HARD THINKING ABOUT SOFT SKILLS

by

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Character education, 21st Century skills, social/emotional learning, grit, mindsets, character strengths, Habits of Mind, Habits of the heart--these different words and phrases are often used to describe what are referred to as “non-cognitive“ and “soft skills.” (Conley, 2013, US Department of Education, 2013, Kamenetz, 2015). Although most people in academics and business consider these phrases to describe what are critically important outcomes for a well educated individual, calling them “soft” and “non-cognitive” belies their importance.

The epithet ‘21st century’ seems to imply that these attitudes have only just been discovered, or are peculiar to the demands of the current day. Persisting in the face of difficulty or adopting someone else’s perspective have probably been valuable inclinations since the dawn of human history and are likely to continue to be important well into the 22nd century.

Whatever terms educators use must point accurately at the kinds of valuable outcomes, beyond literacy, numeracy test scores and examination grades, that young people need, and to do it in a way that teachers, parents and students themselves find accessible and conducive to productive thinking and planning. We have come to view all of the terms mentioned above as having advantages and disadvantages – so careful consideration of language use will help to signify the meaning for each phrase.

“Skills?”

First, let’s tackle the key word ‘skill.” It can be useful in emphasizing that educational outcomes such as ‘being inquisitive’ or ‘persisting in the face of difficulty’ are practical behaviors, responses to situations rather than decontextualized displays of knowledge. It reminds us that there is more to real life than being able to call facts quickly
to mind, or checking the correct box on a test; in a fast-changing world, education has to prepare learners to act intelligently and skillfully when they meet the unexpected. They must learn to practice good judgment when faced with uncertainty.

However, we most frequently think of ‘skill’ as training where the development of responses look like a technical matter. But developing an attitude of curiosity or self-evaluation, for example, is not like training someone to shoot a rifle or make a béchamel sauce. Curiosity has a skillful aspect, sure, but it also involves a deeper pleasure in making discoveries and an openness to novelty and challenge. To develop such inclinations students need on-going opportunities, encouragement and guidance in a wide range of contexts, not just ‘training’. Attempts to ‘train thinking skills’ have often been shown to be ineffective, because they do not last, they do not transfer to new situations, and they do not come to mind when they are needed. To be a good collaborator you need to be ready and willing as well as just able (Swartz et al., 2008).

Furthermore, we need to communicate with greater clarity about how we distinguish between types of thinking, thinking skills, and thinking dispositions. For example, the 4 C’s of Twenty First Century “Skills” (Partnership for 21st Century Learning), that are often listed as critical thinking, creative thinking, communication and collaboration might be called “types of thinking” that we need to teach students to engage in skillfully. Yes, they are important types of thinking and students need to learn how to perform them on appropriate occasions carefully and with skill. Merely engaging in these types of thinking alone, however, does not mean that students engage in them carefully or skillfully. They can be done in hasty, sloppy, and superficial ways without much thought. In these cases they may not serve us well (Swartz et al., 2008). Simply naming those types
of thinking does not ensure that they will have the disposition to use their thinking skills when faced with problems in which the answer is not immediately apparent.

“Soft”

What does the word ‘soft’ connote? It is the obvious contrast to ‘hard’ – as in ‘hard data’, ‘hard evidence’ and ‘hard thinking’, for example. Hard implies objective, well defined and reliable, so ‘soft,’ must refer to things that are subjective, fuzzy and unreliable – softhearted rather than hardheaded. The implication is that the valued outcomes we want to talk about are seen as sentimental and ‘liberal’, ‘warm and fuzzy’ or ‘touchy-feely’, and this terminology immediately undermines their claim to serious attention. We extol their importance but do not consider them as important as the “hard” data that is presently driving accountability. There are no right answers, no test scores to compare, no averages or standard deviations to yield, and no inter-rater reliability to achieve. ‘Soft’ also implies that, if these outcomes are impossible to measure, they will tend to fall outside any framework of accountability. The fact is that there is hard evidence both for the importance of traits like resilience, curiosity or growth mindset, and for the effectiveness of some methods for deliberately cultivating them (Edwards, 2014).

The attempt to define levels of such attributes is fraught with difficulty – but that does not mean that it is impossible to show evidence of development. Questionnaires, performance tasks, portfolios, capstone projects, interviews, artwork, and journals, for example can yield inferential but valid data for assessing levels of development, and progress that has already been made.

