



An interview with Abraham J. Tannenbaum: Innovative programs for the gifted and talented

Sandra I. Kay

To cite this article: Sandra I. Kay (2002) An interview with Abraham J. Tannenbaum: Innovative programs for the gifted and talented, , 24:4, 186-190, DOI: [10.1080/02783190209554178](https://doi.org/10.1080/02783190209554178)

To link to this article: <https://doi.org/10.1080/02783190209554178>



Published online: 20 Jan 2010.



Submit your article to this journal [↗](#)



Article views: 143



View related articles [↗](#)



Citing articles: 1 View citing articles [↗](#)

An Interview with Abraham J. Tannenbaum

Innovative Programs for the Gifted and Talented

Dr. Abraham Tannenbaum is Professor Emeritus of Education and Psychology at Teachers College, Columbia University, New York where he taught for more than 20 years. Dr. Tannenbaum earned his bachelor's degree in English literature from Brooklyn College (1946), a master's degree in guidance and educational administration from Columbia University (1948), and a doctoral degree in social and educational psychology, also from Columbia University (1960). Early in his professional life, he was a teacher in the Brooklyn, New York public school system. He has led numerous research projects concerning gifted and talented students and has served as a consultant to many programs, including the influential Head Start Program.

Dr. Tannenbaum was awarded a Fulbright-Hays

Professorship in 1968 to serve as a visiting professor at Hebrew University in Jerusalem, Israel. Among his many awards, he was the 1981 recipient of the Hollingworth Award for research on the gifted and talented. He also received the 1985 Distinguished Scholar Award of the National Association for Gifted Children.

In reviewing Dr. Tannenbaum's past publications, a passion for improving the lives of gifted students in all settings is readily apparent. He has published numerous articles and book chapters on underachievement, the gifted/learning disabled, and the economically disadvantaged. Many consider his 1983 book *Gifted Children: Psychological and Educational Perspectives* one of the most important works in the field.

Sandra I. Kay

Sandra I. Kay is district coordinator of Gifted/Talented Programs for Monroe-Woodbury Central Schools and a visiting scholar at Teachers College, Columbia University. With over 25 years of teaching experience at K-12 levels, and a decade of teaching experiences at the graduate and undergraduate levels, she is committed to developing the expertise of teachers in meeting the needs of gifted and talented children. Former chair of the Research and Evaluation division of NAGC and former vice president of NYS AGATE Association, she actively builds bridges between theory and practice on many levels.

Kay: Homeschooling has always been an option for parents of Gifted/Talented (G/T) students. In your opinion, why has there been a dramatic increase in the numbers of G/T parents opting out of traditional schools and educating their children at home?

Tannenbaum: Even though I haven't eyeballed the supportive data as yet, it is true that home instruction has existed in this country throughout its history. Its "dramatic increase" may be partially connected to a growing general perception that conventional schools are failing in their avowed mission for all children. In fact, the push toward legalizing alternative schooling has become so strong that the Supreme Court may rule on its constitutionality before this interview sees the light of day.

Parents of the gifted may also choose tutoring at home over attendance at school for their children as a way of revealing a deep disappointment in the quality of current school-based education, but the rationale for this decision is probably fitted to what they regard as the unique needs of the gifted. If I could read the minds of these parents, I would probably learn that, rightly or wrongly, they resort to home-based instruction for reasons that are strong, sincere, and familiar, as follows:

