

Some Thoughts on Education

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1. THE AMALGAMATION THEORY

Who are we, and how did we become the person we are? This is a difficult, complex, and controversial question to answer. As different theorists attempt to answer it, many debates have evolved. Unfortunately, no one theory deals adequately with all the different aspects of human development. Nevertheless, I believe that some are better than others are. Taking into consideration both the pros and the cons of each, I was able to devise my own theoretical approach to explain human behavior and development, an approach I will call the Amalgamation Theory.

The biological, learning, cognitive, and psychoanalytic theories all contain weaknesses that prevent me from assigning them complete credibility. First I will scrutinize the biological approach. I feel these theorists have too narrow a conception of human development. I do not believe that, as humans, we are completely pre-determined by our genetic or biochemical make-up. We are not passive biological machines "putting in time" waiting for pre-determined development to happen. The importance of environmental impacts on human processes is entirely overlooked. One level of functioning cannot be completely understood by focusing exclusively upon innate processes. When trying to explain emotions or personality traits these ideas are not easily accepted. It is for these reasons that this theory is unacceptable.

Just as physiological approach has its weaknesses, so too do learning theories. Nature is emphasized and the importance of nature downplayed. The overall dilemma of Skinner's "punishment/reward" phenomena is too simplistic in its form. When dealing with morality for example, where one focuses on the intentions of an act rather than the act itself, changes in morality are not likely to be learned through reward and punishment techniques. Likewise, modeling is too simplistic in its form. Imitation cannot explain grammatical developments very well. For instance, it makes little sense in attempting to teach a two month old baby how to talk. Maturation is the key developing factor. Behaviorists have difficulty attempting to explain abnormal behavior as well. They seem to suggest that humans do not have a "mind", but instead our actions are based on a "stimuli-response" relationship. I think learning theorists use the study of rats as a metaphor for human behavior too often. We are more complex than rats. By over simplifying human problems, it can be understood how and why behaviorism may be viewed as superficial.

Criticisms can be attached to the cognitive theoretical approach to development. Joan Piaget based his conclusions strictly on overt behavior. I think that he relied too heavily on children's descriptions of their thoughts, and by doing so, their actual cognitive capabilities are underestimated. That is, children may understand something, but at the same time, they may not necessarily be able to explain it.

The psychodynamic approach can also be criticized. Although they view people as complex creatures, unlike the learning theorists, their beliefs are rather "mystical" in form. That is, no research supports their opinions. It is unscientific and these abstract constructions are the main reason for its shortcoming. For instance, I think it is unrealistic to assume that deviant behavior will result from having a cool, unloving mother.

Freud concentrates too heavily on the past and on relating personality traits to hidden, unconscious, sexually instinctive motivations for me to accept his theory as legitimate. Furthermore, the environment plays too small a role in this theory.

Erikson's psychological theory closely parallels Freud's idea of stages. However, rather than concentrating on sexual terms, Erikson sees these stages on a social level. Erikson's theory's weakness is that it represents a map of how one develops socially, but it does not take into account how one gets from point A to point B. It outlines the milestones of achievement, but it does not deal with the factors that determine how one gets to these milestones. In other words, it does not specifically incorporate the biological, cognitive, and learning factors into social development.

I have briefly outlined the weaknesses of each theory; however, they all have relevant ideas, and these are what I wish to amalgamate into one common theory. From the biological theory, physical factors such as maturation and growth are

emphasized. This approach also adequately deals with sensation as well as the brain as an organ and the role they play in developing humans. There are mechanical skills which develop independently of external learning and this physical aspect of development must not be neglected. The social learning theories also have some positive characteristics which should not be excluded. The environment plays a significant role in shaping the individual. Other people influence who we are and what we represent. This aspect of development is learned, not innate. The cognitive approach to development also contains certain elements which hold merit. "Thinking about thinking" can lead to some interesting and useful conclusions. For instance, shared patterns of thinking and development are observable between students from different cultures. Furthermore, all people attempt to understand, or make sense of, their surroundings. The psychoanalytic theory gains its strength by its emphasis on early childhood years. Things that happen to a person as a child can hinder or promote their development. For example, a sexually abused child may have difficulties forming an intimate relationship in his or her later years. As for Erikson and his psychosocial model many valid points can be made. I agree that development is a continual search for mature "identity". Because in his model he deals with social stages rather than sexual stages, I can relate to his theory. I believe that we do possess a "conscious self".

