Borderlands: developing character strengths for a knowmadic world

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Abstract

Purpose – The paper’s aim is to highlight the value of non-cognitive strengths such as creativity and grit. In a knowledge age, those aspects will be the distinguishing characteristics in a global work force and must be a goal of educational pursuits.

Design/methodology/approach – The paper examines research supporting the inclusion of character strengths in education for a borderless global future.

Findings – Presently, most education and work deals with information and data. Technology has made data/facts/information more accessible but less unique for any given learner, worker, or place. At the same time, education has focused on simple distribution of content, knowledge assessment, and testing instead of the development of rich knowledge and non-cognitive skills. This can be seen in the reliance on testing and achievement, and, by and large, in a generation of students knowing “what” but not “how”, a generation less creative and more prone to set answers, a generation often lacking character strengths and less able to persevere in the face of challenge or failure.

Research limitations/implications – Research must focus more intensely on the character strengths or non-cognitive skills to better understand their relationship to learning and achievement. Methods of developing character strengths should be researched for efficacy. Correlation between various character strengths (such as creativity and persistence) and academic achievement should be broadly researched. This correlative research could support new methods and foci in education offering a broader, more inclusive direction in learning.

Practical implications – Research has shown character strengths can be better developed in explicit class settings than through tacit methods. Previous research into strengths such as grit and perseverance could also lead to different participant selection for employment, enrollment, or to intervention programs. In a world where information travels around the world in the blink of an eye, in a borderless global future, education must metaphorically cross the cognitive border and begin to directly address that broader set of skills that are cherished but often do not seem to be taught. It is on the border between learning information – explicit knowledge – and affective, social, and behavioral skills where change must occur.

Originality/value – This paper addresses a need in education to examine and explicitly address non-cognitive skills.

Keywords Creativity, Character strengths, Persistence, Grit, Cognitive values, Innovation, Globalization

Paper type Conceptual paper

Introduction

In the US and in much of the industrialized world, the goal of primary and secondary education is clear; to increase scores on standardized tests, particularly in math and science. Most education deals with information and data; and similarly, most education is focused on the lowest levels of Bloom’s Taxonomy, those of knowledge and remembering. Over the last ten years, the main focus of K-12 education has been on evaluation by standardized testing, in a mistaken belief this type of learning is more valuable than a more integrative approach.
Both federal and state governments have focused much of the effort to improve education on a narrow pursuit of raising standardized scores, particularly through federal programs such as No Child Left Behind Act (NCLB) and other programs. Nations are often compared using the Trends in Mathematics and Science Study (TIMSS) or the Programme for International Student Assessment (PISA), with rankings used to encourage reform with educational processes. Some political factions even have campaign platforms arguing and seeking to legislate against higher order thinking skills and specifically, critical thinking (Mechler, 2012). To many in society, the value of public education is best quantified in the ability to recall stored information from memory, not the ability to analyze, synthesize, or generate new concepts. We argue not that the findings of standardized achievement testing provides false outcomes, but rather that the pursuit is narrow and not valid: It is not inclusive of what students should be learning.

This focus on specific, cognitive skills has changed curricula, pedagogy, and outcomes. Scores have risen slightly, and substantial numbers of schools and teachers are focusing on the end of year examinations:

Several studies discovered that NCLB caused a large proportion of schools to teach to the test and to reduce instructional time for subjects not required by NCLB. It has also been found that in order to raise test scores in NCLB-required areas, many teachers changed their instructional focus and pedagogical style. Some states, schools, and teachers have even been found to cheat on behalf of their students in order to meet the NCLB requirements (Zhao, 2009, p. xi).

On the surface, developing content knowledge is valuable, but it has become the singular focus for measuring quality in education in anticipation of achievement. Schools and teachers are evaluated by this narrow set of standards, to the detriment or exclusion of the other, non-cognitive skills. For example, creativity among schoolchildren (as measured by the Torrance Test of Creative Thinking) has declined significantly since 1991 (Kim, 2009). One significant cause is said to be the societal focus on codified knowledge. This “monoculture” of education proves, in the end, to be less valuable than a diverse ecology of learning, one which includes more nuanced and valid aspects of a complete education:

Today, the defining skills of the previous era – the “left brain” capabilities that powered the information age – are necessary but no longer sufficient. And the capabilities we once disdained or thought frivolous – the “right-brained” qualities of inventiveness, empathy, joyfulness, and meaning – increasingly will determine who flourishes and who flounders (Pink, 2008, p. 22).