First, they seem to be convinced that conventional classrooms are geared to lock-step pacing for students who need and can benefit from it, but not for exceptional children at both ends of the ability continuum or for those who march to different drumbeats of instruction and learning. At least some of these parents reject the conventional practice of grouping children homogeneously by age but heterogeneously by ability and pace of achievement. Why not reverse both practices simultaneously, as so many parents and teachers would prefer? Second, classroom instruction is seen as administered by teachers who are themselves ill-equipped to teach what bright and highly inventive children are capable of mas-

tering or creating. There are still many believers in the acerbic notion that those who can, do; those who can't do, teach (and those who can't teach, teach others how to teach). Third, parents appreciate how difficult it is to fit an occasional rapidly advancing or imaginative student into classroom life even if the teacher is knowledgeable and capable enough to meet the challenge. There is rarely enough time and hardly enough strategies to meet the needs of standout students without short-changing their classmates who, by definition, constitute a majority of the school population. Fourth, classrooms are not always welcome environments for children who "think out of the box." Teachers are often suspected of being threatened by nonconformity and by offbeat creative inspiration. It is not only difficult to teach the few who show signs of such "way out" thinking; it is sometimes difficult to live with them in a school setting. Hence, the frequently heard parental complaints about classroom teachers' hostility toward children with extraordinarily creative minds. Finally, parents may reason that if it is socially acceptable for musical prodigies to study and practice on their instruments at home under private tutelage, why not provide similar services to budding mathematicians, poets, and playwrights? There must be other parental sentiments about the advantages of home instruction for their gifted children, but I imagine that my suggested list provides some flavor of their thinking.

Kay: Private tutelage has been standard fare for the economically advantaged throughout history. I was under the impression that gifted education was established in public schools so that our economically challenged gifted students were provided the requisite materials to develop as well – a way of providing the soil of democracy to all. Is this a misperception on my part?

Tannenbaum: In my opinion, one of the events in American public education that has had a long-lasting impact on special school services for gifted students was a report titled "Cardinal Principles of Secondary Education," issued in 1918 by an NEA-appointed Commission on Reorganization of Secondary Education. The document emphasized the need to spread compulsory high school attendance nationwide and to offer students differentiated programs designed as terminal education for some and college preparatory for others. With every adolescent required to enroll in post-elementary schools, classroom attendance grew dramatically, the student popula-

tion's range of achievement widened considerably, and the pre-college and terminal education tracks were not enough to accommodate the huge differences in student ability, aptitude, and motivation. Still, the Cardinal Principles boosted the nation's awareness that a lock-step, one-curriculum-to-fit-all-students was no longer feasible.

Predictably, handicapped learners needed highly imaginative curriculum planning to help them maximize their potentialities for becoming self-sufficient, productive citizens. The gifted, however, were not accorded anywhere near that degree of urgency since they were college-bound anyway, for the most part, so they could fend for themselves in programs pitched at the majority of students who were clustered around the mid level of the achievement distribution. But when there was an effort to challenge the gifted to the limits of their abilities, it usually reflected excellent innovative planning and execution. Unfortunately, such successes have rarely blanketed the country, and most of the localized special educational services have been short-lived, thus forcing generation after generation of specialists in the education of this precious minority of children to "reinvent the wheel" of curriculum differentiation.

Kay: Charter schools, magnet programs, and school choice have all increased the number and kind of programs available to meet diverse learner needs. What are the likely consequences of these options for traditional G/T programs?

Tannenbaum: Alternative sites for educating children are indeed threats to "business as usual" in conventional schools. Unfortunately, they aren't always established for the right reasons, namely, to maximize children's educational development. Instead, political motives take priority over commitment to respecting variability in children. For example, magnet schools were originally introduced to stem the flight of inner city middle-class families to the suburbs by promising intensive concentration in specific disciplines, with each experimental school specializing in its chosen subject area, different from that of other such centers. The implied blandishment for middle-class families to remain or resettle in the inner city was that their brightest children would benefit from intensive studies in whatever disciplines they showed signs of precocity. However, the problem with this innovation is that, according to its overarching objectives, the need to enrich education for inner city gifted children did not rest on its own merits but rather on the success or failure of magnet schools to help achieve inter-class integration in urban communities.

