Learning to Achieve: Suggestions from Adults with Learning Disabilities

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Abstract

Research has demonstrated that some adults with learning disabilities have been able to attain significant vocational success. This paper presents results from a national study of 71 successful adults with learning disabilities. An analysis of the results indicates that these individuals used similar patterns in vocational achievement. These patterns form a model of success based on internal decisions and external manifestations. This model may serve as a foundation for instructional adaptations in serving postsecondary students with learning disabilities. Approaches based on this model would emphasize the potential for significant achievement rather than focus on limitations of learning disabilities.

Diverse studies have indicated that successful persons have learned to combine hard work and goal orientation with a sense of inner directedness and internal locus of control (Maslow, 1954; Peters & Waterman, 1982; Price, 1984). The equation may become more complex when success in persons with disabilities is the object of consideration. Researchers have suggested that amazing will power to overcome adversity (Baker, 1972), persistence, self-confidence, and strength or force of character (Maker, 1978) have significantly contributed to the accomplishments of highly -successful persons with disabilities. A phenomenal sense of desire to succeed seems to be the underlying force, perhaps predicated on the need to regain a sense of control that the disability often takes away.

Although a number of people with learning disabilities have achieved-prominence in a variety of professions, few attempts have been systematically undertaken to study the process of attaining success among this population. Reviews of studies of outcomes of adults with learning disabilities indicate that most of this research has had a deficit-model

orientation focusing on the types of problems experienced by adults with learning disabilities (Gerber, Reiff, & Ginsberg, 1988; Horn, O'Donnell, & Vitulano, 1983; Spreen, 1988). However, a need also exists to investigate individuals with learning disabilities who have succeeded in a wide variety of career paths that can be proffered as reasonable choices to students with learning disabilities (Adelman & Adelman, 1987).

Some efforts have been made to examine positive outcomes. To publicize examples of successful adjustment, Kokaska and Skolnik (1986) profiled adults with learning disabilities in typical occupations including teaching, skilled labor, and service industries. This group suggested that choosing a career emphasizing strengths, selecting jobs that allow for one's personal style, building interpersonal skills, accepting the fact of having to work harder and longer, and being honest with oneself were the keys to their successful adaptation. College, graduates with learning disabilities have reported that success in the work world largely involved compensation strategies capitalizing on strengths (Adelman & Vogel, 1990). This response was, in part, a verification of the effectiveness of educational interventions for many of these young adults specifically attributed their compensation strategies to the insight and self-understanding they had developed through specialized services for students with learning disabilities in college. Similarly, Rogan and Hartman's (1990) long-term follow-up study of young adults who had attended the Cove School presented another example of successful outcomes. Supportive family backgrounds, cooperation of families with school personnel, early diagnosis, appropriate support services, and effective remediation efforts facilitated comfortable transitioning to independent living, attaining secure and satisfying occupations, and cultivating a wide variety of interests. Brown (1982) has provided numerous examples of the usefulness of vocational rehabilitation programs for helping adults with learning disabilities adapt to the workplace.

Self-reporting by successful adults with learning disabilities tends to parallel the reasons for successful outcomes cited in the literature. In one autobiographical account of being successful with dyslexia, Wambsgans (1990) credited support received throughout the school years. Another adult with learning disabilities (Brobeck, 1990) contended that good teachers made successful adult adaptation more likely. Using in-depth interviews with adults with learning disabilities, Gerber and Reiff (1991) ascertained that the more successful adults demonstrated a greater determination to succeed against the odds. Consensus is mounting that focusing on success and not failure, looking at what people can do rather than what they cannot do, may constitute a valuable approach in working with individuals with learning disabilities.

Most studies dealing with the phenomenon of success or achievement indicate that, in addition to innate qualities, critical incidents or learning experiences shape successful outcomes, and it is within the power of teachers, parents, and others to create, develop, or manipulate these experiences. In studies with gifted and talented students, Bloom (1980,1982) has termed these factors the alterable variables that lead to significant achievements. Armed with the theoretical framework that specific alterable variables contribute to successful adult adaptation for persons with learning disabilities, the authors set out to conduct a study focusing on the success process for adults with learning

disabilities. This article reports findings from research on successful adults with learning disabilities and suggests educational interventions based on these data. Findings indicate that these adults have employed a singular pattern of strategies and methods, or alterable variables, to achieve success. In terms of teaching students with learning disabilities, this success process has implications for developing instructional strategies that capitalize on the alterable variables of the process. Thus, it is reasonable to suggest that teachers and service providers should use approaches that highlight not the limitations of learning disabilities but the potential for significant achievement.

