

Quandaries for Neuroeducators

Howard Gardner¹

ABSTRACT—Ethical quandaries abound in the emerging field of neuroeducation. Concepts and findings from the GoodWork® Project may help neuroeducators deal ethically with these quandaries. In particular, ethical work is easier to carry out when all stakeholders concur on the means and goals of the profession. Similarly, when professionals wear only one occupational hat, ethical work is more readily achieved than when the professionals need to reconcile two conflicting hats. Such quandaries need not be tackled alone. An organization like the International Mind, Brain, and Education Society is a promising venue for discussing and perhaps resolving these quandaries.

If I am permitted to begin with a neologism, I would like to introduce the term neuroeducator. A neuroeducator is a professional who is grounded both in the theories and research of neurosciences and in the practice of education. Recent analogous professionals would be cyber lawyers, nuclear engineers, and physician managers. In the near future, neuroeducators will face numerous quandaries. These quandaries will raise, in sharp form, the question of the responsibilities inherent in the role of the neuroeducator—be he or she a researcher, a clinician, or a teacher. Consider just a few possible dilemmas:

1. Scores on achievement and aptitude tests, gathered for other purposes, can be aggregated in terms of race and ethnicity. Should these data be so arrayed, should the results be made public, and if the result involves invidious comparisons in the media about the brains of these different groups, what actions should the neuroeducator take?
2. In the course of a routine magnetic resonance imaging scan of a student, evidence emerges, suggesting a large potential learning problem in the future. At present,

nothing can be done to help individuals with this condition. What action should the neuroeducator take and, if none, why?

3. A new drug has been discovered which aids significantly in focusing attention, without any known side effects. Unfortunately, only very wealthy families can afford the drug. When these families purchase the drug, social class differences in scores are fanned. A neuroeducator finds herself in the position of recommending policies about the use of the drug. How should she approach this assignment?

To be sure, easy, consensual answers do not exist for such challenges. Yet, the alternatives of ignoring these dilemmas, or simply flipping a coin, are surely unsatisfactory. The question arises: Are there frameworks that can help scientific researchers, clinicians, teachers, and other educators think about these issues? In this article, drawing on a large-scale research project with which I have been involved since 1994–1995, I will attempt to provide such a framework.

THE GOODWORK PROJECT

Launched in 1994–1995, the GoodWork Project is a large-scale social science study under the co-direction of Mihaly Csikszentmihalyi, William Damon, and myself. The project was stimulated by an interest in, and concern about, the ways in which powerful market forces impact the area of work and, in particular, the major professions. As we came to ponder it, our research consortium asked the question, “How do people who want to carry out good work succeed or fail at a time when things are changing very quickly, our sense of time and space is being radically altered by technologies such as the Web, market forces are very powerful, and there are few if any forces that can significantly moderate or temper the market forces?”

Proceeding in empirical fashion, our research team carried out in-depth, semi-structured interviews of over 1,200 young, mid-career, and veteran workers in nine different professions: precollegiate education, higher education, genetics, theater, law, medicine, business, philanthropy, and journalism. The findings from the study have been reported in numerous publications, among them Gardner and Shulman (2005), Gardner (2007), Gardner, Csikszentmihalyi, and Damon (2001), Verducci and Gardner (2007), and the Overview at goodworkproject.org.

¹Harvard Graduate School of Education

Address correspondence to Howard Gardner, Graduate School of Education, Harvard University, Larsen Hall 201, Cambridge, MA 02138; e-mail: hgasst@pz.harvard.edu

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Fig. 1. A graphic representation of the three strands of GoodWork.

Most recently, the project has evolved into a set of interventions with young people, with the goal of increasing the incidence of good work in society (Fischman & Barendsen, 2007).