Of course, special educational settings are often established for the rightest of all reasons: to better educate various subgroups of the nation's children, including the gifted. But I have always felt that new structural and administrative frameworks rarely solve problems unless they exist to facilitate advancements in curriculum and pedagogy. In other words, our highest priority is to plan, test, and implement improvement in what to teach and how to teach it, and only then conceive of the best possible "homes" for these innovations. That is the reason I always parry, rather than answer, the question on how I feel about ability grouping for the gifted. My response is something like this: "Describe in some detail what the gifted can and should be taught in special classes that cannot be taught to them separately, or along with their classmates, in regular classes." If the instructional plan proves worthy of implementing, I will support it along with any administrative plan that is best suited to imple-

ment it, including separate classes, and sometimes schools, for the gifted.

Kay: What advice would you give to educators who are engaged in planning G/T curricula for the future? What assumptions should be made about optimum administrative organization, curriculum content, and contexts to enable future vision?

Tannenbaum: Sandy, what I've learned from many years of experience in helping educators conceptualize programs for the gifted may be outdated or unimpressive. I always keep in mind that experience is only leavening for intelligence, not its creator. Besides, expressing my advice fully would require book-length space, which you don't have in this journal, although I expect to start on the revision of my 1983 book soon. So, I can only offer a brief outline of my current thinking, which has a long history in my belief system.

First and foremost, educators who entertain any thoughts of planning special education for the gifted have to be convinced of the profound urgency to follow their inclinations because they are dealing with human resources that can be either the most precious or destructive in the world. I recently read a riveting book titled *Heisenberg's War*, by Thomas Powers. Werner Heisenberg was arguably the most brilliant physicist in the late 1920's through the World War II years. He visited the USA in 1938 to attend a scientific conference where he resisted the pleas of fellow physicists to remain in the free world rather than return to Germany, his homeland. Because they feared that Hitler would soon drag the world into an unprecedented bloodbath, they wanted his mind to work for the Allies rather than the Nazi regime. When he returned to his country, his fellow physicists in America feared that he would engage in nuclear research, leading to the first detonation of an atomic bomb, and that Hitler would order the production and use of such a weapon to reduce his enemy nations to heaps of ash without any chance of healthy human life surviving on this planet. Some of the greatest minds in American science were then mobilized desperately to beat Heisenberg in the race to create the bomb while trying with equal desperation to keep track of how far along in the process he was progressing, if indeed he was engaged in it with alacrity at all, which they never learned, even after the war. Imagine how one gifted mind, Heisenberg's, could instigate scientific efforts that have changed the world since the end of World War II. This is what I mean by truly appreciating the potential power of giftedness before and while undertaking to nurture it.

Second, every educator working to cultivate gifted behavior should have what I've always called "a cultural passion" in order to identify with the gifted child's emotional involvement in some kind of cultural activity in which he or she excels. This is not meant to suggest that the educator has to embrace, with enthusiasm and devotion, the same disciplines that the gifted do. It's the passion that counts, not its object. My deep involvement in experiencing theatre, music, and literature helps me to appreciate your talent and immersion in art, even though I don't count myself as gifted in any self-respecting discipline. The gifted quickly sense the cultural clouds among their teachers and soon reject them as potential role models to keep the fires of dedication to learning and creating aflame.

Third, and by no means my last thought in response to your question, I am as concerned as ever about the permanence of enrichment for the gifted in any given set-

ting. Will these services become part of ongoing programs of differentiated education for all exceptional children, or will they be temporary frills, provisions that are here today and gone tomorrow? I still regret the fate of so many ambitious enrichment designs in cities throughout the country that flashed so spectacularly, but alas so briefly, their former existence forgotten or unrecognized by school officials only a short time afterwards. My training in social psychology has taught me that it isn't enough to innovate in school and society, if the goal is to make lasting, constructive change, even if research and consensus support the new idea. There are elaborate methodologies for lengthening the lifespan of creative change of any kind, not just the introduction of special services to the gifted. Unfortunately, advocates for this small minority in our schools neglect the science of institutionalizing progress, the result being that the gifted are forced to retreat to educational environments where their should-be educational experiences are censored.

