Teaching and Learning: The Journal of Natural Inquiry & Reflective Practice

Volume 9 | Issue 2 Article 3

4-1995

Acquired Ignorance: An Education Virtue Revisited

Shari Tishman

Acquired Ignorance: An Educational Virtue Revisited

by

Shari Tishman

There is a strand of folk wisdom that teaches that there is virtue in ignorance, that ignorance, rightly wielded, is a kind of wisdom. Socrates is one of the more famous sources of this idea. According to the story of his life told on the occasion of his death sentence (*The Apology*), Socrates was informed by the Oracle at Delphi that he was the wisest man in all of Greece. Perplexed by this, Socrates traveled across the land, conversing with Greece's most accomplished citizens. He spoke with poets and playwrights, craftsmen and politicians, and observed that they were certainly knowledgeable. Yet they were oddly unaware of the limits of their knowledge. Socrates concluded that the meaning of the oracle must be this: among knowledgeable men and women he alone had the wisdom to recognize the breadth of his own ignorance.

Socrates' message notwithstanding, ignorance is typically thought to be a negative mental state–something to be avoided, and to avoid being charged with. It is construed as the enemy of learning, and in this role it can wear many cloaks. A standard dictionary definition of ignorance describes it as a state of being "destitute of knowledge," and schooling purports to try to rid our students of it. A recent analysis of the concept of ignorance in Western intellectual culture associates the term with such concepts as error, distortion, incompleteness, uncertainty, confusion, inaccuracy, ambiguity, and vagueness (Smithson, 1989).

This is strong stuff. But there is a still more negative sense of ignorance which associates ignorance with downright evil, or sin. For example, we often characterize racist or sexist acts as ignorant because they display a criminal lack of knowledge that yields morally wrong action. Following a classical line of thought that connects knowledge with goodness, the British scholar John Burnet argued that the relationship between sin and virtue is precisely that of the relationship between ignorance and knowledge (Burnet, 1923). Ignorance, in Burnet's strongly negative sense, is not simply a blank, passive state, it is a kind of activity. To ignore something is to turn away from it. Criminally ignorant people resist and close themselves off to knowledge; they are *willfully* destitute of it.

There is no question that such criminal ignorance exists. But its hallmark, the turning away from knowledge, is by no means always a bad thing. Socrates, for example, exhorts his students to resist and turn away from easy, superficial knowledge in order to better probe a truer reality beneath. There are other ways, too, that ignorance can be a positive force. In what follows, I try to explore the positive side of ignorance, especially as it relates to education. Working from a point somewhere on the continuum between cognitive psychology and philosophy of education, what I hope to show is that ignorance, rightly wielded, can include a variety of vigorous and positive mental activities, and that these activities can be powerful tools of learning. A closer look at the character of Socrates' ignorance serves to introduce these ideas.

Socrates' Ignorance

What is the nature of Socrates' self-proclaimed ignorance? It isn't that Socrates is simply ignorant of certain facts. Nor does he suffer from a general lack of knowledge about ways of the world or ways of the mind. Socrates' ignorance consists of a well-developed sensitivity to superficial knowledge, and an acute awareness of the inadequacy of most people's conceptions of what is true

and what is real. Socrates wields his ignorance as a tool with which to pester his friends with troublesome questions: What is justice, and how do you know? What is love, and where does it come from? What is reality, and who can see it? Socrates' ignorance is the engine that powers his perpetual inquiry machine.

Ignorance as an Activity

Ignorance is often construed as a passive and dull state. But it becomes an activity when it scratches at surface knowledge and mobilizes inquiry. What is noteworthy about the Socratic sense of ignorance just sketched is that it is *active*. Socrates' active use of his own ignorance vivifies inquiry, giving it energy and direction and momentum.

This notion of a kind of ignorance that is active and epistemologically vigorous is especially timely in education today. In the last few decades, scholars and educators have strained to overturn traditional conceptions of teaching and learning. Today's teachers are urged to go beyond a transmission model of teaching to become facilitators of learning and partners in inquiry. No longer need teachers feel obliged to be the founts and final arbiters of all knowledge in the classroom. No longer need we pretend there are no unanswered questions, no mysteries, no uncertainties and ambiguities in the intellectual heritage passed from one generation to the next. It is already a truism that education can no longer pretend to have all the answers. But the gap left by relinquishing this pretense needs to be filled with a new kind of value, a value that encourages us to honor and even increase what we don't know by actively envisioning the areas of our ignorance.

What does active ignorance look like in the classroom? Broadly, it includes any activity that develops or sharpens learners' conceptions of what they don't know about a topic or a domain. There are many such activities. Here is one example, taken from research recently conducted by my colleague, Albert Andrade.

A sixth grade class is beginning a course of study on the solar system. Instead of starting with a text or lecture, the teacher begins with a simple, but uncommon, activity: she asks students to brainstorm a list of questions about the solar system. Here are some of the students' questions:

- What is the difference between a planet and a star?
- Why is it called a system?
- How do the planets stay in orbit? (can they fall?)
- Is this the only solar system?
- If astronomers have been wrong before, how do we know that what they say now is right?
- If the sun gives off so much light, why is it dark in space?
- Why do teachers think it is important for us to learn about this?

