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Talent

The Center for Talent Development



Gifted Education in Today's Schools

An interview with Carolyn Callahan, Ph.D.

Is there a disconnect or mismatch between practice and research in gifted education? If so, why does this occur?

Yes, as in most fields of education, there are areas of disconnect and mismatch. This occurs for at least three reasons. One, as in all areas of education, the practitioners often do not read the research because it is not written in practitioner-friendly language. The National Research Center for the Gifted and Talented (NRC/GT) at the University of Connecticut (Storrs, CT) has made efforts to create reports for the researchers AND to produce documents from those reports that are useable by practitioners (available at <http://www.gifted.uconn.edu/nrcgt.html>). The key now is to get them in the hands of decision-makers—be they administrators making program decisions or teachers making classroom instructional decisions.

The second reason for a disconnect is that research often tells us things that are counter-intuitive or not in alignment with our beliefs. Since beliefs and intuition are so hard to challenge successfully, the research may be dismissed. For example, the literature on acceleration would suggest that when acceleration is implemented carefully with the appropriate children, negative social or emotional consequences are not a danger, but administrators and teachers will tell you bluntly that they are sure that those consequences are very likely.



Finally, old practices are very entrenched. The possibility of adopting new approaches suggested by research is often limited by conceptions of giftedness based on programming and identification decisions made 20 or more years ago. Fears that political dogfights over a program issue may bring the whole notion of gifted programming into question will sometimes prevent open discussion of change. And, finally, the fear of change itself and comfort in the “way we’ve always done it” stymies adopting new ideas based on the research.

How would you characterize the state-of-the-art research on instruction and curriculum in gifted education? What research directions are most promising? What is most lacking?

One of the disturbing issues in gifted education is the lack of a long and comprehensive history in terms of time or breadth and replicated research. Because of limited funding, we have tended to do static research on characteristics of the gifted and their teachers.

One glaring hole in our research is the lack of research on best practice in the classroom. We have many theories and recommendations based on lists of characteristics of the gifted. But the actual research on the effects of recommended practices in curriculum and instruction is more rare. Scattered studies abound, but the body of literature is very weak overall. Hence, the state-of-the-art of research on instruction and curriculum in gifted education is that it is in its infancy and very limited.

The development of large-scale research programs has been very difficult for several reasons. First, the field has been under-funded in the areas of research that would support longitudinal research studies. There have been some important studies such as Sternberg’s research on the positive effects of matching areas of intellectual potential with curricular intervention, VanTassel-Baska’s research on the impact of the William and Mary curricular units, the *continued on page 2*

Gifted education expert Carolyn Callahan tells us what teachers need to do to provide for gifted learners, about trends in research in gifted education—and more.

BEST PRACTICES

Is Your School Using Best Practices of Instruction for Gifted Students?

by Paula Olszewski-Kubilius, Ph.D.

Gifted education, like many other educational fields, is often an unfortunate victim of “fads”—new instructional practices that promise to be the panacea for age-old problems. Teachers who are on the front line often do not have access or the time to digest research articles about the effectiveness of new instructional practices. But schools seeking to effectively serve gifted learners have a real need to know which practices, out of the many promoted as beneficial, have “proven” effectiveness for the advanced student.

Fortunately, there is a growing research base for many instructional practices that educators can use to design effective programs for gifted students:

The talent search model of identification

The Talent Search model has a very solid research base to support it (see the *Journal of Secondary Gifted Education*, 9 (3) 1998). This protocol, which is exemplified in the Midwest *continued on page 3*

inside

Research 1, 3-4
Callahan Interview 1-3
Book Review 5

Civic Education Project 5
Summer Program 6
Student Profile 6

Teachers on Acceleration . . . 7
Upcoming Deadlines 8

NRC/GT research on the importance of compacting, etc. (see Resources, below). But these need a history of replication and more longitudinal impact studies. And we need to carefully specify the relationships between effective curriculum and the definition of giftedness used, as Sternberg did in his work. Because of the widely varying conceptions of giftedness, our research efforts need to look back to the old "aptitude by treatment interaction" research (where we examine the effects of different instructional strategies on learners with different levels and types of abilities) for some guidance.

Many schools are moving towards differentiation in the regular classroom rather than specialized gifted programs. How effective is differentiation in the regular classroom? Under what conditions can it be used successfully?