The cognitive, biological, and learning theories are the primary factors that shape our progress in human development. Erikson's model provides the framework to which these three factors can be applied. His theory can be used as a scale for measuring a person in terms of his or her development. However, the scale alone does not tell me anything about why a person is at the level they are or what is required to move further up the scale. To answer these questions one must revert back to the three factors being mentioned. Using these three factors one may analyze why a person is where he or she is in the stage of development, and one can predict what is required for that person to move up the scale.

By incorporating the strengths from all four theories, an all-purpose macro approach may be taken. This is where the strength of my theory lies. One is not limited to any one perspective. The weakness however can be found in its complexity. One must be able to take all the factors into consideration and decide which factor, or factors, is limiting the individual's growth. It is difficult to do this because the factors are interrelated, and multiple causes may exist.

As a teacher I think it is important to be flexible in my thinking. To begin to understand why a child behaves the way he or she does, or to help them progress in their development, one must consider all possibilities. It is important not to limit oneself to one particular theory.

Bibliography

Bee, H. (1989) *The Developing Child*. New York: Harper & Row Publishers. (5th Ed.)

2. WHAT IS LEARNING

Many people in the Education field focus their interests and direct their energy towards understanding “teaching strategies”. Ironically, however, very few try to unscramble exactly what learning is first. It is important to define learning for oneself as this definition effects one’s conception of education, and in turn, one’s established classroom norms. In this paper I am going to propose two contradictory approaches to understanding learning as defined by different theorists. The information was researched and obtained by Samuel S. Dublin and Morris Okun. Later, I will provide my own interpretation of what learning means to me, and how this definition might affect my conception of education.

The journal article, “Implications of Learning Theories for Adult Instruction”, reviewed three approaches to understanding learning: Behaviorism, Neobehaviourism and Cognitivism. I am going to focus primarily on the Behaviorism and Cognitivism ideals. Behaviorists, those who emphasize the importance of reinforcement, and the relationship between the external stimuli and responses, tend to have a common concept on learning. They believe learning occurs as a result of practice or repetition to create associations. Hence, the learner is relatively passive in the learning process. To behaviorists, learning occurs as conditioning takes place, it is merely the “acquisition of habits”. What this means in a classroom setting is that the onus is on the teacher to organize and present the material in such a way that their students learn and acquire skill in response to hidden or obvious reinforcements. Teachers must condition their students in a meaningful way; therefore, conditioning must be carefully planned. A good teacher then would have a uniform set of reinforcements and would plan an organized, well thought out agenda. The students would be expected to react in a predictable manner that would require only limited processing of the information presented.

By contrast, cognitivists encourage individualism in responses. Complexity in thought results from individual’s own method of cognitive structuring. Hence, the learner is active in the learning process. Students must create categories, they must create their own meaning to the material being presented. Teachers are responsible to provide students with information, to be a guide, and to facilitate dialogue which may lead to further insights. “Good teaching”, according to cognitivists, means the teacher can present the specific details of a concept and have students form a global

picture, or the teacher may provide a global picture and have the students break it into smaller, meaningful parts, based on what they know. In either case, the learners are active in the learning process. That is, they do have some input into forming their own conclusions.

Both the Behaviorism and the Cognitivism perspectives have their strengths. For instance, vicarious learning, imitation, and modeling are our primary means of learning rudimentary skills and methods of behavior. More complex concepts, theories, or abstract ideas are more easily learned by cognitive methods. My theory, instead of discarding these two theories, incorporates them both within the framework of one larger, more complex definition. To me, learning is a relatively permanent, hierarchical formation of meaningful concepts that explain the relationship between distal stimuli and one's own perception of that stimuli. It also includes the ability to recognize relationships between the two or more concepts. It is continual, cumulative, and only limited by one's environment, biological potential, and motivational level. Learning can be enhanced as a result of experience and practice.

Learning is a relatively permanent in that what you truly learn goes into your long-term memory and you will remember it forever. If you do not use your knowledge, it may start to fade, however, it can be easily re-learned. It is hierarchical in that simpler concepts must be grasped first before more complex ones can be understood. Concepts must be learned in stages, from the simple to the more advanced.

Learning takes place in both the concrete and the abstract form. Your perceptions of the world around you may be learned better through vicarious learning, imitation, or through experience. Your ability to recognize relationships between two or more concepts may be better learned through cognitive methods, such as categorization.

