods of teaching were preferred. In the twentieth century the emergence of technology has brought changes in methods of "mass instruction". These are giving way to other methods of group learning with an emphasis on self-directed learning. Adult education came to be regarded as a social process, a change of attitudes and communication (Tuijnman, 1996).

Aims of adult education

Merriam & Brockett (1997) outline a variety of aims for adult education. First adult education is aimed at providing a basis for social action and social change. This is because some of the younger adult students are usually social deviants who dropped out of school for some reason. Other aims include; to fill in the education gap existing among the students, mobilize individuals for development, keep up with new knowledge, and to enhance lifelong learning. The curriculum in self-directed learning is designed to focus on the learners' needs and their experiences rather than on predetermined content.

Self-directed learning empowers learners to become more autonomous and confident about the learning process. This aspect also helps learners prepare for

making decisions about their individual learning needs and goals. The learner who is self - directed takes full responsibility for his/her education.

History of Self - Directed Learning

Self - directed learning has existed even from classical antiquity and has played an important role in the lives of Greek philosophers such as Socrates, Plato, and Aristotle (Hiemstra cited in Tuijnman, 1996). The concept of self - directed learning is as old as Greek literature. For instance self-study played an important part in the lives of such Greek philosophers as Socrates, Plato and Aristotle (Tuijnman, 1996). Other historical personalities that were self – directed learners include Alexander the Great, Julius Caesar and Erasmus.

Early scholarly efforts to understand self - directed learning in the United States took place about 150 years ago (Hiemstra cited in Tuijnman, 1996). The first attempt to better understand learning - oriented individuals was made by a Canadian researcher called Tough, one of Houle's doctoral students (Hiemstra cited in Tuijnman, 1996). Tough is usually credited with having started the revolution towards self – directed learning (Candy, 1991). Although there were efforts to understand self - directed learning in the United States of America in the nineteenth century, it wasn't until the 1960's that self - directed learning became a major research area (Hiemstra cited in Tuijnman, 1996).

During the same period Knowles popularized the term “andragogy” in the United States. Guglielmino, another early researcher on self – directed learning developed the Self – Directed Learning Readiness Scale (SDLRS) (Cranton, 1996). In 1987, Long and his colleagues established an annual International Symposium on

Self – Directed Learning. The emergence of self – directed learning was closely linked to lifelong learning and that this independent learning is a supplement of formal learning (Candy, 1991).

During the 1980's the concept of self - directed learning was defined as the process in which learners take the initiative, with or without the help of others (Cranton, 1996). According to Edwards, Hanson, & Ragatt (1996), adults are voluntary learners and they simply disappear from learning experiences that don't satisfy them. So the practice of adult education has been departing from traditional practices of classroom teaching.

Heimstra (cited in Tuijnman, 1996) suggests that self - directed learning naturally increases the potential possibilities in adults that help develop their abilities for learning. And Ruvinsky (cited in Tuinjman, 1996), contends that anyone who does not voluntarily engage in self - education lags "lags behind the demands of time" (p. 429). Self - directed learning is seen as any study form that empowers individuals to plan, implement and even evaluate the learning process (Hiemstra cited in Tuijnman, 1996).

"Self – directed learning is one of those amorphous terms that occurs in adult education literature but that lacks precise definition" (Jarvis cited in Cranton, 1996, p.52). Knowles (cited in Cranton, 1996) introduced the term to practitioners. He saw self – directed learning as the process in which "learners take the initiative with or without the help of others" (p.53). Hammond & Collins (1991) define self – directed learning as when learners meet their learning needs informed and guided by a critical

analysis of prevailing social needs. The ultimate purpose of self directed learning is to make the learner responsible for learning.

