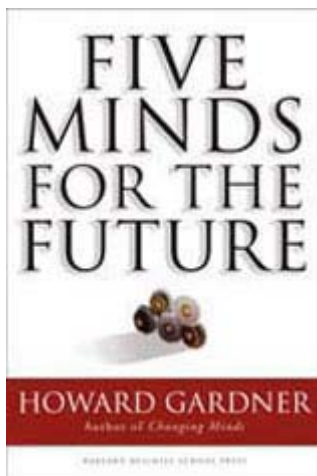


# Five Minds for the Future

HGSE Professor Howard Gardner



To prepare students for the future, educators need to cultivate both academic skills and character. In his new book, *Five Minds for the Future*, HGSE professor **Howard Gardner** describes five kinds of minds, or ways of thinking and acting. Three are related to intellect: the disciplined, synthesizing and creative minds; two emphasize character: the respectful and ethical minds. In a recent Burton and Inglis lecture at HGSE, Gardner describes what it means for citizens and workers to exhibit these types of minds.

As the world we inhabit continues to change, educators must frequently reevaluate the goals of education, and the type of "minds" we wish to cultivate. Though academic achievement within the disciplines is an important goal for K-12 education, there are other important components of a future-oriented education.

Howard Gardner, professor of cognition and education at HGSE, points out that the future will demand workers and citizens to demonstrate "out-of the box" and non-linear thinking to solve increasingly complex challenges. The tools from any one discipline are often insufficient for understanding and solving real world problems. For example, in the medical and educational arena, complex syndromes such as autism are highlighting the need for interdisciplinary expertise and problem-centered teams of people working on common goals.

The reflective educator can think about three kinds of minds that emphasize various aspects of *intellectual development*.

## Video 1: Howard Gardner describes three minds: disciplined, synthesizing, and creative

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Students should master information within the major disciplines, like History and Math (the **disciplined mind**). These ways of thinking are challenging to learn and require practice in school, since they are cultural inventions that the human brain is not pre-wired to understand intuitively. In this age of digital media and information overload, students with knowledge within a discipline must be able to sort out what is important and what is not from the massive amount of available information (the **synthesizing mind**). A student with a synthesizing mind can make sense of what she has learned, and can convey it to others when she needs to do so.

During the career years, once they have learned and synthesized knowledge in their discipline, people need to be prepared to think outside the box of that discipline (the **creative mind**). Creativity allows for innovation or

meaningful change in how problems are approached in the field. Using the example of autism, a creative team can try out some theoretically plausible treatments that have not been tried before, and monitor the results carefully. The creative person takes chances, and therefore must also be ready for negative feedback, which can often be used to change direction and make forward progress.

Two additional minds to cultivate in school emphasize the human sphere, or *personal character*.

## **Video 2: Howard Gardner describes two more minds: respectful, and ethical**

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Educators will recognize the importance of fostering respectfulness among students (the **respectful mind**). Gardner distinguishes real respect from mere tolerance of differences. Cultivating respect and emotional and interpersonal intelligence among students, teachers, and the greater school community are essential goals in a world where diversity of perspectives is a fact of life.

While respect is something even young children can practice in primary schools, ethics (the **ethical mind**) requires more abstract and reflective thinking about one's behavior. No matter what type of work a person undertakes, she can stand back and ask what she needs to do for her work to be excellent in quality and ethical in conduct, and then follow through with those responsibilities. Without this mindset, a person can be easily swayed into doing compromised work that cuts corners, just to be able to get ahead.

How can educators adjust what they do in schools to cultivate these five minds? One way is to talk with students about prominent examples from history or current events that illustrate these minds. For instance, history or science teachers might discuss with students how a scientist worked diligently and thought creatively to come up with and test an important discovery. Similarly, classes might discuss examples of individuals or groups that fell short of exemplifying these minds, and the consequences of that behavior, such as cases in which violation of ethical codes lead to human harm. Such discussions will inevitably raise questions about what to do when two minds are in conflict. For example, how should we respond if a teacher or supervisor that we respect engages in conduct that is compromised in some ethical way? How can we criticize a fellow learner respectfully when we see the product of their creativity as flawed?

Teachers can also use the notion that there is a developmental sequence among the intellectual minds and those involving character. For instance, rather than *starting* with an assignment that requires creativity, teachers might help students first to master some body of knowledge, synthesize it, and only then consider ways to expand on and use it in out-of-the-box ways.

As our outlook for the 21st century continues to come into focus, we will see that schools must respond to students' changing needs. In the working world, increasingly complicated issues will require solutions that cross disciplinary boundaries and go beyond "one-box" solutions. Though the urge to cut corners may be strong, standards for respectful and ethical conduct should be cultivated. Nurturing each of these minds will help ensure that the next generation is willing and able to meet the still-unknown challenges of the future.

*By Maria Fusaro, doctoral student in Human Development and Psychology at HGSE*