TALENT-ed and TYPE III:
An Effective Learning Strategy for Gifted Students Who Are Learning Disabled

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Abstract

Educators agree that a student can display gifted behavior and learning disabilities (GLD) simultaneously. Some of these students thrive when exploring advanced level investigative projects which require higher order thinking skills (HOTS) and creation of an original product. This article presents a GLD case story as an example of successful intervention utilizing an instructional strategy, Talents and Type IIIs (Newman, in press), which merges the HOTS Talents Unlimited Model (Productive Thinking, Decision Making, Planning, Forecasting, and Communication) (Schlichter, 1986) with investigative research strategies such as Type III (Renzulli & Reis, 1985).

Keywords

creative expression, Talents Unlimited Model, gifted/LD, GLD, twice exceptional

When David transferred to his new school as a fourth grader, teachers immediately noticed him in the hall. He was smiling and outgoing, but in a disruptive way. His classroom teacher reported that David also interrupted the learning process in her class. He could not concentrate on a task until it was finished; rather, he would work on an activity for a couple of minutes, wander around the room, interrupt other students, and then return briefly to the assignment, before beginning the cycle again.

His parents suspected that David had learning disabilities or ADHD. He resisted completing the assignments that his teacher designed for him, complaining that he was bored and that he hated school. David's work habits were sloppy; he was unorganized and often didn't do his homework; moreover, the assignments that he did turn in were of poor quality. His handwriting was almost illegible, and he hated to write, saying that it took too much time. Despite these learning problems, based on his superior achievement on the Wechsler Intelligence Scale for Children-Revised (WISC-R) (Wechsler, 1974) and on his demonstrated science aptitude, David had been identified as meeting the requirements to participate in the gifted and talented program at his school.

Identification of Gifted Students with Learning Disabilities

Gifted students with learning disabilities (GLD) demonstrate a discrepancy in tested potential and school performance, as well as discrepancies between verbal and nonverbal subsections on ability tests such as the WISC-R (Cline & Schwartz, 1999). Researchers are not certain about the prevalence of these youngsters who often remain hidden in schools' general populations. Because their learning disabilities tend to mask their gifted-ness, school performance is usually only average, and therefore, classroom teachers do not notice their gifted behavior (McCoach, Thomas, Bray, & Siegel, 2001). Likewise, because most of these students do not fail, they often are not referred for LD services. Nielson (2002) reports that many times gifted students with learning disabilities are mistakenly viewed by their teachers as average learners or as underachievers because teachers focus more on their gaping deficiencies, rather than on their strengths and talents. For example, the twice-exceptional student can pose an enigma to the puzzled teacher observing a student who knows the answers to high-end science and math questions, but who cannot spell his answers. Parents, on the other hand, observe precocious behavior at home in certain situations and cannot understand why the teacher does not refer their child for gifted services.

The Problem

For the past two decades, professionals have debated the issue of whether a person can be both gifted and learning disabled (GLD). Today, this paradoxical phenomenon is generally accepted among gifted educators who now are beginning to focus more attention on providing appropriate services to meet the student's needs. A major problem involves well-intentioned teachers not trained in gifted education, who often try to remedy the students' deficits while ignoring their strengths. This instructional approach often results in frustration for the student and can lead to low self-esteem and underachievement (Olenchak & Reis, 2002; Olenchak, 1998). Baum & Owen (2004) contend that the potential of these students is at great risk of going untapped and undeveloped because educators tend to focus more on what these youngsters do not know and cannot do, rather than on

their gifts. Greater achievement may result in teachers' allowing the students first to experience success in exploring their interests and expressing their individual talents, i.e., when educators find or develop appropriate curriculum and instructional strategies such as authentic learning experiences and/or problem-based, investigative research learning opportunities. This GLD case story presents an example of successful implementation of a pedagogical intervention, *Talents and Type III's* (Newman, in press), with a gifted student who demonstrated learning problems and underachievement.

"Twice-Exceptional" Learners: An Enigmatic Paradox

What the Literature Says

Friedrichs (2001) describes gifted students with learning problems as twice-exceptional, displaying "irony in their behaviors" (see figure 1). For example, while these youngsters may resemble their gifted peers in academic ability, they generally perform poorly in academic subjects such as reading, spelling, written language, or math. In addition, there are contradictions in the behavior of the student who experiences auditory and/or visual memory problems, but who can collect large quantities of information through listening to stories and through other compensatory strategies.

Hughes (1995) cites additional enigmatic paradoxes, as the student may display poor memory, but excellent comprehension; distractions with rote memory tasks, but preference for the complex challenges; poor reading, writing, and spelling skills, but excellent oral language skills; concentration on interests for long periods of time, yet, inattentiveness to uninteresting topics; a strong sense of humor, but inability to judge when to display

it; and poor performance on simple addition and subtraction facts, but comprehension of complex, conceptual manipulations.

