CHAPTER 19

Educating Adolescents

The prolonged schooling of modern Western societies has posed special challenges for the education of adolescents, that is, those people who are neither children nor adults. Conventional approaches and structures (e.g., begin with the known, the local, the concrete) have been demonstrably unsuccessful, yet continue to be regularly employed. In this chapter Kieran Egan advocates dramatically different strategies based on examining what actually engages the imaginations of adolescents (e.g., electronic games, MTV videos, Archie comics) and adapting some of the same tactics in efforts to educate young people.

His inventory of tools takes advantage of adolescents' keen interest in figuring out who they are and how they fit into their social world. Their particular interest in narrative, for instance, is partly due to the capacity of story to fix emotional meaning, and helps insecure adolescents learn how they should feel about important events. Their vulnerability in the face of daunting futures is relieved somewhat by associating themselves with personalities who embody the very heroic qualities that trump reality (athletes, movie stars). Egan is concerned that we remember that "all knowledge is human knowledge" and that "education is very largely a realm dominated by values and meanings." Attempts to educate adolescents need to take these considerations into account.

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Human beings adapt with astonishing fluency to social environments in their early years. We are born programmed to harmonize ourselves with any of an indeterminate range of social conditions and varied belief systems that ensure our solidarity with the group. Looking casually at the huge variety of human cultures, it is clear that children can be persuaded to believe almost anything; any story, however bizarre, which purports to explain their circumstances is acceptable, and usually continues to be believed till the individual's death. So people may believe that the Earth is a disc resting on the back of a huge turtle, supported by elephants. (An earthquake? The turtle shifted.) Or they may believe that the Earth is a vast orb spinning in space and racing around a distant star called the Sun. Whatever is believed, events are interpreted in terms of the stories that assert these accounts of origins, current conditions, and future likelihoods. Think of the vast number of such accounts of the world that have been told to children in the past and are told now. In the process some of our indeterminate range of mental capacities are evoked and stimulated, and others are suppressed or left dormant. This harmonizing, and homogenizing, goes on through our lives, though we are evolutionarily prepared for it to be most active and plastic in our earliest years.

Largely because of our odd cultural developments, especially literacy and all it has led to, we experience a further complex and more muted period of harmonizing, and homogenizing, during adolescence. Our ancestors exploited language and literacy for various purposes, generating our cultures, and they have deposited in our cultural history the results for us to pick up and use in our own present cultural lives—in our sense-making and intellectual engagements. Following Lev Vygotsky's elaborated description of how this process has occurred,[1] we may see these cultural deposits as tools, which we can pick up and use to enlarge our understanding and power to deal with the world we find ourselves in. They exist as cultural tools and once we pick them up and incorporate them into our mental lives they can become for each of us cognitive tools.

One way to try to take a somewhat new look at the education of adolescents is to attend to some of the more prominent cognitive tools evoked and stimulated by their typical interactions with the cultural

world around them, and with the cultural tools it proffers to them and energetically invites them to internalize as cognitive tools.

Education sometimes has competing aims with the powerful processes of socialization—fitting students to society's current vocational requirements can often conflict with education's purpose to enlarge individuals' potentials as much as possible. Socializing requires homogenization of individuals where education seeks to stimulate distinctness. But that doesn't mean both processes may not use the same cognitive tools in achieving their ends. Learning to fit in with a gang or Second Life may require some of the same tools as learning to find geometry or history meaningful. In the abstract, identifying the array of cognitive tools most energetically used by adolescents in their everyday engagements with pop culture might seem a little implausible as an approach to reconsidering methods of teaching and the curriculum for them. But we are not generally doing so wonderfully well at educating adolescents at the moment, and our underwhelming achievement might justify a somewhat unconventional approach.

Some Cognitive Tools of Adolescents

We can begin this approach by examining what seems to engage adolescents spontaneously in energetic learning. Consider Facebook and Second Life, complex online interactive games, Archie comics, MTV and the TV shows and movies that appeal to adolescents, their pop and sports heroes, their collections and hobbies, their iPod playlists, and so on. (Yes, some of us have put in many hours scrutinizing Archie comics, analyzing their appeal. There should be special awards for this kind of research.) We can begin by making an inventory of some of the cognitive tools that are evident in these engagements. Having made our inventory, we can explore how we might use these tools to educate more effectively.

