Teaching Current Directions in Psychological Science

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Aimed at integrating cutting-edge psychological science into the classroom, Teaching Current Directions in Psychological Science offers advice and how-to guidance about teaching a particular area of research or topic in psychological science that has been the focus of an article in the APS journal Current Directions in Psychological Science. Current Directions *is a peer-reviewed bimonthly journal featuring reviews by leading experts covering all of scientific psychology and its applications and allowing readers to stay apprised of important developments across subfields beyond their areas of expertise. Its articles are written to be accessible to nonexperts, making them ideally suited for use in the classroom.*

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Why Preschoolers Sometimes Learn Better Than Their Parents Do

By C. Nathan DeWall

Gopnik, A., Griffiths, T., & Lucas, C. (2015). When younger learners can be better (or at least more open-minded) than older ones. *Current Directions in Psychological Science, 24*, 87–92.

Connie is a successful executive who enjoys taking her 4-year-old son, Eli, to the park. She gets to run, slide, and swing with him. He gets to burn up energy. But Connie frequently feels befuddled: At the park, Eli learns some things, such as why kids prefer the monkey bars to the slide, better than she does. At work, Connie feels confident making decisions that involve millions of dollars and thousands of employees. But that confidence dissolves when she and Eli arrive at the park. Confusion settles in, and Connie questions why her 4-year-old son learns things more easily than she does.

Connie should not worry, according to research by APS Fellow Alison Gopnik, APS Fellow Thomas L. Griffiths, and Christopher Lucas (2015). Younger people outperform older people when they learn unusual cause-and-effect relations. For example, try to explain why a brother and sister at the park like playing on the monkey bars but both avoid the slide. Most Western adults, who have a hankering for

explaining causes as due to individual traits (Kelley, 1967), flunk the test. “They’re anxious kids,” the adults usually say. A 4-year-old, by contrast, will do a better job than the adults at seeing that something situational caused the kids to approach the monkey bars and avoid the slide. “The slide is scary,” they say.

Why do kids tend to learn unusual causal principles better than adults do? Gopnik and colleagues offer two possible explanations. The first is that young kids aren’t encumbered by lots of life experiences. Young Eli, described above, is attuned to situational factors because, unlike his mother, he has not acquired a lot of knowledge about how the world works. The more knowledge we gain, the less open we are to learn new things. Old dogs learn new tricks, but sometimes it is easier to work with a puppy.

Young children also use their underdeveloped minds to their advantage. Their minds, compared with the average adult’s, are more flexible and exploratory. Just ask a 4-year-old to generate possible uses for a brick, which is a common measure of creativity (Leung et al., 2014). Chances are the kid will outperform an adult. The major downside to cognitive flexibility and exploration, however, is that children aren’t concerned with thinking efficiently: They, however, simply go with what captures their interest.

To bring this cutting-edge research to the classroom, Gopnik suggests the following three activities:

Activity #1: Watch That Child

Students enjoy watching small children act goofy. But the closer we look, the more those silly behaviors tell a meaningful story about why small children sometimes learn better than their parents do. “I use a spontaneous videotape of a child — lately of my grandson — to make the point that you can see this sort of variable search-and-experiment in pretty much any child chosen at random,” Gopnik says. “It’s very compelling for students to discover this themselves as they watch a child playing.”

Ask students to form pairs and use their smart devices (e.g., phones, tablets, laptops) to find short videos of small children playing. Next, have students watch 4 minutes of video footage. Finally, ask students to discuss how much they observed the small children doing well at learning unusual cause-and-effect relations. Did they outperform others in the video? Would they outperform the average college student? Why?

Activity #2: Explanation Break

Have you ever noticed that your students focus on specific facts more than on broad themes? To help her undergraduates broaden their perspectives, Gopnik asks them to pause and think like small children. Recall that young children lack experience that may clog their minds with burdening details. The result is a broadened perspective that can promote insight and creativity. “Students have to stop and explain a point in lecture to their neighbor,” she says. She bases this activity on “the data in kids [showing] that explanation leads to broader hypothesis search.” The next time you want to motivate students to generate deeper understanding of lecture material, ask them to explain part of it to another student.

Activity #3: A New Way to Approach College

In the final activity, Gopnik's research helps students consider a tradeoff in how their classmates approach college. With college becoming a more competitive environment, students have become hyperfocused on reciting information their professors give them. The downside, Gopnik says, comes when students become "disconcerted and even anxious when [their professors] try to get them to creatively search [for] alternatives in the playful way that kids do."

Instructors can ask students to consider the costs and benefits of each learning strategy. When might students benefit from reciting what faculty members tell them? When might it undermine their learning? When students think of the most successful people of the past century, would people characterize them as those who simply recite what others tell them? Or do the high achievers constantly search for creative alternatives to problems?

We don't trust small children to cut our hair, pay our bills, or drive our cars. Sometimes their most dependable quality is their lack of dependability. But small children can teach us a lot about how to learn. Their innocent, playful approach to life helps them learn about unusual causal relations. By embracing a child's perspective, adults may have an easier time learning new information. At the very least, we can feel more confident when we play with our child at the park.

Feeling Good Before and After Doing Bad

By David G. Myers

Shalvi, S., Gino, F., Barkan, R., & Ayal, S. (2015). Self-serving justifications: Doing wrong and feeling moral. *Current Directions in Psychological Science, 24*, 125–130.