Often learning deficits that typically impair students overshadow the strengths of these gifted children. Many gifted students with learning problems display poor organizational skills. According to Winebrenner (1996), they may be messy, exhibit poor study habits, and cannot attend or focus as well as their peers. Moreover, poor motor skills may cause clumsiness and sloppy handwriting, which may lead to incompletion of assignments and avoidance of school tasks. Due to deficient visual and/or auditory processing skills, the gifted student with learning disabilities may appear to think slowly, be inattentive, and become unmotivated and extremely frustrated with school. This cycle may lead to low self-esteem that may become manifested in anger, impulsive or disruptive behavior, apathy toward school, and/or underachievement.

On the other hand, **these students may possess "hidden exceptionalities" which are strengths most often associated with gifted behavior.** For example, while displaying poor auditory memory in subjects that don't interest them (i.e., phonics or math), these students may demonstrate excellent recall and a broad knowledge of facts in areas that intrigue them. They often exhibit outstanding oral expressive vocabularies and finely articulated explanations about complex and highly abstract concepts in fields that they choose to investigate. In addition, many of these students are highly creative, curious, and imaginative. While focusing more on "the big picture," as opposed to minute details, their advanced creative problem solving abilities and higher level thinking skills enable them to gain deep insight into complex issues

Figure 1. GLD Paradoxes

Gifted Behaviors	**LD Behaviors**
High academic ability	Performs poorly in reading, math, or spelling
Knows answers to high-end math and science questions	Cannot spell his/her answers
Vast storehouses of information	Auditory/visual memory problems
Excellent Comprehension	Poor short-term memory
Preference for complex challenges	Distractions with rote memory
Excellent oral language skills	Poor reading and writing skills
Concentration on interests	Inattentiveness in school
Complex math concepts	Problems with simple addition facts
Focus on big picture	Problems with minute details
Wacky, bizarre ideas	Highly curious, creative
Advanced creative problem skills	Poor organizational skills

(Friedrichs, 2001). Finally, because these youngsters have suffered severely themselves, they tend to be highly sensitive to the pain of others (Olenchak, 1998).

What kinds of educational experiences can teachers develop that employ the strengths of these students while also helping them to overcome their learning problems?

Intervention: What the Literature Says

Gifted students with learning problems may need different types of programs than those provided by learning disability specialists in the school. "Special education professionals should help academically talented students with learning disabilities learn how to learn and how to develop a personal system that enables them to achieve. Reme-diation or additional practice may not help many of these students to realize their potential since what is really needed is the acquisition of compensation strategies" (Reis, Neu, & McGuire, 1995; p. 479).

The complex interaction of gifts and disabilities of these students requires educators to dually differentiate curriculum and instruction for them. There must be an appropriate balance between attention to strengths and compensation for weaknesses; then, these strategies can be applied to challenging, authentic learning experiences. For example, a gifted student with limited skills in reading and math can learn alternative strategies to access information. Poor organizational skills can be accommodated through visual graphic organizers such as flow charts, time lines, and webbing forms. To address attention and fo-

cusing weaknesses, teachers can provide choices related to interest-based, authentic curriculum. For students who have weak spelling and handwriting skills, computers are helpful as well as exploring alternate ideas such as visual and artistic products (Baum, Cooper, & Neu, 2001). Olenchak (1995) also contends that differentiation must be conducted on an individual basis, and that personalized instruction is critical for emphasizing talent development and for de-emphasizing remediation.

Baum et al. (2001) also found that the students included in their study learned best when they emulated the practicing professional and became involved in authentic learning experiences. For example, when David's enrichment teacher helped him to organize long-term science experiments on plant growth, the focus was transferred from his problematic areas of reading and writing, and he was encouraged to use strengths in other intelligences to solve problems and create products. David, the successful "scientist," demonstrated high quality work which was more complex than that included in his remedial lessons in reading, writing, and math. This success boosted David's self-esteem which improved his feelings of self-efficacy about his abilities as a learner.

Researchers, including Renzulli (1978), Van Tassel-Baska (1992), Whitmore (1980), and Tannenbaum (1983) also have reported that these students thrive while exploring advanced level content and abstract concepts, creating original products, and real-world learning experiences. In order to accommodate the student's needs, teachers must find or develop appropriate curriculum and instructional strategies, such as authentic learning experiences and/or problem-based learning opportunities, to allow these students to explore their interests and express their in-dividual talents.

Talents and Type III's Investigative Research

An Effective Intervention Strategy to "Spark" Achievement

At David's new school, the emphasis on programming for gifted students focused on conducting investigative research and demonstration of student learning through creation of a written, artistic, and/or oral product. David's enrichment teacher utilized a set of structured lessons, *Talents and Type III's* (Newman, 2005), which provide step-by-step training in planning, managing, and completing a real-world investigation that results in a product (Type III) (Renzulli & Reis, 1997). The student think-sheets include 38 activities that apply the Talents Unlimited Model: Productive Thinking, Decision Making, Planning, Forecasting, and Communication (Schlichter, 1986) (see figure 2) to the steps of completing a Type III investigation. The instructional intervention offers a systematic approach that requires critical and creative thinking to solve problems and produce high quality responses and products, as recommended by Baum and Owen (2004).