Kay: Would you elaborate on institutionalizing change?

Tannenbaum: What I was referring to in managing change had to do with my old concerns with the differences between programs and provisions. We are still living in a time when most of the so-called programs are really fragmentary provisions. They do not have any hope of permanence, they do not have any hope for becoming educational imperatives, they are relegated to the realm of educational electives which means that as soon as there's a drop of interest among the policymakers with regard to the gifted, then the special services for the gifted will be dropped, will be eliminated. When there is a cutback in the budget, among the first to be dropped will be the budget for extra services to the gifted. And I have always been concerned about the longevity of our commitment to these children. To me, one of the earmarks of success of these services is the longevity with which they exist. I always asked myself and sometimes I ask the relevant parties, "What would happen if you who initiated the program at this school would suddenly retire or be elevated or promoted to a position in the school system but outside this building? Would the program survive?" If it wouldn't survive, then it becomes person-bound, and I feel it should be institution-bound. The only way for it to become institution-bound is for the educators of the gifted to learn something about a different discipline, not just the discipline of educating gifted children, but the discipline of institutionalizing the education of gifted. Introducing change or introducing permanence in a way that the programs could survive the individuals who created them and that the children will be served by these programs not only in the few years that they attend the school but the children who are also qualified as gifted who come after them — this is the science of change that I'm talking about. This is the science of creating permanence in an educational experience that has a long history of impermanence.

There are ways of doing it. I remember when the national project, the National State Leadership Training Institute, was guided by a philosophy and a methodology created by someone by the name of Ronald Havelock who provided institutions with step-by-step guidelines for making innovation permanent. And it is the science of making innovation permanent that will enable people who create programs for the gifted to see the fruits of their labors endure; endure beyond their professional commitments and involvements in a particular endeavor. If you're looking for an example that grew out of that book, let's take the history of that project, this national

state project. What they did was take a document from the federal government, the Marland Report, which expressed the fondest ideas about creating programs for the gifted and they undertook to initiate such programs nationally in every state in the Union. And what they accomplished was quite phenomenal for their time, because they introduced into the efforts they undertook a scientific process, guided by Ronald Havelock's book — maybe by Ronald Havelock himself — in the step-by-step ways of accomplishing permanence. The first thing they did was take a group of states from the continental United States and ask them to send representatives of each of the states and each representative team had to include a policymaker, a person who is very close to policymaking, which meant having somebody from their respective legislatures. They would come to a conference in some of the most beautiful places in America and for some 3 or 4 days, they were told beforehand their goal was to produce a state plan for the gifted and this state plan had to be prepared in such a way that it had to be ready to be acted on for legislation. The team did not have to guarantee that the plan would be approved, but at least they would have to finish their experience with a state plan. They would come to the center, the center would provide them with a variety of experts in the field who were there as consultants. They were provided also with all kinds of secretarial services, recording equipment, resources, material resources, books, pamphlets, material that would help them. And the teams would meet as small groups, each team relating to its own state and to the realistic conditions of their state. They would have the experts available to answer questions, if they had any, and help them put together a coherent report that could then be sharpened for presentation to the legislative body. It turned out that after each cluster of states met, another would be invited and another cluster until every one of the 51 states had representatives there and in every one of the reports the recommendation was that monies should be set aside for a state representative or a member of staff in the state education department responsible for programs for the gifted—and they accomplished it. Almost every state accepted the proposals, including New York state; accepted the proposals and provided some budget for it and the budget became continuous. The commissioners then argued for annual, triannual support and the members of these committees who had strong clout within the legislative bodies continued to monitor this. And you can see why good old AGATE (NYS advocacy group) became part of the picture.

Kay: On an international scale, one of the most innovative programs for the gifted I have heard about is The Israel Arts and Science Academy that you and Harry (Passow) helped to bring to fruition. Does this program reflect your vision of breadth and length of an excellent program, and if so, how?