As a result of our thinking and research, we now conceptualize good work as composed of three elements, each beginning with the letter E. Good work is Excellent technically; the worker has mastered the content and the moves of the domain or profession in question. Good work is personally Engaging or meaningful; the worker likes her work, looks forward to carrying it out on a regular basis, and is prepared physically as well as cognitively to deal with challenges. Finally, good work is carried out in an Ethical manner: The worker tries to do the right and responsible thing, even when it is not in her self-interest. In analogy to the famous double helix of DNA, we have come to conceptualize GoodWork as a trio of intertwined strands (See Figure 1).

It is useful to have in mind individuals who embody good work. No nominee is devoid of controversy but among those individuals who have been frequently cited as good workers are the cellist Pablo Casals, the humanitarian Mother Teresa, the baseball player Jackie Robinson, the writer about ecology Rachel Carson, publisher Katharine Graham, and, in the area of education, Maria Montessori.

This set of criteria can be applied to any professional area—for example, that of the educator. But note that the three strands do not necessarily coincide. One educator can be excellent technically, and yet not be engaged in her work or behave in an ethical manner. A second educator can be highly ethical and yet inept. A third might enjoy herself thoroughly and be completely engaged, yet display neither excellence nor ethics. It is a happy but not necessarily a

frequent moment when the three Es of good work co-occur over the long haul.

Although it may be easy to thwart good work—for example, by making the conditions of work aversive—there is no pat formula for producing good work. Good workers emanate from many quarters and for many reasons—ranging from strong religious beliefs, to powerful models of good work at home or in the community, to an institutional culture that sanctions work that does not embody the trio of excellence, engagement, and ethics.

Our studies suggest that good work is most likely to emerge when a state of *alignment* exists among the major participants and stakeholders in a work environment. Put more concretely, when the workers, the long-standing values of a profession, the leaders of the profession, and the general public all want the same thing, good work is easier to achieve.

We observed a dramatic example of the power of alignment in our studies of genetics and journalism. In the late 1990s, genetics emerged as an exceedingly well-aligned domain. All of the interest groups around genetics wanted the same thing: longer and healthier lives. Funding was ample. Geneticists were encouraged to pursue their interests and none of our subjects considered switching to another field.

In sharp contrast, journalism at that time was massively misaligned. (Alas, the misalignment endures till this moment.) Reporters wanted to pursue stories in depth, the public craved sensationalism, owners of newspapers discouraged expensive investigative reporting and pushed instead for quick quarterly profits. As a result, many journalists were frustrated, and a healthy proportion of them were considering switching to another profession.

We observed examples of alignment and misalignment in the area of education. Multiple factors figure in the determination of the degree of alignment, ranging from the traditional goals of an institution to the desires of constituencies like parents and students, to the pressures from the wider society on issues like accountability, desired skills, or type of decorum. On certain campuses, students, faculties and, trustees are generally on the same page as regards the ends and means of education. Or, if their priorities differ, at least they respect the priorities of other parties. When such conditions exist, staff and faculty find that good work is within reach. Less happily, we have also observed institutions where good work is difficult to sustain. In inner cities in the United States, many teachers are skilled in their craft and seek to behave in an ethical manner. But the working conditions in the inner cities are difficult, especially for those who seek to meet the varied needs of their diverse student body. As a result, some of these teachers burn out and are no longer able to find meaning in their work. Under such conditions, a strong religious faith and/or the existence of like-minded colleagues who can provide support may help to sustain good work, at least for a while (Fischman, 2007).

Neither alignment nor misalignment are permanent conditions. Changes in the wider society—for example, the loss

of funding for genetics or a dramatic increase in funding for schools—can affect the degree of alignment in a domain. Although it is easier to carry out good work when conditions are aligned, there is no guarantee that good work will emerge (consider the frightening example of Nazi Germany in the 1930s and early 1940s). And it must be pointed out that some individuals are motivated to carry out good work when conditions are misaligned. The example of consumer advocate Ralph Nader comes to mind. The legions of talented young persons who enroll in demanding programs like Teach for America or Americorps or City Year often feature such individuals within their ranks.