Designed to take the guesswork, hit-or-miss approach out of independent projects and investigations of problems, Newman's manual created for students in grades 3 through 6 includes activities and processes that adults employ in the world of work to become creative producers (in press). The 10 sets of lessons integrate the Talents Unlimited thinking skills with the 10 steps of completing a Type III project (Renzulli & Reis, 1997) and include the following major processes:

Figure 2. The Talents Unlimited Model

Talent Area: **Productive Thinking**
Definition: To generate many, varied, and unusual ideas or solutions and to add detail to the ideas to make them more interesting.
Sample Activity: Students learning research strategies can think of many, varied, unusual topics that interest them as possible subjects for investigation. They can continue to add to the list.

Talent Area: Decision Making
Definition: To outline, weigh, make final judgments, and defend a decision on the many alternatives to a problem.
Sample Activity: Students decide which topic will be the subject of investigative research. They generate criteria by which to think more carefully about each topic. Then, they weigh the alternatives with such criteria as interest level, availability of resources, etc. They make a decision and then give reasons for making the decision which provides an even more thoughtful decision.

Talent Area: Planning
Definition: To design a means for implementing an idea by describing what is to be done, identifying the resources needed, outlining a sequence of steps to take, pinpointing possible problems, and showing improvements in the plan.
Sample Activity: Students plan their research by stating clearly what they plan to research. Then, they list resources/materials that they will need, identify steps in order through which they will proceed, generate problems which might interfere with completion, and generate solutions to those problems.

Talent Area: Forecasting
Definition: To make a variety of predictions about the possible causes and/or effects of various phenomena.
Sample Activity: Students predict causes or effects of doing a great job on their investigative research project.

Talent Area: Communication
Definition: To use and interpret both verbal communication to express ideas, feelings, and needs to others.
Sample Activity: Students use Communication 5 Talent to express information they have learned in complete sentences and paragraphs.

Talent Area: Academic
Definition: To develop a base of knowledge or skill about a topic or issue through acquisition of information and concepts.
Sample Activity: Students read from a variety of sources about their focused issue/problem, making notes of the main ideas.

(a) Interest Finding, (b) Focusing the Interest Area, (c) Record Keeping, (d) Identifying a Problem, (e) Learning about the Topic, (f) Deciding on the Product and Audience, (g) Getting Process Training related to the Project, (h) Developing the Product, (i) Presenting the Product to an Audience, and (j) Evaluating the Work (see figure 3).

Step One: Interest Finding

This intervention strategy worked well for fourth grader David, whose enrichment program's goals focused on conducting an investigative research project, culminating in a real-world product. Having studied Rosa Parks, Martin Luther King, and the Civil Rights era, David was interested in these topics as possible subjects for further research.

Figure 3. 10 Steps Involved in Conducting Investigative Research (Type III)

A Student's Step-By-Step Guide

Step One: Interest Finding
Find out what your interests really are — or, if you don't have an interest – work to create one. Read books, ask questions, look around you, read the newspaper, listen to local and national news, go to the library — learn about the interesting world in which you live.

Step Two: Focusing the Interest Area
Once you have some type of interest area identified, learn more about it. Try to find some question or questions within your interest area that you want to pursue or learn more about. Once you've learned about the area of your interest, brainstorm some questions that you'd like to investigate.

Step Three: Record Keeping
Develop a timeline and a plan that will help you organize your investigative project with your teacher. Try to determine out what you should do first, second, etc. Plan in advance what your steps will be to continue your work.

Step Four: Identifying a Problem
After you have had some time to learn about your topic, decide (with the help of your teacher) which questions from your lists should be researched as part of your investigative project. You may also need to frame some new questions after your initial reading.
For example, a third grade student with an intense interest in baseball discovered after reading that many different accounts existed about how baseball actually began. Therefore, the student decided to concentrate on finding out how baseball really started.

Step Five: Learning About the Topic
Learn about your topic. Start your work and you research by using multiple resources. Realize that there are many different ways to gather information besides relying just on encyclopedias. Your teacher can help you to learn all of the different ways to locate resources.

Step Six: Deciding on the Product and Audience
Brainstorm several different ideas for your final project. Remember that sometimes your final product can not be determined immediately. In fact, sometimes it is better not to decide definitely on a final product until your have started learning and reading about a topic. Sometimes you think you know what you want to do, but when you start your research, you find out it's already been done, or that there isn't enough information about the topic to go ahead with your idea. It's best to brainstorm ideas for your final product after you've done some reading and started your work. Remember that a finished product does not have to be in written form. You can write a story, article, book, but you can also produce a power point presentation, slide show, video tape, filmstrip, or an artistic product.

Step Seven: Getting Process Training
Find out which advanced skills and processes you will need to learn in order to complete your study. With the help of your teachers, begin to master these skills. For example, you may have to learn how to conduct an interview, use the Internet, conduct a survey, record information, tally data, etc. If you do, find out (with your teacher's help) how to learn these skills.