These other aspects of learning, character strengths, or non-cognitive skills may be more critical in the short and long run of an individual’s career, and, we argue, are more essential in a globalized, knowmadic world. Research has shown intelligence or cognitive ability is not the sine qua non it is presented to be by politicians, or as supported by standardized achievement tests:

In addition to cognitive ability, a list of attributes of high-achieving individuals would likely include creativity, vigor, emotional intelligence, charisma, self-confidence, emotional stability, physical attractiveness, and other positive qualities (Duckworth et al., 2007, p. 1087).

In a world where information and data are easily accessed and used, other characteristics, such as creativity or persistence, are more valuable and are more effective at predicting long-term success and achievement than mere intelligence. While it is still valuable to have domain specific knowledge and intelligence, “[…] persistence trumps talent, but it is best to have both” (Lazer in Friedman and Mandelbaum, 2011, p. 160). These “soft skills” are often the distinguishing factor among learners and workers.

In our own educational experience, the research findings ring true with our work in the classroom. Admission to university settings often favors intelligence over other character strengths. Anecdotally, we have found creativity is often more difficult to develop with already highly achieving students, having already been successful through following the rules and working with a given educational structure. Those with highly rated intelligence often lack persistence or grit in the face of fear or failure, through a lack of challenge in their learning experiences and having had substantial support for their successes.
It is valuable to examine the full extent of positive, non-cognitive skills, or character strengths. Perhaps the most extensive source is Peterson and Seligman’s *Character Strengths and Virtues: A Handbook and Classification* (Peterson and Seligman, 2004). It examines a wide range of character strengths including wisdom, dedication, bravery, and curiosity; those attributes that are positive personality characteristics. These non-cognitive skills can have a significant impact on short term performance as well as long term health and economic success: “It is abundantly clear […] that specific personality traits predict important life outcomes, such as mortality, divorce, and success in work” (Roberts, 2007, p. 336). These personality traits or (cognitive strengths) are widely used in business and industry for hiring purposes (Tough, 2012). It is estimated that 80 percent of American corporations engage in some form of personality tests such as the MBTI (Dattner, 2008).

Within this writing, we focus on two specific character strengths: creativity and grit. Each will be briefly examined in terms of relative value, development, and our experience in the classroom.

**Creativity**

Creativity is the generation of new ideas – either new ways of looking at existing problems, or of seeing new opportunities […] (Cox, 2010, p. 8).

One of the more broadly used terms in education, creativity is often compared with intelligence, but the two mental processes are distinct and somewhat separate. Intelligence can be described as the ability to remember and to know, the ability to recall and use ideas from learning and experience. While there is some connection between remembering information and new ideas, they are independent aspects of cognition (Runco and Chand, 1996). On one hand, in order to be creative, one must have a deep understanding of the relevant information; on the other hand, a complete and perfect understanding is often difficult or impossible to achieve, and can diminish the development of new or divergent ideas.

Creativity can be described as the mental sparks that precede innovation. It is a mental process resulting in useful new ideas. “The creative process […] refers to the sequence of thoughts and actions that leads to novel, adaptive productions” (Lubart, 2001, p. 295). The most broadly consistent definition of creativity has these two aspects: creative ideas are those that are both new and applicable.

Creativity has been researched since the mid-1950s, beginning with tests developed both by Guilford and Torrance. Torrance created what remains the “gold standard” for measuring creativity in a series of verbal, figural, and auditory test forms. The test asks for responses to visual or verbal prompts over a brief period of time. The number of salient answers is the first metric. Answers are then analyzed for their personal divergence (i.e. different types of answers by the respondent) as well as the uncommonness of each answer.

As part of his initial research, Torrance tested thousands of school children and rated their creativity. Subsequent long term research on the test subjects found creativity was the most salient factor in lifelong success. Plucker (1999), in an extensive meta-analysis of longitudinal data, found that creative capability as evidenced through divergent thinking was much larger a factor in adult achievement than was intelligence: “Similar to the earlier models, just under half of the variance in adult creative achievement is explained by this model, with the contribution of general [divergent thinking] more than three times that of intelligence” (Plucker, 1999, p. 107).