Differentiation in the regular classroom by itself is not a gifted program. It may allow for the successful educational modification of the curriculum for some gifted students, but it is only one aspect of a gifted program and will only work under very specific conditions. There is a wide range of variance among gifted students and one service delivery option is unlikely to meet the needs of all gifted students. The model of differentiation in the regular classroom has the advantage (when appropriately implemented) of offering instruction that is integrated with the school curriculum and the school day, of being more than a "once-a-week" shot of high level challenge (like many pull-out programs), and of offering the opportunity for teachers and children to work flexibly to address the ever changing needs of gifted students.

Unfortunately, administrators opt for this service delivery model without a full understanding of the conditions that must be in place for effective implementation. Among the minimum conditions under which differentiation can work are:

1. Teachers must be advanced in their understanding and knowledge of the disciplines and in the use of multiple instructional strategies. For most teachers, achieving this level requires extensive and in-depth staff development in both the content area and instructional strategies.

2. Teachers must have an ability to adopt a philosophy of teaching that is student centered rather than teacher centered.

3. There must be time in teachers' days to plan the instruction necessary. The normal planning time allotted to teachers is not sufficient.

4. There must be outside resource supports to identify reading materials, help develop alternative learning tasks, etc.

5. Students need to be cluster grouped. There must be a critical mass of gifted students in the classroom to trigger the teacher response that it is worth the time and effort to develop alternative learning tasks.

6. Teachers must feel free of the burden of the high-stakes testing trap which leads them to focus all their energy on achieving minimums with the most marginal students.

7. Administrators must become proficient in understanding differentiation in order to be effective support systems and to hold teachers appropriately accountable for the differentiation in the classroom.

What advice would you give a school seeking to design a new program for its gifted students? What common mistakes do schools make when designing gifted programs, and how can these mistakes be avoided?

The first mistake is to think in terms of "A" program rather than of an array of services for gifted students. As I said before, the most significant question is not: "Which model for delivery of services is the best model?" Rather, planning should center around addressing the question: "Which services are needed for which gifted students in the population we are trying to serve?" There may be

some students who are served by being accelerated in the next grade level's mathematics class, some who are best served by a differentiated classroom experience, some who need the support of a resource room, and some who need a self-contained classroom.

Schools should include the full range of services that they can reasonably afford and/or have the resources to offer. The differentiated classroom can serve as a base, supplemented by resource room or pull-out services, and special classes if necessary and justifiable, mentorships as appropriate, and acceleration for those students who are best suited for that program option.

The second mistake is assuming that the responsibility for "growing" gifted kids lies with the parents and it is our job to spot the best and pick them for our programs. It is the responsibility of schools to be part of the talent development process in the very early years to ensure that all gifted children have the opportunity to bloom.

What are the most important criteria for schools to consider when evaluating the effectiveness of their existing programs and services for gifted students?

The most important criteria, and the most often ignored, are those relating to student outcomes. Programs must be able to specify how the students who are served by the program options offered will be different because they participated in this program.

The first mistake is to think in terms of "A" program rather than of an array of services for gifted students.



Resources

Reis, S. M. and others. Why Not Let High Ability Students Start School in January? The Curriculum Compacting Study. National Research Center for the Gifted and Talented. University of Connecticut. Storrs, CT. www.gifted.uconn.edu

Sternberg, R. J., Ferrari, M., Clinkenbeard, P. R., & Grigorenko, E. L. (1996). Identification, instruction, and assessment of gifted children: A construct validation of a triarchic model. *Gifted Child Quarterly*, 40, 129-137.

Sternberg, R. J., Torff, B., & Grigorenko, E. L. (1988a). Teaching for successful intelligence raises school achievement. *Phi Delta Kappan*, 79, 667-669.

Sternberg, R. J., Torff, B., & Grigorenko, E. L. (1988b). Teaching triarchically improves school achievement. *Journal of Educational Psychology*, 90, 1-11.

VanTassel-Baska, J. (2002). Assessment of gifted students' learning in the language arts. *The Journal for Secondary Gifted Education*, 13, 67-72.

VanTassel-Baska, J., Zuo, L., Avery, L.D., & Little, C. A. (2002). A curriculum study of gifted student learning in the language arts. *Gifted Child Quarterly*, 46, (1) 30-44.