Step Eight: Developing the Product
Once you have begun, it's important to keep your energies focused and continue working. This is how you develop self-discipline and task commitment. Your log should include a brief outline that briefly describes what you accomplish each week. Your teacher can help you jot down suggestions for next steps. You can keep track of all your work in this log. It will also be a convenient place to store your notes, rough drafts and anything else connected with your investigative research project.

Step Nine: Presenting the Product to an Audience
Do your best work! Sometimes, you can do your work without working very hard. Your investigative project should provide a vehicle for you to do excellent work. Completing an investigative research project should involve a lot of effort, but it should be enjoyable because you can select your own interest area and your own questions to answer. We hope you will remember that your teacher's job is to help you to do your best work. That might require that you rewrite, revise, or completely redo something. You are the only person who can teach yourself to work hard, but conducting an investigative study can show you that working hard and producing quality work about a topic that you love is great!!

Step Ten: Evaluating Your Work
Evaluate what you have done! Your teacher will review an evaluation tool called a rubric before you even begin your investigative project. Think about the different steps involved in your work. Even more important, as you conduct your work, think—"how could I have made this better? What can I do to change this section and make it better?" Ask yourself if you are satisfied with each part of your work and your final product. Ask other people how they like your work and if they understand it. Use the information from this reflection to improve the process and product of your next investigative research project.

Renzulli, J. & Reis, S. (1997)

His teacher conducted a Productive Thinking lesson from Lesson Set I to help the students to uncover additional, varied, unusual areas of interest that they might like to pursue for in-depth study. David added to his list several more ideas including "building bridges" and "sugar gliders."

Next, Decision Making was utilized to decide on a final topic for research. David narrowed his alternatives to five topics: Martin Luther King, Rosa Parks, Civil Rights Era, building bridges, and sugar gliders. The class generated criteria questions to help them to think more carefully about each alternative they were considering: (a) Am I really interested in this topic? (b) Is there a lot of research information about this topic? (c) Am I likely to maintain interest in this topic over a long period of time? Weighing his alternatives with these criteria questions, David decided that it was the topic of "sugar gliders" that really sparked his interest. David first learned of sugar gliders (see figure 4) (Storer, 1999) when his teacher arranged for a guest speaker to bring two marsupials to school as an en-

richment awareness session (Renzulli & Reis, 1997). David learned that the exotic pets got their name from their affinity for sweet things like the sweet sap that leaks from wounds in trees. For David, it was an immediate interest and desire to learn more about these interesting, large-eyed, nocturnal mammals found in forests and rainforests of Australia, Tasmania, and New Guinea. David's curiosity was ignited to determine how these social, territorial, arboreal (tree dwelling) animals could glide an amazing 150 feet from tree to tree. He showed such extraordinary interest to learn more about the sugar gliders that his teacher arranged for him to take them home to care for them over spring break. While caring for the animals, David noticed that the cage was too small for the sugar gliders to be comfortable and that it was also cumbersome as he tried to observe them.

David could hardly wait to get onto the Internet to learn more about the unusual critters. Normally, he would have complained about having to read, but because he was so