Learning is continual because as you live your life you are always faced with new experiences, are having to think through situations, or to engage in some form of problem solving. All this knowledge is added to what you already know, and you use it as a reference in future experiences or problems. This is an example of how learning is also cumulative.

Learning is limited, to some extent, by one's environment. For instance, teachers, peers, and parents will play a part as well. Third world countries, for example, do not have the opportunities that people in some other countries do. Perhaps they know more "survival tactics", but others may be subjected to a greater range of experiences.

Although "nurture" influences learning, "nature" may too set some limitations. That is, one's biological composition is, to some degree, related to one's ability to acquire knowledge or skills. Exactly how high this correlation is, is relatively unknown, or at least debatable. I do not agree with the idea of "determinism",

nevertheless I do agree that innate features may inhibit one's potential. For example, person's with Down's Syndrome are at an obvious disadvantage with regards to "learning". That is, his or her "limit" will be reached sooner than someone without a learning disability will. Likewise, the potential of the individual with Down's Syndrome will be less than someone without the disease. Although people with learning disabilities are somewhat "biologically restricted", they still need to be challenged so that as Vygotsky might say, "their potential may one day become their actual".

I believe the philosophy, "today's potential is tomorrow's actual", holds true for everyone. However, submitting challenges, giving encouragement, being supportive, and providing alternative learning settings and strategies to meet the needs of the many types of learners in a classroom, does not guarantee that one's potential may indeed become his or her actual. In fact, a person's motivational level is equally as important in determining how far one travels down the continuum. Learning itself may be limited by a person's attitude towards learning. That is, one has to "want" to learn if he or she is going to benefit the most from the experience or the material presented. Students must take responsibility for their own learning. Teachers can facilitate the learning process but the student must also play an active role. Perhaps to better see how motivational level is related to learning it would be appropriate to see one's potential in terms of being like a rubber band. "Some people have large rubber bands; however, a small rubber band stretched is better than a large one not stretched at all!"

This last part of my definition of learning states that comprehension can be enhanced as a result of experience. Experience provides an individual with the opportunity to internalize material, which in turn, introduces the "feeling" or "emotion" aspect of learning. Learning is more than reasoning and other cognitive procedures, it includes the ability to relate to emotional states as well. Learning concepts such as prejudice, for example, are meaningless if done so by memorizing literature. Instead, the "process of empathy" enables facts to take on true meaning. Experience may cause an individual to change or modify his or her previous schemes. Reconceptualisation is inevitable once previous notions are questioned. This expansion of knowledge, or modification to old schemes, is what learning is all about. Consequently, the individual grows as a result. Learning is an "open" process which permits new possibilities to enter the repertoire.

Learning is a difficult concept to define because it is open to interpretation. My explanation of the term has been reviewed, and although I feel that it is legitimate, not everyone will agree with what has been said. Nevertheless, my formulated ideas toward learning will effect my conception of education, as mentioned earlier. To

begin, I believe that the role of the teacher is to facilitate learning. Because of this, I promote "student-centered" classrooms. I feel that they are beneficial in that they encourage thinking and help bring about self-understanding of the material being presented. This is learning. Learning should involve more than memorization and regurgitation -it should be "real". There should be some connection made between what is being learned and the student's life. Students should take possession of their education. They should be allowed room for their own thoughts. Individual differences should be welcomed and creativity maximized. In order for all this to be possible, teachers need to move away from the continual "transmission" style of presenting material into a more "transformational" manner. Furthermore, because evidence has shown that students are capable of learning more than previously thought possible in a classroom, they should not be underestimated-they should be challenged.

Reference

Dubin, S. S. & Okun, M., (1973). Implications of learning theories for adult instruction. *Adult Education*, 24.

3. College Students with Learning Disabilities-Skills needed for Academic Achievement

Post-secondary institutions present both opportunities and challenges for learning disabled students. New and increased academic demands are placed on these students and they must develop new skills and compensatory strategies to overcome such challenges. Following is a discussion of the special needs of learning disabled students and strategies for meeting them in the post-secondary institution. More specifically, I will outline effective programming and evaluative accommodations that can be implemented by the institution to better serve the needs of the learning disabled student. Throughout the paper, possible reasons for specific difficulties will be detailed.