Best Practices *continued from page 1*

What will students know, understand, and be able to do that they would not have known, understood, or been able to do? Affective dimensions are also important. Programs should not produce higher achieving students who have come to hate school, or who are now perfectionistic, or who now have poor self-concepts! There are, of course, many other areas that must be considered in an appropriate evaluation plan or we will never know what it was that we were doing that brought about the results—good or bad—so we will not be able to make appropriate modifications. But an “apparently” well-designed program that does not impact the students in specified and positive ways is not well designed.



Dr. Carolyn M. Callahan is a professor in the Curry School of Education, University of Virginia and is also associate director of the National Research Center on the Gifted and Talented. She teaches courses in the area of education of the gifted, and is executive director of the Summer Enrichment Program. Dr. Callahan has authored more than 150 articles, 30 book chapters and monographs in gifted education focusing on creativity, the identification of gifted students, program evaluation, and the issues faced by gifted females. Dr. Callahan has received recognition as Outstanding Faculty Member in the Commonwealth of Virginia and was awarded the Distinguished Scholar Award from the National Association for Gifted Children. She is a Past-President of The Association for the Gifted and the National Association for Gifted Children. She also sits on the editorial board of Gifted Child Quarterly, is a consulting editor for the Roeper Review, and serves as a reviewer for other journals including the Journal for the Education of the Gifted.

Talent Searches, involves a two-tiered system of identification: initial identification of gifted learners via on-level achievement test scores, followed by off-level testing using tests such as the SAT or ACT (EXPLORE or PLUS for younger students) matched to domains of ability (verbal or mathematical). Extensive research verifies the appropriateness of using the 95th percentile on in-grade achievement tests to identify children for further off-level testing; the validity of SAT or ACT in terms of predicting future performance in school and career; and the validity of SAT or ACT scores for selection into accelerated courses and programs. Talent Search testing has been implemented across the US and is available through CTD as well as through the Talent Identification Program of Duke University, the Rocky Mountain Talent Search at Denver University, and the Center for Talented Youth at Johns Hopkins University, and several state-specific programs. The university-based programs all offer additional educational opportunities to students who test through them including summer programs, distance learning, weekend classes, etc.

Nonverbal testing for minority students

Nonverbal tests of ability are better at identifying students of color who are gifted. Research has shown that tests such as the Naglieri Nonverbal Ability Test (NNAT) or the Ravens Progressive Matrices identify more children of color as gifted than traditional IQ tests and approximately equal these students' representation in the school population (Sacuzzo, Johnson and Guertin, 1994). Yet, these tests are rarely used as special provisions in schools with high populations of minority children. School districts with large populations of minority students and/or students for whom English is a second language need to incorporate nonverbal testing into their identification protocol. Our research at the Center for Talent Development using the NNAT and Ravens suggests that nonverbal tests should be used in conjunction with other “traditional” tests to capture all students who need special services because of advanced abilities.

Homogenous grouping preferred to within-class cluster grouping

Given the current trend to serve gifted students within the regular classroom, research that investigates the effectiveness of this arrangement is significant. A very carefully done study by Marcia Delcourt and her asso-

ciates (1994) compared full time special schools for the gifted, homogeneously grouped classes, pull out programs, and within-class cluster grouping. Compared to within-class clusters of gifted students and to gifted students receiving no services at all, the student in the special schools, homogenous classes, and pull-out programs showed substantially higher levels of achievement. Most importantly, the gifted student in the within-class clusters scored lower than gifted students receiving no programs. Also, the achievement of the non-gifted students who remained in the regular classroom did not suffer because of the removal or absence of the gifted students. The authors caution that unless done effectively, within-class cluster grouping can disintegrate into no programming at all for gifted students.

Another well-constructed study by Archambault and associates in 1993 investigated how teachers respond to the special needs of gifted students in their classrooms. Although the teachers in this study were very experienced, with an average of 10 years in the classroom, they made few real accommodations for gifted students and were no more likely to use special instructional techniques (such as differentiated assignments or pre-testing) with these students than with the non-gifted children in their classrooms.

Finally, sophisticated analyses across hundreds of studies involving homogeneous grouping of gifted students show that ability grouping or “homogeneous grouping” for acceleration or enrichment results in significant gains in achievement for gifted students (not so for other students). Additionally, full-time grouping with other gifted students has little effect on students' self esteem (the “little fish is a big pond syndrome”); any negative effects are slight and transitory. Ability grouping for gifted students produces a moderate increase in positive attitudes toward the subjects studied (Kulik, 1992, Rogers, 1991).