Definition of Terms

Adults

In the American society chronological age does not provide a reliable indicator for differentiating adults from children. More central to the concept of adulthood is the notion of independence. For example, an adult can be differentiated from a child or adolescent by their acceptance of the social roles and functions that define adulthood (Darkenwald & Merriam, 1982). According to Courtney (1992) "one out of 25 adults who did not graduate from high school seeks further education..." (p.5) because of the increase of more 'educated' workers in businesses today. More organizations are becoming learning centers.

An adult is any individual, 15yrs+ who for economic, social or political reasons did not attend the highly institutionalized, chronologically graded and hierarchically structured education system (Rogers, 1996). UNESCO (cited in Rogers, 1996) reports that these individuals may be young in years, but nevertheless beginning to experience the pressures of adult life.

Adults as Learners

This researcher's view of an adult learner is influenced by the humanistic approach of andragogy adopted in this research. Thus this research describes self - directed learning in adult education based on human characteristics. The curriculum of adult education is regarded as "...being open ended and linked to individual perceptions of learning needs..." (Lawson cited in Tuijnman, 1995, p. 141).

There is a tendency in adults to learn and that this learning flourishes in a nourishing and encouraging environment. Although adults are diverse, there are predictable patterns (e.g. developmental stages) experienced by most adults. Lieb (1998); Zemke and Zemke (1984); Rogers and Freiberg (1994) and Cross (1981) say that adults are autonomous and self – directed even in learning. They need to be free to direct themselves with the help of a facilitator in the learning process.

Adults are also goal oriented; upon enrolling for a course they know the goal(s) they want to attain. Therefore adult instructors must identify adult learner's objectives and show participants how the class/session/workshop will help meet their specific goals. Adults are people with years of experience and a wealth of information who relate new knowledge and information to previously learned information and experiences, and they have established values, beliefs and opinions (Brookfield cited in Tuinjmans, 1995; and Slotnick, Pelton, Fuller and Tabor, 1993).

Facilitating the learning experience for adults necessitates an understanding of adulthood in conjunction with the learning process (Darkenwald & Merriam, 1982). Three characteristic traits including full – development, perspective and autonomy mark off an adult in almost all societies (Rogers, 1996). Most adult learners know what they want and they are willing to work hard to get it (Slotnick et al., 1993). Courtney (1992) denotes that there are three categories of adults. There are those who are engaged in formal education, others choose informal learning activities and yet others avoid all contact with the learning environment.

Adult Learning

Adult learning is relatively new as a field of study, but it is just as substantial as traditional education (Lieb, 1998). “Adult learning is frequently spoken of by adult educators as if it were a discretely separate domain, having little connection to learning in childhood or adolescence” (Brookfield cited in Tuijnman, 1995, p. 375). Adult learning is a socially embedded and socially constructed phenomenon (Brookfield cited in Tuijnman, 1995). Cross (1981) lists some principles that would enhance adult learning: Adult learning programs should capitalize on the experience of participants, accept the aging limitations of participants, and adults should be challenged to move to increasingly advanced stages of personal development. Rogers and Frieberg (1994) emphasizes that effective learning take place when the student fully participates and has ownership in the learning process.

According to Rogers and Frieberg (1994), the learner should be encouraged to learn and play (hands – on) as in self – directed learning. Adults are educated at home, at work, college, in their leisure and in a variety of organizations (Tuijnman, 1996). Darkenwald & Merriam (1982) state that “adult learning is a complex phenomenon involving interaction with biological, psychological and social environmental factors” (p.87). Adult learning ought to enhance lifelong learning. This means that the adult learner develops his/her human potential through a continuously supportive process which stimulates and empowers them as individuals to acquire the knowledge, values, skills and understanding they need to function in today's society (Longworth & Davies, 1996).

Theoretical Foundations

The major theoretical perspectives on adult education began in the twentieth century and include andragogy, self – directed learning, empowerment and liberation. This research paper focuses on self -directed learning as an emerging theory in adult education based on Knowles' concept of andragogy.

