

Introduction to the Special Issue on Rethinking Human Potential: A Tribute to Howard Gardner*

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But with the human race, evolution reached a critical stage, comparable in importance with the development of DNA. This was the development of language, and particularly written language. It meant that information can be passed on, from generation to generation, other than genetically, through DNA.

—Stephen Hawking (*Life in the Universe*, 1996)

I perceive the general and systematic idea according to which a great people conducts all things. Aristocratic nations are naturally brought to contract the limits of human perfectibility too much, and democratic nations sometimes extend them beyond measure.

—Alexis de Tocqueville (*Democracy in America*, 1835)

Imagine that you live in an education utopia where resources are abundant and the system encourages and supports a variety of advanced learning and talent development opportunities. Would you expect everyone to reach a comparable level of achievement and make an equivalent share of contributions? Or, alternatively, supposing that resources are limited, would you invest more resources on those who have demonstrated “high promise”? The point of these hypothetical scenarios is that education is predicated on some articulated or tacit assumption of human potential. This special issue is devoted to “Rethinking Human Potential” precisely because articulating our assumptions in education in general and gifted education in particular becomes crucial for fashioning a sound education policy and guidelines for education practice. “Rethinking” human potential also implies that some of the deep assumptions and convictions that have undergirded gifted education since Terman’s (1925) work should be subjected to scrutiny in light of new research findings and the changing understanding of the nature and development of human potential.

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Human Potential as a Perennial Issue

Although the effort to understand human potential can be traced back to ancient sages such as Plato or Confucius, it was Francis Galton (1869) who proposed the most definitive theory of gifted potential as genetically determined. Galton's theory of genius specifies three heritable personal qualities: capacity, zeal, and character (including work ethic). Ironically, this Darwin-inspired theory met with opposition from his cousin Charles Darwin himself, who argued that human beings do not differ much in intellectual power (see Gould, 1981, p. 77, for detail). From this debate, we can discern a continuum of perspectives, from a view of human potential as contextually determined to a view favoring genetic determinism. The former represents a more optimistic view of human nature or "human perfectibility"—to use Tocqueville's words quoted above—and the latter a more pessimistic one.

In the first half of the 20th century, under the influence of social Darwinism, the genetic determinism prevailed, especially in the United States; it was epitomized by two important historical figures, Lewis Terman (often perceived as the father of gifted education) and Charles Goddard, with Terman working on the high end of the IQ spectrum (i.e., giftedness) and Goddard on the low end (i.e., "feeble-minded," or in today's language, intellectually challenged; see Hall, 2003, for an historical account). It is important to point out that in these early pioneers' minds, IQ has a moral overtone: Some individuals are destined to soar and achieve greatness and others are fundamentally stranded on the land of mediocrity; some are morally more competent (i.e., capable of telling right from wrong) and others are more prone to moral defects and criminal intents. Even at the end of the 20th century, this view was still endorsed by a significant number of esteemed scholars (see Gottfredson, 1997). On the other side of the story, the optimistic view of human potential, starting with John Watson, gradually ascended to prominence in mid-20th century, epitomized by the Skinnerian utopia portrayed in *Walden Two* (Skinner, 1948/2005). According to this radically environmentalist account, the human nature is infinitely malleable, and virtually all human characteristics and competencies can be shaped by environmental forces. The debate between social optimists and pessimists continues to date, even in the scientific community (e.g., Howe et al., 1998; Ericsson et al., 2007, vs. Gagné, 2009). Gifted education has been under scrutiny largely because its basic assumption is challenged.

Scientific, Social, and Educational Contexts for Rethinking Human Potential

Gifted education is predicated on a deep understanding of what constitutes "human potential" and how we go about identifying and cultivating human potential to its fullest. It relies on the psychological sciences to make relevant policy and practice scientifically compelling. It hinges on social and ethic considerations to make it socially equitable. Finally, a deep understanding of human potential also makes gifted education educationally more productive (Dai, 2016).

The Scientific Basis for Rethinking Human Potential

Scientific advances since Galton (1869) have significantly modified the fixed capacity view of human potential. For example, IQ as a measure of “general intelligence” is no longer interpreted as a genetically based capacity but seen as a result of gene–environment interaction (e.g., the notion of a “reaction-range” of genetic expressions, depending on whether the environment is restricted, natural, or enriched; see Bouchard, 1997, for a discussion). Gardner (1983, 1999) pointed out the domain-specificity of human intelligence, and Sternberg (1985) proposed the contextual and experiential bases of human intelligence. According to Perkins (1995), although part of human intelligence is originated in neural biology, it can also be induced by experience, as well as engendered by exercise of reflection. More recently, Rose (2016) challenged the normal distribution assumption of human traits; he argued that a wealth of human potential originated from a largely neglected, seemingly unlikely source: “jaggedness” of personal profiles.