Figure 4. Sugar Glider

Figure 4. Sugar Glider
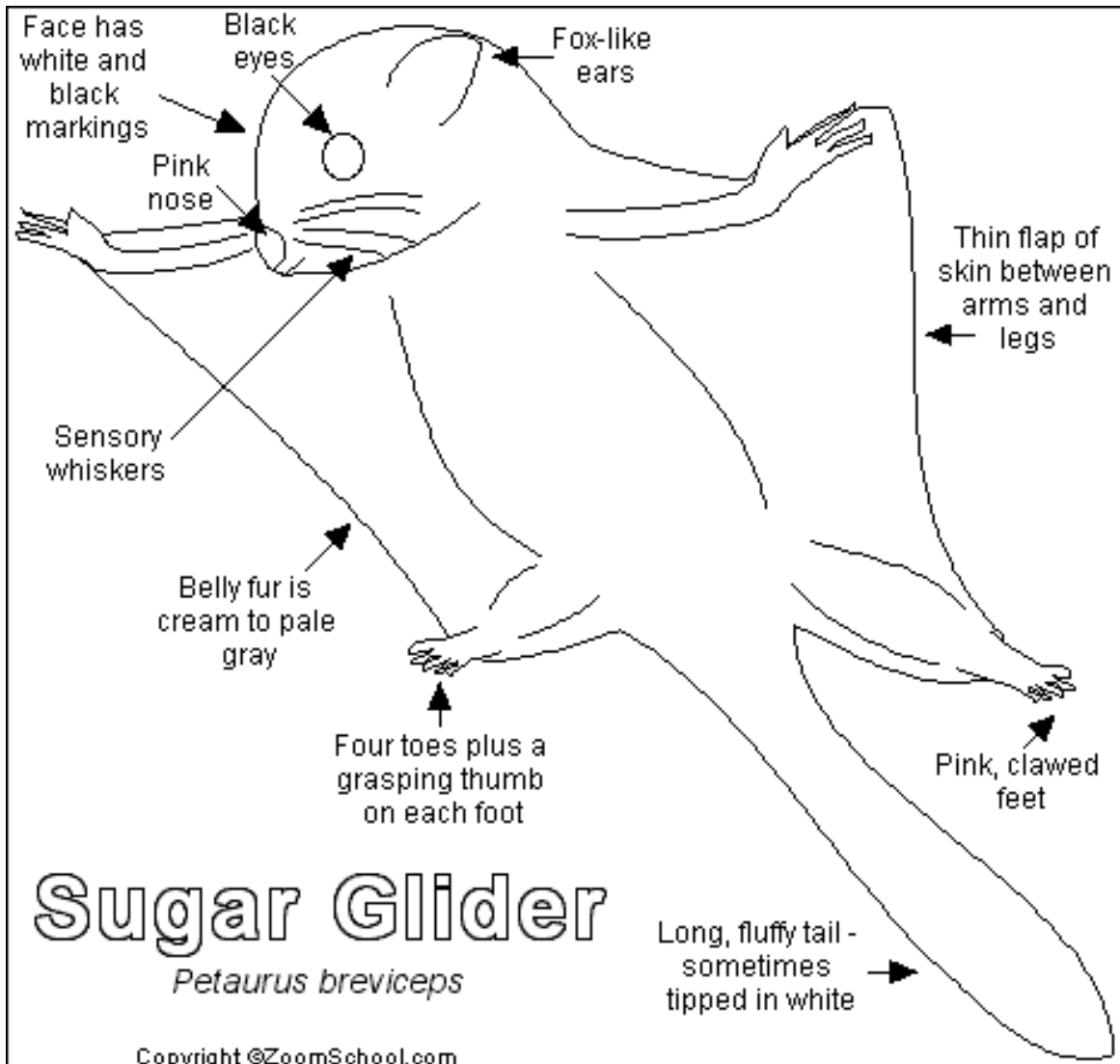
curious about the creatures, suddenly, reading became important to him, and he even began to consider related sub-topics which might help him focus on a problem statement for his study. David's interest peaked while surfing the net, when he discovered plans specifying how to build a large cage for the gliders.

Step Two: Focusing the Interest Area

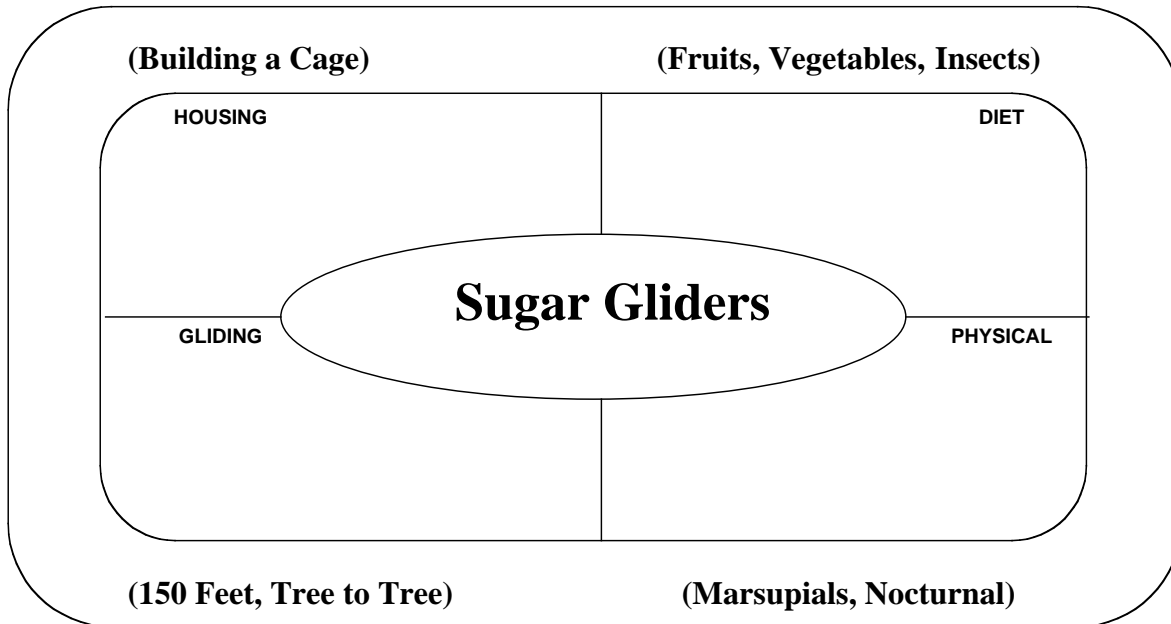The second set of lessons of *Talents and Type III's* provides students an extended opportunity to focus their broad general interest area into a subtopic appropriate for investigation. Webbing is used with Productive Thinking to assist students in visualizing the many, varied, unusual subtopics associated with their general interest areas. Mapping or webbing is a graphic organizer which helps students to sort their ideas as they sequence them into meaningful written or oral responses (see figure 5). David was so excited about his new interest that he moved ahead

Figure 5. Productive Thinking; Webbing Sub-Topics

Name: David's Webbing

(Building a Cage)

HOUSING

(Fruits, Vegetables, Insects)

DIET

Sugar Gliders

GLIDING

PHYSICAL

(150 Feet, Tree to Tree)

(Marsupials, Nocturnal)

without his teacher's assistance to step two of the research process: focusing the general interest area into a subtopic appropriate for investigation.