Andragogy and self - directed learning, Malcolm Knowles

Andragogy makes the following assumptions about adult learners; adults need to know why they need to learn something, need to learn experientially, approach learning as problem – solving, and adults learn best the topic is of immediate value. Thus instruction should be task – oriented instead of memorization, and instruction should allow learners to discover things for themselves, providing guidance and help when mistakes are made (Tip: Theories, 1997).

Knowles is said to be the father of andragogy and self – directed learning. Knowles' theory was construed by researchers and practitioners alike (Cranton, 1996). It was interpreted at times as independent learning, equivalent to modularized instruction or computer managed instruction. Others assumed that adults were automatically self – directed. Knowles had instead emphasized the desire and need by adult learners to take responsibility of their learning process (Cranton, 1996). This learning process is enhanced by teams where learners are members of an interactive team and they share ownership of the purpose and outcomes of their learning efforts (Fishbaugh, 1997).

Andragogy notes that when learners work in teams they innovate more freely and this enhances the learning process. Knowles (cited in Darkenwald & Merriam, 1982) proposes the adoption of "andragogy, the art and science of helping adults learn, with pedagogy, the instruction of children" (p.76). Andragogy assumes that as a person matures, his or her self-concept moves from being dependent to one of a self – directing human being, and that for an adult personal experiences establish self – identity and they are highly valued (Darkenwald & Merriam, 1982). Adult education's mission is to assist and help adults realize their potential and make good decisions within the current social and economic relationships

It is assumed that adults are self – directing in their growth and development, adult learners are "self – directed people who are responsible for their own lives and who need to be recognized as such" (Slotnick et al., 1993, p. 8). Knox (cited in Slotnick et. al. 1993) says that adult learners are different from the traditional student in that they generally do not like competitive class activities and they have a lessened concern for speed in learning because they are more concerned with accuracy. Other researchers agree that adult learners feel that the classroom is a comfortable setting for experimenting with new ideas and challenging viewpoints presented by members of their group or team (Courtney, 1992, Slotnick et al., 1993, Thomas, 1992).

According to Edwards, Hanson and Ragatt (1996) self-directed learning as a technique has been implemented in many institutional settings including hospitals, business firms, colleges, public schools and prisons. Learning experiences shaped by self directed learning methods are individualized in a way that ensures learners become wrapped in their own contracted learning project and the mediated

relationship molded by a facilitator (Edwards, et al., 1996). In recent years, the notion of self directed learning has virtually become the guiding principle for the practice of adult training and education (Edwards, et. al., 1996). Knowles, father of self - directed learning, says that self – directed learning begins with the learner (Cranton, 1996). He/she is the initiator of the learning process. This is different from the conventional way of teaching. Adults have a deep need to be self – directing (Brookfield cited in Tuijnman, 1996). Self – directed learning is a "goal, a process, and a learner characteristic that changes with the nature of learning" (Cranton, 1996, p.56). Self – directed learning begins with the assumption that the ultimate purpose of education is the betterment of society and to help learners take greater control of their learning (Hammond & Collins, 1991).

“Self – directed learning focuses on the process by which adults take control of their own learning, in particular how they set their own learning goals, locate appropriate resources, decide on what learning methods to use and evaluate their progress” (Brookfield cited in Tuijnman, 1996, p.2). In essence, self – directed learning is any study form in which the individuals have primary responsibility for planning, implementing and even evaluating their efforts with the assistance of a facilitator. In this aspect the adult learners determine the outcomes of the learning process and evaluate its success.

According to Candy (1991), self –directed learning has been fully embraced in North America because of its humanistic approach. Humanism has been a movement in North America and European philosophy since the fourteenth century. Following the theories of Maslow, researchers used self – directed learning to promote the needs

of the individual. Maslow views human beings as having the potential to self – actualize and this self – actualization does not occur in children (Candy, 1991; Darkenwald & Merriam, 1982). The term self – directed learning “resonates with overtones of purposefulness, autonomy, potency, and self awareness” (Darkenwald & Merriam, 1982, p.97).

