

USEFUL STRATEGIES FOR EDUCATORS TO FACILITATE THE LEARNING PROCESS
WHEN INSTRUCTING THE ADULT LEARNER AFFLICTED WITH NARCOLEPSY

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WHEN INSTRUCTING THE ADULT LEARNER AFFLITED WITH NARCOLEPSY

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ABSTRACT

USEFUL STRATEGIES FOR EDUCATORS TO FACILITATE THE LERNING PROCESS WHEN INSTRUCTING THE ADULT LEARNER AFFICTED WITH NARCOLEPSY

Statement of Problem

Some adult learners have learning challenges which need to be overcome or accommodated in order to successfully engage in higher education. Narcolepsy, a neurological disorder which causes daytime episodes of sleep which is uncontrollable, can negatively affect the adult learner who has this disease if it is recognized, documented by the educational institution and academic assistance provided.

Summary of Results

Educators should have information regarding the neurological disease of narcolepsy, its causes and symptoms, and treatment. This knowledge can be used to develop and implement methods to accommodate the adult learner. Such assistance can result in a successful educational experience for that adult learner.

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CHAPTER ONE: INTRODUCTION

Statement of Problem

An educator whose premise is that all persons have the ability to learn is one who believes in the art of education. Youth who perform poorly in K-12 education continue to do so as adults. As adults they enter higher education and continue to struggle to learn. Learning impaired adults must overcome or manage their learning problems in order to succeed educationally at a college or university.

Difficulty in information gathering and retention coupled with slow reading and labored understanding of what is being read is a dilemma for some adult learners. The ability of organization in terms of thinking patterns, time management skills, testing, and presentations orally or manually, can also present a problem. These hurdles can result in some adult learners feeling lost in the area of education and a feeling of lacking the ability to achieve (Al-Yagon & Mikulincer, 2004). Educators at times label these adult learners as underachievers, slow learners, or as lazy or disinterested persons. Negative labeling can impede their progress when they decide to seek degrees or certification in educational programs or settings (Guillemineault & Pelayo, 2000). With modern technology, medical insight, and educational counseling, the labels on these adults used in the twentieth century should not carry over into the twenty-first century.

In the fast pace of the twenty-first century, adults are all expected to function well in the gathering and organizing of complex information. Computers, iPods, the Internet, social media, online dictionaries, online research methods, and online classes are tools which the adult learner has access to for success. The usage of these tools in education by the adult learner who has some cognitive impairment can be a positive. It allows them to gather and retain information, and develop it with less frustration. For example, the use of the flash drive allows them to store

information conveniently. This is paramount in keeping academic information organized. If learning impaired adults cannot technologically and educationally keep up with those who can master these skills, they struggle to keep pace of with other students in other ways as well. The educational system must create a process to assist learning impaired adult students to develop these skills (Mullins & Park, 2000).

Adult learners with cognitive issues not only struggle with education, but also with employment, family, and self. Those who decide to make a lifelong learning commitment to themselves need the tools with which they can accomplish their goals.

In the educational setting, there are several categories of adult learners who may have been stifled in their learning process due to medical disorders. There are three which stand out the most. One is Attention Deficit Hyperactivity Disorder (ADHD). This is a neurological disorder whereby a person cannot sit still, constantly fidgets, or has difficulty with attention span over a long period of times. It sometimes translates into boredom. Secondly, dyslexia is genetic disorder where the brain has poor cognitive development resulting in difficulties learning, difficulty in reading and spelling, or difficulties with detecting fine movement (visual movement detection) and phonetic (word sounds) differentiation. The third medical disorder, and the one which is the focus of this paper, is narcolepsy. The adult learners in this category have cognitive problems which limit their activities (William C.Dement & Vaughan, 1999). Adult learners with narcolepsy have difficulty remembering, staying alert, and functioning in normal daily settings in school, at work, while at home, and in all aspects of their lives. Without sleep the brain and body cannot regenerate itself, which can result in a lack of energy to succeed. Lack of sleep or too much sleep can result in physical problems, and the stifling of one's life goals.