For example, after webbing many, varied, unusual topics associated with the sugar gliders, David narrowed his subtopics to include: physical characteristics, diet, housing, gliding, and marsupials. After proceeding through the steps of Decision Making, David determined that the "housing" of the sugar gliders was the most interesting subtopic for his study. He thought it would be neat to build a comfortable cage for the sugar gliders which would also be safe and less cumbersome for student observation.

When David returned to school the following week, he shared his ideas with his teacher who confessed that she had no building skills. However, she quickly found a con-

tractor who agreed to work as a mentor, teaching David to design plans for the cage; helping David to acquire tools, wood, staples, wire, etc.; and assisting him in constructing the cage. The enrichment room was quickly transformed into a "shop-like" environment for David to build a cage for the sugar gliders. Just as important as addressing intellectual needs**,** the arrangement of the physical learning environment for the GLD student is critical. **Baum and Owen (2004) recommend arranging the physical environment and providing a safe emotional climate to facilitate learning.** Many gifted students with learning problems need environments that accommodate their distractibility, their difficulty in concentrating, and/or their energetic need for moving. Teachers should continuously organize and reorganize the learning environment to improve the likelihood for

success. Providing an environment for David to construct an appropriate home for the sugar gliders met the characteristics of David's preferred learning style which included kinesthetic movement and his passion for construction.

Step Three: Record Keeping

In the third set of *Talents and Type III* lessons, students are taught to complete forms and keep records that assist in organization and time management of the investigation. Gubbins (1982) reported that 90.2% of the students who failed to pursue Type III investigations had received minimal or no training in how to focus, plan, and manage their projects. It is critical that gifted students who are underachieving learn self-regulatory skills (i.e., utilization of organizational files and boxes, management plans, and deadlines) to help them in compensating for their deficit areas. In addition, teachers should communicate regularly their expectations for these students to be successful. Completing a management plan using the Planning Talent (see figure 6) can be a contract between the student and enrichment teacher. In addition, it helps the student to see the big picture, keeps the student focused on steps to accomplish, and provides a list of resources and real-world strategies for acquiring information about the topic. Other Talents Unlimited activities that help with organization and record keeping include Communication, Decision Making and Communication — all very important skills for a child who is learning to manage a long-term research project which culminates in the creation of a professional product.

Step Four: Identifying a Problem

Lesson Set 4 focuses on identifying a problem for investigation. This step is very crucial to the development of a Type III product, and it is important for the teacher to provide proper guidance through this stage, or students can easily get off track and lose interest in the project. Communication # 5 is a great tool to assist these students in asking the "who, what, which, when, where, why, how, how much, and under what circumstances" questions that can become focused research questions. For example, David generated the following questions for research on the sugar gliders: What do sugar gliders eat? Where do sugar gliders live? How do sugar gliders move/travel? In what kind of environment can sugar gliders live and be happy? How might I design and build an appropriate home for the sugar gliders?

Baum and Owen (2004) have identified instructional strategies that have proven particularly successful in assisting the student to achieve in the classroom. Curriculum must be engaging and respectful, utilizing students' talents, strengths, and interests. To ensure that information is transferred into memory, instruction should incorporate careful and purposeful, sequenced lessons. Short, intense activities which de-emphasize teacher talk and provide opportunities for movement and conversation with peers prove to be effective.

Decision Making helps students to consider their best questions and then to decide on a final one for their research investigation. David decided to address housing of the sugar glider as his main focal point. He would research the topic to be sure that he solved the problem instead of creating more problems, and this choice allowed him to work on a life skill that he enjoyed - building.

Figure 6. Planning the Project

Record Keeping - Planning
Activity 7

Use the Planning Talent to think through the details of your project.
1. Write a sentence stating what you are planning.

Be as specific as you can and try to focus.
I am planning to build a sugar glider cage.

2. List any materials/resources that you will need to carry out your plan.

18 feet of 24" wide 16 gauge vinyl coated wire mesh with no larger than 1"x 1/2" spacing
Two packages of 100 nylon cable ties or J clips (cage clips) and J-clip pliers
Two lengths of 8 foot plastic trim
Sharp wire cutters and pliers
Silicone sealant or hot glue
Door latch

3. List **in order** the steps necessary to carry out your plan. (Use the back of this sheet if you need more space.)

Take one of the 3 foot pieces and cut a 10 inch wide and 22 inch tall hole in the center. This is the door opening.