There are many differences between high school and university, making the transition difficult for many learning disabled individuals. To begin, teacher-student contact is greatly reduced. Students are required to work more independently and are responsible for their own learning. Long-term assignments and an increase in required readings demand efficient organization and time-management as well as personal discipline. Greater proficiency is expected in the essay assignments and exams. For students to be successful in completing their program various skills and coping strategies need to be developed.

a) Special Needs of Learning Disabled College Students

There are various needs of the learning disabled student, including: academic advising, effective study habits, reading comprehension skills, written language skills and social/interpersonal skills. Each of these special needs will be discussed and explained.

b) Academic Advising

The academic advisor must have knowledge and understanding of learning disabilities and what characteristics specifically define the student he or she is working with. That is, the student's strengths and weaknesses, processing deficits, and learning style need to be identified (Vogel, 1987). For example, the student whose major difficulty is in reading comprehension should be advised to take only one heavy reading course per semester. Course selection should be done strategically. The level of difficulty, the prerequisites or assumed background knowledge and skills, and the method of instruction should be known before enrolment. It is helpful for learning disabled students to read the course description and syllabus in advance. The time frame of a course also influences academic achievement for learning disabled students. For those with long-term memory deficits, the more frequent the classes meet and an instructor evaluates, the better (Vogel, 1987). The number of courses that a student enrolls in is another important key to success. Students are often advised to carry a minimum full-time load or attend part-time.

c) Effective Study Habits Note Taking

Note taking from lectures is a critical skill used by university students. This requires simultaneously listening, comprehending, synthesizing and/or extracting main ideas while retaining them long enough to formulate and write a synopsis. Automaticity and speed in forming letters and legibility is also needed (Vogel, 1987). Since learning disabled students tend to experience difficulty in listening comprehension, information processing, spelling, handwriting and auditory discrimination, it is obvious that learning disabled students will most often have difficulty with note-taking.

Johnson (1980) described the most persistent auditory disorders that adults exhibit. The first she described was difficulty in phonemic discrimination. The less familiar the student is with the vocabulary of the subject matter, the greater the difficulty at the level of phonetic discrimination. Considering there is a substantial amount of jargon in a field of study, problems with auditory discrimination is a serious hindrance to note-taking and in turn, learning.

In addition to difficulties in auditory discrimination, the learning disabled student

may experience other challenges related to specifically to note-taking. Four possible challenges to effective note-taking will be outlined. First slow rate of comprehension jeopardizes effective note-taking. Slowing down the rate of speech is therefore helpful for these students. Secondly, remembering sentences may be difficult. This may reflect an underlying problem in acquiring the syntax of their native language (Johnson, 1980; Vogel, 1975). Third, a recent study by Hughes and Suritsky (1994) found that learning disabled students wrote slower and used fewer abbreviations than did their non-disabled peers. The more time that is spent writing, the less time for listening attentively for the message of the speaker. Fourth, learning disabled students expressed difficulty using prosodic cues to help with listening comprehension; consequently, discriminating between relevant and irrelevant information is more difficult.

What can be done to overcome such difficulty in note-taking? There are several suggestions. First, learning disabled students can borrow notes from a classmate or the instructor. Second, someone can be hired to do the note-taking for the student as well. Lastly, tape-recording is an alternative idea. This comprehensive strategy is beneficial in that the student does not have to rely on auditory memory. Listening to a taped lecture also helps students to recognize main ideas, new terminology, summary statements, or the introduction of a new topic (Vogel, 1987).

Although tape-recording lectures allows for unhurried listening, comprehending, organization, and writing of complex ideas so as to comprehend, organize and retrieve them, the process is time-consuming and does not provide a synthesis of the information on paper. In other words, students are still required to organize the information efficiently and a deeper level of processing is required that involves extracting meaning from words and relating it to previous knowledge. Furthermore, paraphrasing and summarizing lectures (rather than recording them verbatim) increases speed and allows more time for deeper cognitive processing of information. Developing and using symbols and abbreviations are other techniques that are useful. More of the student's time can be spent listening for important information rather than concentrating so much on the writing itself.