The adult learner who should be or has been diagnosed with narcolepsy ought to be given accommodations in his or her educational settings to increase the ability to succeed and to retain the desire to learn. Example one - falling asleep at the desk: this student may have prepared for class mentally, put the finished term paper or assignment in the folder or backpack, and settled into the seat at class. When asked to turn in the assignment the student is seen fumbling for the assignment with dismay. The result is that the assignment is not with the student. The student thought the assignment was in the folder or backpack but it is not. Example two - from time to time the student fails to remember a lesson to be successful on an exam or assessment. The student remembers preparing but cannot remember anything. Example three – a student may have restrictions as to driving a motor vehicle due to being tired or sleepy. This tiredness could result in the student arriving late to class or not arriving at all. Example four – a student may be preparing to have a meal prior to going to class. The student cannot remember whether or not the food was prepared or if it is still in the refrigerator.

The aforementioned examples are actions which are the result of reduction in gray matter and neurons in the brain. Compared to the brains of other adults, narcoleptic people have less gray matter, fewer neurons, and/or neurons which fail to activate to cause wakefulness. Some educators, employers, family members and third parties accuse adult learners who exhibit these symptoms or ailments of being inattentive, intentionally not trying, of being lazy, or being bored. These adult learners are labeled negatively and incorrectly, and it is a stigma which carries throughout their lives (Kim, Lee, Lee, Yoon, Kim, & al, 2009).

Adults who return to the classroom with a desire and inner drive to better their lives, do not wear badges that say, “I feel tired, sleepy, it is hard to concentrate or I suffer from a sleep disorder.” Instead they tell their classmates, family, friends, instructors and academic counselors

that they have limited energy yet desire to enhance their education. Actually, the brain of the narcoleptic adult learner seems to stick in a holding pattern from time to time and the student has no idea why (Chaudhuri, Pal, & Brefl-Courbon, 2002).

Statement of the Problem

The problem to be addressed is which teaching and learning transactions can be implemented by an educator to facilitate learning in adult learners with narcolepsy.

Purpose of the Research

Narcolepsy is a neurological disease which causes excessive and uncontrollable sleepiness during the day. It affects a person's cognitive ability which results in the challenge of the ability to learn. Awareness of how to tailor the learning environment will aid them in assisting narcoleptic students.

Significance of the Problem

About 0.05% of the population suffers from narcolepsy. This means that approximately 5,000 people out of every 100,000 people suffer from this disease. Many adult learners fall in this category. They believe in lifelong learning and desire to pursue their education. This paper will give a general overview of the problem and suggestions as to how to assist these adult learners. (Schenck, 2008)

Definition of Terms

Afflicted – negative influence on a person place, or things which hampers their ability

Adult Learner – a learner who is no longer a child; an emancipated person, an adult

Alternative assessment - different modes to test and measure learning

Andragogy – the education of adults under the premise that they want to learn

Disability – a mental or physical inability to function as the average person would

Functional difficulty – emotional, behavioral, or bodily activities are not easily performed

Narcolepsy – inability to stay awake during the day with possible moments of paralysis

Neurons – brain cells that convey information.

CHAPTER TWO: REVIEW OF LITERATURE

Review of Research Regarding Narcolepsy and the Adult Learner

Present Status of the Adult Learner

In today's society the ethic of being the most fit still stands despite inroads which the educational and counseling communities have made regarding inclusion of individuals who have mental and physical differences, and need educational accommodations. The keystone to success in adult education is the desire to learn. Teaching the adult learner is called andragogy (Knowles, Holton III, & Swanson, 1998).

According to noted educational theorists, andragogy is an educational theory based on the instruction of adults and their learning processes. The premise that the adult learner wants to learn is a given. These adults are in an educational setting at their own desire for whatever goals and purposes they hold. Some of these motivations are a desire to improve his or her life, improve the welfare of the family, and to succeed at work.

The adult learner has life experiences which will aid the learning process. This is different from teaching children in K-12. Public school education is mandatory education by law. It is teacher focused and follows a mandated pattern of information giving and instruction. This method is different from what is needed by the adult learner, who has made an intentional decision to seek an education and has a desire to learn (Zemke & Zemke, 1984).

Narcolepsy and the Adult Learner

Narcolepsy is the inability to stay awake for long periods of time during the day which results in lapses of memory, learning difficulties, and forgetfulness, unclarity of thought, or malfunction. Sometimes it even results in body stiffness and the inability to move. This is

known as cataplexy (Schenck, 2007). Each of these symptoms adversely affects the adult learner in some way.

The results of narcolepsy can sabotage the learning process. Lapses of memory can cause a person to forget parts of a presentation. Learning difficulties such as the inability to retain information visually, verbally, or audibly can result in a paper or an assignment to be incomplete or it does not fully address a given assignment. Oral presentations could be a disaster if the adult learner cannot remember the content of the presentation.