Tannenbaum: I remember when I was asked to evaluate the program at the academy in Jerusalem. I wrote a questionnaire which the faculty filled out and also the students, asking a number of questions about the accomplishments of the school in relation to their own growth, in terms of intellectual development, thinking skills, creative ideas, tolerance for marching to the sound of a different instrument. When I finished the questionnaire, I felt that I had encompassed or wanted to encompass the entire spectrum of goals of the school. The six program objectives of IASA seek to provide an education that 1) is meant to help students dedicate their social sensitivity

ties and specialized abilities to enrich the quality of life in Israel; 2) helps students achieve interpersonal and intercultural harmony; 3) helps students appreciate the importance of approaching life's daily events *b'rosh gadol* [with a willingness and ability to see multiple dimensions of issues, problems, points of view or theories]; 4) *gain an intensive learning experience within* their major areas of interest; 5) gain a broadening learning experience that provides orientation to disciplines *outside* their major areas of interest; and 6) help students learn how to learn and how to be creative in order to facilitate their mastery or production of new ideas.

Are we really accomplishing these goals as specified in the 54 questions of the instrument I wrote? Then it occurred to me that if I read the instrument honestly and objectively it would look like one that appealed only to those in programs dealing with intellectual logic, those in the sciences, in chemistry, physics, biology, philosophy, in literature and whatever. But what about those in music and art? After all, the name of the school includes the arts. While the arts and music program were small in terms of enrollment, still they represented a major feature of the total program. So I hastily ran to the directors of the departments of art and music and asked them to read the items and to tell me whether any of these items were irrelevant to the goals of the program. To my surprise, my pleasant surprise, they said that I was on target. But I still had that lingering thought that maybe they were being nice to me because they liked me, and maybe I should have added or substituted items that would be more directly relevant to the objectives of art and music, more directly relevant to that kind of creativity rather than the creativity of discovery. I never resolved that issue within me until I read the article in the *New Yorker* magazine where an art department in the midst of a university known for its logocentrism, had a right to exist if it emphasized the creation of art, rather than the intellectual aspects of art. But there again the questions I ask have to do with atmosphere, a Harvard atmosphere or the atmosphere at the academy in Jerusalem. And that atmosphere can only be defined as an environment, a cultural environment, an orientation. Education in itself becomes a form of atmosphere created.

Kay: If, as you have just eloquently stated, education in itself becomes a form of atmosphere, what atmosphere do we need in our schools to nurture our natural resources?

Tannenbaum: If differences in IQ or in other ability measures are due to nature, to the fact of heritability, then you must say—you are forced to say—that differences between the races and colors in our society which are measurable and real are due to differences in what these various races and ethnic groups have inherited in the nature of these groups, not in the nurture. That nurture isn't going to make a whole lot of difference in equalizing the accomplishments of these groups because of the overwhelming influence of nature. How do you deal with an issue like that? Well, Rushton says that there are different groups in our society, in our world, some living on the Pacific shelf, I guess you would classify these as the Oriental countries. Then you have the North American countries and you have the countries in the southern belt, including the Black nationals. He finds that the general abilities of the Orientals are higher than those of the Occidentals living in North and South America, and the Occidentals have higher abilities than the Africans. He also believes that these differences are inherited and my feeling is that if these differences are inherited than we have a few problems. He admits that

the achievements of the Orientals and the achievements of the Occidentals were at one time in favor of the Orientals as evidenced by their inventions achieved much earlier than ours. However, over a 500-year period the leadership was reversed, but he doesn't account for any reason for the reversal. Did they suddenly lose intellectual power in the Oriental countries? Do we have any evidence of that? And if they didn't lose any of their intellectual power, why is it that there was a relative decline in comparison to the Occidental countries in productivity? Not only that, but in the latter part of the 20th century there was an issue of *American Scientist* which listed the 100 greatest books in science of the 20th century. I don't remember seeing a single Oriental author of any of those books. Those books were basically groundbreaking contributions to the field of science. Why didn't we have more representation from the Oriental countries? So there are still some unanswered questions about the power of environment, the power of cultural identity, and cultural interests.