GOODWORK IN NEUROEDUCATION

A first obstacle to good work in the area of neuroeducation comes from the fact that it is a new area of work. Whereas the field of education has existed for millennia, the neurosciences are a relatively new and rapidly changing areas. The Society of Neuroscience was founded in the 1960s and it now contains over 30,000 members from all over the world. And, instructively, the Society for Ethics in the Neurosciences only began in 2007, actually a few years after the founding of the International Mind, Brain, and Education Society. When there is no tradition of practice in an area, it proves difficult to determine what is good work.

Adding to the difficulties of achieving good work in the new field of neuroeducation is the challenge that we dub “wearing multiple hats.” In our complex global world, many professionals do not work simply in one domain. Rather, they—and that includes “we”—have to juggle two or more different professional hats. There are numerous newly emerging fields such as genetic therapy, museum education, and legal medicine. Individuals in these fields are often torn between the somewhat conflicting sets of responsibilities that have traditionally been associated with the two domains in question. To what extent should the genetics therapist operate like a scientist who seeks to understand the distribution of a trait within a family as opposed to the therapist whose priority should be the feelings and best interest of the patient? Should a museum educator prioritize the curatorial values of the museum or the interests of a group of visiting students who have never been inside such an august cultural institution and have never seen an original work of art? To whom does the expert in legal medicine owe her priorities—to the pursuit of justice in the courts or to the administration of the best care of the patients under her care?

As I see it, the newly emerging field of neuroeducation is rife with multiple hats—many of us are already having to juggle the sometimes conflicting demands pursuant to those hats. Neuroeducators are or can be bench scientists, clinicians, teachers, and/or the makers or executors of policy. Certainly, in some cases, the demands of these hats can be reasonably conso-

nant with one another. Such a condition exists when there are available methods for early detection of a disorder; the family embraces that detection; and there exist readily available and affordable treatments for that disorder. We may be close to this point in the early diagnosis and treatment of dyslexia.

However, as the opening vignettes imply, such confluence across hats cannot be assumed. The curiosity of the scientist about the different genotypes of races may conflict with the task of the educator to avoid prejudgments or the role of the policy maker to disaggregate test scores without doing so in an invidious way. The role of the careful examiner, who has been trained to detect a disorder, may conflict with the role of the clinician, which foregrounds an imperative of doing no harm to the patient or the family. The role of the researcher, who has documented a significant increase in test scores following the administration of cranial stimulation, may conflict with the role of the educator or policy maker, who does not want to fan already existing discrepancies in disposable incomes and further disadvantage an indigent population.

What should the conscientious neuroeducator do under such circumstances? Without question, the first task is to lay out the conflicting roles and demands as clearly as possible. Initially, it is important to carry out this dissection in the company of other knowledgeable individuals—few of us are conversant enough with all the pros and cons of a course of action. Sometimes, such clarification and discussion suffice to suggest the best, or at least the better, course of action, one that is appropriate for the particular situation and perhaps, if one is fortunate, with similar situations as well.

But in many cases, the pulls of the two hats, the appeals of the two roads, seem roughly equal. In the vernacular, right is pitted against right (scientists should pursue questions wherever the evidence leads, clinicians owe sensitivity and charity to the patients) or wrong is pitted against wrong (it is wrong to ignore a troubling finding, but it is equally wrong to tell a person something damaging when you are unable to be of any help). At such times, it is helpful to conceptualize the issue more broadly than the particular case—for example, as balancing the rights of the individual against those of the community or balancing the value of justice against the competing value of mercy. Setting the issue in a broader context may eventually lead a newly emerging profession to decide that, as a body, it will tend to favor one of these interest groups or values—especially when another profession exists that will balance the scales. This has happened, for example, when physicians decide that it is their priority to favor the individual patient, because the political and corporate systems are likely to represent the marketplace or broader community. And it might happen that geneticists as an aggregate declare a moratorium on an investigation of racial differences in cognition or intelligence, because they feel that the consequences of such comparisons are so inflammatory.

