

SIGNificance.

The newsletter for the AERA Research on Giftedness and Talent SIG

Letter from the Chair

Another year has passed by, and it is time once again to meet at AERA in San Diego to renew old acquaintances, learn brilliant new things about the innovative research and practices being developed in our field and in education in general, and to visit and appreciate the beauty of San Diego. For me, this is a coming home. This was my home for the first few years of married life and my oldest child was born in San Diego. Extra days before the conference will be spent with our family who still live there, event also greatly anticipated, in addition to seeing all of you once again!

Our SIG program looks wonderful, thanks to those of you who reviewed and evaluated our many proposals for the program. Most of our sessions are being held in the Omni Hotel, but the poster session will be held in the Sails Pavilion of the convention center. The paper discussion sessions, formerly known as roundtables, will be held in the Marriot Hotel & Marina. I am so excited by the extraordinary variety of papers and research designs represented by these august sessions. None of us will want to miss a single session! And, having three venues means we will be able to stroll outside in the beautiful San Diego weather this time of year and see a few sights along the way.

Our business meeting will be held on Tuesday evening, April 14 at 6:15 - 8:15 pm in the Omni San Diego, Salon D. We will quickly catch you up on SIG activities and future plans as well as get some feedback from you about additional issues and directions we should be taking. When we finish with the "business", we will get on to the "pleasure" of our meeting. We are excited that Drs. Rena Subotnik and Bruce Thompson have agreed to talk about the new book in press through the American Psychological Association on *Methodologies for Conducting Research on Giftedness*. I

suspect this book will be a marvelous addition to our already strong publications in this area. It will be an enlightening and enjoyable session, I am sure.

Just us at the Business Meeting and SIG social on Tuesday!

As per SIG tradition, we will reconvene after this business meeting around 8:30 pm at the Rock Bottom Brewery's Starlight Loft at 401 G Street for our own private party with hot appetizers and a cash bar. You will find additional information about this opportunity for us to renew old friendships and to network. It is important to RSVP to Scott Peters by March 27, if you plan to imbibe. He can be contacted at speters@purdue.edu

No one took me up on my request of last year -that you tell me where you think our organization should be headed. We will share some ideas about membership recruitment and possible scholarships and awards for future conventions, but we want to hear from you, so either bring your ideas to the business meeting or email me with your ideas and I will be glad to share them with our group at the meeting.



Karen Rogers can be reached at kbrogers@stthomas.edu

Spring 2009

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Annual Meeting Highlights. San Diego, April 13-17, 2009

Report from the Program Committee

Dona Matthews & D. Betsy McCoach, *Program Chairs*

We were delighted by the caliber of proposals submitted for the 2009 conference, as well as by the extraordinary group of 28 reviewers who worked with us to make the hard decisions about allocation. We received 60 proposals (57 individual paper proposals and 3 symposia). Of these, 20 were accepted for presentation in one of four thematically-grouped sessions, and three were accepted as symposia, giving us a total of seven sessions (down from eight in 2008).

Looking at this year's top individual paper submissions, it is apparent that diversity, equity, and social justice are all important topics at this time in gifted education, and so one of our thematically-grouped sessions is *Gifted Education, Diversity, Equity, and Social Justice*. (Tues., 4:05-6:05). Topics covered include pathways to the top for African American Students; instruments to identify low-income students and Hispanic second language learners for gifted programs; the efficacy of various instructional strategies with diverse learners; and the role of adult relationships on gifted minority students' well-being.

Identifying giftedness is one of the most contentious topics in gifted education. Another of the thematic issues concerns those who are not only gifted but are also exceptional in other aspects of their learning: *Identification and Characteristics of Gifted and Twice Exceptional Learners* (Thur., 8:15-10:15). In this session, presenters discuss empirical evidence showing how giftedness is sometimes misdiagnosed as Attention Deficit Hyperactivity Disorder; the effects of teacher preparation and disability labels on gifted referral for twice exceptional learners; and educators' first impressions of students who are both gifted and LD. Another hot topic is how to broaden assessment practices, and presenters in this session also discuss methods of assessing critical thinking in science, and gifted development in kindergarten.

Another hot topic in the field today: should academically advanced students be accelerated? If yes, how and when? The research on acceleration practices is discussed in the *Acceleration and Alternative Programming Options* session (Tues., 8:15-10:15), along with teacher attitudes toward grade-skipping and subject-specific acceleration, and the need for a comprehensive research-based policy on acceleration. Other ways to provide differentiated education to meet gifted learning needs include summer mentorships and ability grouping; these topics are also considered, particularly as they address issues of self-concept and social justice.

Finally, many of the submissions accepted for presentation as papers concerned recent advances in theoretical and empirical knowledge of the development of giftedness and talent, addressing how research actually impacts educa-

tional practice. In *Research and Theory into Practice: Teaching Gifted Learners* (Thur., 4:05-6:05), researchers present their findings evaluating the utility of the recently-developed NAGC gifted program standards; discussing practitioners' conceptions of academic talent and development as it influences educators' decision-making; applying the achievement-orientation model to teachers' job satisfaction; examining curriculum policies and practices at the district level; and considering the state of research in the field over the past 10 years.

Thirteen proposals were accepted for presentation in two different roundtable sessions (Tues., 1:15-1:55, and Thur., 3:05-3:45), and sixteen proposals were accepted for presentation in a poster session (Wed., 2:15-3:45). In these sessions, participants discuss their findings concerning many aspects of giftedness, talent, and creativity. There are reports on case studies and biographical models for understanding various dimensions of gifted development; issues in the history, policy and politics of gifted education in the United States, England, and Korea; social, emotional, and cognitive development of academically gifted students; spatial giftedness; the impact of parental expectations on gifted development; methods for fostering independent learners; communities of inquiry; and considerations of creativity across settings.

We also accepted two symposia for presentation. *Advanced Models and Methodologies for Gifted Education Research* (Tues., 10:35-12:05) highlights five modern statistical models that can be applied to gifted education research. Each paper presents a model that has gained some prominence within the field of education, provides an overview of the technique, and provides some discussion of possible applications within the field of gifted education. In *The Past, Present, and Future of Gifted Education* (Thur., 12:25-1:55), panelists will summarize literature across topics from basic to applied research and discuss the future of research in terms of the issues raised by these recent reviews.