Accelerative models

There is ample research to support accelerative practices for gifted children including fast-paced classes (Olszewski-Kubilius, 1998);

continued on page 4

School districts with large minority populations and/or students for whom English is a second language need to incorporate nonverbal testing into their identification protocol.

Best Practices *continued from page 3*

early access to advanced content (Olszewski-Kubilius, 1998); early entrance into kindergarten or first grade (Cornell et al, 1991; Proctor et al, 1986), early college entrance (Olszewski-Kubilius, (1995), and grade skipping (Rogers, 1991; Southern and Jones, 1991). Despite the substantial body of research supporting acceleration, acceleration—in any form—is rarely used in schools. This is primarily because of beliefs on the part of educators that acceleration is harmful to children's social and emotional development. However, there is no solid research evidence that this belief is true.

Curriculum Compacting

The elimination of material that gifted children already know before instruction begins, a practice known as curriculum compacting, has been shown to be very effective with gifted learners. Specifically, Reis et al (1993) showed that with elementary and middle school children, elimination of as much of 50% of the regular content was not detrimental to gifted students' achievement as assessed on off-level tests. In several content

mentoring from master teachers, and additional instructional and curricular resources, in order to implement curriculum compacting effectively.

Finally, the most recent research is showing that when a good educational fit is achieved, gifted students' mental health is comparable to that of non-gifted students. Many personality and social-emotional characteristics have been attributed to gifted children (including increased sensitivity, perfectionism, lack of social skills) that could put them at risk for good mental health development. However, researcher Maureen Neihart has shown that contrary to popular belief, gifted children are no more likely to be depressed or anxious compared to non-gifted children (Neihart, 1999). Similarly, children with very high IQ's are not inherently less socially skilled compared to gifted children with lower IQ's; rather, lack of social competence is associated with the lack of opportunity to interact with others of similar abilities and interests and is more likely with very high IQ children because of the frequent mismatch between their abilities and appropriate educational environments (Neihart, 1999).

Paula Olszewski-Kubilius is the director of the Center for Talent Development at Northwestern University and an associate professor in the School of Education and Social Policy. She has worked at the Center for 20 years during which she has conducted research and published widely on issues of talent development, particularly the effects of accelerated educational programs and the needs of special populations of gifted children. She was the recipient of the Early Scholar Award of the National Association of Gifted Children. She has designed and conducted educational programs for learners of all ages as well as workshops for parents and teachers. She is active in national- and state-level advocacy organizations for gifted children. She currently serves as editor of Gifted Child Quarterly, and previously edited the Journal of Secondary Gifted Education. She has served on the editorial advisory boards of the Journal for the Education of the Gifted, Gifted Child International, and The Roeper Review.



IN BRIEF

Research supports:

- Off-level testing for gifted students
- Homogeneous grouping of gifted students
- Many forms of acceleration such as fast-paced classes, early access to advanced content, early college entrance, and grade skipping
- Curriculum compacting
- Gifted students experience increased mental health problems only when not well-matched to their educational environment

areas, gifted students who had received compacting scored higher than gifted students who had not.

However, their teachers had difficulty choosing appropriate replacement activities for the time saved by curriculum compacting. This study suggests that teachers need training, continued support in the form of

Resources

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Civic Education Project Provides More Options for Tomorrow's Leaders with new Civic Leadership Institutes

The Center for Talent Development's Civic Education Project (CEP) is joining forces with John Hopkins University's Center for Talented Youth in the creation of two new Civic Leadership Institutes for the summer of 2003. Designed to help highly capable young people channel their unique gifts in ways that are both personally rewarding and socially responsible, the Institutes will be available to high school students across the nation, and will be based at Northwestern University's Chicago Campus and Johns Hopkins University's Peabody Campus in Baltimore.

The three-week residential Civic Leadership Institutes for gifted and talented youth will combine traditional academic coursework with hands-on volunteer service and experiential learning. Exposure to a variety of theories, speakers, and field experiences will enable students to develop skills in leadership and problem solving, while giving them a safe space to explore their own ideas. Students will also examine the root causes of a variety of social issues and seek ways to leverage communities' assets to help address these problems. Through the Institutes, students will also develop strategies for transferring their knowledge into greater civic participation in their home communities.

In addition to the Civic Leadership Institutes, CEP will continue to offer summer courses for elementary and middle school students through the Center for Talent Development and the Center for Talented Youth. The Community Action course for younger students introduces the concept of community and individuals' roles in orchestrating social change. Middle school students can take the Youth and Society class which couples classroom instruction about community development with a variety of service work, culminating in student-developed action plans for addressing a social concern of their choice.