Method

Subjects

The subjects for this study participated in a project investigating successful adults with learning disabilities. In order to identify a target population, nominations were solicited from the National Network of Learning Disabled Adults, the Orton Dyslexia Society, the Learning Disabilities Association (formerly ACLD), the National Institute for Dyslexia and a number of other related - organizations throughout the country. Data used to identify potential subjects included results from a screening instrument and demographic and vocational information. The instrument determined how and when the identification of learning disabilities had been made; the presence of other, more severe disabilities (a condition that excluded the individual from the study); and included a battery of questions exploring severity of learning disabilities at school age and presently. After verifying that potential subjects evidenced specific learning disabilities, a panel of five experts analyzed the degree of vocational success of each candidate along five variables including income level, job classification (derived from the Duncan Socioeconomic Index, Reiss, 1961), educational level, prominence in one's field, and job satisfaction. From this selection process, 71 subjects were chosen from a pool of 241 nominated persons. The 71 subjects all evidenced specific learning disabilities and had achieved either moderate or high vocational success.

Subjects came from 24 states and Canada and represented more than 30 different types of occupations. Forty-eight (48) males and 23 females comprised the sample with ages ranging from 29 - 69, (X CA=45). All had graduated from high school, 15 had bachelors degrees, 19 had master's degrees, and 29 had a Ph.D. or M.D. Yearly incomes varied from just under $20,000 to considerably more than $100,000.

Procedure

Methodology used for investigating successful adults with learning disabilities involved an in-depth interview process with each subject. Participants responded to open-ended questions designed to elicit both a comprehensive portrayal of the experience of coping successfully with learning disabilities in adulthood as well as a retrospective view of learning disabilities from childhood to the present. The interview protocol covered six domains of adult functioning (vocation, education, family, social issues, emotional issues, and daily living). Respondents also defined success and learning disabilities and offered suggestions or advice to parents, teachers, employers, and students with learning disabilities.

Findings and Implications

The 71 interviews revealed commonalities in the ways that the adults with learning disabilities had been able to achieve. A key set of themes or patterns emerged, representing, perhaps, the alterable variables that increase the likelihood for vocational success. Each of these themes is distinct though not necessarily mutually exclusive. The driving factor underlying the success of the entire sample was an effort to gain control of their lives. Attaining control involved both internal decisions and external manifestations. The internal decisions included desire to succeed, goal-orientation, and an internal reframing of the learning disabilities experience. The external manifestations comprised ways of being adaptable typified by persistence, learned creativity, a goodness of fit between one's abilities and the work environment, and a social ecology of support systems.

Alterable Variables

Control. The issue of control is of special importance to individuals with learning disabilities. For many, a significant effect of learning disabilities was a sense of a taking away of control. Especially in the school-age years, most respondents felt that they were not in charge of their lives; instead, because they learned differently, they were consigned to special programs or told, in a variety of ways, that they did not measure up to expectations.

Thus, it is not surprising that respondents placed such a premium on "controlling one's destiny" as necessary for venturing successfully into the workplace. To some degree, all had undergone a process whereby they gained (or regained) a sense of control in their lives. Many remarked that control was the key to success. For these persons with learning disabilities, control meant making conscious decisions to take charge of one's life (i.e., internal decisions) and making adaptations in order to move ahead (i.e., external manifestations). In terms of gaining control, a significant pattern was a high degree of preparation that the adults used to be ready to face any possible problem. A number remarked that they could not afford to be caught off-guard and consequently put forth extraordinary effort to predict all permutations of any situation.

Internal decisions.