Our business meeting will be held from 6:15-8:00 on Tuesday night. Bruce Thompson and Rena Subotnik, the co-editors of a new APA book on research methodologies for gifted education, will provide an overview of the book and highlight research methodologies that can be used in to advance the study of giftedness.

This year's program is strong and varied, and we believe that it contains something of interest for all of our SIG members.

We hope to see you at our SIG presentations and events in San Diego!

The AERA SIG: Research on Giftedness and Talent

invites our members to an evening of business and pleasure in San Diego!

Business Meeting:

Conducting Research on Giftedness: Methods and Issues

Tuesday, April 14, 6:15-8:15

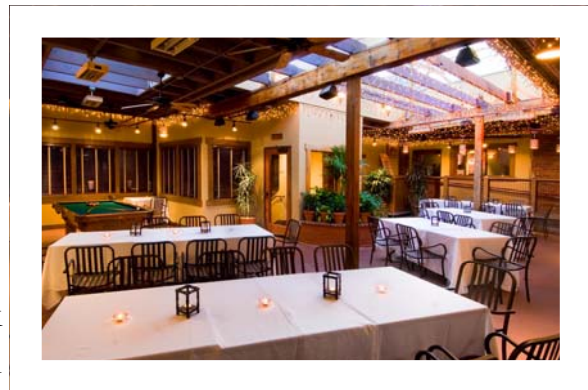
Omni San Diego, Salon D

Join us for the business meeting and to hear Drs. Bruce Thompson and Rena Subotnik discuss their new book, in press with APA, which focuses on methodologies for gifted education research

Pleasure:

Rock Bottom Restaurant and Brewery

Tuesday, April 14, 8:30-11:30



We will host a reception at the Rock Bottom Restaurant and Brewery in the San Diego Gaslamp District. Rock Bottom is approximately 7 blocks from the Convention Center. The event will begin at 8:30pm, directly following the SIG business meeting, and will end at 11:30pm. This event will be similar to that which was hosted in Chicago in 2006. We will have private access to the rooftop terrace which includes its own bar and pool table. The per-person cost for the event is \$25 in order to cover the space and the appetizers, which include beef and chicken skewers, an assortment of dips, chips, and cheeses, southwestern egg rolls, and chicken quesadillas. Rock Bottom will be serving their on-site made beer as well as wine and hard-alcohol on a cash basis.

Gifted SIG members and friends are welcome to attend. Payment will be accepted on-site. However, **please RSVP** to Scott Peters (speters@purdue.edu) or Marcia Gentry (mgentry@purdue.edu) so we may plan accordingly. Those wishing to pre-pay before the event may mail checks to Marcia Gentry at: 100 N. University St., West Lafayette, IN 47907. We look forward to seeing you all in San Diego!

Social Justice Issues in San Diego.

Report from Jane Piirto, Member-at-Large

On October 17, 2008, AERA president, McDonnell, and executive director, Levine, sent an email to all AERA members describing a problem with the main conference site hotel for the 2009 Annual Meeting. As these authors noted, one problem revolves around the actions of the Hyatt owner, Manchester, in support of California Proposition 8. A second and longer-term problem exists regarding the labor conditions at the hotel, especially workload and job security. For these reasons, on July 10, 2008, the labor union, UNITE HERE, together with the San Diego Central Labor Council, called for a full boycott of this hotel. The boycott has also been sanctioned by the California Labor Federation, AFL-CIO.

In December, 2008, Levine sent an update to a smaller group of AERA members who were concerned about these issues, which reasserted that the problems involving the Manchester Hyatt do not involve a labor dispute. As a result, AERA cannot terminate its contract with the Hyatt.

Although AERA has taken important steps to relocate many sessions out of the Manchester Hyatt and into other venues, some sessions remain in the Hyatt. AERA members may have to cross picket lines if they need or simply wish to attend these sessions. For more information, including action steps and ways to join together for progress and reform, please visit <http://reformingaera.homestead.com>

For our SIG, no paper, poster, or symposia sessions are situated in the Manchester Hyatt. Nonetheless, it is important that we are all aware of the impending situation that may confront us.



SIG Elections

Did you know that in two of the last four Research on Giftedness and Talent SIG elections, a candidate won by only *one* vote? Your vote really does count, but only if you vote in the next two weeks. Please take a minute to cast your vote now for the following positions: Newsletter Editor, Assistant Program Chair, Treasurer, and 2 Members-at-Large. Voting closes at 5 p.m. Eastern Time on Monday, March 16. If you did not receive your username and password via email, send an email Del Siegle at del.siegle@uconn.edu.



Many Thanks

Many thanks for the opportunity to serve as the AERA Research on Giftedness and Talent SIG 2007-2009 newsletter editor. I especially appreciate all those who have submitted pieces to the newsletters and those who have agreed to be interviewed for them. — Jill

SIGNificant methodology.

Researchers share about applying research methods to gifted education research

Thinking Big: Using National Databases in Gifted Education Research

Carolyn Barber, Ph.D. *University of Missouri–Kansas City*

In a recent issue of *Gifted Children*, Lohman and Marron (2008) summarized research on grade acceleration using survey data from nationally-representative samples of high-school students. Their work is just one example of research that uses large-scale databases to learn about the smaller population of gifted and talented students. Although they chose to focus their study on grade acceleration, the possibilities for additional research using this methodology to study advanced programming, high achievement, and social-emotional correlates of high potential are near endless. Here, I review some of the major databases best suited to this topic, highlight research conducted using these data, and outline some advantages of using this methodology to understand giftedness and talent.

The possibilities for research using large-scale databases to study advanced programming, high achievement, and social-emotional correlates of high potential are near endless.

One database frequently used to study gifted education (and one used by Lohman and Marron) is the *National Education Longitudinal Study of 1988 (NELS:88)*. In addition to asking about acceleration, NELS:88 included items relating to individual participation in gifted education programs and the availability of programs in schools. For example, Renzulli & Park (2000) used NELS:88 to study characteristics of gifted dropouts, and Sayler and Brookshire (1993) compared the social experiences of accelerated students to those of students in gifted education and regular programs. At the school level, Baker & Friedman-Nimz (2002) studied the availability of gifted

education programs across the country.