Simple questions, for the most part. But by encouraging students to construct questions around what they *don't* know, the teacher helps students to use their ignorance as a tool of learning. The students' questions scratch at surface knowledge by asking for explanations (*If the sun gives off so much light, why is it dark in space?*), and by seeking justifications (*If astronomers have been wrong before, how do we know that what they say now is right?*). The questions mobilize inquiry by pointing to areas in need of explication (the orbit of planets, the difference between planets and stars). Instead of being a state destitute of knowledge, the students' state of ignorance about the solar system becomes fodder for intelligent inquiry. It is in this sense that ignorance is acquired. Students acquire a sharper conception of what they don't know by actively seeking and articulating puzzles and questions about the topic.

Ignorance and Understanding

The foregoing example strikes a positive chord. Perhaps too positive. It might be objected that such an activity is too learning-centered to be classified as an example of ignorance. True, these students seem to be learning something about the shape of the topic of astronomy. But that is exactly what I want the example to reveal: There is a sense of ignorance that *informs* our conception of what it means to understand something, rather than stands opposed to it. To see how this is so, let us look briefly at a conception of understanding that is compatible with, even enriched by, the conception of ignorance put forth here.

What does it mean to understand something? In recent years, many scholars concerned with education have argued that understanding is not simply the passive accumulation of information. It involves, as Jerome Bruner has put it, *going beyond the information given* to actively doing something with the knowledge you have–applying it to a new context, for instance, or justifying, exemplifying, or explaining it (Bruner, 1973; Perkins, 1992). In an initiative to develop a pedagogy for understanding that encompasses this insight about understanding's active and constructive nature, the psychologist David Perkins and his colleagues at Harvard University have defined understanding as the active, flexible use of knowledge (Perkins, 1992; Simmons, 1994). For example, to understand Newton's Laws means more than simply being able to recite them. It means being able to use them to do such things as give examples of them in action, predict the behavior of objects, explain why the laws work, or compare them to other laws in physics.

In a parallel sense, the positive sense of ignorance I have been discussing can be defined as the active, flexible use of *not*-knowing. As illustrated by the students' brainstorm of questions about the solar system, active ignorance means being able to *do* things with what you don't know, such as generate questions, identify puzzles, find problems, and identify promising paths of inquiry. Of course, in large part the goal of these sorts of activities is to increase understanding: problems invite solutions; questions beckon investigation. But, as Perkins and his colleagues have pointed out, deep understanding isn't an ultimate destination to which you arrive and then refuse to budge. It is an activity that proceeds by continually setting itself new questions and problems and applications. What scientist will tell you that there are no more questions to ask? What historian will tell you that there are no more mysteries to solve? What artist will tell you that there are no more challenges to pursue? Active ignorance is the dimension of understanding that looks for the unknown or uncharted areas of a domain.

Three Dimensions of Active Ignorance

What kinds of classroom practices cultivate understanding-through-ignorance? In broad stroke, they include any activities that urge learners to identify and more clearly articulate the parameters of what is not known about a topic or subject. Roughly, these activities will have at least one of the following dimensions.

1. Probing superficial knowledge. As suggested by Socrates' example earlier, one dimension of active ignorance involves resisting superficial explanations and seeking the deeper puzzles underneath. This is a dimension quite familiar to historians, who routinely scratch at surface portrayals of historical events to find the complexities behind them. For example, in a well-known set of critical thinking materials for teaching high school history, students look at several opposing firsthand accounts of who fired the first shot in the famous American Revolutionary War

battle at Lexington Green (O'Reilly, 1990). Each account "explains" what happened, but with a little digging, students discover a host of difficult and unanswered questions about the genuine causes of the event.

2. Building a conception of the dark areas of a domain. This dimension of active ignorance unpacks the truism that the more you know, the more you don't know. But it also stands it on its head: The more you learn the outlines of what you don't know about a topic, the more you understand it. Earlier we saw how the students who brainstormed questions about the solar system built a more vivid conception of the topic by identifying the areas that were dark to them. This sort of active ignorance is as fruitful in the arts and humanities as it is in the sciences. For example, recently Jane Gaughan (my colleague) and I conducted some research that involved asking students of different ages to examine a reproduction of the painting, *I and the Village* by Marc Chagall, and brainstorm several questions about it. Many students balked at the task, protesting that they didn't know anything about art. But we encouraged them to persist, and, as their attention turned to the colors and content and mood of the painting, their questions began to address such issues as the artist's intent, the problem of interpretation, the relationship of art to real life, and the complexities of color and form. By detailing what they *didn't* know about the painting (Why does the artist use these colors? Is the man in the painting dreaming of the future or the past? Why is he holding an olive branch?), students were building a more articulate conception of the kinds of issues that shape art in general, and painting in particular.

