Teaching Those Who Learn Differently

DATA SPOTLIGHT

As academic standards and achievement increase around the nation, educators are confronted with the challenge of effectively teaching those struggling to learn. A growing percentage of students not succeeding academically are those with learning impediments. These students learn differently, but when their difficulties are recognized and appropriately addressed, they can achieve. This spotlight examines educational and learning differently trends and the research-proven methods for instructing struggling students.

Learning Differently

All individuals learn differently due to the complexity of the thinking process. Nevertheless, for our purposes, students who learn differently are those whose processing of information impedes learning. Therefore, these differences become learning difficulties that require intervention.

- Problems can surface in receiving, retaining, and/or recalling data.
- 'Learning differently' is broader in scope than the 'learning disabled' legal term under the Individuals with Disabilities Education Act.
- Some students can be successful with minor instructor adaptations or accommodations, while others require more intensive intervention.
- The specific dysfunction underlying a particular disorder may be unique for each student even when the manifested difficulty is the same.

The Scope

Researchers have never approximated the number of students who learn differently. Estimates of those with learning disabilities can serve as a starting point (See Table I).

- 2.9 million students were legally diagnosed as having a learning disability in 1999-2000. An estimated 5% to 20% of the general population is learning disabled.
- The incidence rate of U.S. adults with learning disabilities is generally accepted at 15%.
- Directors of adult basic education (ABE) programs assume the prevalence rate among their students anywhere from 10% to 80%.
- Poor school performance is correlated with juvenile delinquency. 31% of students with learning disabilities are arrested within three to five years of leaving school.
- The majority of inmates have lower literacy skills and educational attainment than the general population. The Correctional Education Association has estimated illiteracy among inmates at 75%.

Table I: Estimated Incidence Rates of Learning Disabilities	
General Population	**5-20%**
U.S. Adults	**15%**
Adult Basic Education Students	**10-80%**
Incarcerated Youth	**70%**
Prison Population	**30-50%**

Student Achievement Levels Increasing Around the Nation

Student performance on state and national standards tests is improving, leaving behind a group of students burdened with learning difficulties.

- Results from the National Assessment of Educational Progress (the Nation's Report Card) show improved academic achievement across topics and grade levels.
  - Math scores were significantly higher in 2000 than in 1990 for all grades tested.
  - The percentage of fourth graders reading at the Proficient or Advanced levels increased significantly from 1992 to 2000.

- The reading gap is widening. Scores at the 75th and 90th percentiles were significantly higher in 2000 than in 1992, while the score at the 10th percentile decreased significantly during the same period.

- The passing rate for all tests taken as part of the Texas Academic Excellence Indicator System increased 30% to 85% from 1994 to 2002.

- California's Standardized Testing and Reporting system found an increase in the percentage of students scoring above the national percentile rank from 1998 to 2000 for all grades in Reading, Math, Language, and Spelling except for 11th grade reading, which remained constant.

- Passing rates of Virginia's Standards of Learning Assessments for all grades tested in all areas have increased from 1998 to 2002 by 10% to 20%. The rates for various subjects have now reached between 70% and 85%.

- Fortunately, mounting evidence shows how we can effectively instruct students falling behind. The next section details successful strategies for students with learning difficulties.

Teaching Strategies for Struggling Students

The increasing passing rates for various state and national standards tests demonstrate the growing effectiveness of our educational systems. However, given the scope of those with learning differences, students who learn differently likely make up the majority of those not meeting academic standards. Unless we instruct these students in ways they learn best, they may not succeed and may even drop out of the system.

- Mounting research shows that struggling students can achieve once their difficulties are recognized and appropriately addressed.

- A National Institute for Literacy publication attempts to link research with the classroom (Cromley, 2000). Teaching is most effective when based on the functioning of the mind. Outlined below are basic research-based approaches built upon how the mind works (pp.iv-v). Fortunately, the strategies that work well for those with difficulty learning do not harm and may even promote learning for all students.

  – Skills should be taught in the context in which they will be used.

  – Reading skills are subject-specific.

  – Problem-solving skills are also subject-specific and should be taught separately for each area.

  – Teachers should explicitly demonstrate how students can transfer skills from one subject to another.