One limitation to NELS:88 is its age: the base-year survey of eighth-graders took place over twenty years ago. However, a final wave of data was collected in 2000, allowing researchers to follow up with participants in their mid-twenties. For example, Shaw (2005) conducted a longitudinal study of gifted dropouts using NELS:88 data, comparing and contrasting their development to that of non-gifted dropouts and gifted students who had completed secondary education.

Two other useful surveys have been conducted more recently: *The Educational Longitudinal Study of 2002 (ELS:2002)* and *The National Longitudinal Study of Adolescent Health (Add Health)*. Although neither database contains items specific to gifted education, their breadth of information makes them useful for gifted education researchers. Lohman and Marron (2008) used data from ELS:2002 in their study of academic acceleration. Additionally, I used ELS:2002 data in examining students in the top decile of achievement, analyzing the predictors of whether these students were recognized by their teachers for advanced work or academic honors. I found that gender, ethnicity, motivation, and (in the case of mathematics) peer context all predicted whether a high-achieving student had talent recognized by their teacher (Barber & Torney-Purta, 2008).

In contrast to ELS:2002 and NELS:88, which focus on students' academic and occupational success, Add Health (which began in 1994-5) focuses on the physical and mental well-being of adolescents. What makes this database unique for gifted education researchers is its inclusion of an adapted version of the Peabody Picture Vocabulary Test. Using these data, Mueller (2009) recently compared predictors of depression among gifted and

non-identified adolescents, using a cut-off percentile rank on the Picture Vocabulary Test to define his gifted sample. In addition, both Add Health and ELS:2002 collected data on respondents' high-school transcripts, allowing for researchers to study predictors and outcomes of participation in Advanced Placement and other advanced coursework.

Finally, looking at younger students, the *Early Childhood Longitudinal Study–Kindergarten Cohort (ECLS-K)* follows students from kindergarten through eight grade. Topics of interest to gifted education researchers include outcomes of ability grouping (McCoach, O'Connell, & Levitt, 2006), availability of gifted programs, and profiles of high-achieving students (Siegle & McCoach, 2001). This database allows researchers to explore how experiences in early childhood and elementary education influence later development.

These databases offer many unique methodological advantages.

These databases offer many unique methodological advantages. First, the large number of participants means that even small subsamples will have adequate analytic power. Several of the analyses mentioned here focus their attention on small subgroups of gifted students (e.g., dropouts). At the same time, data were also collected on students who were *not* gifted and who can serve in a reference group. This second advantage was part of what led Lohman & Marron (2008) to use large-scale surveys to study acceleration. Third, the samples are drawn from across the nation. As Baker and Friedman-Nimz (2002) found, the context of gifted education varies widely across states, so having such a broadly-drawn
(cont'd on p. 6)

SIGNificant Methodology. Thinking Big: Using National Databases in Gifted Education Research, cont'd

(cont'd from p. 5)

sample aids in generalizing findings across the nation. -

The context of gifted education varies widely across states, so having such a broadly-drawn sample aids in generalizing findings across the nation.

The fourth advantage is the breadth of available variables available. Within a single database there are many ways to identify an analytic sample. For example, although NELS:88 included information about participation in gifted education programs, some researchers have found that using an achievement test cutoff to identify a group of "high-achieving" students provided a better conceptual fit (e.g., Reis & Park, 2001). This extensive collection of variables also allows researchers to gain in-depth background information for use in descriptive analysis or as statistical controls. Finally, a fifth advantage is that many of these datasets are collected longitudinally, allowing researchers to examine temporal order (i.e., which behaviors preceded which) and analyze change over time. NELS:88, ELS:2002, AddHealth, and ECLS-K all include information from multiple data waves.

However, researchers conducting analysis using these datasets should be especially aware of how advanced statistical techniques in educational research (to be discussed in Adelson, 2009, and McCoach, 2009) can be applied to take full advantage of the richness of these data. For example, as clusters of students were surveyed within schools over multiple time points, these data lend themselves to hierarchical linear modeling. Further, the available background and demographic variables (described above) could be used in calculating a propensity score to aid (for example) in selecting a subsample of non-identified students to compare to gifted students (e.g., Barber & Mueller, n.d., in analyzing AddHealth data).

In summary, although national surveys are often used to paint a general picture of education, they are a promising source of information for research on gifted and talented students more specifically. Further information on these and other programs, including opportunities to be trained in using such databases, can be found from the National Center for Education Statistics (<http://www.nces.ed.gov>) or (for Add Health) from the Carolina Population Research Center (<http://www.cpc.unc.edu/addhealth>).

Join us for a discussion of advanced methodology in gifted education research: "Advanced Models and Methodologies for Gifted Education Research" symposium on Tuesday from 10:35-12:05 in the Omni San Diego Gallery .

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Barber, C., & Torney-Purta, J. (2008). The relation of high-achieving adolescents' social perceptions and motivation to teachers' nominations for advanced programs. *Journal of Advanced Academics*, 19(3), 412-433.

Lohman, D. F., & Marron, M. A. (2008). Studying acceleration with national datasets and surveys: some suggestions, our results, and our experiences. *Gifted Children*, 2(2), 3-6.

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Mueller, C. E. (2009). Protective factors as barriers to depression in gifted and nongifted adolescents. *Gifted Child Quarterly*, 53(1), 3-14.

Reis, S., & Park, S. (2001). Gender differences in high-achieving students in math and science. *Journal for the Education of the Gifted*, 25(1), 52-73.

Renzulli, J. S., & Park, S. (2000). Gifted dropouts: the who and why. *Gifted Child Quarterly*, 44(4), 261-271.

Shaw, S. (2005). *A follow-up study of gifted dropouts eight years subsequent to leaving high school*. Unpublished Master's Thesis, Texas Tech University.

Siegle, D., & McCoach, D. B. (2001, November). *Availability of gifted programs grades K-5*. Paper presented at the 48th Annual Convention of the National Association for Gifted Children, Cincinnati, OH.