Different from an ability or capacity view of intelligence, many scholars identify the significant effects of intellectual dispositions (Perkins & Ritchhart, 2004) and personality traits such as openness to experience (Shi et al., 2016) and intellectual overexcitability (Dabrowski; see Ackerman, 2009) on intellectual functioning and development (see Dai & Sternberg, 2004). Although Galton (1869) pointed out the importance of motivation (zeal and hard work) in realizing human potential, a purely genetic explanation of human motivation is not viable in light of the preponderance of research evidence. More likely, motivation such as intrinsic interest (Gottfried & Gottfried, 2004) or task commitment (Renzulli, 1986) is contextually and developmentally shaped. If so, human potential cannot be seen as a fixed quality but a fluid and dynamic one.

A bulk of research on expertise has found that an extended period of training and deliberate practice not only leads to improved skills but also activates relevant genes and causes structural and functional changes at the neural level (Schlaug, 2001). In addition, new pedagogy and technology also significantly stretch the human limits (Ericsson et al., 2007). Thus, high potential is no longer solely attributable to the endogenous factors but related to *learning resources* available to enabling skill development (Vialla & Ziegler, 2016). The reliance on resources and tools lead to a more situated conception of giftedness as distributed between the person, the task, and resources and tools available (Barab & Plucker, 2002; Plucker & Barab, 2005).

In short, there is some consensus now that human potential is multifaceted in nature and dynamically and developmentally shaped through interaction with the environments. Such a notion has yet to be fully incorporated into education policy and practice.

The Social and Ethical Imperative for Rethinking Human Potential

Gifted education has been under attack in recent decades, largely due to social and ethical concerns. For example, it is criticized as representing an education triage (Sapon-Shevin, 1996, 2003), creating a divide between the elected and damned (Berliner & Biddle, 1995) and privileging the already privileged (Margolin, 1994). Efforts to broaden

the conception of giftedness dates back as early as 1950s (e.g., Witty, 1958) and have never stopped since (e.g., Renzulli, 1978; Treffinger & Feldhusen, 1996); these efforts are motivated by equity as well as intellectual concerns (see Dai, 2018, for a review). In effect, what Gardner (1983) and Sternberg (1985) did in the 1980s to break the hegemony of the psychometric interpretation of general intelligence can also be seen as socially motivated to achieve a more equitable vision of human potential, and it debunks theories that are limiting, even suppressing, the realization of human potential.

The optimistic versus pessimistic perspective mentioned earlier can be translated easily into a continuum with a liberal view of human potential on the one end and a conservative view on the other (Renzulli, 1999). Regardless of what view one holds, social organization of learning and education has to be constrained by scientific evidence and human ethical principle. In that regard, neither extremely liberal (i.e., populist) nor extremely conservative (i.e., elitist) views of human potential are tenable. For example, stratification of the population based on IQ in general, and the bifurcation of the gifted and the nongifted based on a single criterion is problematic; so are the claims that “everyone is gifted” and that social equality means not only equal opportunities but equal educational outcomes (e.g., uniform education standards for all). In other words, the equity concerns cut both ways. The gifted–nongifted bifurcation and identification of the gifted in a once-and-for-all fashion, prevalent in educational policy and practice in the United States, tend to screen out too many false negatives and cause talent loss. On the other end of the continuum, however, an education policy that exclusively focuses on bringing those at the bottom up (e.g., the No Child Left Behind legislation in the United States) is often blind to those at the top of the achievement spectrum or those whose talent is outside of the purview of the standard curriculum. Either way, the needs of gifted and talented learners for more advanced learning experiences are shortchanged. Both situations violate the equity principle. In the social context, rethinking human potential means generating a conception of human potential conducive to creating a system of education that provides opportunities for all yet promotes and accommodates to a variety of talent development trajectories and pathways conducive to realizing individuals’ potential.

Practical Consequences of Rethinking Human Potential

A conception of human potential as unidimensional and static (or fixed), normally distributed in a population, overlooks its pluralistic and dynamic nature. By the same token, an exclusive focus on endogenous factors (i.e., mainly concerned with the question of who is more likely to succeed with respect to particular educational goals or success criteria) blinds us to the question of what constitutes optimal conditions for learning and development of specific individuals and what kinds of tools and support are needed to maximally develop human potential. Thus, beyond social and ethic concerns, a more effective, productive education system also entails a conception of human potential that goes beyond the issue of *who* is more likely to excel and addresses *how* to maximally develop human potential for all.