Before beginning on the inventory, it might be worth making a point about this procedure. Quite commonly, when educators observe the spontaneous engagements of adolescents, the educators express regret or disapproval or shame at how the educational intents of the school seem to do so little to educate tastes or interests—is all that effort at teaching about feudalism, Shakespeare, that interior opposite angles are congruent, and all the rest as nothing in the face of rock videos? But educators have the choice of regretting this and railing against what they consider the egregiously bad features of pop culture or of

examining these phenomena and seeing what can be learned from them. What I am after is not some way to make education more entertaining—though I can't think why we should regret this if we could manage it—but rather exploring what engages the imaginations of adolescents so that we might better discover how to design our lessons and curricula to show how we might also engage them with something more substantial.

An Inventory of Adolescents' Learning Tools

Electronic games, Archie comics, MTV videos and the like share a number of prominent characteristics. They incorporate flexible narratives; they are full of characters with heroic or dramatic qualities; there is commonly a significant accumulation of detailed knowledge (even if only about pop stars' lives, clothes—or lack thereof—and the rules of complex gaming environments); protagonists' emotional lives are prominent; they constantly supply emotionally charged images; and, for the most part, they involve exotic environments that push, or exceed, the limits of reality. (Even the Archie comics inhabit a strangely unreal world, somewhat reminiscent of the more explicit oddity of Rupert Bear's exotic environments.) Let's look at some of these in a little more detail.

Narrative

What role does narrative play in adolescents' imaginative engagements? Narratives and stories are distinct forms of language that have beginnings, middles, and ends. That they have determinate ends gives them a unique power: they can fix the emotional meaning of the events that make them up. When you hear a story, you know you have reached the end when you know how to *feel* about its constituent elements. If you hear that the beautiful young woman, normally kept doing demeaning work by her rich and cruel relations, is suddenly enabled to go to a ball on the condition that she return by midnight, and loses a shoe as she runs from the prince's arms hearing the clock begin to strike, and so on, you know that the end of the story is not at that point, nor at the point when the prince finds that the shoe doesn't fit any of the young women in the kingdom. Finally Cinderella is brought forward, and the prince recognizes her and they marry. You then know how to feel about all the events that make up the story. Without a satisfactory end—as we don't have for life and history—events are just "one damn thing after another." We give them provisional meaning by trying to fit them into

a story, because the story form can fix their emotional meaning for us. That desire for security of feeling about events is why the story is ubiquitous in all human cultures, and why it is so vividly present in the imaginative engagements of adolescents.

So a narrative context within which knowledge is set can establish its emotional importance, and thereby engage our imaginations, while also conveying the knowledge. This principle can be used for the structuring of an electronic game, a comic story, a rock video, or a lesson designed to teach and engage students' imaginations in physics, mathematics, history, or literature. As the designer of the electronic game works to make the cultural tool of narrative or story structuring fit the medium, so can the educator. Using such a principle to plan a lesson on eels in seventh grade science, for example, will lead us to begin with a mystery or puzzle (for millennia people had fished for and eaten eels but no one had ever found a pregnant one), elaborate it (the various theories about where eels came from), associate it with some heroic figure who solves the puzzle (Johannes Schmidt in the early twentieth century) and exposes in the process all the knowledge we need to convey to successfully teach about eels (see a lesson plan based on this principle here: http://ierg.net/lessonplans/unit_plan.php?id=35).

We do not need to make our lessons into stories in the fictional sense, but rather in the common sense in which we talk about the story of the fire downtown or the bridge collapse or the war on drugs. That is, narratives can be true equally easily as they can be fictional, and the task for the educator is to work out how to shape the content of lessons into narratives. By doing so one need in no way falsify the knowledge one wants the students to learn, but one does have to think how to shape the knowledge to engage students' imaginations and emotions in it. This may seem hard only because we in education have spent so long ignoring the importance of such an obvious principle, focusing instead on organizing content and concepts in ways that pay little attention to the cognitive tools with which students can most effectively learn.

Heroic Characters with Dramatic Qualities

The electronic games, movies, rock videos, pop star websites and "fanzines" that attract adolescents in huge numbers commonly involve heroic characters with dramatic qualities. That is, the adolescent is invited to associate with the transcendent human qualities the hero is presented as embodying—power, wealth, courage, cleverness, strength, skill, whatever. This easy association with those heroes is a cognitive tool that enables us to overcome some of the threat of alienation

involved in the new reality adolescents find themselves among. By associating with those things or people that have heroic qualities we gain confidence that we too can face and deal with the real world, taking on the qualities to which we resonate.