Glue plastic trim on the inside edges of the opening and on three sides of the door (leave the side you attach bare.)

Secure the door one inch from the edge of the hole with clips or ties so that the door overlaps the hole on all sides by one inch.

Attach the door latch on the opposite side. Lay the four 3 foot pieces side by side in a row. Make sure the door is facing outward (towards the floor.)

Attach the long edge of each shelf to the sides of the cage where you want them.

Glue plastic trim to the edge that will be facing out when you are done.

Attach one edge of the top of the cage to one of the sides.

Attach the bottom in the same manner except make sure to raise it an inch or two so that the bottom will not touch the bedding.

If you want to have a sliding tray instead of placing the cage in a pan, raise the bottom high enough to accommodate the tray and remove the extra wire on ONLY one edge of the bottom.

Attach the sides together and finish adding ties to the top and bottom. You should now have a cage.

4. What problems might you encounter?

a. The silicone sealant may not be dry.

b. Zinc in wire may poison the gliders.

c. Gliders may get long tails caught in exercise wheel.

Possible Solutions?

a. If you used silicone sealant to attach the plastic trim, allow the cage to sit for 24 hours before introducing your gliders.
b. Scrub galvanized wire with a wire brush to get rid of zinc. Wipe with vinegar water to get rid of zinc.

c. Find the largest exercise wheel made for guinea pigs.

5. Revise your plan to make it better. (Use different color.)
REMEMBER!   Check to see if your steps are in order.

Sugar Gliders and Exotic Pets. (April, 1999). http://www.angelfire.com/tx/facehugger/cageplans.html

Step Five: Learning About the Topic

After students have formulated their research questions, they are taught how to organize their search through use of a variety of both primary and secondary sources. In the fifth set of *Talents and Type III's* lessons, students receive instruction in locating, collecting, organizing, and analyzing data through Talents Unlimited processes of Productive Thinking, Academic Skills, and Decision Making.

Bright students who have limited reading skills and problems with decoding should be taught how to acquire information in other ways which minimize reading. Utilization of inquiry methods and primary sources are sophisticated and exciting ways to access information. Books on tape, films, TV documentaries, and text to speech software are examples of instruction that incorporate varied entry points into topics. Technical aides such as computers, DVD and video players, hand-held calculators, headphones, and advanced technology such as computer dictation and books read by computers should be made available (Dix & Schafer, 1996).

Enthusiastic guest speakers, field trips, and demonstrations are also engaging strategies for acquiring information. Family outings such as trips to museums, plays, and historic sites can provide mental scaffolding preceding the reading assignment to which the student can link new information covered in class. Picture books are also effective resources for spatially oriented students who prefer images to words, and high quality picture books are available on a wide range of topics for all age groups.

A gifted student with learning problems may also have difficulty organizing information sequentially and taking notes. Many do better when they see the big picture first, before learning the details. Graphic organizers help students to get an overall picture of the topic and also give structure for helping them to fill in the details. Storyboarding is a pictorial method which also can be helpful to sequencing ideas. Finally, computers are also useful in empowering these students to organize large amounts of data, to increase spelling accuracy, and to improve visual quality of products.

Step Six: Deciding on the Product and Audience

Lesson Set 6 presents students a wide array of possible products through the consideration of visual, verbal, written, and kinesthetic modalities. Students should explore learning styles in general, as they consider the audience as well as their own preferred learning style. Lessons incorporating problem-based learning with opportunities for student choice in accessing information and presenting are powerful strategies that are effective with these students. Students are encouraged

to rely on suggestions from mentors and methodological books as they explore exciting and engaging ways to share their knowledge through "bona fide" products (oral, written, and/or artistic) created for real audiences.

Through Productive Thinking, David generated the following examples of products for consideration: a scale model of a sugar glider cage, a real sugar glider cage, an oral presentation with overhead transparencies, and an essay. Using decision making processes, David decided to design a well-constructed sugar glider cage which would be safe for the students and would also provide a sturdy, efficient living space for the sugar gliders. He also decided to create a presentation to explain the rationale for certain features of the cage. Talents Unlimited processes of Communication, Decision Making, and Productive Thinking were especially helpful in the design of this set of lessons.

Step Seven: Developing Advanced Research/Process Skills (Lesson Set 7)

The teacher plays a critical role in helping students to identify and acquire advanced research/process skills which the professional utilizes. However, many times teachers expect students to use these skills without adequate direction. First through the Productive Thinking process, teachers can assist students to think of many, varied, unusual skills that adult professionals employ as creative producers in their respective fields. For example, David generated the following list of skills that he needed to learn in order to complete his project (see figure 7). When students are committed to investigate a topic of interest and to create an original product, a wide array of study behaviors and real-world process skills become necessary. Research studies such as those conducted by Baum, Renzulli, and Hebert (1995) show that the students transfer these learning skills to other areas in the curriculum, as well as to their lives.