The Civic Education Project will also continue its spring break field study programs for Chicago-area high school students. In these programs, students travel to new communities and spend one week immersed in volunteer activities, meetings with civic leaders, and leadership development exercises centered around an issue such as urban poverty or peace education and conflict resolution.

Modeled after the break programs, CEP is also hosting its first Civic Leadership Conference in Cincinnati, OH, this winter for college-age alumni of the program. The conference will concentrate on the issue of



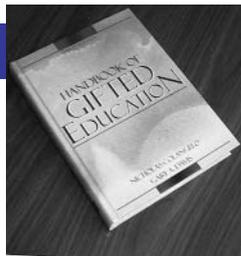
race and social justice. Participants will also discuss issues of civic engagement and the college experience.

Celebrating its fifth anniversary, the award-winning Civic Education Project has run 39 projects for nearly 450 students who have logged 12,000 hours of service. The combined service has made the Center for Talent Development, and the Civic Education Project, a national leader in citizenship education and leadership development for gifted students.

BOOK REVIEW

The Handbook of Gifted Education

N. Colangelo and G.A. Davis
Third Edition 2002
Boston: Allyn and Bacon



While all chapters from previous editions are updated with recent research, this review focuses on new chapters.

by Paula Olszewski-Kubilius

This comprehensive book, a classic and widely read text in the field, is recommended for all educators working with gifted students. A highlight is "The Science and Politics of Intelligence in Gifted Education," where respected researcher Linda Gottfredson expertly examines age-old questions:

Are there multiple kinds of giftedness? ...intelligence? Does intellectual giftedness result mostly from nature or nurture? What abilities does an IQ score represent? Can all students develop high abilities with proper instruction and sufficient practice? (p. 25)

Gottfredson identifies popular beliefs regarding these issues and points out mis-

conceptions. Some findings indicate that a ubiquitous general ability factor underlies all mental abilities, that IQ predicts valued life outcomes, and that heritability of IQ increases over one's lifespan. Gottfredson's implications may cause readers to re-evaluate their beliefs and practices in gifted education.

In another chapter, Canadian researcher Francoys Gagné explains his Differentiated Model of Giftedness and Talent. According to Gagné's theory, "giftedness" refers to raw natural abilities that place an individual in the top 10% of age peers. "Talent" is the systematically developed abilities, skills, or knowledge that place an individual in the top 10% of age peers. The potentially useful model attractively quantifies levels of giftedness from "mildly gifted" to "extremely gifted."

Authors Ellen Winner and Gail Martino explode the myth that artistic talent is demonstrated through one's ability to draw realistically. They contest that the defining characteristic of young artistic talent is the "ability to master one or more of the culture's

norms of artistry at a very early age" (p. 347). The authors mention a young girl whose drawings mimic Picasso and Miro's works.

Sidney Moon adds to the counseling and psychological issues section, describing two categories of family counseling—family guidance and family therapy—as particularly useful with gifted children. Arthur Costa contributed a chapter on skillful thinking habits, listing 16 ways of "behaving intelligently."

Ken Seely opens discussion on high-risk gifted learners—gifted students who are truant, disruptive, violent, or participating in crime or substance abuse. Seely addresses risk and protective factors, and the roles of intelligence, learning style, competence and motivation in maladaptive behavior while offering guidelines for assessment and intervention.

David Lubinske's chapter on spatial giftedness argues that identification procedures ignore students who have spatial visualization ability and could experience vocational achievement.

Other new chapters examine teachers, rural schools, and technology.

Growth and Expansion Mark CTD Summer Program

Despite a struggling economy and many fears of traveling in the aftermath of September 11th, the CTD Summer Program experienced remarkable growth last year. The Summer Program hosted 1881 students in 2002, a 19% increase from 2001. The expansion of the Leapfrog Program for PreK-3rd grade students from one to three sessions accounted for much of this growth, with Leapfrog enrollment increasing from 210 to 416 students.