Desire: One of the requisite characteristics for success is desire. The reasons that the adults in the study had acquired such high levels of desire are varied. Many were plainly angry, often at the school system, and set out to prove that they were capable people. Others, however, developed their desire from more positive experiences such as encountering success in a particular endeavor, receiving strong support from family or significant others, or realizing that basic academic survival simply requires more determination for a person with learning disabilities.

Goal Orientation: The successful adults in the study were extremely goal oriented and viewed having a focus or direction as crucial to their success. However, goals cannot be frivolous or fanciful; realistic aspirations must guide the decision making. As with desire, goals become more apparent and attainable through experiences of success. When one achieves at a particular endeavor, one often begins to consider pursuing it. For persons with learning disabilities, that focus may also derive from a realization that many aspirations are not realistically attainable. Some adults even saw learning disabilities as playing a proactive role in the goal setting process. They didn't waste time aimlessly exploring a multitude of possibilities but concentrated on areas in which they were more likely to be successful.

Goal-oriented people must be willing to take risks. Achieving most goals usually requires venturing into uncharted territory, and sometimes new directions and strategies become necessary. Willingness to change and grow must accompany the decision to pursue a goal. Additionally, few people achieve their intentions without enduring setbacks along the way. Part of risk-taking involves coping with temporary failure and not losing sight of the goal.

Reframing: Perhaps the key component and certainly the most complex of the internal decision making lies in the process of reframing. In order to cope successfully with the demands of the adult world, all the subjects, to some degree, had reframed or reinterpreted the learning disabilities experience. In this process, they transitioned from focusing on disability to an emphasis on their abilities to confront and overcome challenges imposed by their learning styles. They moved from reacting to learning disabilities to a proactive stance where learning disabilities became merely one piece of the total picture of the self.

Four stages characterize the reframing process: recognition, acceptance, understanding, and formulating a plan of action. The first stage of dealing effectively with learning disabilities is to recognize that it exists. Recognition does not automatically lead to acceptance, but recognizing that one is different is a prerequisite for accepting that condition. Once the individual accepts the fact of having a learning disability, an understanding of how to work with it can develop. This understanding encompasses realization that one has strengths as well as weaknesses, and that within this combination lies a uniqueness or a special gift. From this level of understanding emerge the special coping skills and strategies that individuals with learning disabilities find necessary to succeed. The last stage of reframing involves applying these decisions and knowledge to

chart a course of action for coping with demands proactively. In reaching this point, the individual achieves a totality that supercedes the specific condition of having learning disabilities. The individual does not deny or run away from the learning disabilities but rather learns to take the disabilities into account without losing sight of a larger identity.

External manifestations. Decisions are essential for finding the path to success but are relatively meaningless unless complemented by action. The internal decisions made by successful adults with learning disabilities lay a foundation for adaptive behavior. These adults found ways to choose the best work environment by adapting themselves to the demands of the environment and adapting the environment to meet their own needs. Four specific behaviors underpin this adaptation.

Persistence: Perhaps the most striking characteristic of the successful adults with learning disabilities was an unusually high level of persistence. The individuals in the study discovered that they would have to work longer and harder than others simply to keep pace. The unanticipated benefits came as they realized that the ability to work hard is not necessarily developed by most people. The idea of working hard and long was not something to be applied occasionally but was simply a way of life. Additionally, persistence was emblematic of a powerful resiliency, the ability to deal with failure by not giving up and trying again. One subject offered a theory of why persistence leads to success: " wants to work hard because most people in the world do not want to work at all."

Goodness of Fit: In order to be successful, the subjects chose work environments that allowed them to maximize their strengths and to compensate for their weaknesses. This match, or goodness of fit, between individual characteristics and job demands plays a significant role for any individual; it is absolutely essential for a person who deals with learning problems that have the potential to undermine routine activities. People with learning disabilities need a highly developed sense of adaptability--their own and that of the workplace--in order to determine a true goodness of fit. In addition, goodness of fit relies on a subjective yet crucial quality, the enjoyment or enthusiasm found in the particular job or endeavor. For many subjects, strengths that became useful in particular endeavors had been previously labeled as weaknesses. The transformation occurred because of careful and fortuitous planning and decision-making. Without such forethought, disaster could have struck. In other interviews (Gerber & Reiff, 1991), adults who had experienced little vocational success demonstrated less concern with goodness of fit.