SIGNificant advice.

Researchers share recommendations for writing and publishing your research

Photography and Research: Writing Reports with Composition in Mind

Saad Chahine. *University of Toronto.*

Put your artistic talents to use when writing your research reports!

Have you ever looked at a photograph and fallen in love with the image but had no idea why? It often has to do with composition. Good research reports are the same. The elements that come together to compose a photo can act as a metaphor for the elements of composition of research reports. It is important to pay particular attention to these elements, as researchers may be inadvertently focusing on non-essential non-related aspects when they want to bring through a clear message about their findings and suggestions.

Clear Subject

Whether a photographer is trying to draw the audience's attention to the fierce eyes of an owl or the silkiness of water, it should be the focal point, i.e., where your eye is naturally drawn. When writing reports, we ought to consider the message that we want the reader to take away. For example, when writing a technical report you should focus on the technical merits of the instrument or the process, not on the details of your analysis.

Rule of Three

Many photos are geometrically divided into three parts. For example, people are attracted to photos of sunsets or sunrises, in part because they have three simple elements: sky, water, and beach. Similarly, good reports are divided into three big parts: an introduction, a body and a conclusion.

Direction of Movement

Another key element in composition is where the eye starts and how it flows across the photo. You don't

want the viewer's eye to dart from one part to another. Similarly, in writing you want the ideas to flow from one to the next in a smooth succession. Readers like thoughts to be well developed in paragraphs and for the transition from one idea to the next to be as fluid as possible. Encompassed within the concept of movement is repetition. Viewers like to identify patterns visually and verbally. Being consistent with a pattern of writing will help your reader follow the ideas.

Unity & Coherence

Through the combination of colors, shades and textures in a photograph attempts to emulate a feeling or sense. For example, smooth crisp lines portray a feeling of cleanliness in a photograph. Rough textures may represent a more weathered mood. With colors, shades or textures, there is a unity and coherence to the photograph. In writing we attempt to keep the main concept the same throughout. While there may be subcomponents, they combine to support the main concept that you want your reader to take away.

Framing & Viewpoint

The final most individual compositional element is framing and viewpoint. Each individual photographer develops a style: a method of viewing the world and examining how lines and shapes join to form a symbol. Writers also produce a style in writing reports. It's important to frame the situation and provide your personal viewpoint(s) about the message you are trying to communicate. This compositional element develops with experience and requires attention and awareness when you are putting together a piece of writing.

Writing is as much an art as it is a science; similarly, there are many technical elements that a photographer has to keep in mind. Ensuring the cor-

rect contrast, granularity and color curves is as technical as making sure you have verb and subject agreement. The technical aspects of photography are just as important as the compositional components. They go hand in hand. Often we neglect the structure of writing and get bogged down with grammatical intricacies. When writing a report, it's always important to step back, read it with fresh eyes to ensure it gives the reader a clear, coherent and nuanced image of the content.



*Light
Forming
Shape*

Writing Guides:

Strunk, W. (2004). *Elements of style: A style guide for writers*. [S.l.]: Kt Pub.

Swales, J.M., & Beer Feak, C.A. (2004). *Academic writing for graduate students, second edition: Essential tasks and skills*. Ann Arbor, MI: University of Michigan Press.

Photo composition:

http://photoinf.com/General/Geoff_Lawrence/Composition.html

http://www.azuswebworks.com/photography/h_comp.html

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STEM, Elite Talent, and Imperative Research: An Interview with Rena F. Subotnik

By Marion L. Shaker, M.A.

I have been introduced to Dr. Rena Subotnik on a number of occasions; however, I have never had the pleasure of actually meeting her. While gathering information to support a piece I was writing or for a class I was taking, I had the opportunity to read many articles, chapters and treatises written by Dr. Subotnik. Each time, I found her position, attitude, and judgment to be passionate and motivating. When asked to interview her for this article, I was eager to do so.

As an eminent researcher in the field, Dr. Subotnik is ultimately dedicated to providing an excellent education for all students, gifted and non-gifted alike. Much of her research is centered on talent development in the Arts or "Elite Talent," and has moved to applying "Elite Talent" development in the field of science. Her other interests include STEM, specialized science high schools, female talent development, and expanding research tools used in gifted education.

Dr. Subotnik is ultimately dedicated to providing an excellent education for all students, gifted and non-gifted alike.

Since 2002, Dr. Subotnik has been the Director of the Center for Psychology in Schools and Education, a component of the APA Educational Directorate. She, along with Dr. Bruce Thompson, will be guest speakers at the AERA Research on Giftedness and Talent SIG Business Meeting in San Diego on April 14th, 2009.

MS: STEM is an acronym that has been circulating through the academic world for some years. What does it stand for and why is it important?

RS: STEM stands for Science, Technology, Engineering and Mathematics. In the great scheme of things,

these domains are not more important than arts, history, and other subjects that challenge and excite children, adolescents and adults. What makes STEM more salient at the moment is that it's most closely associated with invigorating the US economy through scientific and technological innovation.

These are also the domains where the US has failed to provide high quality education, not only to struggling students but high achieving students as well. There are, of course, pockets of excellence, such as specialized STEM high schools. But without access to out-of-school programs, many young STEM enthusiasts would not have access to experiences designed to channel their interests toward careers in creative research and entrepreneurship focused on innovation.

MS: STEM is an international concern. What advantages or disadvantages would come from countries working and researching together?

RS: We have and can continue to learn a lot from other countries that have for a long time offered high quality experiences for talented students in STEM. This has come in two forms; one is in excellent school curricula, for example in Singapore or in France. Another is in the form of science clubs in countries like Hungary, Germany, and Croatia. I think what we do better than in other countries is to offer established apprenticeships for high school students to work alongside professional scientists in laboratories. This is an excellent way to capture both the excitement and routines associated with the creative process. Young gifted scientists learn that the scientific enterprise is highly social, filled with ups and downs of discovery and disappointment.

MS: Would you explain psychosocial variables, and how they affect talent development?