Students from 38 states and 13 foreign countries studied topics in English, math, science, and humanities. The curriculum provided PreK-12th grade students with 127 classes, including many that allowed students to earn high school honors level credit at their academic-year institutions and many that allowed students to explore their interests in greater depth. Taking the classroom to the world, many courses made use of Chicago's array of cultural gems, with visits to places such as the Evanston Historical Society and Ba'Hai Temple to examine architecture and the Mexican Fine Arts Museum to better understand the context of *The House on Mango Street*. Bonnie Ayala's class, *Up, Up and Away*, used Northwestern's Deering Field as a launch pad for rockets to help students understand flight. Dan Coyne, teacher of *Order in the Courtroom*, had a mock trial of fairy tale characters to help students learn about court proceedings and how to develop arguments.

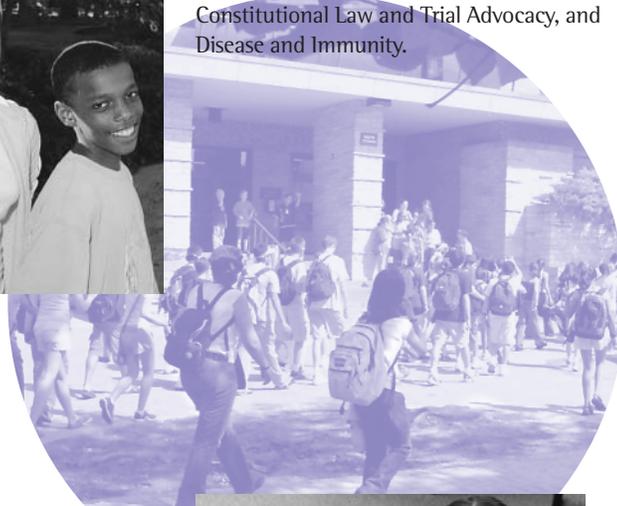
In addition, students enjoyed a taste of campus life and a full schedule of fun with their dorms and CTD's residential staff. Students participated in talent shows, movie nights, dances, sports, trips to Chicago, and pajama parties complete with cereal and milk.

With the generosity of Quaker Oats, Ryerson-Tull, and Project EXCITE, the Summer Program provided scholarships to 25 gifted minority students from Chicago and Evanston schools. Many of the students tackled self-paced Algebra I Honors and worked closely with the instructor and teaching assistants. The grants have helped many young minority students get ahead academically and expand their horizons.

Building on its many past successes, CTD is making exciting plans for 2003. CTD has formed a joint program with Case Western Reserve University (CWRU) to offer eight Equinox courses at CWRU's Cleveland campus this coming summer. Taking advantage of CWRU's specialties in science and fine arts, Equinox at CWRU will offer Advanced Creative Writing, AP Environmental Science,

Research Methods, Theater Honors, Engineering Concepts and Computer Aided Designs, Genetics and Biotechnology, Honors Chemistry, and the History of Medicine. In addition, new courses will be offered in all four of the Evanston Programs. New Leapfrog classes include: Human Body, Meteorology, Underwater Adventures, Math Zone, Great

Scientific Discoveries, Building and Architecture, Ancient Africa, Folktales, and Detective Stories. New Apogee Classes include *A Knight's Tale: The Middle Ages*; and *Detective Science: Introduction to Forensics*. New Spectrum Programs offerings include *Topics and Research in Psychology and Latin II*. Finally, the Equinox Program will now offer *The 60's: A Decade of Change in America*, *Advanced Math Topics*, *Astrophysics*, *AP Computer Science A*, *Constitutional Law and Trial Advocacy*, and *Disease and Immunity*.



STUDENT PROFILE

Hila Levy, 15, San Juan, Puerto Rico Equinox Program 2002

Academic interests: languages, science, math, middle eastern politics

Equinox Classes taken in 2002: Physics Honors and Modern Physics

Potential career: air force pilot, astronaut

Hobbies: soccer, volleyball, guitar

Favorite book: anything by Tom Clancy

Currently reading: "Vol de Nuit" by Antoine de Saint-Exupery

What adults don't understand: our ability to be intellectuals and handle stress

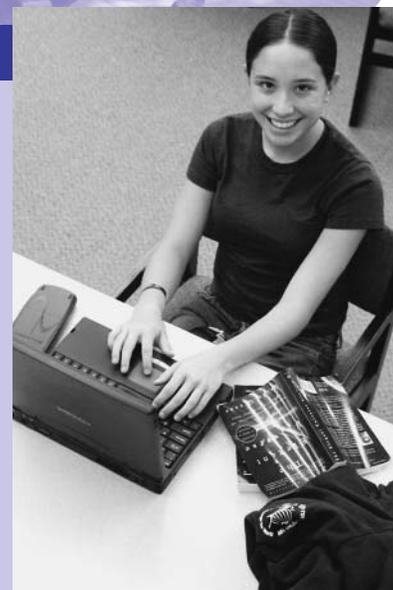
I want to meet: John Glenn because he had a very broad-spanning life as a pilot, astronaut and politician

Challenge of my generation: saving the planet

If I were president: I would focus on the environment and poverty, diseases (AIDS in the world), health care, also environment and animal rights

Our culture in 20 years: Everything will be compact and easier to accomplish but the world status will be worse unless we find the cures to diseases like AIDS and help the environment.