Learned Creativity: Successful adults with learning disabilities have learned and devised various strategies, techniques, and compensatory methods to enhance their ability to perform well. Learned creativity involves divergent approaches to problem solving. Because many individuals with learning disabilities have great difficulty meeting demands through "normal" methods, they invent new approaches that capitalize on their strengths and are not jeopardized by their weaknesses. Learned creativity takes on numerous manifestations. Some adults learned to manipulate events in order not to expose learning difficulties; others were forthright about having learning disabilities and

learned to utilize devices and technological adaptations that allowed them to meet task demands. Many subjects found unique ways to study and prepare for demands at school. If the person was a poor reader, learned creativity did not negate the reading difficulty, but it did offer a way for the person to accomplish the same task as an able reader (e.g., taking courses with less reading demands; using books on tape; devising personalized "SQ3R" approaches; forming discussion groups with more able readers). Variations of learned creativity are boundless. The unifying concept of learned creativity assumes that persons with learning disabilities can learn specialized and individual methods for coping and succeeding with the very circumstances previously deemed overtaxing.

Social Ecologies: The final behavioral component of the success process highlights the tendency for successful adults with learning disabilities to seek and utilize assistance through supportive and helpful people. This network of support, or positive social ecologies, comes in many forms encompassing parents, siblings, spouses, friends, mentors, colleagues, staff, and so on. Almost all the subjects cited the importance of having moral and psychological support in childhood. In adulthood, they sought help and guidance for specific situations, yet they resisted becoming overly dependent on their support systems. They knew what they could do and when not to call on help. Instead, they often developed interdependent relationships where they returned support by offering their own unique talents. They learned to accept help when it was necessary with the realization that a degree of dependency was essential to achieving maximum control and autonomy.

Self-designing apprenticeship types of programs, modeling careers on those of mentors, and consciously seeking others who could provide specific services to fill in the gaps created by learning disabilities represent diverse ways that subjects developed favorable social ecologies. In some cases, subjects had to negotiate for specific accommodations; in this instance, they exerted control over their psychosocial environment to enhance their adaptability. In other cases, they combined a measure of learned creativity to establish innovative types of support systems.

Implications for Instructional Strategies

Control. This theme of anticipation or prediction has applications in working with college students with learning disabilities. Service providers can emphasize the importance and usefulness of advance planning based on reasonable estimates of possible outcomes. This method has found popularity in learning strategies approaches to reading (Deshler, Schumaker, & Lenz, 1984). Extending the approach to other domains requires merely a little creativity and sensitivity to needs of students. For example, the service provider may challenge students to deal with pragmatic issues through role playing or simulations. Posing questions will encourage students to anticipate problems. For example, "Suppose you don't do your assignment, or wait until the last minute. What do you do?" or "You've studied hard for an essay test, but the questions don't seem to be on what you've studied. What do you do? "or" A friend you know who uses drugs asks you if you have some money and would like to go for a ride. What do you do?". Many students with learning disabilities have difficulties understanding cause and effect relationships, yet often

demonstrate facility with divergent production (Reiff & Gerber, 1990). Encouraging students to focus on predicting possible outcomes utilizes a possible strength while perhaps remediating a common weakness. In any case, such approaches hold the possibility of engendering a sense of preparedness and control for students with learning disabilities.

Internal decisions.
Desire: The challenge for service providers is to find positive ways to build and foster a desire to succeed in their students with learning disabilities. The task becomes even more strenuous when working with the type of student whose experiences of failure have led to an attitude of defeat and giving-up. Any teacher undoubtedly has learned that students must be motivated to succeed, yet many teachers are unsure of specific motivational methods. Paradoxically, one need only walk to the gym or athletic complex at most schools or colleges to witness a group of educators who rely as much on developing motivation as skills in their players in order to achieve success. Perhaps it is time for other educators to analyze and utilize methods coaches have used for years. As Bloom and Sosniak (1981) queried, what would happen if students approached final exams with the same intensity they exhibit before the final football game?