As the pop star's image manager situates the star to represent particular heroic qualities, so we can imbue any aspect of reality with similar heightened importance. Science and Social Studies are full of heroes, or people who represent heroic qualities. It is not hard to shape our lessons to show the knowledge we want students to learn through the heroic qualities of its initial inventors or through people today who give that knowledge a living meaning. Learning about the use of the semicolon becomes much easier if we show what its inventor, Aldus Manutius, used it for and why he found it useful. Well, he found it useful for the same reason that we still do. It allows us a more subtle way of reflecting what we mean in texts, indicating breaks and pauses that are less abrupt than the full stop, yet more potent than the comma. It sets off one statement against that which precedes the semicolon, to give both a more nuanced meaning. By embedding the knowledge in some small and dramatic details of Aldus Manutius's life, we can show the knowledge more engagingly. Or, to revert to the previous example, seeing the details of the life-cycle and structural characteristics of eels through the astonishing adventures of Johannes Schmidt, who tracked them down and studied them, supplies drama, as well as an association with ingenuity and persistence that brings out the inherent meaning of the facts.

The whole curriculum is made up of knowledge invented or discovered or used by heroic people, often in dramatic circumstances. And the heroic qualities can also be associated with things—the tenacious weed on the rock face, for example. In no way is our effectiveness in teaching diminished when we display knowledge in the context of the heroic characteristics that give it vivid meaning and engage students' imaginations as they exercise this cognitive tool in their learning experience. Sometimes it seems as though the classroom is a place for doing the opposite—stripping knowledge of its human context and human meaning. The condition of the normal classroom is one in which all those things that John Goodlad years ago described as filling at least half of the time each student spends in class with boredom[2] still commonly prevail: preparations for some activity, readying students for tests, waiting for others to finish a task, listening to things the student already knows or doesn't understand. And all the while, meaning, emotional and imaginative engagement with knowledge, fail to kick in. By

attending to the heroes that should throng the daily life of adolescents in school we can make the content we wish to teach as dramatic and imaginatively engaging as it really is.

Exotic, Strange, Extreme, Wonderful Features

If we look at the kinds of things that engage adolescents' interest spontaneously, we find the exotic and strange, the extremes of reality and human experience. Yet part of the odd folklore of educational textbooks is that students need to have any new knowledge connected with what they already know. "Begin with what is familiar to the student" is a principle that has contributed not a little to making classrooms duller. It is also a principle that flies in the face of what is blindingly obvious if one looks at what actually engages adolescents most readily. It isn't the material of their everyday experience that engages their imaginations, it is the exotic and extreme. Students' interests are first caught up by the most terrible and courageous events, not the most familiar.

We can recognize this kind of material from sensational newspapers and TV shows. The ten- and eleven-year-old girls I know are interested in spies, vampire-slayers, and seriously weird pop stars, and the boys are into superheroes, supernaturally inarticulate sports stars, and creatures from outer space. Both really want to know who had the longest fingernails ever, what is the most colorful worm, and that for every human being on the planet there are 200,000,000 insects, give or take, and about twenty-six billion insects per square mile. Extreme sizes of body parts are also big interest generators.

Everything we teach, every topic in the curriculum, has its own limits and extremes, its own exotic and bizarre elements. Again, drawing on these to shape our teaching is not to seek to entertain rather than educate—it is, rather, a crucial aspect of education, engaging students in the wonder that underlies the dull surface of so much of the content dealt with in classrooms. It provides us with a cognitive tool that brings out what is truly extraordinary in the world for adolescents. It enables us to focus on any aspect of the world around us, or the world within us, and see its particular uniqueness. We can turn this sense of wonder on to anything, recognizing the wonderful in every feature of the world. This tool can provide the gift that allows us to recognize something wonderful behind even the most routine and taken-for-granted things. The starting point of all science and all inquiries is "I wonder . . ."