When the brain of an adult learner seems to be blank, and there is no energy to participate in a lesson with a positive degree of understanding, the result can be a lack of comprehension by the brain. The gray matter and the neurons are lacking in quality and function. When a student is taking notes, listening to a lecture, in a study group people will see their eyes wide open and are not aware that the student's brain is sleeping. Or the student's eyes are struggling to stay open, the student dozes off for a second to a minute or more and the other people in the group or class assume that student is tired, bored, or disinterested.

Narcolepsy does not mean that the person does not sleep at night. It means that the person or student could sleep during the day from one to 10 or more times for a few seconds to several minutes. This is unintentional and could cause muscle weakness and falling. During these episodes, the receptors of the brain are not able to receive, process, retain, and act upon information which the brain is being exposed to (Siegel, 2000).

Unlike the student who has the ability to study with understanding and retain the material in order to succeed in the evaluation process of this material, the student with narcolepsy struggles to do these things despite uncontrollable excessive daytime sleepiness. The student with narcolepsy looks like everyone else in the class setting. But there are times when these adult

learners appear to be motionless, not attentive, and emotionless. Some do not react well to pressure brought on by assessments, presentations, projects, and team interaction. This is due to a brain malfunction which cannot handle stress and pressure resulting in temporary bouts of memory loss. The average person is totally unaware that these adults are suffering from this medical condition because these students look healthy, and function well on the average. These adults are suffering from the results of a sleep disorder rather than intentional sleep deprivation. (Lawrence J. Epstein & Mardon, 2007) In addition to narcolepsy causing memory loss and forgetfulness, another symptom of narcolepsy is, impaired vision such as double vision, and the inability to receive information for long periods of time. (Aldrich, 1999)

Out of about every 100,000 persons, approximately 0.03 – 0.1%, or 3,000 to 10,000 of them, have narcolepsy. This disease creates the the inability to move and the inability to resist falling asleep. The paralysis or cataplexy associated with this neurological sleep disorder can cause the adult learner to periodically not receive information, not be able to think, and to be unable to perform an educational assessment. In those few seconds of uncontrollable sleep the adult learner lacks the ability to study, be alert, and receive and retain information resulting in an inability to be assessed properly regarding information (Chabas, Taheri, Renier, & Mignot, 2003).

The ability to handle pressure is reduced. Pressure can cause the onset of an episode. This neurological disease that does not allow the adult learner the ability to focus for long periods of time, or handle day-to-day pressure and stress can be devastating. Tell this student upon entering a classroom that there will be a pop quiz, a term paper due soon, a driving test, Thanksgiving dinner at his or her house, or that the student may receive a poor evaluation at

work or a lower grade or assessment, and this student's muscles get weak. The muscles of the student may sometimes weaken so much that it results in their inability to move their body. The student may fall asleep on the spot, or the student may be sitting up in the chair at their desk, eyes wide open appearing to be alert, participating, seeing, and hearing, when in all actuality this student can see and hear but cannot talk or respond. (Cipollo, Campana, Campi, Mattarozzi, Mazzetti, Tuozzi, Vandi, Vignatelli, & Plazzi, 2007).

Neurological Disorder

Narcolepsy, the inability to stay awake during the day, is diagnosed after extensive sleep studies are conducted. This process is called the Multiple Sleep Latency Test (MSLT). These tests are usually performed at a sleep center or medical facility to diagnose this problem. Brain transmitters, also called neurotransmitters, send and receive information in the brain, which then sends signals throughout the body. These transmitters are utilized by cells called neurons. These neurons affect moods, including sleep. They are fibrous cells which control motor processes and movement, as well sensory processes which direct and transmit nerve impulses. Neurons communicate with the organs and nerves using chemical and electrical signals which the central nervous system relies upon (Chervin, 2000).

The sensory part of the nervous system informs the body of light, sound, taste, or pressure. Motor neurons communicate with muscles and glands. A neuron will convey messages to and from the motor and sensory centers of the brain. As a result, a normal person with a healthy brain has neurons that transmit sensory and motor information throughout the nervous system and the brain. This person sleeps well, wakes up refreshed, and is able to receive information in school or work. This person adequately processes social information. Whether at

school, work, or home, this person processes information and retains it. Persons with narcolepsy cannot do these functions. They have a gene that prohibits normal sensory and motor transmission (Chervin, 2000).