I've always questioned why the people in the classical eras of ancient Greece, of the Golden Age of Ancient Greece, really made no powerful breakthroughs in the fields of science. The breakthroughs were in the fields of literature, art, and whatever, but nothing in science. Why not? Didn't they have any scientific aptitude? They must have had scientific aptitude if they had the other aptitudes. Why didn't the genes dictate a flowering of genius in science? It must have had to do with the culture. They simply weren't interested in advancing science as we are today.

Kay: You have just touched upon two of the factors in your model of giftedness – general aptitude and environment. What of your chance and nonintellectual factors?

Tannenbaum: In my Ganiech Model I do include the element of chance as figuring in a very important way to the development of talent. I don't have terribly much to say about it except that it originated after so many interviews of highly gifted individuals who invariably told me about their experiences of encountering people or books, or encountering art galleries that triggered a life change for them. The inspiration that came out of the chance encounters, and by chance I mean encounters that could not have been predicted by any kind of statistical model... These encounters usually happened randomly, or I thought they happened randomly. It's what led me to include the element of chance in the development of talent.

However, I could not find much in the literature that elaborates on this factor, probably because it doesn't allow itself to prediction, it doesn't lend itself to external influence, and it doesn't lend itself to quantification. And that which does not lend itself to quantification or prediction or to reasonable antecedents happens to be ignored in our studies of human nature. So I had to develop the notion out of whole cloth or, better still, out of the chance experiences I had in talking to people I regarded as gifted and reading about them. They invariably told about some of the chance factors they had in their lives and this impressed me greatly.

I later realized that the element of chance does exist in the literature, but not in the sense that I used it. It exists in relation to the processes of gambling and I'm not a gambler and I don't think that giftedness is a gamble. Also, I later discovered that the element of chance is not entirely or necessarily random. There is the phenomenon of "stirring the pot," of being the kind of person who insinuates himself or herself into situations where

something combustible is likely to happen even though that combustibility will not be predicted by any previous or antecedent causes. I thought that the gifted individuals whom I had interviewed were not just at the right place at the right time, but they intended to be at the right place so that at the right time or when the right opportunity arose they would be first in line, which to me is very important. So chance is not simply a kind of random encounter without any forethought. There is some forethought, but that forethought cannot deal with the chance phenomenon as if it were predicted. Then I discovered that there is a third level of chance which connects an unforeseen experience with a person who happens to be uniquely equipped to grasp its significance. So now you have two elements here. You have an unforeseen event in the environment and an unforeseen presence of a uniquely equipped person to benefit from that unforeseen environment. The experience and right person for it are rarities unto themselves. How probable is it that they will come together at all, much less with prodigious effect? So you have the element of chance operating in such a powerful way, but you need to operate with the element of chance in relation to the person qualified to make the most of it.

The reason I include a cultural passion as a qualifier in teaching the gifted is that teachers are often seen as nothing; live bodies in a classroom who act pretty much like traffic officials moving people around, organizing materials, and generally managing the classroom without necessarily demonstrating any interest that is comparable to the interest of a gifted mind. We expect that the gifted mind would be devoted to art or literature or music or science or history or whatever. But we don't necessarily expect that of the teacher, even the teacher of the subjects sometimes becomes jaded and habituated in presenting material that is old and repetitious and not terribly exciting to the teacher. The teacher doesn't exactly have an active, inspired interest in the field that he or she is supposed to be specializing in. And so I insist that the teacher have some kind of cultural passion not only for the sake of being a role model; showing children that, "Look, you are capable of doing math in an extraordinary way. I have a passion for music or for art and I can devote myself as ardently to these passions as you can to mathematics, and I do." This is the kind of role model we're talking about, but it goes beyond that. It says to the child, "You know, perhaps you'd be interested in entering my world of cultural passion just as I always enter your world of cultural passion. I try to get into your world of mathematics. Would you like to try getting into my world of art?" Perhaps the experience of entering the world of a passionate teacher, a teacher who's passionate about a field other than the one the student is interested in, could make a whole difference, a lot of difference in the life of a student as a mathematician. There is an interesting hypothesis by Robert Root-Bernstein, which differentiates between the creative artists and scientists and those who profess art or science, the difference being that the creative ones are not narrowly focused in their own field but have taken other fields, collaborative fields that have given them perspectives on their own field that are of a multiple nature. They see science not only from the perspective of a scientist, but also from someone interested in the aesthetics of science and so forth. And therefore, I would want the teacher to be able to inspire children to look beyond their own fields of interest so that their own fields of interest can be enhanced by those that are espoused by the teacher. I suppose these are examples of the nonintellectual factors of gifted children.