“Non-cognitive”.
In an attempt to distinguish attitudes, inclinations, beliefs, and dispositions from content knowledge, researchers coined the somewhat awkward, non-technical term "non-cognitive" -- everything that was not, in their view, grounded in or directly derived from rational thought, which they labeled "cognitive."

The term, “non-cognitive” tries to make space in our thinking for valued outcomes of education that are not just ‘cognitive’ - to do with the storage, retrieval, and rational manipulation of knowledge. But it sets up a false opposition between cognition and other aspects of the person, such as personality or sociability, and between thinking (‘good’) and emotion (‘problematic’).

Every thought and action is accompanied by emotions. They have their origins in the amygdala. Those feel-good neurotransmitters (serotonin, endorphin, dopamine) are released whenever we experience such good feelings as satisfaction with the completion of a complex task requiring persistence, rapture from the observation of a sunset, camaraderie in working with others, humor in ludicrous situations or the Eureka moment of enlightenment. Emotion is a double-edged sword. Emotional events can enhance or impede learning. Neurologically positive emotion activates the pleasure center. The brain gets a dopamine hit when an event the person perceives as positive occurs. When an event occurs that the person perceives as negative, the amygdala activates the “flight or flight” response. The brain causes chemicals (cortisol and adrenaline) to be released to ready the body to deal with the threat. One of the effects of these chemicals is a diminishing of frontal lobe activity. In other words, when a person perceives a situation to be fearful or threatening, critical, higher level thinking is less likely to occur and learning is impeded.
Being a skillful collaborator involves cognitive, emotional and social aspects all together. You need to be able to see the world through other people’s eyes, and that involves the highly cognitive ability to build accurate mental models of their knowledge structures, and to keep them updated during a conversation. Persisting with difficult problems involves both cognitive strategies and, for example, a more general tolerance for uncertainty or confusion. The very term non-cognitive suggests that ‘cognitive’ is well defined and well understood, while everything else exists in a dark zone that surrounds this clear patch of intellectual light. Again, the language itself carries a derogatory attitude towards some of the most valuable outcomes of learning.

“Generic”

Some confusion has been caused by claims that attitudes to learning such as resilience or team-working are generic; that is, they mean the same thing to an historian and a mathematician; or to a 4-year-old Aleut in the Pribilof Islands of Alaska as well as an 17-year-old Hmong in Appleton, Wisconsin. Clearly they do not, but some people who have pointed this out go on to dismiss the whole notion of cultivating learning habits as impossible. In fact, attitudes such as resilience or teamwork grow over time in two different ways. In disembedding, they may begin to be established in one subject or domain and then develop a sense of applicability to include other domains, often being ‘customized’ along the way. In embedding, an explicitly learned set of attitudes or strategies are discovered, by guided experience, to apply, again with modifications, to a particular area of study. Through the discovery of new or extended areas of applicability, an attitude becomes gradually more ‘generic’ and more embedded within the implicit learning responses to that domain. The word ‘generic’ is unhelpful because it seems to
claim as given something which is only gradually developed over time and with experience. Better not to use the word since it will arouse unnecessary skepticism.

**Dispositions: A More Suitable Term**

John Dewey (1933 p30) said: “Knowledge of methods alone will not suffice; there must be the desire, the will to employ them. This desire is an affair of personal dispositions.”

If “soft skills” and “non-cognitive” are inadequate and confusing labels for these essential learnings, what should they be called? We suggest *thinking dispositions*. The word ‘disposition’ is now preferred by many educational leaders (Salomon, 1994, Ennis, 1996, Nelson, 2014, Costa and Kallick, 2014). The teams at Harvard’s Project Zero, for example, have made a strong case for the use of the terms thinking and learning dispositions (Perkins, Jay and Tishman 1993, Ritchhart, 2002).

Dispositions are critical to one’s success in school and in life. Such dispositions as persisting, thinking interdependently, striving for accuracy, thinking flexibly and remaining open to continuous learning take a lifetime of learning and are teachable, and observable. The term is useful because it combines several of the points we have made above: it is not that ‘dispositions’ are different cognitive kinds from ‘skills’, but the word indicates that it’s not only ability that counts, but also the perception and inclination to make good use of that ability in appropriate situations. Webster’s Dictionary has as one definition of ‘disposition’ “Natural fitness or tendency; one’s inclination or propensity” which we like. And each disposition can grow over time: we become *more disposed* to make use of each of these facets of practical intelligence, as well as more subtle and sophisticated in their application.
Ron Richhart (2002) describes dispositions as “...acquired patterns of behavior that are under one’s control and will as opposed to being automatically activated. Dispositions are overarching sets of behaviors, not just single specific behaviors. They are dynamic and idiosyncratic in their contextualized deployment rather than prescribed actions to be rigidly carried out. More than desire and will, dispositions must be coupled with the requisite ability. Dispositions motivate, activate, and direct our abilities.”