Figure 7. Productive Thinking; Skills Needed to Complete Project

Getting Type II Training
Productive Thinking
Activity 23

Work with your teacher/mentor to use the **Productive Thinking Talent** to think of many, varied, and unusual process skills which you may need to learn in order to complete your project. Add to your ideas as you think of others.

a. Learn how to do research.
b. Learn how do to simple carpentry work.
c. Learn how to design a cage for the sugar gliders.
d. Learn how to make a presentation.
e. Learn how to make overhead transparencies.
f. Learn how to create a good presentation.
g. Learn how to stay focused and finish my work.

Step Eight: Developing the Product

Activities in Lesson Set 8 guide students in analyzing diverse, complex, and professional adult projects. Many gifted students with learning disabilities do have difficulty organizing information for products and presentations. They are often holistic thinkers; therefore, these students' ideas do not emerge in clear, sequential formats. When faced with a project or a piece of writing, they simply do not know how to begin. Teachers can design appropriate instructional accommodations and modifications to help these struggling students overcome their learning problems, while at the same time respecting their gifts and enabling them to express their talents and interests.

For example, in 1990, Gerber and Ginsberg studied successful adults with learning disabilities and concluded that certain abilities for success can be learned. Educators are more likely to be successful with these students when they nurture self-control and empowerment, increase a desire to succeed, create an orientation for setting and attaining goals, increase levels of task commitment, emphasize strengths and de-emphasize deficits, and reframe the learning disability as a personal attribute for which compensatory strategies can be learned. Moreover, as their teachers watched the process of these learners as they succeeded, they gleaned insight into how these learners learned and became better equipped to assist them with struggles in reading and writing. Students also learn to record formative self-evaluative information as their products evolve through modification and refinement. The application of Communication, Forecasting, Academic, and Planning Talents is especially crucial as teachers encourage task commitment and provide constructive feedback, as students modify parts of their products that do not represent quality work.

Step Nine: Presenting the Product

Although creative, productive people receive personal satisfaction from their efforts, many additional rewards also come from finding ways to contribute to knowledge in the field to enrich the lives of other people. Teachers play a major role in helping students to develop this "sense of audience" by encouraging them to believe that they really do have something valuable to contribute. Productive Thinking, Communication, and Forecasting are utilized in Lesson Set 9 to assist students in this stage of the Type III process. For example, David used the Forecasting Talent to predict the many, varied effects that sharing his project might have on others (see figure 8).

Step Ten: Evaluation

It is important that students learn to evaluate their own work and to make judgments about the quality of their work. In Lesson Set 10, students are encouraged to think of specific examples of strengths and weaknesses related to their Type III processes and products. Students self-evaluate their work using the rubric for the Student Product Assessment Form (SPAF) (Reis, 1981). In addition, as students reflect on the experience, they confer with their mentors and teacher using the Communication Talents to produce a written evaluation of the Type III experience. David used Communication 3 Talent to rate his work, comparing the process to the simile: Completing my Type III was as <u>exciting as: riding the huge roller coaster at Six Flags.</u> Finally, students applied the Productive Thinking Talent as a real-world process to think of many, varied, and unusual ideas and/

Figure 8. Forecasting 2: Many, varied effects my project may have on others.

Presenting the Product to an Audience
Forecasting 2
Activity 31

Use the **Forecasting Talent** to predict the many, varied, effects that sharing your project might have on others.

a. Others may become interested in learning about sugar
   gliders.
b. Other students may become interested in doing an
   investigative study about another topic.
c. Someone may want to patent my cage.
d. I could start a sugar glider cage building business.
e. People may want to buy cages from me.
f. The sugar gliders will be happier because they will have
   more room.
g. Students can observe the gliders easier in my cage.

or strategies that would be helpful to incorporate into future Type III investigations to make them even more professional and high quality projects.

Final Thoughts and Educational Implications

Lessons Learned from David's Story

This successful intervention strategy was a research-based case study conducted during a one-year period by David's resource teacher. However, much more research is needed in order to provide appropriate instructional intervention programming for gifted students with learning disabilities. In this case, turning the academic focus toward areas of interests and strengths and finding ways to circumvent poor skills in reading and writing gave this student an opportunity to use other intelligences to experience achievement as a creative producer. Because children like David have learning needs that resemble those of gifted students, as well as those of learning disabled children, teachers must understand the dual complexity of each student's needs and must individually differentiate curriculum and instruction.

The key is, first, to utilize instructional strategies that create an appropriate balance between attention to strengths and compensation for weaknesses, and then, to apply these strategies to challenging, authentic learning experiences. With close guidance from a teacher, students like David may learn to engage in authentic problem solving, learn to think at high levels of abstraction, and learn to create original products to communicate their ideas. Most importantly, once students perceive themselves as competent learners in their interest areas, skills in reading and writing also improve. And, finally this success leads to higher levels of self-esteem and self-efficacy.

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