Note-taking activates the learners' attention and facilitates the transfer of information into long term memory (Surtyky & Hughes, 1991). This is a critical skill for university students and needs to be taught formally.

d) Organization and Time Management Skills

Learning disabled students generally require more time to work on assignments and to study than their peers therefore, organizational skills are very important to develop. Students must be able to store and quickly retrieve information as needed,

such as course syllabi, hand-outs, study guides, reading lists, assignments and lecture notes. This population of students often have difficulties sorting the essential from the nonessential for the day's activities (Vogel, 1987). Tools such as color-coded three ring binders, sectional dividers, folders with side pockets, and file boxes would be useful to introduce. A variety of calendars may also assist students with their organizational tasks. Maintaining a day-timer is helpful to keep track of class schedules, appointments, personal commitments, and study schedules. Since learning disabled students have a tendency to be disorganized, than they need all the important information highly visible. In addition, the more structured class and assignment schedules are followed, the more the student can guard against procrastination.

e) Test-taking Strategies

There are several prerequisite skills needed to write tests effectively. One, for example, is the ability to abstract the essential information, principles, and unifying themes in lectures and in readings (Vogal, 1987). Often learning disabled students will write down unimportant information and miss the main point. For these students it is beneficial to focus on the key words to test questions such as describe, compare and contrast, analyze and apply, discuss their meaning, and practice writing answers that use appropriate paragraph and essay organizational patterns (Vogal, 1987).

Another necessary skill is the ability to outline and summarize large bodies of information and to retain this information. Deficits in auditory and visual memory are two frequent processing deficits in learning disabled individuals (Vogal, 1987). Learning disabled students tend not to devise memory strategies (Togessen, 1977). Students need to be taught memory strategies, such as mnemonics, acronyms, association, rhymes, limericks and numerical relationships, and how to apply them test preparation. The learning disabled student has to be "over-prepared" for examinations (Vogel, 1987, p.256). Being over-prepared is necessary to reduce some exam tension. Effective coping strategies can also be taught to these students. Biofeedback, breathing exercises, and relaxation techniques are just a few strategies that can be learned to cope with the stress of writing examinations.

f) Reading Comprehension

Along with lectures, reading is the primary source of information for the university student. Unfortunately, a large percentage of learning disabled students have deficits in the domain of reading, some more severe than others. To help the population of students with severe reading difficulties (dyslexia), one must first understand the nature of their condition. Difficulty for these students is impervious to

intelligence. It is not that these adults are intellectually challenged or brain damaged. To the contrary, they are of average or above average intelligence, and brain different. Their brains are organized differently than their non-disabled peers. Geschwind, Galaburda, Sherman, & Rosen have studied dyslexic brains and found three main differences: 1) a symmetrical planum temporale; 2) focal neocortical malformation (ectopias); and 3) defects in fast (magnocellular) sensory systems. Independent MRI studies (magnetic resonance imaging) of the planum of dyslexic brains confirm findings of subtle changes in the brain morphology of dyslexics. There is converging evidence that dyslexic brains are different.

Dyslexia is a modular language deficit in linguistic processing. Poor reading can be attributed to the lack of phonological awareness. In working with these persons, training must be given in the phonology domain. The problem is linguistic not perceptual (Leong 1987). However, dyslexics, because of the characteristics of their disability, are difficult to remediate. Difficulty in reading comprehension seems back to difficulties with lower level skills. Their breakdown occurs at the word level and making symbol to sound correspondences. These students experience a problem of decoding, resulting in lack of comprehension. If one cannot decode quickly and effortlessly, then less attention will be available for understanding the meaning of text (Lundberg, Blachman, Ried).

Learning disabled students with reading difficulties need to reflect on the structure of language. As Adams (1990 p.416) says, "deep and thorough knowledge of letters, spelling patterns, and words, and the phonological translation of all three, are of inescapable importance to both skillful reading and its acquisition." Fortunately, there are specific tasks to improve phonemic awareness, which is basic to building word knowledge. Pseudo-word decoding is one such task. Pronouncing non-words taps into an individual's phonological knowledge. Phonological segmentation of spoken words and rapid naming of pictures are other tasks to increase phonemic awareness (Stanovich, Keith).

Word-attack strategies are useful, but the student must first understand the language "code". Learning the language code is a slow and time-consuming task, and requires practice. All students with reading difficulties have to read and reread passages to fully understand the message of the text. Proficient readers must have a deep knowledge of the "form" of print to attain automaticity (beyond mere accuracy). Since learning disabled students with reading difficulties do not have this knowledge of the underlying representation of print, reading is much slower. They fixate longer on each word and regress more to past words than do proficient readers. Because reading is much slower, deep levels of comprehension is jeopardized. Furthermore, since the meaning of text comes from words and the syntactic

structure of the language (arrangement of words and sentences), it makes sense that if one cannot read the words, they will not attain meaning from the text.

