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IPT 564, Fall 2010
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Literature Review: *Talent Is Overrated*

We all want to know what it takes to excel. Perhaps there is not a single domain that we passionately wish to dominate, but we admire excellence and are astounded by the feats of those great performers in history. We wonder, too, what it takes to shoot hoops like Michael Jackson or compose music like Mozart. Typically, we explain great performance in one of two ways: those who truly excel work harder than the rest of us. Or, they possess some inborn talent for excelling in their chosen field. In *Talent Is Overrated*, author Geoff Colvin, a highly respected journalist and the senior editor-at-large of *Fortune Magazine*, attacks both of these explanations for greatness, and offers an alternative: *deliberate practice*. In this review, I will explain Colvin's arguments, make some comparisons to a similar book published in the same year (*Outliers* by M. Gladwell), and connect the book to the field of instructional design.

Of the two beliefs about where great performance comes from, Colvin spends more time attacking the role of talent (hence the title of the book). There may still be some gene that predisposes one to excellence at golf, but as of now, no research has turned it up. Specifically targeted innate abilities – "gifts," we often call them – are fictions. In fact, Colvin explains, many of the world's "greats" are "amazingly average" (Colvin, 2008, p. 7). Intelligence is useless in predicting most great performance, for performance relies on developed abilities in specific domains, while intelligence only demonstrates extraordinary *general* abilities. It is true that IQ is a decent predictor of performance at unfamiliar tasks; however, once a person has learned the domain, IQ no longer gives an edge. Colvin's argument draws heavily on the work of Anders Ericsson, whom he credits in his acknowledgements. Ericsson saw subjects increase their ability to memorize numbers from the accepted seven-number limit (plus or minus two) to digit lists stretching into the hundreds, and argued for "the remarkable potential of 'ordinary' adults and their amazing capacity for change with practice" (p. 38). Thus memory too, often seen as a quality that many excellent performers have in overabundance, is also a developed and not an innate ability (p. 46).

This emphasis on practice and development might initially seem to support the second belief about great performance: those who truly excel do so because they work harder than the rest of us. After all, Colvin describes a study of British musicians, which showed that only one factor "predicted how musically accomplished the students were, and that was how much they practiced" (p. 18). Colvin also refers to the "ten year rule," a general rule of thumb that it takes at least ten years to master a domain. However, Colvin distinguishes between *deliberate practice* and the type of practice most of us do, which "hasn't accomplished a thing" (p. 66). For the rest of his book, he first explains what deliberate practice is, and then, finding the principles widely generalizable, applies them to his own domain of expertise: the business world. It is important that American business people understand and practice these principles, Colvin notes, because today's large-scale global labor market has dramatically increased the

pressures on individuals and businesses to excel: today they truly must "go up against" (p. 15) the world's very best.

Colvin draws on numerous examples from music, sports, business, and science in explaining what deliberate practice looks like. Specifically, he shares the case study of wide receiver Jerry Rice to illustrate the focus and exertion required of deliberate practice. These elements are highlighted by Colvin (and were advanced by Ericsson and his colleagues) as necessary to deliberate practice:

- *It's designed specifically to improve performance* (p. 67). Colvin highlights the word "designed," especially interesting to instructional designers, because deliberate practice must focus on the "learning zone" (as opposed to the comfort or panic zones), where progress can be made. The learner must be stretched beyond her current abilities, and this usually requires a teacher or mentor who can see what she cannot.
- *It can be repeated a lot* (p. 69). "Top performers repeat their practice activities to stultifying extent" (p. 69).
- *Feedback on results is continuously available* (p. 70). In some activities, you see the effect immediately, and thus immediate feedback is supplied by the action itself. With other activities, a teacher is again required, since interpretation varies and the learner's opinion alone is not enough.
- *It's highly demanding mentally* (p. 70). Beginners may not be able to sustain more than one hour of deliberate practice in a day (and even that hour may need to be broken up). But with practice, endurance is built. Still, across disciplines it appears that four to five hours a day may be the upper limit of deliberate practice. Colvin included a story which illustrates this well:

  > Nathan Milstein, one of the twentieth century's greatest violinists, was a student of the famous teacher Leopold Auer…. As the story goes, Milstein asked Auer if he was practicing enough. Auer responded, "Practice with your fingers and you need all day. Practice with your mind and you will do as much in one and half hours." (p. 71)

- *It isn't much fun* (p. 71). Yet somehow, as Colvin discusses near the book's end, it becomes intrinsically rewarding to the expert.

Colvin then proceeds to explain how deliberate practice works, arguing that focused, deliberate practice gives experts "the ability to avoid doing [their skill] automatically" (p. 82). First, Colvin explains, deliberate practice allows the expert to *perceive more* (p. 85). They understand the significance of indicators a novice would overlook, they look farther ahead than novices can look, they see more from seeing less, and they make finer discriminations than do average performers. Deliberate practice also enables experts to *know more* (p. 94). In expert performance, domain-specific knowledge is critical, and the top performers have knowledge that is "integrated and connected to higher-level principles" (p. 96) than is the knowledge of average performers. Finally, deliberate practice allows experts to *remember more* (p. 98), allowing them to chunk more effectively. This phenomenon led to the development of the concept of "expert working memory" (p. 101), wherein learners connect data to concepts

already possessed (and the expert has more such pre-existing concepts). Finally, Colvin notes that deliberate practice has the potential to alter our very bodies and brains, at least in part through the process of myelination in relevant areas of the brain.