Accumulation of Details

Nearly all young people begin a hobby or a collection at about age seven. The activity reaches a peak of intensity at about age eleven, and usually dies out at about age fifteen. You wouldn't guess this from reading educational textbooks. That is, you would get no clue about one of the near-universal and intense spontaneous intellectual engagements of young people during those years. What is going on? Why do nearly all students engage in this kind of activity? Don't look at educational texts for an answer. One of the most recent studies of the collecting instinct that I can find was conducted by Carolyn Frear Burke—in 1907. How can an enterprise like education fail to attend to something so obviously important to its concerns? Only if driven by theories that direct its attention away from such phenomena can such craziness persist.

So what is going on? Why do we see this powerful spontaneous intellectual engagement in nearly all children? An adequate explanation is beyond what I can manage here, or anywhere, but we can see it as a response to young people's orientation to reality. Santa Claus and the tooth fairy have been left behind, and the real world is worryingly extensive. One way we can achieve some security is to gain exhaustive intellectual control over some part of it.[3] Commercial interests, of course, are very alert to this engagement, and so they produce sets of collectible objects that have the twin requirements of being moderately extensive but also limited and exhaustible.

We can draw on this cognitive tool when teaching almost anything. All topics have within them some area of knowledge that is both moderately extensive and also exhaustible. Often teachers involve students in a "project" which might be an elaboration of some general topic being studied. It might sometimes have the features required, but usually won't. The key is that "exhaustibleness"; the teacher needs to find something—often something quite arcane will do well—that the student can explore in detail and come to know all there is to know about it, or, even if they don't learn all there is to know, they come to grasp the limits of the knowledge that exists about it. That is, it can feed their need for security that the world is not limitless and they are, consequently, not infinitely insignificant. Studying eels in the manner suggested above, a student might be given the task of discovering the changes eel larvae go through as they float on the ocean currents after leaving the Sargasso Sea, or what determines the sex they fix on after the changes they go through in the larval stage. The more collection-like or

hobby-like the topic, the better it will feed this need and stimulate the further development of this cognitive tool.

Conclusion

Education's thralldom to psychology during the past century has had few obvious benefits and a number of clear deficits. One of the deficits lies in the kind of categories in which educators have been encouraged to think when planning teaching and learning, and the kind of principles those categories have yielded. So we have a set of principles—"start with what the child knows," "begin with the concrete and move to the abstract," "young children's perceptions override conceptions," and so on—that are in a language derived from psychological concerns, leaving the educator to discover pedagogical guidance from them. It seems to be taken for granted that psychological theories yield implications for education, and we have seen huge programs concerned with applying them to practice. None of these programs has shown any systematic improvement in educational practice. This should be unsurprising, as psychology's concerns are not education's concerns. In particular, central to education's interests is engaging students' imaginations in learning, and also engaging their emotions with the content of the curriculum. Because of the thralldom to psychology, these centrally important issues have received scant attention. My intention in the brief discussion above is to suggest that even small attention to these issues promises large returns for educational practice.

The categories I have looked at briefly above are derived from material that—we can patently see—succeeds in engaging students in avid learning. They are—some of them—rather odd categories in educational discourse: emotive images, heroic characteristics, the exotic and extreme. These "cognitive tools," though largely unfamiliar in educational discourse, are seemingly well calibrated to education's needs, and especially the need to engage the imaginations of adolescents in learning about and engaging with the wonders of the world about them.

This approach is based on the principle that "all knowledge is human knowledge; it grows out of human hopes, fears, and passions. Imaginative engagement with knowledge comes from learning in the context of the hopes, fears, and passions from which it has grown or in which it finds a living meaning."[4] Education is very largely a realm dominated by values and meanings, and we have tried to avoid these problematic matters by pretending that we have a science and

methodology that will yield us answers to our questions about how best to educate. That we relinquish this patent illusion is long overdue.

NOTES

1. L.S. Vygotsky, *The Collected Works of L. S. Vygotsky, vol. 3: Problems of the Theory and History of Psychology*, ed. Robert W. Rieber and Jeffrey Wollock (New York: Kluwer Academic/Plenum, 1997).

2. John Goodlad, *A Place Called School* (New York: McGraw-Hill, 1984).

3. For a fuller, but still inadequate, account see Kieran Egan, *The Educated Mind: How Cognitive Tools Shape Our Understanding* (Chicago: University of Chicago Press, 1997), ch. 3.

4. O. Tyers, *A Brief Guide to Imaginative Education* (Burnaby, BC: Faculty of Education, Simon Fraser University, Imaginative Education Research Group, 2006), 1.