Some other strategies, reported by students who are learning disabled, to improve reading comprehension include reading in a non-distracted environment, subvocalizing, and purchasing highlighted textbooks (Cowen, 1988). Students can also purchase books on tape. This multi-sensory approach (reading and listening simultaneously) helps with reading comprehension.

Farnham-Diggory reveals a story of a boy compensating for his dyslexia to become successful in college. Partially helpful to Dave was a college remedial class called Intensive Literacy, based on the Orton-Gillinham tutoring method. Outlining this program is useful to demonstrate the importance of phonemic awareness in the acquisition of reading. This program stresses spelling strategies based on phonemic training, syllabication, and spelling rules. The program begins by teaching letter-sound units, called phonograms, in isolation. The student learns combinations of letters (such as TH) have different sounds (voiced and unvoiced). The students write phonograms from dictation and read them aloud from cards. Extensive practice automates recognition and retrieval of letter-sound units.

After many phonograms have been learned the student begins to work on spelling. The importance of syllabication training is evident here. The student must first distinguish how many syllables are in a word, identify and reproduce the first sound, then write it. This procedure helps the student break words into syllables, syllables into phonemes, and retrieve from memory the letters associated with those phonemes (Farnham-Diggory, 1992). Students must continually practice the words they have spelled. Gradually rules are introduced. Students bring technical terms from their classes and add the words to the personal dictionaries and develop sight vocabulary.

The program has three types of components; automatic; analytical and strategy. On the automatic level, the program drills phonograms, handwriting, and word recognition. On the analytical level, the program teaches close attention to graphic and sound details, and techniques for decomposing and recomposing units. On the strategy level, the program teaches techniques for summarizing, remembering, and integrating ideas (Farnham-Diggory, 1992). A combination of these components develops a well-rounded program targeting the various necessary skills required for reading comprehension. The subject of this program showed considerable improvement in reading, especially comprehending words in context. Dave has learned to pick up more letter-sound units within a word. These improvements in decoding made a tremendous difference in his comprehensive skills: "they give him a much better chance of activating the correct meaning of the word" (Farnham-Diggory, 1992, p.106). This program has trained Dave to self-monitor his reading, an important skill to develop.

Dave can now read anything he wants to- I would say the goals of the program have been attained. This strategy can assist other students like Dave in reading comprehension.

8) Writing Skills

Balaock (1980) has estimated the number of learning disabled adults with written language disorders to be between 80 and 90 percent. Students should therefore be offered compensatory strategies to deal with this deficit. The ability to express oneself in writing clearly and precisely is often considered to be synonymous with the Bachelor's degree. Belief that the writing process is a catalyst for the thinking process itself are held by many faculty instructors (Vogel, 1987). Therefore, written expression in postsecondary settings is a major concern for learning disabled students. Many written language deficits experienced by the student as a child persist into adulthood and need to be dealt with. Some of the problems that may be experienced throughout the student's life are in the area of mechanics, punctuation, rules for capitalization, and spelling (Blalock, 1980). Spelling is the area however most learning disabled students have difficulty with. Cordoni (1979) reported that the lowest subscore on the Peabody Individual Achievement Test (Dunn & Markwardt, 1970) was on the spelling subtest.

In addition to deficits in mechanics and spelling, other difficulties for learning disabled students are writing complete sentences and varying sentences structure. Critchley (1973) observed that exdyslexics wrote sentences of approximately the same length, and writing was stylistically unsatisfying and monotonous. Problems between sentences as well as within sentences were observed. Herbert and Czerniejewski (1976) noted that learning disabled adults also have problems to insufficient use of transitional words and phrases. Cohesion between paragraphs and the lack of an overall organization structure characterized their larger pieces of writing (Vogel, 1987).

Lastly, Critchley (1973) noted that exdyslexics used fewer multisyllabic words. Related to this aspect of word choice, students with learning disabilities tend to have limitations in variety and agreement of adjectives and adverbs in the written language. Furthermore, significantly greater syntactic complexity was used by there non-disabled peers. Gregg (1982) also explored the nature of the written language deficits of learning disabled adults. The types of errors these students made were categorized and a pattern of errors was noticed. Her findings revealed that writers made the highest percentage of comma errors and errors of omissions of articles, demonstratives, and prepositions. They were also the only group to omit verb and word endings. Spelling errors also differentiated the learning disabled group from the others.