For example, traditional conceptions of giftedness tend to be solely focused on placement strategies and decisions (e.g., Who is gifted?; How inclusive should this category be, 5 or 10%?). This approach tends to separate identification from curricular and instructional strategies. New conceptions of giftedness and talent need to be conducive to curricular and instructional planning in two ways. First, how curricular and instructional strategies can optimize learning of specific individuals with particular profiles of strengths, interests, and preferences; in other words, curriculum and instruction need to be differentiated so that specific individuals' potential can be best cultivated and developed (Tomlinson, 2014). Second, how to set up curriculum and instruction in a progressively challenging manner to push the learner toward a new level of competence and how to provide pedagogical and technical support in a timely fashion to sustain talent development to the next level of excellence. As pointed out earlier, for a new conception of human potential, determining exogenous learning resources, tools, and support is just as important as identifying or developing endogenous resources and strengths (Vialla & Ziegler, 2016). This way, identification and curricular and instructional interventions reciprocate with each other (Passow, 1981) and become one system of enhancing human potential, not just for a very few identified as gifted but for many who demonstrate distinct talent potential in their characteristic ways. When we no longer focus exclusively on who has it and who does not, and instead ask the question of how to provide timely resources, tools, and support to bring out human potential, as alluded by Stephen Hawking in the quote provided in the beginning of this article, education can be more productive in fulfilling its mission.

The preponderance of scientific evidence and psychological knowledge call for rethinking human potential. Such an effort will help resolve social controversies related to public education, particularly gifted education, and fashion educational policy that ensures equity as well as excellence. Furthermore, a sound conception of human potential can lead to a more productive education system with its curriculum and instructional strategies more responsive and proactive, and its resources, tools, and support more effectively used to advance learning and optimal development.

The Ensuing Four Articles in a Nutshell

This special issue starts with a feature article by Howard Gardner, one of the most renowned psychologists whose decades of scholarship have been almost exclusively devoted to the issue of human potential in terms of intelligence, talent, creativity, and ethical principles of using human potential for the common good. The article provides a retrospective account of his early years when he developed his theory of multiple intelligences and how his focus on the nature of human potential evolved over time. An intriguing part of his narrative is his historical hindsight regarding how human potential was viewed then and how it is viewed now.

In the second article, Dai critiques the traditional conceptions of gifted and talents as "traits" or trait-like capacities or innate qualities and presents an alternative process

account of talent development. He identifies four levels of analysis, each of which implicates a distinct source of human potential, endogenous as well as exogenous. He argues that it is the developmental interplay of endogenous and exogenous forces that help shape a variety of developmental trajectories and pathways, that is, specific pathways by which individuals' potential is unleashed and developed and real-world accomplishments are made. He presents basic tenets of Evolving Complexity Theory of talent development, which specifies how environmental opportunities and challenges, coupled with resources, tools, and support, evoke endogenous needs, and move the person toward more advanced stages of development. The evolving organized complexity, not capacity of some sort, ultimately explains the power of mind as manifested in individuals' creative contributions.

In the ensuing article, Moran brings up a topic rarely considered in the traditional conceptions of human potential: life purpose, an enduring intention to make a positive difference. She argues human potential should not only be seen as merely instrumental in nature (e.g., high potential for a particular targeted achievement) but as involving the evolving purpose, direction, and momentum of personal strivings. Building on Gardner's (1983) intrapersonal intelligence, Moran defines the nature of life purpose and further identifies five distinct features of life purpose that reveal its mechanisms and psychosocial underpinnings. One can connect Moran's exposition of life purpose to existing notions of making an impact as an impetus of creative contributions (Renzulli, 1986), organization of purpose as an overarching creative trajectory (Gruber, 1986), or development of life themes (Csikszentmihalyi, 1996), or personal qualities such as sensitivity to human concerns, sense of destiny and direction, optimism, and courage (Renzulli, 2005). Moran brings clarity and depth to the discussion of this compelling but easily neglected dimension of human potential. Another feature of her work worth special attention is what she identifies as "mid-level" perspective on human development, which she argues is the most appropriate level of analysis for practical purposes.

The fourth article by Tordjman, Pereira Da Costa, and Schauder presents a case study of Michael Jackson, the famous American singer. The authors identified two essential characteristics of the late singer as responsible for his accomplishments: his precocity and talent in music and dance and his unhappy childhood and emotional vulnerability. The former made him a musical star at the very young age and increasingly creative in his music career, and the latter created a stressful condition personally but helped fuel the artistic energy and sensitivity at the same time. The dynamics of personal life that shaped Michael Jackson's musical development adds to our understanding of the complexities of how human potential gets unleashed, for good or ill.

The special issue ends with a commentary by David Henry Feldman, a distinguished developmental psychologist known for his research on child prodigies as well as his formulation of universal and nonuniversal aspects of development that brings developmental diversity and variability to the forefront of developmental research. To conclude this introduction, this special issue is a tribute to Howard Gardner, whose work has definitively changed the way we perceive and conceptualize human potential

and whose worldwide impact is palpable among educators who take the cultivation of human potential as their central mission.


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