RS: Psychosocial variables are

interesting to me and my fellow researchers as the connection between ability and great performance or ideas. Some of the more obvious psychosocial variables are motivation and resilience. The public and many highly able children are not aware of all the drive that fuels the effort that goes into moving an idea into fruition or a performance to perfection. What does it take to get the most informed advice or mentoring? How do you deal with inevitable setbacks? How do you handle yourself when you compete with others? How do you judge when is the best time to take a creative risk? These are all psychosocial questions that a good coach or mentor would discuss and model with his or her mentee.

The public and many highly able children are not aware of all the drive that fuels the effort that goes into moving an idea into fruition or a performance to perfection.

MS: You have done great work in the study of elite talent at Juilliard. Would you explain the basis of elite talent and how this study can be carried over to STEM?

RS: The concept of elite talent addresses the highest levels of competitive fields. Fields can be competitive by virtue of their structure - such as in sports, or by virtue of the fact that more people participate than achieve special recognition for their contributions. This happens in the arts, academe, and most other arenas beside sports. Juilliard prepares young musical artists for a number of careers, including the elite categories of soloist, chamber, or orchestral performer. My colleagues and I have been interested in the process by which adolescents strive to acquire elite status in particular domains.

My first study was of Westing-
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house, now Intel, Science Talent Search winners. The program is considered the most prestigious and competitive of all the science awards for the pre-collegiate set. As I followed the 1983 winners group, I came to realize that much of the progress they had made was slowed in the first years of college. When the opportunity came my way to ask some questions at Juilliard about preparation of same age youth in music, I grabbed it. I was curious to see how conservatories addressed the needs of gifted 18 year olds. I found that in general the students were treated and educated much as *doctoral* students are engaged in academe. I described these differences in some papers I published and my fantasy was to see some of the ideas from the conservatory take hold in undergraduate education of science talented students.

MS: Has your fantasy moved into reality anywhere? If not, what do you think it would take for that to happen?

RS: There is clearly more effort being made by post secondary institutions to enhance the freshman and sophomore years. Small liberal arts colleges have always been student-friendly on that front, but research institutions of higher education, where some of the frontier STEM research is being conducted, has catered far more to graduate students.

The improvements I see seem to result from science-talented high school students getting information from mentors as to where to go to university and what to ask for when they get there. We certainly encourage the mentors who work with our Catalyst project to do that. And the foundation that supports Catalyst, the Camille and Henry Dreyfus Foundation, is also actively involved in providing guidance services to the students who come through our chemistry-mentoring program.

MS: How do specialized science high schools impact the science pipeline?

RS: The National Science Foundation is supporting a 3-year study that will help us to answer this very question. Intuitively, it seems obvious that school settings rich with electives in STEM subjects, experienced and knowledgeable teachers, and a peer group with similar interests would lead to graduates who are path breakers in the sciences. My own alma mater, the Bronx High School of Science, has, I believe, seven Nobel laureates among its graduates. However, now that there is some interest in increased spending on the specialized high school model, it's time for some hard data to support this effort. Furthermore, each year the existing specialized high schools need to go to their states or cities for their annual handout. Data about what college majors are completed by graduates of specialized science high schools will be very helpful for policy and funding purposes. In addition, because not all specialized science high school graduates will go into STEM majors, we'll be exploring the graduates' assessment of what skills they learned that they can apply to other majors and arenas in their lives. In order to make the study more rigorous, we are using a control group of same age talented individuals from the Midwest Academic Talent Search who partook in out-of-school STEM courses.

As our field grows more mature and tries to compete in wider arenas for research funding, we are called upon to use more complex research methods.

MS: To change direction a bit, how do you think we can expand research tools used in gifted education

RS: As our field grows more mature and tries to compete in wider arenas for research funding, we are called upon to use more complex research methods. Many of those trained in the 90s were prepared pretty exclusively in the qualitative tradition. These methods are especially appealing to use with small subject pools where you can

go more deeply to explore the "whys?" and the contexts for various phenomena. But these methods are less favored by funding agencies.

I challenged Bruce Thompson, a methodological and statistical "guru" from Texas A&M University, to edit a book on addressing problems encountered by gifted education researchers, such as

- definitions of giftedness and talent are not standardized;
- test ceilings can be too low to measure progress or growth;
- comparison groups are difficult to find for extraordinary individuals; and,
- participant attrition in longitudinal studies may compromise tests of hypothesized effects;

He identified some young pioneering researchers to contribute to the volume. They each addressed one or more of these issues and in most cases provide sample data for readers to try out in order to become more familiar with the methods.

Come hear Drs. Subotnik and Thompson discuss their book at our Business Meeting!

MS: How can we, as researchers, infuse a more developmental perspective into gifted education?

RS: I think we are obliged to take a more developmental view of gifted children and adolescents in order for us to be more effective. I hope that the recent book, *The Development of Giftedness and Talent Across the Lifespan* (2009), edited by Frances Horowitz, Dona Matthews and I make that argument well.

For now, I'll go back to the example of the work my colleagues and I conducted at Juilliard, supported by the work of Benjamin Bloom in *Developing Talent in Young People* (1985). With regard to instructional strategies, teachers work with relative beginners (cont'd on p. 10)

(cont'd from p. 9)

on both strengths and weaknesses, diagnosing each and then prescribing a set of exercises to enhance the former and shore up the latter. Over time, developing musicians are expected to become more aware of their own strengths and weaknesses and take more responsibility for addressing them when away from the teacher. The third developmental stage of instruction is devoted to capitalizing on strengths. An analogy in STEM would be that initially a student needs to be a good all-around student to understand the science enterprise in a meaningful way. In school, teachers tell you what to study. In the process of maturing, students who are motivated and committed to STEM, seek out information and skills that they are lacking to build up their repertoire while competing in their areas of strength. By the time you are a professor, you will be focusing mostly on your strength areas. After all, that's what you've been hired for.

With regard to self-confidence, in the early stages of talent development, children can be fearless in their risk taking. In the middle stages, as they become more aware of competition and realize they may have to work harder to stay in the game, they may lose their self-confidence. As adults, whether or not they have gained back their self confidence, they will need to exude that self-confidence in order for people to listen to them. Clearly, in order to plan a talent development program, you'd need to understand the developmental level of your participants to offer the most appropriate and effective services.