The hypocretin-2 receptor gene in the brain is a factor in understanding the brain's ability to receive information or send instructions to and from other cells. There is little or no hypocretin in the brain of persons with narcolepsy. This gene promotes rapid eye movement which brings on normal sleep, which causes REM (rapid eye movement) sleep. Thus a person who has little or no rapid eye movement is tired all day. Many scientists feel that the lack of the hypocretin-2 receptor is the cause of narcolepsy. Sleep patterns are regulated by hypocretin. The result is that the person goes to bed at night, appears to be asleep, yet wakes up tired. Persons with narcolepsy have abnormalities in the rapid eye movement phase of sleep which results in excessive daytime sleepiness (EDS) (Chervin, 2000).

Some researchers feel that the reason for this is because the neurons are not functioning properly in the brain. They believe that the cells in the forebrain of narcoleptic patients degenerate. Also, researchers feel that the neurons and the brain stem are damaged due to the lack of sleep which cause nerve cells to slowly breakdown. Neurons repair themselves when a person engages in normal sleep. Lack of sleep does not allow this process to occur (Chervin, 2000).

Medical Treatment for Narcolepsy

Research has shown that narcolepsy is a genetic disorder. Persons who have this disease are at risk for diabetes and high blood pressure. They tend to be overweight and have suffered

from excessive daytime sleepiness for years prior to their diagnosis. The reason for these ailments is again the loss of hypocretin-secreting cells in the brain (Foldvary-Schaefer, 2009). It is important that the person does not take the diagnosis and treatment lightly because some negative results of having this disease are: muscle weakness, cataplexy, excessive daytime sleep, and hypnagogic and hypnopompic hallucinations (Schenck, 2007).

There are natural and medical treatments which can be implemented to assist the adult learner who has narcolepsy to stay alert and be an academic success in higher education. There is no cure for this disease. The best natural method for treatment of a person who has narcolepsy is one which involves dedication and self control. Naps for as little as 15 to 20 minutes, one or two times daily, during work or school are helpful. Naps revive the mind, and allow the adult learner to be refreshed and able to continue learning. This is easily accomplished by having a physician write a prescription for specified naps or rest, which must be filed with the necessary medical diagnosis with instructions to the instructor, health department or client at a college or university, with instructions to them and the adult learner (Dement & Vaughan, 2000).

Some adult learners have a medical condition called cataplexy along with the narcolepsy. This is a brain malfunction whereby the brain activates sleep during the day. This results in the student having a loss of muscle function. It has been medically proven that emotions such as laughing, anger, fright, stress, and fear can bring on cataplexy. This negatively affects the adult learner in terms of testing, assessment, and presentations before a group. A person experiencing this medical condition can faint, fall to the ground, or have eyes wide open and not be able to speak or move from a few seconds to a few minutes (Epstein & Mardon, 2007).

An adult student who suffers from narcolepsy must be prepared to explain this information to an educational professional or instructor. Willingness to do this is essential to the adult student's ability to be successful in the educational setting. There are students who may have studied for an exam all weekend, get to the lecture hall on Monday morning and be so tense that the memory malfunctions, the test grade is poor, and the student is dismayed. The memory of these students who have narcolepsy has been compromised by the lack of hypocretin in their brains. This anxiety and memory loss is usually kept to oneself (Foldvary-Schaefer, 2009).

To repair brain cells, a child or adult must engage in health promoting practices overall. Adequate consumption of water daily, reducing sugar and salt intake, and consuming more green leafy vegetables and fruit help in promoting overall health, including brain health. In fact, eating an orange or having a mint prior to taking a test or any type of evaluation is believed to stimulate the brain and memory. Also, a person must exercise for at least 15 minutes daily. This strengthens the muscles, strengthens the mind, clears the body of toxins, and stimulates the circulatory system (Dement & Vaughan, 2000).

Natural treatment is preferable but does not always work, or should be combined with prescribed medication. Initially in the 1930's through the 1940s the use of amphetamines was imposed. The side effects of sweating, a rise in blood pressure, and causing a person to become nervous called for more study. Then through the 1990s the use of methylphenidate or Ritalin was prescribed. The side effects of this medication is headaches so severe that patients could not concentrate, study or work. Two other medications used are Cylert, which damages the liver,

and Xyrem which is a date rape drug. Neither of these two medications are acceptable for the adult learner (Dement & Vaughan, 2000) .

Since the late 1990s a perscribed drug by the name of Modafinil, known as Provigil, has been taken by the adult learners suffering from narcolepsy, and it is working. The side effects are mininal. The purpose of Provigil is to stimulate the brain without affecting the rest of the body. It can be taken in small doses, and can be increased or decreased oneself (Foldvary-Schaefer, 2009).