What can be done to help these students? Adults need an individualized, structured approach to improve spelling. Review of the rules of punctuation and capitalization in spontaneous writing and proofreading should be planned by writing instructors or the student's advisor. Sentence combining strategies may also prove to be a very effective method for remediation.

Teaching touch-typing can also be beneficial for learning disabled students in that fingers can be trained to spell automatically. Fingers can be trained to bypass the letter sound correspondence disconnections that plague dyslexics (Farnham-Dggory, 1992). The visual-motor letter patterns become automated and as automaticity is established, writing improves.

Students need to also be trained in the organization of longer pieces of writing. Practice in paragraph writing is necessary before improvements will be made. Students must learn to plan, discuss and outline their ideas to improve the development of written language. Intensive one-to-one instruction is necessary for students to develop these necessary written language skills. However, such instruction is costly. Technical aides may also help students with this writing domain. Students should receive some form of additional assistance to maximize their learning.

h) Social/Interpersonal Skills

Learning disabled students themselves (Brown, 1980; Johnson, 1981) have identified the need for assistance in improving social/interpersonal skills. Some difficulties they describe include making and keeping friends, knowing how to interact with a variety of individuals, understanding social clues such as facial expressions and body language, and knowing how to join a conversation without interrupting the flow (Vogel, 1987).

Some specific recommendations for improving social skills made by Brown (1982) and Cordoni (1982) begin with assessing learning disabled students in understanding the nature of their condition. This information can serve as the first step in improving self-image and self-esteem. Knowing performance levels can help the student set goals, motivate improvement, and influence career choices.

It is important to mention that while many investigators report socio-emotional problems among learning disabled adults, they are not apparent in all instances. Therefore, one should not assume that a poor self-concept is an inevitable consequence of learning disabilities (Vogel, 1987).

i) Programming and Evaluating Accommodations Required

Current law requires that the post-secondary institution to take some measures to help learning disabled students, as long as the student is otherwise qualified and the

measures do not sacrifice the institutions academic standards (Scott, 1994). The Charter of Rights and Freedoms states that students with disabilities cannot be discriminated against. Appropriate accommodations must be made for this population of students (Weiner & Siegel, 1992). Exactly what these accommodations should be however is left to the discretion of the institute. The issue becomes determining what accommodations are appropriate.

Accommodations for the learning disabled students vary from basic tutoring, remedial courses and, compensatory services such as tape recording lectures, to intense instruction support services, such as the Intensive Literacy program described earlier. Students need to be made aware of what the range of services are available to them.

Tutoring or note-takers should be made accessible to learning disabled students. However, the success of a tutoring program is largely dependent upon the instructor. If the tutor is patient and knowledgeable on the characteristics of learning disabled students, then this increases the student's chances of success.

Remedial classes are designed for learning disabled students. Focus is on reading and skills such as word attack, comprehension and are practiced. Written language skills (mechanics, spelling, sentence structure, organization, and penmanship) are also formally taught as needed. Furthermore, since some learning disabled students have difficulty with math, training in computation and problem solving skills is available.

Locally, Kelsey Institute has made attempts in recognizing and assisting learning disabled students. To begin, five percent of the seats are reserved for disabled students. In addition, they provide a Learning Center which contains highly advanced computer technology to compensate for reading and writing disabilities. A remedial classroom is also an integrate part of SIAST. These programs are set up to help students make a successful transition to the post-secondary institute. Because funding is sporadic and political, the existence of some of the adult programs are unpredictable. Furthermore, only those identified with a disability will get access to the programs. If students are not diagnosed with a disability they will not receive any special services. This is rather unfortunate considering that not all students that have learning disabilities have been diagnosed as such.

Students with learning disabilities require reasonable modifications of academic requirements. What modifications are considered to be "reasonable"? Dolan (1978) and MacGugan (1978) suggest some reasonable modifications might include: extending time allowed to complete a program, adapting the method of instruction, substituting one course for another required course, modifying or waiving foreign language requirement, allowing for part-time study and, providing modifications in examination procedures.