Support for the concept of creativity as a valued skill comes from a wide range of sources, including, for example, the government of the UK (Cox, 2010). Most recently, a survey of global executives by IBM Corporation found:

Creativity is the most important leadership quality, according to CEOs. Standouts practice and encourage experimentation and innovation throughout their organizations. Creative leaders expect to make deeper business model changes to realize their strategies. To succeed, they take more calculated risks, find new ideas, and keep innovating in how they lead and communicate (IBM Business Services, 2010).
This recognition of value has led to extensive training for creativity in business and, to a lesser extent, in academia. Research has been conducted on creativity training, which can provide guidance on effectiveness and methodology. There are many methods within educational contexts to increase creativity, including cognitive, personal, motivational, and social interactive approaches (Bull et al., 1995). In a meta-analysis involving 70 studies evaluating creativity training, Scott (2004) evaluated a number of differentiating factors in creativity training. She reported that encouraging and developing “divergent thinking” was a consistent and effective element in most efforts to increase creativity (divergent thinking can be described as the development of multiple answers to stimuli, the capacity to think beyond one single answer to a question or problem). Generally, to develop or improve creativity, extensive time and work on task are needed. Training that addresses structured techniques is generally more effective than courses that use unconstrained exploration or creative expression as a means to develop creative skill. The most substantial gains in measured creativity occur through structured techniques such as critical thinking, convergent thinking, and constraint identification.

Perseverance and grit

However, creativity is but one character strength. In our teaching, we have observed a range of human response to the challenges and rigors of adult learning. We evaluate all students for their intelligence prior to entering any higher education institution, but only indirectly evaluate other characteristics that can have a significant effect on the learning process, such as perseverance.

The traits of persistence or perseverance have not been studied as specifically or as extensively as has creativity (MacCann et al., 2009). “Relatively little research has been undertaken for the primary purpose of gaining insight into persistence” (Peterson and Seligman, 2004). Nevertheless, some research observations indicate the relative importance of these character strengths, as perseverance, persistence, and grit appear to be strong indicators for success and achievement.

Many argue that intelligence and content knowledge are paramount, but “[…] some traits might be essential to success no matter the domain. We suggest that one personal quality is shared by the most prominent leaders in every field: grit” (Duckworth et al., 2007, p. 1087). And that skill, grit, may be one of the essential components of the new, global knowledge worker. Grit can be defined as “perseverance and passion for long-term goals” (Duckworth et al., 2007, p. 1087).

Recent work by Duckworth et al. (2007) has examined grit in a range of venues, including the US Military Academy, the National Spelling Bee, and college grades in Ivy League colleges. In each case, persistence and grit were shown to correlate with achievement and/or retention.

In one study, Duckworth examined entering classes of the US Military Academy (West Point) and tested new cadets using her grit test. The initial summer at West Point is renowned for its difficulty, and completion is an accomplishment in and of itself. About 5 to 6 percent of all entering cadets fail to complete the summer regimen. Entering cadets have qualified through standardized measures, personal interviews, and congressional nominations. The grit test was the most effective metric for predicting which students would fail to complete the first years’ training; better than high school rank, SAT scores, physical aptitude, or leadership qualities. Controlling for other characteristics, we can see the value of perseverance or grit: “Of course, perseverance does not guarantee success, but success is often unattainable without it. To achieve meaningful accomplishments, one must withstand setbacks” (Peterson and Seligman, 2004, p. 229).

Evaluation and development

Most character strengths have developed through early childhood development and benefit from familial and societal influence. Some families, for personal, cultural, or religious
reasons, may be able to instill higher levels of perseverance, while others are less successful or promote less desirable characteristics. Given the differences in performance due to character strengths (particularly when correcting for native intelligence and socio-economic class), addressing character strengths through the educational process would be valuable. As with creativity, character traits such as persistence can be developed with conscious effort.

Youth camps such as Outward Bound and private military schools often pay attention to character strengths. Similarly, some public and charter schools actively focus more substantially on the development of character strengths and include them as part of their active curriculum. For example, the Knowledge Is Power Program (KIPP) schools, a national organization of private charter schools, explicitly includes character strengths in their teaching curriculum, and evaluates all students on a regular basis for character. KIPP uses essential strengths as part of regular evaluations that are based on longitudinal research evidence and active intervention. Explicit instruction and evaluation is a major part of their program. One essential step in the KIPP program is the recognition of character strengths or non-cognitive skills as valuable, recognizable, and capable of being developed.

In the US, educational evaluation is generally focused on content and intelligence, and evaluation or training in non-cognitive strengths is less well understood. In our own research experience in the investigation of creativity, the subjective nature of the research data has often been questioned, a challenge that is not unique in the study of other character traits (Peterson and Seligman, 2004). Retention of information, a low level skill, is measured in an objective manner, but the measurement and development of cognitive abilities are more subjective, and hence less well recognized.