Educational Accommodations for Adult Learners with Narcolepsy

An instructor must be knowledgable of those medical problems which cause adult learners to be legally and medically disabled with such learning disabilities like narcolepsy. The instructor should be trained to recognize problems students may have, and be aware of the causes and effects. The adult learner can have a form of an Independent Educational Plan (IEP) approved by the educational system. This is an educational plan structured by the educational institution to assist the student with a medical disability to achieve academically. This same affected adult learner could have special acommodations at work based on the federal and state guidelines under Title VII of the Civil Rights Act of 1964 which has certain legal protection for disabled employes (Eight Case Summaries, 2006). On a social level, a person with narcolepsy has the duty and responsibility to inform an instructor as to any medical disability he or she may be diagnosed with or think they need testing for.

Research has shown that in an educational setting certain classrooms should be arranged so that students with narcolepsy achieve academically. Various colleges and universities have

studied the issue of accommodating students who have disabilities. This has resulted in the development of guidelines to assist these students having a positive educational experience. Many higher education institutions have developed and implemented programs through their counseling departments and health centers. Others have gone a step further and developed an entire office on campus which focuses on disabled students or students with physical or mental disorders. (Answers.com)

Some universities have disability services offices where a student and the institution can enter into a contract for academic accommodation services for those students who have medical disabilities which are pre-existing and medically documented. These colleges and universities emphasize to the students that these accommodations for learning give them the opportunity to excel and be successful academically. They are not a crutch nor are they a lowering of the academic standards for learning. They are only a method or tool implemented to be flexible in the learning process of the student (Cole & Cain, 1996).

Various colleges and universities have put in place a variety of tools which will assist the students and create a flexible learning process. Some of the tools for this process are: varying the methods of teaching, present the materials in several methods: whiteboard, PowerPoint, audio/visual, team projects, taped lectures, handouts of key points and outlines, scheduled breaks during class sessions, implementation of nap or rest periods, and one-on-one instruction between the instructor and the student. Lighting of a room also affects the brain. It should be known which type of light is best for a person suffering from narcolepsy so the brain will be ignited.

Implementing some of these tools can benefit these students. The adult learner who has narcolepsy should be afforded more time to take an exam or to test the student orally from time

to time. Also giving the student extra time to prepare and turn in projects, and to allow additional time for assignments in class would be helpful.

CHAPTER THREE: CONCLUSION

Some of the effects of narcolepsy which affect the adult learner can mean failure in the academic world. To have double vision in a college or university lecture hall and not be able to see an exhibit, or the material on a whiteboard, or even read a handout can be disturbing. More than likely the person with narcolepsy will not mention it to anyone. But unless treated, that student will miss out on the lessons given for a particular day, or be unable to read a text. The inability to concentrate for long periods of time can lead to restlessness in class resulting in the student moving around in the seat, talking, not paying attention, or leaving the room during class. The result would be the loss of information presented during class. Memory loss or the inability to retain what was just heard or read is another problem for adult learners with this disease. This is critical when it comes to testing and assessment.

Adult learners are making strides in education, the work place, and in their families every day. For them to continue in this positive vein, education is the key to progress and success. Despite generational narcolepsy and the contracting of the disease by other means, the adult learner and higher education can work together so the student has academic success.

The federal laws of the United States pertaining to students with disabilities is only for K-12. It is incumbent on colleges and universities to maintain a sense of accommodation for students when federal protection is lacking. The educational institutions should maintain a separate division of the college or university that assists students with disabilities. In doing so there should be criteria set up to make sure there is medical documentation, and that they are in compliance with the Americans with Disabilities Act of 1990 (ADA). This is a civil rights law protection for students in most public and private colleges and universities (Answers.com).

Narcolepsy awareness within disabilities programs is important as well. Student medical centers and counseling centers on campus should have literature about narcolepsy. They should provide specific help by offering tutoring services, monitoring the student, and communicating with the instructors. They should have on file medical information about the student, and should promote an open door policy. Students with narcolepsy also need to be in well lighted rooms during the day, and be provided testing alternatives, study plans, and moral support.

The desire of the adult learner who is interested in life-long learning should not be hampered by the educational setting. Rather the educational setting should help them overcome fear or lack of confidence resulting from the narcolepsy. A disability such as narcolepsy is one which the adult learner and the institution must embrace, make academic accommodations for, and ensure that the student continues to move upward towards success.

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