Role of teams in self – directed learning

Very little has been paid to the working of adults together in learning because traditionally, schools and learning have been divided into units which have been under the domain of person (Thomas, 1992). In the 1990’s teamwork is emerging as the preferred means of organizing and managing businesses and educational institutions. The team model brings together people who share responsibility for achieving common goals and objectives (Garner, 1995). The origin of teams in education was in the special needs and disabilities programs (Garner, 1995; Thomas, 1992,). Many people associate teams with sports and games and not with businesses, organizations, or education. Schools in America like other U.S organizations have been managed in a top – down manner. This system seemed to work well in the 1950’s – 1960’s.

The tendency to use teams in educational institutions (public schools and other special education settings) has increased over the years (Garner, 1995). Self-directed learning is embedded in team learning process. A team is a group of workers/individuals who engage in learning together. This does not require that these individuals work in the same project but that they are groups of people with some common features. For instance, same age bracket and share experiences. A good

example of a team in self - directed learning is retired people enrolled in a computer literacy class (MR Communication Consultants, 1998). These teams would then all engage in self - directed learning but in the same environment e.g. classroom. Team members share their expertise with one another and "cross into each others' domains to help one another whenever possible" (Garner, 1995, p.214)

Teams enhance mutual trust and respect, collaboration rather than competition, peer – support rather than judgement, an informal atmosphere that encourages fun, a mechanism for mutual planning, a process for learners to evaluate their learning outcomes and to share their ideas with the rest of the organization. The team learning process appeals to all of the different learning styles that the different individuals have. The teams in adult education cater for basically the social aspect of the learning process. Being together in an experience, e.g. a literacy class provides the much needed moral support. Teamwork in adult education has become a necessity today, helping adult learners cope with learning anxieties (Garner, 1995).

Teams in self -directed learning enhance a supportive environment, and challenge the learner to create a new setting for learning. Rogers (1996) contends that some adult learners enroll in adult education more for the experience of newness than for anything else. In a team, the adult learners meet new ranges of views, prejudices and experiences that call for learning changes and widening horizons. Edwards, Hanson & Rangatt (1996) suggest that adults tend to feel more psychologically comfortable and ready to learn when the atmosphere is friendly and informal, in which they are known by name and are with their peers.

The underlying idea of teams in self - directed learning is that students are motivated through realistic and purposeful challenges and problem - solving skills from their peers (Silverman, 1995). In this case the power of instruction is powerful and effective. This approach of using teams in self - directed learning also provides a holistic approach to education. The students learn to work together in groups and there is less intimidation. Silverman (1995) gives an example of a physics class he taught using the self - directed learning approach. He says that students recognized that making errors was part of the learning process and they brainstormed together to come up with solutions. The role of the instructor is to motivate students and guide them in the learning process. Lieb (1998) prefers that adults work together because they share similar life experiences and knowledge.

Limitations of this literature research

The researcher studies self – directed learning in adult education and the literature reviews of what is happening in one culture, the United States. And as Tuijnman (1996) states, “in a sense, self – directed learning reflects the American culture of individualism and self – achievement so that research in this area has become central to much United States thinking” (p.162). There is a great need for more research in other culture's perceptions on self - directed learning. This will especially be useful for the learning multinational organization.

There is a no common understanding among adult educators or scholars in adult education as to what self - directed learning is about (Cranton, 1996). There is limited research on the aspect of self - directed learning, teams and adults learners.

Conclusion

Out of this review of literature, there are a couple of truths that stand out. First, the concept of self - directed learning in adult education is still not fully understood. As most scholars do not agree with the theory of andragogy, there is more confusion. However the concept of self - directed learning in adult education in the United States "contains an amazingly rich body of ideas, folk - knowledge, bona fide theory and impeccable history" (Courtney, 1992, p. 158). The real question is to understand how self -directed learning motivates the adult learner to perform the various roles as demanded in the society.