Other opportunities for motivating students with learning disabilities abound. As the present study indicates, a plethora of living role models offers examples of realistic and attainable success. Increasingly, programs for postsecondary students with learning disabilities are utilizing support group approaches; successful adults with learning disabilities from the community can be inspirational guests whose personal sagas may be more credible than any kind of institutional sermonizing. A serendipitous finding from the present study was that the persons interviewed were, by in large, eager and excited about sharing their experiences, especially with students. Another avenue centers on a time honored tradition of providing opportunities for success. In addition to benefits such as raising self-esteem and confidence, being successful in an activity can act as a foundation for building the desire to succeed. Service providers may also wish to utilize values-clarification activities that help students determine goals and a realistic appreciation of what it takes to achieve. Finally, service providers should remember to reinforce desire and effort regardless of the outcome in terms of a grade.

Goal Orientation: Service providers should take advantage of situations that help build goal orientation in postsecondary students with learning disabilities. Guiding students to courses and activities in which they can be successful will, of course, aid them in choosing realistic directions. Equally important should be an emphasis on career education. The goal setting process is hampered when students are not aware of opportunities that exist, and studies have shown that a lack of awareness about career choices, results in unrealistic and arbitrary aspirations (Reiff, Evans, & Anderson, 1989). Students with learning disabilities sometimes do not plan and organize well, and such characteristics can undermine the most reasonable aspirations. Consequently, applying the concept of task analysis to the goal setting process may prove to be effective. In this way, the student can break down the goal to a series of steps, each of which is attainable.

Perhaps the key element in goal orientation lies in the ability to make reasonable and logical predictions. Many students with learning disabilities are not accurate with predicting outcomes in a variety of settings (Reiff & Gerber, 1990), yet research indicates that students can increase the accuracy of predicting through systematic instruction, at least in terms of reading comprehension (Palincsar & Brown, 1984). Opportunities undoubtedly exist for applying such systematic instruction to predicting possible career paths.

Students can learn about the types of variables to consider in focusing on possible vocational choices. Use of instruments such as The Self-Directed Search (Holland, 1985) offers opportunities for secondary and postsecondary students with learning disabilities to explore the prediction process. For example, students can compare "Occupational Daydreams" with the results of the inventory, analyze the variables used in determining the results, and reflect on the relation of their "daydreams" to those variables.

Reframing: Reframing is a complicated and, in many cases, an ongoing process. Nevertheless, postsecondary programs for students with learning disabilities can provide a setting where students learn to recognize, accept and understand their learning disabilities and formulate subsequent plans of action. Reframing the learning disabilities experience may be the component of the model most unique to persons with learning disabilities, but it has a conceptual analogy in Maslow's (1954) notion of self-actualization. Part of the pedagogy for students with learning disabilities should center on helping students learn about themselves, on discovering and nurturing strengths while acknowledging and responding to weaknesses.

The service provider can initiate this process by acting as a role-model, a person who is honest and accepting about oneself. A number of the subjects in the study who had become teachers felt that one of their strong points was their forth rightness about not being perfect. They might make a mistake spelling a word on the board, but instead of feeling inadequate, they used such foibles to demonstrate that all people have limitations yet can succeed in spite of those limitations.

Another method to encourage the reframing process lies in emphasizing self-responsibility, that is, building internal locus of control. One of the positive outcomes of reframing for subjects in this study was their proactive outlook, which effectively dismissed the notion of making excuses for oneself. Too often, learning disabilities have become nearly synonymous with learned helplessness. In many ways, the reframing process served as a critical juncture for the subjects, a crossroads where they could have chosen learned helplessness or learned autonomy, external versus internal locus of control. For a number of reasons, the subjects took the path of self-responsibility. It is obvious that the route of learned helplessness is not likely to lead to successful outcomes. Therefore, service providers need to make a concerted effort to steer their students away from the pitfalls of blame, excuses, and lack of accountability.