Kay: Which of your contributions leave you the most proud: your Enrichment Matrix, the GANIECH psychosocial definition of giftedness, the programs you have designed?

Tannenbaum: To me pride has two sources: one from without and the other from within. When I say from without, I really mean that the pride comes from the adulation, appreciation, recognition, that people extend to me on account of the work I've done. I frankly feel that using that kind of criterion I really don't derive that much pride from my career. Because if you look at some of the supposed innovations in my thinking, recommendations to the field, the help I've tried to give educators in various ways, very few have had much impact here in the United States. They've had more impact in other parts of the world, but that's another story. I don't think, for example, my instructional model, my matrix is widely adopted anywhere in the United States these days by school systems. The model was intended as an aid to school systems in conceptualizing their curriculum structures for gifted students. I don't think people really take seriously my definition of giftedness or my practical recommendations for identifying potentially gifted individuals in the student population. When we observe the field and the impact that I have made on the field, I must admit that the experience has not given me any cause for pride. Yes, I have been a rather good entertainer, I can get up before an audience and arouse interest in that audience during that hour or so that I speak and people will congratulate me and say very nice things about their appreciation about what I've said. But I don't think it changes lives, I don't think it changes habits, this kind of appreciation, I don't think that it has changed how people see their roles in gifted education and so all of these external sources of pride never blossomed in my career, and I'm realistic enough to acknowledge it.

However, internally I feel proud of the work that I have done. To me, the work has been quite meaningful. Some of it innovative, none of it great creations, but innovative enough to constitute contributions to the body of thought about the gifted and the way they develop and what our commitments to them should be. I feel that I have been honest with my work, I have tried to commit myself to producing the very best thought I could and producing that thought on behalf of a population that's traditionally just a minority group, very often demeaned in our egalitarian society. The pride that comes from within is there. My greatest pride is not in the books I have written, or the papers that I have contributed at conferences, or the chapters that I wrote for books of reading, or the lectures that I have delivered to the appreciation of many audiences. None of that gives me nearly as much gratification as the links that I have forged with former students. The love and the loyalty and the sense of interdependence between teacher and student have never, never left me. It means far more to me than anything else that I have produced.

BIBLIOGRAPHY

- Havelock, R. (1973). *The change agent's guide to innovation*. Englewood, NJ: Educational Technology Publications.
- Marland, S. P., Jr. (1972). *Education of the gifted and talented* (2 vols.). Washington, DC: U.S. Government Printing Office.
- Powers, T. (1993). *Heisenberg's war: The secret history of the German bomb*. New York: Knopf.
- Root-Bernstein, R. S. (1999). *Sparks of genius: The thirteen thinking tools of the world's most creative people*. Boston: Houghton Mifflin.
- Root-Bernstein, R. S. (1989). *Discovering*. Cambridge, MA: Harvard University Press.
- Rushton, J. P. (1995). *Race, Evolution, and Behavior*. Brunswick, NJ: Transaction Publishers.
- Tannenbaum, A. (1983). *Gifted Children*. New York: Macmillan.