MS: At this point in gifted education's history, what do you feel are the top areas where more research is sorely needed?

RS: In 2006,¹ I was invited to write a response related to this question, so I went back in my files to see how I responded then. I still hold with my list of four.

Collecting data and analyzing what we need to address policy in the

following:

- ensuring that sufficient numbers of high-quality scientists, doctors, and engineers are prepared to meet our society's future needs;
- evaluating whether our public schools are serving all members of the community well, including gifted and talented students;
- determining the value added of gifted education for all children; and
- determining the value added of educating a gifted student to full capacity by way of special programming.

MS: At this point in time, is there research being performed in any of these areas? I believe Jill Adelson is working in determining the added value of gifted education for all children in her dissertation, *A Gift for All? Examining the Effects of Gifted Programming on All Students*.

RS: I think people are chipping away at these questions. Our NSF grant addresses the first, and Jill's dissertation topic sounds like it addresses the second. If one were to review the literature, the studies would probably not be organized under the categories I've posed, so it would be an interesting exercise to organize what's out there into those categories for policy purposes.

MS: Finally, what advice do you have for new researchers in the field?

RS: As a proponent of psychology and staff member of the American Psychological Association, I'd like to focus on all the work that needs to be done in the areas where developmental, social, and educational psychology overlap with gifted studies. I'd like to see us explore the literature on organizational and performance psychology – and how the insights from those fields can help gifted and talented students reach beyond what they thought they could do. Although our field has been around for almost 100 years, it's still a baby on the research front. With

all the new methods available, including fMRI, up-and-coming researchers have plenty of unplowed fields to sow, and I look forward to keeping up with their work. Of course, I'm not giving up the ghost yet myself!

Although our field has been around for almost 100 years, it's still a baby on the research front.

MS: We would not want to be the case! What are you working on at this moment?

RS: At this moment I'm working on the NSF grant with my colleagues at APA, UVA, the Center for Talent Development, and the Illinois Mathematics and Science Academy. I'm continuing to work with Linda Jarvin on the psychosocial model that she and I developed. And also, with my APA colleagues, writing up the work we've done for the last 3 years on our chemistry mentorship program.

Resources about Dr. Subotnik's Work:

Henshon, Suzanna E. (2006). Reflections on an evolving view of giftedness and talent: An interview with Rena Subotnik [Electronic version]. *Roeper Review*, 20, 197-199.

Piirto, J. (n.d.). Focus on our researchers: Rena Subotnik. Retrieved January 18, 2009, from <http://www.apa.org/ed/focus-researchers.pdf>

Subotnik, R.F. (2001). Talent developed: conversations with the masters in the arts and sciences. Hugo Fiorato: principal conductor of the New York City Ballet [Electronic version]. *Journal for the Education of the Gifted*, 25, 74-86.

Subotnik, R.F. (2002). Adolescent pathways to eminence in science: Lessons from the music conservatory. In P. Cserehely and L. Lederman (Eds.) *Science education: Talent recruitment and public understanding* (pp. 295-304). Amsterdam: NATO Science Series.

Subotnik, R.F. (2004). Transforming elite level musicians into pro- (cont'd on p. 11)

¹Subotnik, R. F. (2006). A report card on the state of research in the field of gifted education. *Gifted Child Quarterly*, 50, 354-355.

(cont'd from p. 10)

professional artists: A view of the talent development process at The Julliard School. In L. Shavinina & M. Ferrari (Eds.) *Beyond knowledge: Extracognitive facets in developing high ability*. Mahwah, NJ: Erlbaum.

Subotnik, R. (2006). A report card on the state of research in the field of gifted education. *Gifted Child Quarterly*, 50, 354-355.

Subotnik, R.F., Edmiston, A.M., & Rayhack, K.M. (2007) Developing National Policies in STEM talent development: obstacles and opportunities [Electronic version]. In P. Cser-

mely, K. Korlevic, and K. Sulyok (Eds.) *Science education: Talent recruitment and public understanding* (pp. 28-38). Amsterdam: NATO Science Series.

Subotnik, R.F. (2007, Summer). Gifted authority Rena Subotnik discusses "elite talent" [Electronic version]. *Talent* (newsletter for the Northwestern University Center for Talent Development), 1-2.

Subotnik, R.F., & Calderon, J. (2008). Developing Giftedness and talent. In F.A. Karnes & K.R. Stephens (Eds.) *Achieving Excellence: Education the gifted and talented* (pp. 49-61). Columbus, OH: Pearson.



SIGNificant researcher. An interview with an eminent researcher of giftedness & talent.

Developing Talent in Conducting Biographical Research in Gifted Education:

An interview with Dr. Ann Robinson

By Bronwyn MacFarlane, Ph.D., *The University of Arkansas at Little Rock*

Using biography in the classroom has been recognized as an appropriate method for teaching gifted students about talent development. Biography has also been used as the "raw material" and as "the method" for investigating important constructs like eminence, creativity, giftedness, and the family and societal configurations which foster them in individuals. A leader in the field of gifted education and the application of best practices for teaching talented learners, Dr. Ann Robinson at the University of Arkansas at Little Rock, has conducted biographical research exploring gifted lives for the last decade. One of my earliest conversations with Dr. Robinson followed a session that she led on evidence-based practices for the gifted at the Belin-Blank Wallace Symposium in Iowa City in May 2006. At that time, she shared with me the need for more research about what works in specific subject areas. Three years later, we sat down to discuss more formally her outlook toward her research and her insights for early career researchers enter-

ing the field today with an interest in conducting biographical research.

BM: How do you go about making decisions about what types of studies to conduct?

AR: I make decisions about scholarship in a very personal way. I study what attracts me, what I find curious or interesting, or what I love to do. Now, as a tenured professor, I have the luxury of studying what I wish to learn. Such choice isn't always open to a beginning scholar who may be steered by the availability of research dollars or by the interests of a more established research team, but ultimately it will be possible.

In choosing what issues or phenomena to study, I consider whether or not the work will have a readership. Unless the area we choose to investigate has some kind of practical application or there is a clear way to link theory to research to practice, we're probably not reading the literature widely and deeply enough to understand what the field needs and wants to know. I read for pleasure as well as for work reasons, and my reading often leads me to the next investiga-

tion. It is a reliable seedbed of ideas for me. Finally, I do two very different kinds of scholarship so I have a large canvas on which to work.