The idea of remediating learned helplessness is not new. If easy answers existed, recommendations would be clear and simple. The approach may have to be slightly

different for each individual, but that complexity should not discourage the search. Some of the subjects were able to identify specific incidents that moved them through the critical juncture. One individual related that his soon-to-be fiancée read him "the riot act" concerning a tendency toward, inappropriate social behaviors. That experience shook him out of his social obliviousness and motivated him to take greater responsibility for his social actions. To some extent, service providers may need to read "the riot act" to some students, in the sense that students should confront the reality of their actions. Too often, students with learning disabilities are able to manipulate others to make unnecessary and unfortunate allowances. Confrontation need not be adversarial but rather a systematic effort to develop recognition, understanding, and acceptance of learning disabilities without buying into pity or commiseration.

Confidence-building experiences used as innovative components of education and business may also facilitate the reframing process. For example, programs such as Outward Bound challenge the individual to go beyond previously held expectations with the intention that the individual will confront and overcome personal weaknesses. Often the experience generalizes to other situations; when dealing with new challenges, the individual may be able to summon and use the knowledge that he or she has successfully faced equally difficult situations.

Another approach that may encourage reframing is a peer support group. The sharing of issues that occurs tends to make it easier for many individuals to deal with their own concerns. Additionally, students will find that they are not alone with their problems and struggles. This process will aid in the stages of recognition and acceptance. At a pragmatic level, they may learn new methods for coping with specific academic demands, thereby broadening their understanding and plan of action.

Finally, counseling services provided by most postsecondary institutions can act as an excellent vehicle to help some students reframe the learning disabilities experience. The one-to-one interaction provides a safe harbor for exploring personal issues related to learning disabilities. Counselors who become familiar with the significance of reframing will be in an advantageous position to seize opportune moments where students can work through the reframing process.

External manifestations.
Persistence: Students can learn to be persistent and determined, but they will have to acquire the ability to cope with failure. Few individuals' achieve success without numerous setbacks, yet special education has often focused solely on "success-assured-activities." It is understandable to want to protect students from inordinate failure. At the same time, service providers must be careful not to shortchange students by shielding them from the very experiences that can impart a heightened sense of resiliency, determination, and persistence. Failure is a natural part of growing, learning, and achieving. Perhaps the problem lies in an institutionalized attitude that failure is bad, a sign of weakness and incompetence. Service providers may help students with learning disabilities by communicating that there is nothing wrong with failing, at least as long as one keeps on trying.

Service providers can also encourage instructors to include activities that reward and reinforce persistence. A number of subjects reported that they were able to pass particularly difficult courses in college by contracting for extra projects or assignments. By offering extra options to complete a requirement, instructors can demonstrate an adherence to standards without excluding students who find a particular area difficult. In this way, students learn that they can, indeed, overcome learning difficulties through hard work and effort.

Goodness of Fit: The concept of goodness of fit has immediate relevance to students. Secondary students with learning disabilities who are contemplating postsecondary education must look beyond whether they meet standards for admission. Fortunately, both counselors and admissions officers are exhibiting increasing awareness that the services offered by a college or other postsecondary institution need to match the needs of the student. During the college years, decisions ranging from selecting a major to choosing a fraternity or sorority should take goodness of fit into account. For long-term goals, a broad knowledge of career opportunities provides familiarity with a range of available options that capitalize on strengths and allow for weaknesses. Of course, career awareness is only as useful as an accurate personal assessment of strengths, weaknesses, and interests.

Service providers may also consider using simulation activities to help students increase understanding of goodness of fit. For example, from topics ranging from course selection to employment opportunities, service providers can ask students to develop checklists or inventories detailing positives and negatives for a given choice. Students (and service providers) may also act out possible scenarios of what happens when, for example, a person with a significant spelling problem gets a job waiting on tables, or a student with a significant math deficit elects to take a physics course. Such an activity should build a notion of choosing the work environment carefully; in addition, students may discover novel ways to cope with a seemingly impossible situation, a process which reinforces learned creativity.

Learned Creativity: Adults in this study learned early in life that success required much originality. Therefore, activities that encourage and reinforce originality may be a crucial factor in facilitating the development of learned creativity. Opportunities are not limited to the creative arts. Service providers may also propose that instructors design activities with numerous options for completion. For example, the goal of a research report usually centers more on gaining and communicating knowledge and information than on demonstrating writing ability per se. By allowing students to choose their own mode of presentation (e,g., written report, video, dramatization, simulation, etc.), instructors may facilitate the exploration of what works best for the individual student, with the possible additional benefit of gaining insight regarding individual learning styles.