OPTIONS UNDER DURESS

Occasionally, conditions become so toxic that it is not possible for a worker simply to remain in his professional role. We have seen this situation at work when broader societal pressures make it difficult or even impossible for the worker—for example, when a journalist is barred from carrying out an investigation because it might implicate a major advertiser or when a teacher is told to ‘teach to the test’ or else.

Under such circumstances, the worker has available at least four options (Hirschman, 1970):

1. Quit the field: Of course this is easiest to do when you are young, flexible, and/or have a separate income.
2. Maintain your position and bite your tongue: Feeling that they have few other options, most individuals remain, often unhappily, in their positions.
3. Stay in your position, pay lip service to the current condition, but continue to uphold the key values of your profession, if necessary by conducting guerrilla warfare. Sometimes you may be fortunate—work conditions may alter in your favor, you may win a prize and thus gain a patina of protection, or you may even influence your fellow workers to join forces with you.
4. Start a new organization or initiate a new role, which allows you to do what you feel you should do, in the way in which it should be done.

TOWARD A HIGHER INCIDENCE OF GOOD WORK

None of us are born as good workers or bad workers. Genetics plays no discernible role in determining in what way one’s ethical twig bends. Our studies indicate that a strong set of values gained from the family or the community—often religious in nature—can facilitate good work. In particular, three kinds of support prove crucial: (1) vertical support—the presence of strong and charismatic role models, who embody good work and inspire it in others; (2) horizontal support—colleagues and peers who value good work and shun the bad worker; and (3) periodic booster shots—events, positive or negative, that capture the attention of workers and help them to reaffirm the core values of their profession. A positive example occurred in the middle 1970s when geneticists voluntarily declared a moratorium on the recombination of DNA until they determined that it was safe. A negative example occurred in the early 1990s when, due to insufficient vigilance, a patient given genetic therapy died (cf. Gardner et al., 2001). Such examples have the potential to serve as wake-up calls for an individual or an entire professional domain.

How can one evaluate one’s own status as a worker? We suggest invocation of four Ms:

1. What is the Mission of your profession? Its goals and values? How do these align with your own goals and values?

2. Who are your role Models, positive and negative? Who are your mentors, tor-mentors, and anti-mentors? If you lack a personal role model, are there individuals from history or even fiction that you admire?
3. Take the personal Mirror test. When you look at yourself in the Mirror, as clearly as possible, without squinting, are you proud or ashamed of the worker that you see?
4. Take the professional Mirror test. When you peer at your profession in the mirror, do you feel that it is acting responsibly? And if the answer is negative, what are you doing about it? As French playwright Jean-Baptiste Molière famously declared, “We are responsible not only for what we do but for what we do not do.”

When it comes to the professional mirror test, there is no need to act alone. A society like the International Mind, Brain, and Education Society can provide an excellent sounding board for wrestling with the dilemmas and quandaries of the sort sketched here, as well as the ones that we may not be able to anticipate at the present time. No profession—not even law or medicine—arose instantly, like Athena from the head of Zeus (nor for that matter do professions necessarily endure indefinitely. As I suggested earlier, journalism is under considerable stress at the present time). Whether or not a profession endures, thrives, or dissolves depends, in the end, on the individuals—acting alone, in small groups, or corporately—who constitute the domain.

In this article, I have delineated some of the issues that confront an emerging domain like neuroeducation. Drawing on the GoodWork Project, I have proposed certain concepts and conceptualizations that may aid workers as they go about their critical and often complex tasks. Of help as well are the experiences of other newly emerging domains, as well as the inclusion in professional groups of individuals drawn from these neighboring domains. Finally, searching discussions over time, online and offline, of the kinds of dilemmas mentioned here may, at least at times, provide shafts of illumination in what may at times seem to be a dark corner of the soul.

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