

Why the transformation metaphor doesn't work well: a comment on Gagné's DMGT model

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I applaud Gagné's (2004) meticulous effort to articulate a comprehensive model of talent development, which specifies components of the model and delineates the relationships of these components in an admirably clear way. The field needs clarity and precision if it is to move forward. However, I am also concerned that the attempt to pin down everything as pure and clean also comes at the cost of oversimplification. My comment will focus on the transformation metaphor in the model.

The metaphor of transforming gifts into talents is the backbone of the Differentiated Model of Giftedness and Talent (DMGT). It provides an intuitively accessible way of thinking about how giftedness can be differentiated from, and translated into, talents. Giftedness is biologically constitutional: you have it (to a certain degree) or you don't. How do we know a person has the right makeup or to what degree is a person intellectually gifted? The answer is to use IQ cutoffs. One problem with this approach is that IQ scores without exception confound achievement and natural ability; one has to achieve at a certain level (e.g., being able to read) in order to show 'natural ability'. Moreover, at least part of IQ tests is about academic achievement! Because of that, high correlations between IQ and academic achievement tests are not surprising. Some scholars (e.g., Sternberg, 2003) even argued that IQ test scores reflect little more than developed or developing expertise. The paradox here is that 'nature' is always 'nurtured'. If we insist that there must be a biologically based gift before there can be a culturally developed talent, to use Gagné's language, then it behooves us to develop a reliable test of purely 'natural ability', which is an impossible task. IQ measures are surely not

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up to the task, as they are subject to too much environmental influence (see Ceci, 2003).

It seems to me that a more tractable question is to ask, given a specific domain, what is the cross-sectional distribution of learning rates and asymptotic performance (Shiffrin, 1996), and what rate or asymptotic performance is considered 'rare' or 'outstanding' in a culture? Rather than postulating a ubiquitous 'g' as sufficiently explaining the origins of a variety of academic talents, I suspect domain-specificity (and even culture-specificity) in that regard. For example, history and chemistry may require very different profiles of personal attributes, though they may share some domain-general components, such as verbal reasoning. Thus, some scholars suggest that general intellectual ability is critical for predicting migrating up and down developmental niches that differ in cognitive complexity, while domain-specific abilities refine predictions about the content and nature of learning (e.g., Lubinski, 2004). To the extent that domains differ in levels of complexity, differential ability thresholds are warranted. Other scholars, of course, would argue that highly sophisticated reasoning skill itself is not a general property of mind, but a function of domain knowledge and expertise (e.g., Ceci & Liker, 1986).

The transformation metaphor leads to another feature of the model that is questionable. It is the argument that 'non-intellective' characteristics such as motivation, self-regulation and personality attributes function as important catalysts that help transform gifts into talents, but in and of themselves do not qualify as 'gifted' qualities. Gagné (2004, p. xx) states that 'The catalysts are clearly situated outside the giftedness'. There is an implicit value judgment here: ability is more important than motivation; how far you can go is pre-determined, and some intelligence tests can tell you your limits. I would venture to argue that passion for knowledge and dogged persistence are essential qualities (not just catalysts), sometimes even more important than whatever *initial ability level* one brings to learning situations, if one is to be highly successful in academic fields. *Gifted + Motivated = Gifted*

The DMGT model epitomizes what I call the ability-centric conceptions of giftedness. The premise of these conceptions is that levels of intellectual functioning reflect cognitive ability and thus are impervious to motivation and emotion. However, when learning or performance tasks get complex (e.g., beyond simple recall), motivation—or the lack thereof—will inevitably come into play to influence performance (e.g., how focused one's attention is, how intensive one's effort is, how persistent one is in the face of setbacks). Ironically, it is when one believes that ability is fixed and the ability to improve is limited that one's performance deteriorates under failure conditions (Wood & Bandura, 1989; Dweck, 1999). Separating intelligence from personality, isolating cognitive functions from motivational and emotional ones is an unfortunate legacy of psychology that sets up artificial boundaries and dismembers the functional whole. It is reflected in the transformation metaphor and the DMGT model. It is time to reinstate motivation and emotion, and many related 'non-intellective' attributes and processes as integral part of intellectual functioning and development (see Snow *et al.*, 1996; Winner, 1996; Dai & Sternberg, 2004; Gottfried & Gottfried, 2004).

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