The successful adults in the study discovered innovative skills largely on their own. Perhaps not all individuals are so creative; even those who are may increase their repertoire with some guidance and collaboration. The interaction in peer support groups provides excellent opportunities for students to discuss how they cope with academic and

other demands. Students may be able to utilize strategies that others employ or perhaps become inspired to devise their own unique approaches. Within the support group, service providers can make use of brainstorming activities related to problem solving. For example, students are presented with a problem (e.g., determining the best shopping buy; calculating probabilities; developing a theorem; etc.) and then respond with their individual ideas to solve it. Students may discuss how different methods can still generate the same solution and make comparisons as to which ideas fit their individual learning styles.

Social Ecologies: In helping to build favorable social ecologies for students, service providers are in an advantageous position. They can act as the center of a support system that will bolster the student's self-confidence and self-esteem and encourage the student to move forward. Although many of the subjects reported negative experiences associated with a number of teachers, the same subjects often pointed to one or two teachers who offered tremendous support and understanding. In some cases, the influence of one positive teacher counterbalanced all the negative messages over years of schooling.

The influence service providers exert can extend to helping others become more positive factors in students' social ecologies. As much as parents often are the bedrock of security for their children with learning disabilities, many of them inadvertently communicate expectations that create stress and pressure on the student. For example, although community college is an appropriate postsecondary option for many students with learning disabilities, some parents seem to insist that only a four year college is acceptable. Both secondary teachers and postsecondary service providers may be able to expand the awareness of parents to engage in "attitude adjustment," and ultimately, to aid parents in becoming more positive factors in the social ecologies of their children with learning disabilities.

Students themselves can support each other under the proactive guidance of service providers. Students may be able to profit from support group activities where the development of mutual empathy and concerns serves to provide a safe harbor and forum for dealing with difficult issues. In this environment, students can learn that asking for help and support is acceptable; conversely, they will receive feedback if their needs become overly dependent. Such results do not necessarily occur automatically; the service provider needs to be prepared to assume an active and facilitating role.

Conclusion

Limitations of the Study

The sample employed in this study does not represent the general population of adults with learning disabilities. These highly successful adults must rank as the "best of the best," an exclusive group whose achievements dwarf not only others with learning disabilities but also the nondisabled population as well. One might question the utility of comparing or applying their experiences to the issues faced by "ordinary" individuals with learning disabilities. The authors do not intend to suggest that such stature or

eminence is readily attainable by all people. The authors do believe, however, that any individual with learning disabilities increases the likelihood for improving, at the least, vocational outcomes by making use of strategies and patterns that have worked well for others with learning disabilities. Analyzing the experiences of a high success group does not limit applications; after all, if the goal is to find methods to enhance the possibilities of success, it is reasonable to examine the methods of those who have been most successful. The field of learning disabilities has expended considerable effort in analyzing how and why individuals fail with the hope of discovering preventive measures. On the other hand, analyzing how and why individuals become successful seems an inherently logical method for discovering proactive measures.

The implications for postsecondary service providers are, at this point, theoretical. The practices suggested by the findings have not been field-tested and lack empirical support. The authors readily admit that the application of the model for success is speculative at this stage. The techniques for intervention are made with the intent that a validation process needs to begin. Certainly, research is needed to determine if the advice of successful adults with learning disabilities has educational applications. Because the anticipated benefits of these approaches relate to successful adult adaptation, systematic evaluation will require longitudinal and follow-up studies. Nevertheless, the authors recommend that service providers be willing to try the suggestions described in this paper and to develop other methods inspired by the experiences of successful adults with learning disabilities. Service providers should be cognizant of the untested nature of these approaches, but as the successful adults have shown, a certain amount of risk-taking is necessary to make any kind of progress.

Interaction of Alterable Variables

In developing a model for enhancing the likelihood of success, the authors have attempted to delineate the specific alterable variables that contributed to the achievement of the subjects in the study. Each variable is distinct, but none is mutually exclusive. Not only do the internal and external elements interact; interaction exists within each element.