What's important to me: Achieving my goals and upholding my beliefs. Being a leader.



FIND OUT WHAT THREE VETERAN TEACHERS HAVE TO SAY

CTD Summer Teachers on Teaching Accelerated Courses

Describe the course material covered in your three-week class.

Vivek Likhite, Human Biology: I cover a year's worth of material, minus a couple of chapters.

David White, Introduction to Philosophy: I cover the major issues and writings of key figures in philosophy, cultural differences in philosophy, and how to comprehend and discuss critically using sound reasoning.

Jon Berry, Latin I Honors: I cover more than one year of high school Latin.

What level of mastery does the typical CTD student achieve in your class?

Likhite: In three weeks, they surpass what the typical student has done for me in a year-long class. They're tired by the end, but they leave with a strong foundation in biology. They often tell me afterwards how much the course helped them with courses at school.

White: From working with gifted for several years, I determined students should be able to appreciate the structure of an argument leading to a conclusion, evaluate that argument with their own reasons, develop ideas in writing on a philosophical topic, and learn to respect positions different from their own in three weeks. Most students are very successful.

Berry: CTD students demonstrate an extremely high level of mastery. One of my students received a perfect score on the introductory level National Latin Exam, and a very large percentage had almost perfect scores.

How do students achieve mastery with such a drastic reduction in class hours?

Likhite: My students participate in daily labs connected to the units studied for reinforcement. I spend no more than a half-hour discussing the unit and lab and then students take an exam. I hold the students responsible for learning the material, and they are expected to study between 3-4 hours per night during the week and 4-5 hours per day on weekends. I expect them to have a strong work ethic and time management skills, and they come through for me. High expectations pay off.

White: I engage students as thinkers and speakers in discussion, as writers in the essays, as calculators in formal exercises involved in logical reasoning. I expect students to read the material the night before so we can cover it quickly. I use the Socratic method continually, both in the reading as well as in presenting and drilling logical principles and exercises. I return written work the day after

it is submitted for timely feedback so students can incorporate responses into their subsequent work.

Berry: I created a PowerPoint presentation covering all of the grammar for 1st year Latin. As a result, I was always certain that students were focused on the material for each lecture. I also used a "question and answer" method of teaching to encourage students to be active learners and used many enrichment activities: movies, skits, and writing PowerPoint and Word presentations to demonstrate grammatical concepts.

What exemplifies the effectiveness of this accelerated format?

Likhite: After we discussed the conservation of energy, one student asked, "Does this mean we can't add matter?", and that led to another student questioning whether meteoroid showers add matter. I love it when the students connect science to life around them and discuss issues like this. I also love to watch students laugh during lab.

White: I remember an 8th grader from Michigan who was silent during the first week, but who opened up somewhat during the second week and then became one of the most vocal and perceptive participants during the final week. This young lady was able to absorb the intense interaction with her peers and transform her own persona, perhaps her identity, through the sustained process of listening to others talking, determining that she had things to say—and saying them!

Berry: It's very exciting to observe young people—particularly bright students—as they go through the process of acquiring knowledge. It's like watching the first five years of a child's linguistic development take place in a few weeks. They learn so much so fast, and the communal effort takes on an energy of its own.



We surveyed our summer students: Who or what has had the largest impact on your talent development? Why?

My teacher Jon Bogie taught me calculus and trigonometry.

—Kevin Bhasin, 11, Cleveland, OH, Apogee

My parents told me I could always do better and if I didn't, they would always love me.

—Caitlin O'Leary, 12, Menasha, WI, Apogee

My grandparents taught me how to live life to the fullest and why it is so important.

—Teddy Chow, 17, Toronto, Canada, Equinox

My American Studies teachers in 10th grade gave me a kick start academically.