What KIPP and Duckworth, working together, have done is to clearly define desirable behaviors, develop a means of evaluation through observation of behavior, and provide long-term evidence of the validity of each metric. KIPP schools, with the support of researchers, have developed a set of seven character strengths and behaviors: zest, grit, self-control, optimism, gratitude, social intelligence, and curiosity. Each of the strengths are used as part of a regular evaluation system within the school and are publically displayed throughout their building. Long term tracking of graduates will provide supportive data for the value of their program. KIPP schools contend non-cognitive skills can be taught or developed through a well-integrated effort that includes modeling, defining, evaluating, and celebrating positive character strengths.

Schools can encourage the development of grit through a number of means. Teachers can explicitly work to highlight and develop grit as part of their regular educational structures. Schools can recognize and reward character strengths; curricula can provide appropriate challenges to every student (Tough, 2012).

Challenges are important in the development of persistence and grit, but like the development of other skills, must be appropriate to the cognitive development of the learner. There must be explicit attention to character strengths, particularly those such as persistence or grit, which are more complex than the development of creativity. Some areas which can help with the development of grit include the defining specific individual goals, a recognition of the obstacles to progress to the goal, and the development in the learner of strategies to overcome the obstacles.

As a matter of fairness and the economic health of society, we need to develop the character strengths of all students whether in kindergarten or university or those seeking vocational training later in life. As content/information based jobs will be out-sourced, desirable character strengths will help develop and maintain a healthy economy. When the production of automobiles became a world-wide enterprise, the new distinguishing factors such as reliability, efficiency, and design became competitive factors world-wide. Similarly, development of desirable character strengths can have benefits to the entire educational system, not just the segment of the knowledge economy described as “knowmads.”
Discussion

We must ask, here, on the border of a new knowledge age, what separates the most valuable from the average? What is of unique value when information and declarative knowledge is ubiquitous? What is truly important in a knowledge-rich world for a society or region? And, more importantly, how should education distinguish the individual?

We are now approaching a truly ‘borderless’ society, one in which workers and work can compete and flow across national boundaries and around the world, much like manufactured goods. Products flow around the world, as objects themselves are multi-national, assembled from components of diverse origin information, work, and workers have been unbound.

In that world where information is fluid and travels around the world in the blink of an eye, where work is less algorithmically based and more heuristically driven, evaluating workers on the basis of intelligence may yield few significant differences. Raw intelligence, what one knows, is only the lowest base for employment or productivity. More and more, corporations are recognizing the limitations of rating intelligence, and are evaluating and testing character strengths (Dattner, 2008). We contend that character strengths, i.e. non-cognitive skills, will be the distinguishing feature in a knowledge economy.

Moravec’s (2008) concept of nomadic knowledge worker envisions a set of workers that are no longer place bound, and which, paradoxically, are also less tied to the character strengths of a given region. Those localized strengths were culturally based and may become less unique in a more homogenous globalized culture. We can remember an American culture of makers, inventors, and mechanics, people who fixed anything and who sewed and made their own clothes. Now cars, clothes, and most products are created separately from individuals, who exist mainly as consumers, not producers.

The skills of making and experience are often considered to develop the character traits of persistence and grit. We have seen, for example, welding students overcome their own physical limitations such as neurological disorders and fears of 6000 degree torches, and become skilled at helium arc welding. While they will never be a professional welder, the character traits developed will serve them well.

There are long-term advantages to those who have grit or creativity in a knowmadic society. As in other meritocracies, they will eventually succeed where others do not. Knowmads who have developed grit or persistence will be those who will reach their goals and complete tasks. Subsequently, they will be selected for more challenging and rewarding projects. Their reputations will advance their careers. In the knowmadic future, structures such as national borders, local preference, or even specific degree requirements will be less important as capabilities, while strengths such as creativity, persistence, and grit, become more recognized and valued.

Testing in cognitive areas, specifically through knowledge-based achievement tests, is well respected and viewed to represent learning and consequently preparation for work. The simplistic definitions of information as specific answers are easily evaluated, but not necessarily valid. On the other hand, the indirect or less objective definitions or evaluations of non-cognitive skills such as creativity or grit are less well respected even though they may be well understood. Defining indicators of an invisible characteristic, such as creativity, grit, or even cholesterol, is at first challenging, but later can prove generalizable and beneficial.

In our classes, students seek specific domain knowledge, whether in design or welding. Through both, however, they must also develop their own character strengths. And we, as educators need to step beyond mere domain knowledge to those character traits we value; independence, persistence, and creativity.

References


Zhao, Y. (2009), *Catching up or Leading the Way: American Education in the Age of Globalization*, ASCD, Alexandria, VA.

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