3. Problem Finding. We tend to associate knowledge and professional achievement with problem solving: The mathematician solves problems of numbers; the architect solves problems of space and design; the historian solves problems of evidence and interpretation. But in order for a problem to be solved, it first must be identified. In recent years, a wide range of studies in cognitive psychology have shown that *finding* problems plays an important role in creativity and innovation (Jay & Perkins, in press). Problem finding consists in finding inadequacies, shortcomings, and puzzles in one's current state of knowledge or perception. It is a kind of active ignorance because its focus is the search for what is not known (a problem), rather than a solution. That some people are particularly good at problem finding makes intuitive sense, and we have made a place of honor for problem finding in our folk psychology. Tea bag maxims advise us that a good question is as important as the right answer (asking questions is a kind of problem finding, because a question poses a problem of understanding). We enjoy stories of great moments in problem finding. For example, historians of science love to tell how Albert Einstein, one of the all-time great folk heroes of problem finding in science, imagined a team of physicists enclosed in an elevator constantly accelerating upward in empty space. He posed the problem of how the scientists could detect their upward movement, which led to an observation about gravity that is the cornerstone of general relativity (Barnett, 1957). But it is not just the single great moments of problem finding that count. In a classic study of art students, researchers found that students who spend more time in the problem-finding stage of making art–for example, by looking for unusual and problematic relationships among the objects they are drawing–tend to be more professionally successful years later than the students who were not active problem finders (Getzels & Csikszentmihalyi, 1976). Studies in other areas, such as writing and science, have produced similar results (Mansfield & Busse, 1981; Moore, 1990; Rostan, in press; Subotnik, 1988).

Clearly, the three dimensions of active ignorance just described often blend in a single activity. For example, brainstorming questions about a topic or object (e.g., the solar system or a painting by Chagall) is a kind of problem-finding activity, because a question is the expression of a problem of understanding. And it is also an activity that helps build students' conception of a domain, because the questions outline what is both known and not-yet-known about a topic.

Identifying the three dimensions is useful because it describes three ways that active ignorance can cleave to the development of understanding.

A Tradition of Ignorance

The notion of ignorance advanced in this paper takes liberties with the everyday sense of the concept, stretching and tugging at it to get at some important ideas about not-knowing. Yet it is also a familiar strain. For example, the three dimensions of active ignorance mentioned above are familiar from other perspectives on teaching and learning. Problem finding is a growing area of research in cognitive psychology (Runco, in press). Historically, philosophers from Plato to John Dewey have put forth conceptions of knowledge that include attention to the ongoing presence of question-generating and inquiry. Inquiry-based learning–an approach that emphasizes question-asking and problem-finding–has been urged by many educators in recent years.

Yet, despite these educational perspectives, the tradition of understanding-through-ignorance may be at risk in our glutted information age, an age in which the intellectual spaces for not-knowing–the spaces for questioning, for puzzling, for wondering–are often crowded out by the buzzing, electronic rush to accumulate information. There is an ancient talmudic saying that suggests a remedy: *Teach your tongue to say 'I do not know.'* Not-knowing–the right kind of not-knowing–does not always come naturally or effortlessly. It requires instruction. By designing instruction that emphasizes the three dimensions of active ignorance–probing superficial knowledge, identifying the dark areas of a domain, and problem finding–perhaps we can reacquaint our students with this educational virtue.

References

Barnett, L. (1957). *The universe and Dr. Einstein*. New York: Bantam Books.

Bruner, J. S. (1973). Going beyond the information given. In J. Anglin (Ed.), *Beyond the information given*, pp. 218-238. New York: Norton.

Burnet, J. (1923). *Ignorance*. Oxford: The Clarendon Press.

Getzels, J. W., & Csikszentmihalyi, M. (1976). *The creative vision: A longitudinal study of problem finding in art*. New York: Wiley.

Jay, E., & Perkins, D. N. (in press). Creativity's compass: A review of problem finding. In M. A. Runco (Ed.), *Problem finding, problem solving, and creativity*. Norwood, NJ: Ablex.

Mansfield, R., & Busse, T. (1981). *The psychology of creativity and discovery: Scientists and their work*. Chicago: Nelson-Hall.

Moore, M. T. (1990). Problem finding and teacher experience. *Journal of Creative Behavior, 24*(1), 39-58.

O'Reilly, K. (1990). *Critical thinking in United States history: Colonies to constitution*. Pacific Grove, CA: Critical Thinking Press and Software.

Perkins, D. N. (1992). *Smart schools: From training memories to educating minds*. New York: The Free Press.

Rostan, S. (in press). Problem finding, problem solving, and cognitive controls: An empirical investigation of critically acclaimed professional productivity. *Creativity Research Journal*.

Runco, M. A. (Ed.) (in press). *Problem finding, problem solving, and creativity*. Norwood, NJ: Ablex.

Simmons, R. (1994). Dusting the television: Teaching for understanding. *Harvard Graduate School of Education Alumni Bulletin, 39*(1), 13-15.

Smithson, M. (1989). *Ignorance and uncertainty: Emerging paradigms*. New York: Springer-Verlag.

Subotnik, R. F. (1988). Factors from the structure of intellect model associated with gifted adolescents' problem finding in science: Research with Westinghouse Science Talent Search winners. *Journal of Creative Behavior, 22*(1), 42-54.