We suggest, therefore, that dispositions be included as explicit curriculum outcomes when making decisions about what students should know or be able to do as a result of participating in educational learning experiences.

Herein lies the dilemma—if they are patterns or clusters of behavior, how can we isolate any one and consider that we have an adequate assessment? Additionally, the question arises—can we teach these dispositions directly? How will we know if students are getting any better at demonstrating an attitude of intellectual open-mindedness or curiosity, for example? (Conley, 2013, Wagner, etc)

Since they are never fully “mastered” they cannot be assessed using summative, right-answer forms of assessment. Rather such assessment tools as open-ended questionnaires that allow students to draw from their personal experiences, portfolios that demonstrate growth over time, journals on which students reflect their use of dispositions in performance tasks and capstone projects, interviews in which depth and range can be probed, etc., all can yield the “hardest” data because they evoke student voice, direct observation and real time performances. Which produce more significant data for a life of continuous learning: scores on a test of recall of information from a
reading passage or voluntarily choosing to read given the choice? Passing a test on historical facts or expressing fascination, wonderment and desire to learn more about an historical event? Bubbling in the correct answer to a complex math problem on an answer sheet or persisting over time on a problem that demands insight, creative approaches and the final joy of the “a-ha” moment?

Dispositions, according to Ritchhart (2002), are under our cognitive control; we can consciously, intentionally choose to employ them rather than being mindless habits on “auto-pilot.” When confronted with problematic situations, such dispositions as thinking flexibly, questioning, persisting, thinking interdependently, striving for accuracy and drawing on past knowledge are highly cognitive indeed. They serve as an internal compass to guide decisions and actions (Costa & Kallick, 2014). Mindful human beings draw upon one or more of these dispositions by meta-cognitively asking themselves, “What is the most thought-full action I can take right now?”

- How might I learn from this, what are my resources, how can I draw on my past successes with such problems? What do I already know about the problem, what resources do I have available or need to generate?
- How might I approach this problem flexibly? How might I look at the situation in another way or from a fresh perspective? How can I draw upon my repertoire of problem solving strategies?
- How might I illuminate this problem to make it clearer, more precise? Do I need to check out my data sources? How might I break this problem into its component parts and develop a strategy for understanding and accomplishing each step?
• What questions do I need to ask? What am I aware of in terms of my own beliefs, values and goals with this problem? What attitudes or emotions am I aware of which might be blocking or enhancing my progress?

• To whom might I turn to for help? How might this problem affect others? How can we solve it together and what can I learn from others that would help me become a better problem solver?

As is evident from these questions, they are certainly not “non-cognitive” and are anything but “soft.” Each of these actions involves and reflects the processing of information in our brains. They are robust, firm, sturdy and strong. They are even more challenging than such “cognitive skills” as recalling and understanding information because they require self-awareness, inhibition of impulse, management of internal thought processes, alertness to situational cues, and gathering feedback about results. Learning these dispositions takes time, discipline, practice, self-monitoring, and reflection.

**Dispositions Build the School Culture**

*Positive dispositions embrace a growth mind set; and schools that support and encourage the use of positive dispositions are more likely to see significant improvement among its teachers and work cultures that support excellence.*

*(Feuerstein, Feuerstein and Falik Beyond Smarter 2001 p. 14)*

A culture is people thinking together (Senge, et al, 2013). As individuals share meaning, they negotiate and build a culture. Over time, as groups become more skillful in employing the dispositions, the dispositions begin to pervade the value system resulting in the changing of the norms, practices and beliefs of the entire organization. When the
norms are articulated as values and skills, teachers in such schools take collective responsibility for their own and their students’ learning. They are no longer “my” students” or “your” students, they become “our” students.

By employing the dispositions in the everyday operation of the school, the group mind illuminates issues, solves problems, makes decisions and accommodates differences. As shared meanings grow, the group builds an atmosphere of trust in human relationships, trust in the processes of interaction, and trust throughout the organization. The common vocabulary, the agreement on the attributes of the graduates of the school, the signals in the environment, the rituals and celebration, the communications and recognitions all facilitate the creation of a shared vision.

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