Secondly, self - direction has become, for many, a concept that encourages the adult learner to embrace ownership. There is a great demand for self - management and self - determination in the contemporary society. Candy (1991) contends that "the world we live in demands self - starting, self - directing citizens capable of independent action" (p.47). It is thus the role of adult educators to acknowledge this fact and assist the learners in the learning process. Adult educators ought to use approaches that will empower the learners and tap into their independency.

In conclusion, some of the features that are distinctive about self - directed learning, that appear as paradoxical and problematic could be potentially overcome by research that explicitly allows for such features rather than ignoring or denying them (Candy, 1991). Adult educators and scholars need to review the concept of self - directed learning and use an appropriate research approach to understand the concept.

REFERENCES

Candy, P. C. (1991). Self - direction in lifelong learning: A comprehensive guide to theory and practice. San Francisco, CA: Jossey - Baas Inc.

Courtney, S. (1992). Why adults learn: Towards a theory of participation in adult education. London: Routledge.

Cranton, P. (1996). Professional development as transformative learning: New perspectives for teachers of adults. San Francisco, CA: Jossey-Baas Inc.

Cross, K. P. (1981). Adult as learners. San Francisco, CA: Jossey - Baas.

Darkenwald, G. C., & Merriam, S. B. (1982). Adult education: Foundations and practice. New York: Harper & Row Publishers, Inc.

Edwards, R., Hanson, A., & Ragatt, P. (Eds.). (1996). Boundaries of adult learning. New York: Routledge.

Fishbaugh, M. S. E. (1997). Models of collaboration. Needham Heights, MA.: Allyn & Bacon.

Garner, H. G. (1995). Teamwork models and experience in education. Boston, MA: Allyn & Bacon.

Hammond, M., & Colins, R. (1991). Self - Directed Learning: A critical practice. London: Kogan Page.

Lieb, S. (1998). Principles of adult learning. [On - Line]. Available: <http://www.hcc.hawaii.edu/hccinfo/facdev/AdultLearning>

Longworth, N. & Davies, W. K. (1996). Lifelong learning. London: Kogan Page.

Merriam, S. B., & Brockett, R. G. (1997). The profession and practice of adult education: An introduction. San Francisco, CA: Jossey-Baas Inc.

MR Communication Consultants. The team learning process. [On - Line]. Available: <http://www.mrcomm.com/team/process/htm>

Rhoder, C. A., & French, J. N. (1995). Participant generated text: A vehicle for workplace literacy. Journal of adolescent and adult literacy, 139, (2), 110 -118.

Rogers, A. (1996). Teaching adults (2nd ed.). Buckingham, U.K.: Open University Press.

Rogers, C. R. & Frieburg, H. J. (1994). Freedom to learn (3rd ed.). Columbus, OH: Merrill/Macmillan.

Rosenberg, R. S. (1997). The social impact of computers (2nd ed.). San Diego, CA: Academic Press.

Silverman, M. P. (1995). Self - Directed Learning: A heretical experiment in teaching physics. American journal of physics, 63, (6), 495 - 508.

Stubblefield, H. W., & Keane, P. (1994). Adult education in the American experience: Form the colonial period to the present. San Francisco, CA: Jossey - Baas.

Slotnick, H. B., Pelton, M. H., Fuller, M. L., & Tabor, L. (1993). Adult learners on campus. Washington, D.C.: The Falmer Press.

Thomas, G. (1992). Effective classroom teamwork: support or intrusion. London: Kogan Page.

Tip: Theories. (1997). Andragogy (M. Knowles). [On - Line]. Available: <http://www.lincoln.ac.nz/educ/tip/12.htm>.

Tuijnman, A. C. (Ed.). (1996). International encyclopaedia of adult education and training (2nd Ed). Oxford, U.K.: Elsevier Science Ltd.

Zemke, R., & Zemke, S. (1984). 30 things we know for sure about adult learning. Training, 18, (6), 45 - 50.