—Dhruv Kalra, 16, Rochester, MN, Equinox

My teacher Mr Cerutti challenged us to think both creatively and logically about the world.

—Kathleen Dimmich, 16, St. Louis, MO, Equinox

What advice would you give teachers designing accelerated courses?

Likhite: Teachers need to learn to keep their mouths shut. Too often teachers want to lecture to show how intelligent they are. Gifted students don't want to be lectured and they don't need you in the same way. Sometimes they have questions and need someone to broaden the context, but that's it. I keep class hands-on, lab-oriented and fun. The teacher's responsibility is to hold the group together and keep the competition in control by creating a positive atmosphere.

White: Never assume gifted students can't achieve; it's better to assume they can do it, regardless how advanced the material appears. Students suffer if you play "catch up" and introduce challenging material on the fly because you underestimated their abilities. Vary activities and material throughout the course to sustain interest. Even the brightest students become bored doing the same thing over an extended period. If you're fortunate to teach an accelerated course, be ready for a unique pedagogical experience. There is nothing like it for concerted intensity and a feeling of personal satisfaction.

Berry: Teachers must be enthusiastic about the material for an extended period every day, and should use teaching methods that allow them to step back and catch their breath. There should be group projects and activities daily to appeal to various types of learners and to take some burden of instruction off teachers. Teachers should be prepared to assess students very early—by the 2nd day—and should assess daily to monitor progress and uncover problems.

2003 PROGRAM DATES, DEADLINES, & ANNOUNCEMENTS

Summer Program 2003

Session 1: June 29-July 19

Session 2: July 27-August 16

NEW! Equinox at Case Western Reserve: July 6-July 26 at CWRU campus in Cleveland, OH

Leapfrog: June 30-July 4; July 7-July 11; and July 14-July 18.

We are currently hiring teachers and staff!

Civic Education Project

Week-long Spring Break Trips leave March 22, March 29, April 13 & April 21

NEW! Civic Leadership Institutes in Chicago and Baltimore

Saturday Enrichment Program

Winter courses begin January 11

NEW! "Kids' Conference": March 1, 2003 at

Glenbard West High School

Spring courses begin April 5

LearningLinks Distance Learning

Winter session begins in February

"Opportunities for the Future" Family Conference

Sat., June 28, 2003, 1-5 pm at Northwestern

Midwest Talent Search

SAT testing: January 25

ACT testing: February 8

On-line registration continues through June test dates.

Midwest Talent Search for Young Students

EXPLORE testing—January 25 & February 22

ACT is seeking schools to serve as 2004 EXPLORE test sites. Call 319-337-1510 or fax 319-339-3039 for more information.

Visit www.ctd.northwestern.edu for more information.

CTD PUBLICATION FOR STUDENTS & FAMILIES

Designs for Excellence

A Guide to Educational Program Options for Academically Talented

Middle & Secondary School Students

by P. Olszewski-Kubilius Ph.D. and

L. Limburg-Weber Ph.D.



This comprehensive guide to educational programs gives information on the most respected programs in the country for gifted children. These include the International Baccalaureate program, the Advance Placement Program, dual enrollment programs, internships, summer programs, study abroad programs, distance learning programs, early college entrance programs and contests and competitions. The guide familiarizes parents and students with each program type; presents issues to consider when selecting programs such as credit, preferred student learning style, type of courses available, benefit of the program; gives criteria on which to judge the quality and appropriateness of different programs; and lists resources to help you access courses and programs. To purchase a copy, visit www.ctd.northwestern.edu or call 847-491-3782. The cost is \$10.00.

CENTER for TALENT DEVELOPMENT

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The Center for Talent Development at Northwestern University is an accredited learning center and research facility serving the gifted community of the Midwest. Through the Midwest Talent Searches and other programs, CTD has assisted more than 350,000 families. Offering a variety of learning alternatives for the gifted student, CTD provides school-year programs such as Saturday Enrichment Program, LearningLinks distance learning, Civic Education Project, and Project EXCITE, as well as summer academic programs (Leapfrog, Apogee, Spectrum, and Equinox), informational conferences for families and educators, scholarships, and graduate courses on gifted education. Led by nationally recognized scholar Paula Olszewski-Kubilius, Ph.D, the center also conducts and publishes academic research on gifted students, particularly in the areas of accelerated learning and special populations of gifted learners. CTD is accredited as a special function school for the gifted by North Central Association of Colleges and Schools.



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