  – Strategic instruction (explicitly teaching learning strategies) and practice is important as these skills do not develop on their own for most students.

  – Teaching strategies for understanding material or solving problems enhances learning.

  – Retention is better when students understand the material instead of just memorize it.

  – Working memory processes small chunks of information better than large chunks.

  – Students need immediate practice to move material from working memory to long-term memory.

  – Integrating material, or linking it to that previously learned, is imperative.

  – Background knowledge is crucial to learning.

  – Students need more and better mental models of the world.

  – Students' informal beliefs about the world may interfere with learning.

  – Teachers should know what topics tend to be hard for students so they can effectively steer them around the roadblocks.

The MTC Institute recently completed *Removing Barriers: Research-Based Strategies for Teaching Those Who Learn Differently* to address how we can successfully teach students who have failed in the past. The report examines the scope of those that learn differently and synthesizes the leading research on various elements of instruction and the classroom environment to determine those most conducive to success for these individuals. The following topics are addressed.

Elements of Instruction:

- Strategy instruction
- Direct instruction
- Contextual teaching
- Integrating material
- Group instruction
- Group discussions
- Computer-based learning

The Classroom Environment:

- A sense of community
- Organization
- Attention and distractibility
- Accommodations

An electronic version of the report is available from the MTC Institute website at www.mtcinstitute.com/publications.html. Contact the Institute with questions or comments.

Successful Programs for Those Who Learn Differently

Countless programs have been designed with struggling students in mind. Many are built upon research-proven techniques. Below are examples of successful programs and their impact on students who learn differently.

Morningside Academy, Seattle WA

- Provides academic and social programs for struggling and gifted students, grades 1-9.

  - Instructors use direct instruction to teach basic academic skills.

  - Strategic instruction is used to teach reading, comparison, and inference techniques.

  - Students move toward independent learning as they pace their training, determine points earned, and choose how to distribute their time.

- Students gain an average of 2.5 grade levels per 9-month school year. Those attending a 6-week summer session usually gain a grade level in the skill area they study. Students participating in an adult literacy program typically gain two grades per month of instruction.

Fresh Start, Baltimore MD

- A 9-month educational and vocational program for youth ages 16 to 20 referred by the Department of Juvenile Justice or other state agencies.

  - Academic instruction is contextualized as much as possible into the carpentry program all students follow.

  - Instructors hold high expectations for students, but also provide the necessary opportunities for them to develop self-esteem and employability skills.

  - Students evaluate their progress daily and review their efforts with instructors.

- Attendance in 1999 reached 95%, and more than 75% of participants returned to school or were employed six months after completion. Math and language arts skills increased 1.2 and 1.8 grade levels, respectively.

eXcelerate

- Developed by Bridges LearningSystems, eXcelerate was implemented in five Job Corps centers in Fall 2000.

  - The program assesses and develops 26 cognitive abilities and 11 sensory integration, visual processing, and auditory processing skills.

  - Instruction is individualized to meet the unique needs of each student.

- Participants experienced higher TABE scores, increasing an average of 37 scaled score points in reading and 49 scaled score points in math while non-participants gained 19 and 16 points, respectively. Additionally, the 90-day retention rate of students who participated for at least 20 hours was over 91%, compared with 79% for those who did not participate or participated less than 20 hours.

> Students who learn differently can achieve much in a supportive educational environment. When instructors are armed with strategies proven in the classroom and the resources necessary to implement them, success is likely. Not all students should be expected to achieve the same amount, but an instructor's recognition of differences, support, and positive attitude help each student reach his or her potential. By incorporating these strategies in our classrooms, we can improve the number of students meeting our educational standards.

Sources

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Many students in alternative educational programs like Job Corps or correctional education did not thrive in the traditional school system. The MTC Institute recently completed a report on research-based strategies that help these students succeed and has dedicated this issue of the Data Spotlight to "Teaching those who Learn Differently." For further information, contact institute@mtctrains.com.

Management & Training Corporation (MTC) is an international private contractor that manages and operates Job Corps centers and correctional facilities.

MTC Institute is dedicated to examining data and projecting trends relevant to job training and corrections programs.

The Data Spotlight is a periodic publication highlighting issues that impact the future of young people and inmates.

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