Interaction takes place within the internal decision making process. Each characteristic reinforces and is reinforced by the others. Having particular goals combined with a positive sense of how to use one's abilities tends to increase desire to achieve. The combination of desire and goal-orientation may motivate or facilitate the circumspection involved in crafting a plan of action. Recognition of strengths and weaknesses coupled with a sense of desire increases the likelihood of developing realistic and attainable goals.

The interactive relationship enhances the efficacy of the decision-making process. Moreover, effecting the most positive interaction depends on recognition of the specific implications of the learning disabilities. For example, almost all studies of success have cited desire, will, and effort as crucial to achievement. Yet for persons with learning disabilities, desire in and of itself not enough; without goal orientation and reframing, it may lead to frustration. That is, desire must be carefully directed toward an attainable goal capitalizing on the unique attributes of the individual with learning disabilities.

Otherwise, it may easily lead to the individual's persisting in a self-defeating situation. Similarly, for goal-orientation to have meaning to a person with learning disabilities, the pursuit of the goal must be accompanied by a strong sense of desire and a plan of action. The process of reframing is the implicit centerpiece, the force that binds desire and goal-orientation into a productive process.

Similar interaction takes place among the external manifestations. For example, persistence is more likely to payoff when it is enhanced through goodness of fit, learned creativity, and positive social ecologies. Coping strategies developed through learned creativity will be most effective when the individual is persistent in using them, in an environment that is responsive and where support is available. Countless other permutations of such interaction exist; the salient feature is that, for persons with learning disabilities, the interaction is crucial to the success of adaptability.

Some specific internal and external characteristics evidence a direct linkage. Perseverance seems to be a natural outgrowth of desire; goodness of fit arises largely from goal orientation; reframing has corresponding behaviors in learned creativity and accessing support systems (i.e., favorable social ecologies). To some extent, each individual internal decision influences every aspect of the external manifestations. In addition to leading to hard work and resiliency, desire will also influence goodness of fit; the ultimate matching of strengths and weaknesses is dependent on the desire and willingness of the individual to achieve the best fit. In a similar vein, developing new and useful strategies (learned creativity) and positive social ecologies evolves from the desire to pursue such endeavors. Goal-orientation provides some basis for persistence in the sense that one tends to work harder in areas of interest. Learned creativity and social ecologies will also owe some debt to goal-orientation because a particular goal will tend to shape both the types of strategies and support needed to achieve it. Throughout the discussion of the components of the model, reframing has been a significant force in eliciting all features of adaptability. In many ways, coming to terms with oneself in relation to learning disabilities represents the very core of how one determines to move on in life.

Previous studies have delineated specific characteristics that contribute to success. For the most part, those characteristics, in isolation, do not necessarily distinguish why achieving success requires a special set of circumstances for persons with learning disabilities. The interactive model depicted in the present study presents a more ecological perspective that may explain how the success process is different or unique for persons with learning disabilities.

Consequently, service providers for postsecondary students with learning disabilities need to develop an ecological perspective in employing instructional approaches suggested by the model. The components of the model and the suggestions for instructional applications have been discussed individually in order to provide optimum clarity. However, in practice, it is likely that overlapping will occur. For example, peer support groups may serve a number of functions. Groups may not only offer possibilities for developing positive social ecologies, but also may provide forums for reframing,

sharing ideas about learned creativity, building awareness about goal orientation and goodness of fit, and even encouraging desire and persistence. Service providers should not resist such multiplicity nor insist on adhering to the single topic at hand. Integrated approaches will result in learning experiences that more accurately reflect the processes used in attaining success.

Finally, having successful adults with learning disabilities interact with students potentially constitutes a truly holistic approach. Adults with learning disabilities can relate their pathways to success within the context of their total life experiences. Their individual accounts will undoubtedly reveal unique and novel strategies, a serendipitous opportunity for teachers to augment the model discussed in this paper. The adults in this study serve as excellent role models, not only for students with learning disabilities, but for all people who strive to reach their full potential. The acknowledgement that people with learning disabilities can reach the highest levels of success and accomplishment provides the fundamental building blocks for any instructional applications.

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