One of the things that makes Colvin's book not merely interesting academically but important culturally is that he then applies the principles of deliberate practice to business. He feels that, in general, most organizations actually work against excellence. However, some of the best organizations out there do practice some of the principles of deliberate practice, and others should follow their lead, or expect to be left behind in the dust of the 21st century. Specifically, the best organizations apply the principles of great performance by:

- *Remembering that each person is not just doing a job, but being stretched and grown.*
- *Developing leaders within their jobs.*
- *Encouraging leaders to be active in their communities.*
- *Understanding the critical roles of teachers and feedback.*
- *Identifying promising performers early.*
- *Understanding that people development works best through inspiration, not authority.*
- *Making leadership development part of the culture.*

Colvin then extends his suggestions to teams, since most business work is completed not by lone individuals but by groups of workers.

Finally, since innovation is critical to the business world and is also a sign of expert performance, Colvin takes a look at creativity. Here, too, our preconceptions may be incorrect. We usually assume either that creativity comes as a lightning bolt (Archimedes in the bath, for example), or that too much knowledge gets in the way of creativity. However, Colvin argues that "[t]hose beliefs, though they seem to be supported by evidence, will steer us wrong. They direct us away from the creating and innovating that we're capable of" (p. 151). Instead, Colvin argues that great innovation always follows preparation, explaining that "inventions" like the cotton gin and the steam engine were not completely novel inventions, but improvements on existing creations invented earlier. Innovations, says Colvin, "are not even remotely unprecedented" (p. 157). This is why domain-specific knowledge is crucial in creativity. As evidence, Colvin brings up the ever-advancing ages of Nobel Prize winners. Einstein won the prize in his 20s, and was not alone. Today, however, not only is there more content knowledge to master before one can contribute something new, but standards are generally rising (in part, again, a result of globalization). Additionally, innovations grow rather than strike us. (Archimedes bath tub insight may be a myth!) Citing the work of R. Beghetto and J. Kaufman, Colvin explains that creativity usually begins with "mini-c" creativity: that is, "'novel and personally meaningful interpretations…, which can then progress to interpersonally judged novel and meaningful contributions (little-c) and even develop into superior creative performance (Big-C)'" (159). As my husband just finished teaching "History of Creativity," and his students completed a final "creativity project," he has been really gratified to hear the number of students who commented on how creative they felt during these projects. Most of them he judged "interpersonally novel and meaningful." Yet the even more important moment

may have come weeks earlier, when something ignited their "mini-c creativity," and made history personally meaningful.

As Colvin wraps up his book, he looks at the importance of supportive environments in creating excellent performers. Culture is one contributor, but "by far the most important part" (170) is the home. B. Bloom's study of 120 young top performers showed similarities in the traits of the homes these children came from. These homes were: child-centered, stimulating and supportive; committed to a strong work ethic; provided monitoring of the child's deliberate practice; and provided teachers who could take the children to the next step of skill development. I am reminded of the importance of my role as a parent. (Even while reading the book, I wanted to go grab my three-year old and read to him! He needed to get his sleep, however! ☺) Colvin also reminds us what we all know: no child can be forced to greatness, and anger will inevitably result if they are forced into an activity for which they have no passion. However, deliberate practice may lead to "flow" (as explained by M. Csikszentmihalyi)

Talent Is Overrated has some striking similarities to M. Gladwell's *Outliers*, published at nearly the same time. I read *Outliers* a year ago, so my memory of it is not as fresh. However, both books argue that success is not merely an outgrowth of natural talent. I found *Outliers* fascinating, but having now read *Talent is Overrated*, I find Colvin's book even more compelling. In part this is because Colvin puts the responsibility for success back in our hands, while Gladwell argues that much is due to culture and circumstance. The last lines of the book reaffirm this: "Above all, what the evidence shouts most loudly is striking, liberating news: that great performance is not reserved for a preordained few. It is available to you and to everyone" (206). Colvin asks us to consider 1) What do we really want (above all, deliberate practice takes unswerving commitment), and 2) What do we really believe (do we think we truly can excel?). Both questions put the agency squarely back in the lap of the reader.

I also find that Colvin's book has important application to the fields of instruction and of instructional design. First of all, he stresses the importance of "design" in deliberate practice. This should be remembered by designers and instructors who want to provide students with real-world practice: for learners to really grow from it, practice must be deliberate, not haphazard. Moreover, the principles of deliberate practice emphasize the importance of feedback from expert teachers or mentors, and Colvin even refers to the apprenticeship system (though he does not draw on terms from education such as cognitive apprenticeship). We are again reminded of the importance of giving students feedback that helps them develop particular skills, that pushes them into a "learning zone" (out of their comfort zones but not into the panic zone). Colvin's principles of deliberate practice also recall the work of L. Vygotsky in the zone of proximal development. For both, students must be stretched but not overwhelmed as they practice new or refined skills.