BM: Please discuss those two

Unless the area we choose to investigate has some kind of practical application or there is a clear way to link theory to research to practice, we're probably not reading the literature widely and deeply enough to understand what the field needs and wants to know.

kinds of areas that you target for your work and your research.

AR: First, I've always looked at very practical school problems, particularly at school practices that we currently term evidence-based. Early on, as I came out of the Purdue doctoral program, I was invited to collaborate with Bruce Shore at McGill on a massive project for a CEC-TAG Committee founded by Virgil Ward to examine the state of the knowledge base in gifted education. I had been trained (cont'd on p. 12)

(cont'd from p. 11)

to look at intervention research in a very school-based manner by my mentor, John Feldhusen. What do school folks want to know and how does the research community go about doing work that provides good guidance for busy professionals? Research of this type fulfills my need to do something useful. Second, I indulge myself with research that has less direct application to the day-to-day life in the classroom but allows me the adventure of archival and biographical research relating to eminence, creativity, talent development, and the historical foundations of our field.

BM: Describe biographical research and its use as a selected methodology in gifted education studies.

AR: Biographical research is interesting because biography comes to us from two distinct traditions—the literary and the historical. As a separate genre, biography is claimed by professional writers and by historians. As practiced in our fields of psychology and education, biographical research includes both quantitative and qualitative studies. The quantitative method is historiometry or the measurement of discreet events in many individuals' lives over time in order to test hypotheses. For example, Dean Keith Simonton used historiometry to investigate creative productivity in musicians or more recently to investigate the relationship of childhood giftedness to adult achievements among African-Americans. His raw material is biography and his historiometric methods give us insight on a grand developmental or domain-specific sweep.

Another type of biographical research falls into the qualitative tradition. Here, a researcher looks at a particular life through archival documents, through interview protocols or through some combination of them. It is more akin to a case study; an individual life is examined to understand that particular person or "case" and the context in which the person developed. A biographical researcher in the qualitative

tradition might trace the life of one person or the lives of a group of persons. For example, in *Creating Minds*, Howard Gardner drew generalizations from elaborated "biographical pictures" of seven key individuals from a particular period in modern history. Howard Gruber's most detailed biographical study was *Darwin on Man*; his key materials were two notebooks of notes and jottings hand-written by Darwin. Gruber would probably disavow his research as biographical since he subtitled it "a psychological study of scientific creativity," but indeed he examined the evolution of Darwin's thinking through archival research. Gruber used the methods and tools of a biographer and historian as well as a cognitive psychologist to trace the evolution of Darwin's ideas and the development of his thinking, not in polished form, but on the fly so to speak. It is necessary to have the tools of historiography to do biographical case study research if it depends on primary source documents and archives. Over the centuries, the historical and literary traditions have built up a nuanced set of investigative and analytical tools. We need to learn them by reading the biographies and the theories of biography produced out of these traditions.

BM: What advice would you give to new researchers in the field of gifted education?

We have lots that we don't know, so just about anything you pick will add to our understanding if it is well conceptualized.

AR: In terms of general advice, we have lots that we don't know so just about anything you pick will add to our understanding if it is well conceptualized. On a very pragmatic level though, I think new researchers need to be careful about their research choices. They need to be wary of getting involved in a project that may take too much time and result in only one publication. Instead, choose to be involved

in a study that can result in multiple manuscripts. For example, one manuscript describes the project; another details the mid-project implementation, and finally, one or more manuscripts might focus on the effectiveness of an intervention study.

BM: As an early researcher, were there tidbits of advice or soundbites of wisdom from your mentors you heard that guided you early on?

"You need to get something a-going and then follow it through to the end." — Dr. John Feldhusen

AR: Yes, Dr. John Feldhusen was famous for saying, "You need to get something a-going and then follow it through to the end." He modeled prodigious work habits, so for me, it was an opportunity to observe John rather than being given windy advice by him. Here's my two cents. Get in the habit of adopting Hemingway-esque work habits. Hemingway got up very early in the morning, stood at his typewriter for several hours without his chair, and typed with determination! You have to get that kind of discipline in order to publish. You also have to find your own work rhythm. With regard to tasks, determine whether you are a "lumper" or a "splitter." I am a "lumper" so I consistently expect myself to spend at least one full day a week out of the office, cloistered away to think about research design, to write or to ferret out archival sources for biographical research.

BM: Based on your experience, what are specific suggestions you can share with new researchers who would like to conduct biographical research?

AR: With respect to conducting biographical research, I can offer a few practical suggestions for early career scholars. This type of research is incredibly fascinating; you can get quite lost in it. Biography is sleuthing or unraveling a mystery as you uncover pri-
(cont'd on p. 13)

(cont'd from p. 12)

many sources in fabulous archives in exotic destinations. Biographical research can take you to the most amazing places—I studied in archives in London, Cambridge, and a small town in France for just one project. You can literally get lost in your work. While I don't want to put young researchers off conducting biographical research, I do want to acknowledge that it is extraordinarily appealing. It can become difficult to halt "data collection" in order to start writing as biographers can spend years uncovering information about their subject. Howard Gruber, for example, spent nine years working on his Darwin study.

Biographical research can take you to the most amazing places.

If you investigate an eminent figure or a child prodigy whose life story has not been captured with the fullness of Mozart's, you need to be able to read the languages in which the archival documents appear. In researching a Russian prodigy, I found myself faced with documents that were in Russian, German, French, Latin, and English. If you're going to choose an eminent figure to study, find someone whose archival documents are likely to be in your first language.