Why are modifications on exams important? In University, evaluation is based primarily on essays and tests. Examining the evidence earlier outlined, this is a concern. Both of these areas are problematic for learning disabled students. Multiple choice exams, for instance, require the student to read and understand the question and then be able to choose the correct answer from a number of possible choices. If the questions are long, the student may have difficulty understanding the question placing him or her at a disadvantage. Since the student generally requires more time at the word-level, then comprehension is jeopardized. Allowing for untimed tests would be helpful to these students to reduce the anxiety and allow more time for comprehending. Students have varied rates of processing print information therefore a fixed amount of time for all students may not be appropriate.

Kahn (1980) and Vogel and Satter (1981) described a variety of other modifications that both teachers and students can make that are appropriate to classrooms in higher education settings. Some of these suggestions are as follows: allowing students to take exam in a separate room with a proctor, allowing for oral, taped, or typed instead of written exam, allowing students to clarify questions and rephrase them in their own words as a comprehension check before answering exam questions, allowing alternative methods of demonstrating master of course objectives, avoiding double negatives, unduly complex sentence structure, and embedding questions within a question when composition examination questions and, analyzing process as well as final solution (as in math problems).

Not all modifications mentioned above are necessary for all learning disabled students. "Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities, or of social skills". Because of this heterogeneity of the group, the differences on severity and nature of the conditions, as well as variation in motivation, it is difficult to predict exactly how far an individual can progress. The accommodations made in programming and evaluation techniques must be done on an individual level to meet the needs of the student and to maximize their chances for successful learning.

i) Summary

There are many challenges facing learning disabled students as they enter into university or college. The needs of this population, although diverse, must be recognized by the students themselves as well as by the institution. Students must learn to develop new skills and compensatory strategies to overcome the new demands placed on them. Remediation programs need to be accessible and accommodations made to help students meet their academic requirements. The nature of the disability must be

understood by both the student and the post-secondary personnel to ensure optimal assistance is given.

Learning disabilities is not something an individual "outgrows", it follows them throughout their adult lives. Many of the difficulties experienced as children persist into adulthood. With this in mind, the issue of early intervention becomes an important one. Studies, such as the one done by Lundberg, Frost, and Perterson (1988), demonstrate how phonological awareness facilitates subsequent reading and spelling acquisition. Since the majority of problems for learning disabled students are in the domain of reading and writing, then phonemic awareness should begin early to prevent heightened difficulties in these areas. These students will experience success if training begins early, institutions are accommodating, and students are self-disciplined. Learning disabled students have much to offer and should be given the opportunity to attain their career goals in their respective fields.

REFERENCES

- Brinckerhoff, L.C., S.F. & McGuire, J.M. (1982). Promoting access, accommodations, and, independence for college students with learning disabilities. *Journal of Learning Disabilities*, 25, 417-429.
- Cowen, S.E. (1988) Coping strategies of university students with learning disabilities. *Journal of Learning Disabilities*, 21, 161-164.
- Dalke, C. & Schmitt, S. (1987) Meeting the traditional needs of college-bound students with learning disabilities. *Journal of Learning Disabilities*, 20, 176-180.
- Houck, C.K. Asselin, S. Troutman, G.C., & Arrington, J.M. (1992). Students with learning disabilities in the University Environment: A study of faculty and student perceptions. *Journal of Learning Disabilities*, 20, 678-684.
- Houghs, C.A. & Suritsky, S.K. (1994). Note-taking skills of university students with and without learning disabilities. *Journal of Learning Disabilities*, 27, 20-24.
- Runyan, M.K. (1991). The effect of extra time on reading comprehension scores for university students with and without learning disabilities. *Journal of Learning Disabilities*, 24, 104-108.
- Scott, S.S. (1994). Determining reasonable academic adjustments for college students with learning disabilities. *Journal of Learning Disabilities*, 27, 403-412.

- Suritsky, S.K. & Houghs, C.A. (1991). Benefits of notetaking: Implications for secondary and postsecondary students with learning disabilities. *Learning Disabilities Quarterly*, 14, 7-18.
- Vogel, S.A. (1982). On developing LD college programs. *Journal of Learning Disabilities*, 25, 430-441.
- Vogel, S.A. (1987). Issues and conceptions in learning disability college programming. In *Adults with Learning Disabilities: Clinical Studies*. D. Johnson & J. Blalocks (Eds), Orlando, Florida: Grune & Stratton.
- Vogel S.A. & Adelman, P. B. (1993). The success of college students with learning disabilities: Factors related to educational attainment. *Journal of Learning Disabilities*, 25, 430-441.