For an early career academic interested in biographical research, may I suggest adopting the model of John Aubrey's *Brief Lives* (about 15 pages) rather than James Boswell's *Life of Johnson* (over 600 pages). Aubrey was able to capture important insights about individuals using a well-respected biographical tradition characterized by brevity. A pragmatic solution for young researchers is to draw some boundaries around the person you wish to study early on before you are overwhelmed by archival collections. You can, indeed, study the eminent. For example, the Brontës have been examined repeatedly in our field by several different researchers. To argue for the study of eminence, Albert

discussed the Brontës in his presidential address to Division 10 of the American Psychological Association. To document their precocious writing talent, McGreevey analyzed their early years. VanTassel-Baska compared Charlotte Brontë and Virginia Woolf to investigate the role writing played across the life span. These are examples of applying brief biographical research to the eminent. There is also a need for our field to examine the history of gifted education. To contextualize the roots of our field, hang flesh on the dry bones of history with biographies of some of our founders—some are in danger of disappearing from our archives and our collective memory altogether. We need to rescue them! These biographical subjects would be nicely handled in the brief form. Interesting work is being done on historical figures in gifted education, but we need more of their stories told.

BM: What can new researchers in gifted education do to strengthen the practical application of biography to school-based practices?

AR: The kind of biographical research I described earlier fits better in more theoretical scholarship rather than in school-based practices. Be that as it may, one clear application would be what we have done here at the University of Arkansas at Little Rock to infuse the use of biography in the curriculum. We are considering the scope and sequence of teaching biography K through 12. We looked to Leta Hollingworth to understand how to create curriculum around talented individuals. Of course, there are a number of gifted education models, such as Betts' Autonomous Learner, that cite biographical study as appropriate for gifted learners. At one point, Herb Walberg even wrote pedagogical suggestions to teachers in *Gifted Child Today* based on what he learned by reading biographies of eminent adults.

BM: Any final words about biographical research?

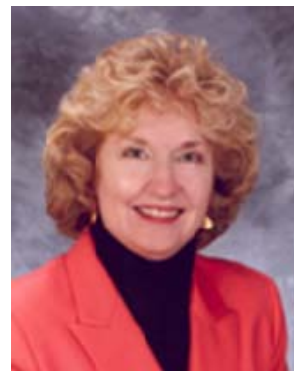
AR: Biographical research can be the most compelling kind of re-

search experience with the rich rewards that come from the sheer joy of learning. You are always in pursuit. There is always one more letter, one more photograph, one more detail that you need to chase down. It can take you anywhere in the world and anywhere in your imagination. One never tires. It can be as esoteric and as scholarly as you like. Or, you can bring the findings to the practical reality of curriculum materials. It is the best of both worlds.

Biographical research can be the most compelling kind of research experience with rich rewards that come from the sheer joy of learning.

About Ann Robinson

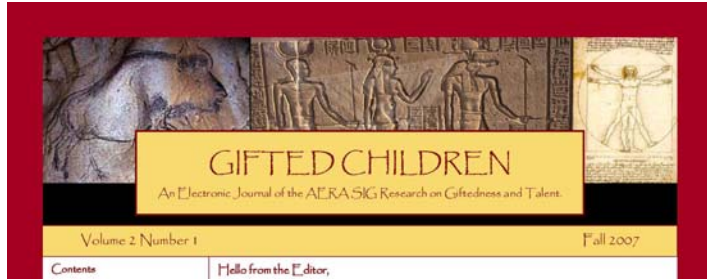
Ann Robinson is professor of gifted education and founding director of the Center for Gifted Education at the University of Arkansas at Little Rock. She is a former editor of *Gifted Child Quarterly* and serves as the Vice President of the National Association for Gifted Children. She co-authored *Recommended Practices in Gifted Education: A Critical Analysis*, identified as one of the 50 most influential works in gifted education by the Research & Evaluation Division of NAGC; and *Best Practices in Gifted Education: An Evidence-Based Guide*. She has been recognized as the Purdue University Alumna of Distinction and received awards for public service and faculty excellence in research from the University of Arkansas at Little Rock.



Call for Submissions

Michael Matthews, *editor*

Gifted Children, the e-journal of the AERA SIG-Research on Giftedness and Talent, is now soliciting submissions for its two 2009 issues. *Gifted Children* was founded in 2006 to provide a timely venue for SIG members and other researchers working in gifted education and related areas to share brief reports of research in progress, reviews of new publications, and other information of interest with the SIG's community of scholars. Submissions should be new, scholarly work and should be less than 2,000 words in length. Submissions in electronic format may be emailed to the 2009 editor, Michael Matthews of the University of North Carolina at Charlotte, at mmatth36@unc.edu. If you're a newer member of the SIG and not yet familiar with this publication, please look over the back issues (available at <http://www.aeragifted.org/>) or contact the editor with any questions.



Research and Evaluation Network Update and Invitation to Join

D. Betsy McCoach, *chair-elect*, & Jill L. Adelson, *secretary*

Research and Evaluation Dissertation Award

Starting this year, the Research and Evaluation network will be offering an award for an outstanding dissertation in the area of gifted education. The winner of the award will receive a plaque and conference registration for NAGC 2010 (valued at over \$300). To be eligible for the dissertation award, the applicant must 1. be a member of the Research and Evaluation Network of NAGC, 2. have defended his or her dissertation during the 2009 calendar year. Applicants should submit an article length manuscript (no longer than 25 pages) based on the dissertation. Any manuscripts longer than 25 pages, exclusive of tables, figures, and references, will be immediately disqualified. In addition, each applicant should submit a cover letter which includes his/her name, address, email address, phone number, current occupation and institution, and the date that he/she defended his/her dissertation. Application packages must be received by January 4th, 2010. Please submit application packages to D. Betsy McCoach, 14 Stafford Road, Mansfield Center, CT 06250.

NAGC Conference News

NAGC's annual conference is in St. Louis from November 5th- 8th, 2009. This year, Joyce Van Tassel-Baska will be presenting a pre-conference workshop on Program Evaluation during the Network Wednesday Preconference events on November 4th. In addition, the Research and Evaluation Network will be sponsoring the Research Gala and a Dissertation "Crackerbarrel" during the Friday evening events this year. Research gala proposals will be due in June, 2009. Information regarding submission procedures should be available on NAGC's website (www.nagc.org) in the spring.

Invitation to Join

If you are not a member yet, please consider joining! Fees are only \$10 for current NAGC members (\$5 for current NAGC graduate student members). Contact Jill Adelson at jill.adelson@uconn.edu for a flier of benefits and membership application or visit NAGC's website.

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