Imagine a young executive visiting home. To show her father how well she is doing, she takes him to an expensive restaurant. She records the dinner as a travel expense, telling herself, "My Dad always has sage business advice."

In such ways, note Shaul Shalvi, Francesca Gino, Rachel Barkan, and Shahar Ayal (2015), people will engage in intentional unethical behavior, yet appraise their morality highly. They will do wrong while feeling moral.

Before explaining *how* people justify their indiscretions and transgressions, instructors might invite students, perhaps in small groups, to brainstorm other examples of people "doing wrong while feeling moral" — or of people on opposite sides of a destructive conflict each feeling *their* side is the moral side. Examples might include:

- *telling untruths* — from self-serving exaggerations to face-saving fibs to outright lies.
- *petty thefts* — from taking office supplies home ("I'm underpaid and this won't be noticed") to underreporting taxes ("Everyone does it").
- *cheating* — for a "good" end, such as getting good grades to get into medical school to help people.
- *justifying inequality* — wealthy people are more likely than those in poverty to see people's fortunes as earned outcomes, thanks to skill and effort, and not as the result of having

connections, money, and good luck (Brown-Iannuzzi, Lundberg, Kay, & Payne, 2015; Kraus, Piff, & Keltner, 2011).
- *myside bias* — from the US Civil War to today's struggles in the Middle East, both sides in a conflict may presume that God (and righteous morality) is on their side. Even positive thinker Dale Carnegie (1936) recognized the danger of self-justifying morality: "Each nation feels superior to other nations. That breeds patriotism — and wars."

As an additional class resource, Rachel Barkan (2008) has offered her Multi-Aspect Scale of Cheating (MASC) for class use. The scale's three parts offer examples of commonplace daily lies and of ethical dilemmas and excuses.

Students might next be invited to identify psychological principles that help explain the doing-wrong-while-feeling-moral phenomenon. Familiar examples might include

- *self-serving bias:* People remember, perceive, and justify their actions in self-enhancing ways. One national survey asked, "How would you rate your own morals and values on a scale from 1 to 100 (100 being perfect)?" Fifty percent of people rated themselves 90 or above; 11 percent said 74 or less (Lovett, 1997).
- *bolstering self-esteem:* Self-esteem motivation helps fuel self-serving bias. Seeking self-affirmation, people use various strategies to enhance their self-image (Sedikides, 1993). "The head is an extension of the heart," noted Daniel Batson (2006).
- *self-justifying dissonance reduction:* Doing bad things while thinking oneself moral creates internal dissonance, which can be reduced by justifying one's actions. When we act, we amplify the idea underlying our action, especially when feeling some responsibility. After delivering false electric shocks to a hapless victim, people later disparage the victim.
- *groupthink:* One hallmark of group-influenced fiascoes has been an unquestioned belief in the morality of one's group, supported by rationalizations of the rightness of one's actions and the evil of one's opponent.
- *just-world thinking:* If, as we teach children, good is rewarded and bad is punished, then in this just world, those who succeed must be good and those who suffer must be bad. Just-world thinking enables those who exploit others to see their own good fortune, and others' misfortune, as justly deserved.

From their work in the new field of *behavioral ethics*, Shalvi and his colleagues note that self-serving justifications of skewed ethical behavior may occur either *previolation* or *postviolation.*

Previolation justifications include situations with some *ambiguity* (e.g., experiment participants misreporting which roll of the die had the highest number in order to collect more pay), situations that enable *self-serving helpfulness* (e.g., a partner will also benefit from one's white lie), and situations in which a recent prosocial act gives seeming *moral license* to a transgression.

Postviolation justifications include *cleansing* (physical cleaning or penance to redeem oneself), partial *confessing* (enabling oneself to feel some dignity without bearing the full consequence for a wrongdoing), and *distancing* (putting one's wrongdoing in the past and judging others' immoral behavior more harshly).

There are few more important psychology lessons than the everyday power of self-justification. “For anyone seeking to behave more ethically or encouraging others around them to do so,” note Shavli and his coauthors, “acknowledging the power of justifications in shaping our self-serving perceptions is a key. Taming our drive to justify our behavior may be the path to ethical conduct.”

No Free Lunch? Do Decision Making and Category Learning Require Careful Thought?

By Cindi May and Gil Einstein

Newell, B. R. (2015). “Wait! Just let me *not* think about that for a minute”: What role do implicit processes play in higher-level cognition? *Current Directions in Psychological Science, 24,* 65–70.

Chocolate or vanilla? Cup or cone? Some decisions are fairly simple. Others, like selecting an apartment, are more complex — in part because we have to simultaneously consider several different attributes like rent, location, and number of bedrooms. But it’s more than the number of attributes: Different attributes may not carry the same weight, and options do not always permit an apples-to-apples comparison — for example, the choice between a two-bedroom, two-bath condo with a fitness center or a two-bedroom, one-bath condo with a washer/dryer.

Whether you are choosing an apartment or learning how to detect tumors on an X ray, recent evidence suggests that you will be more successful if you disengage your deliberative, analytic thought processes and let your unconscious mind take over (e.g., Dijksterhuis, 2004; Filoteo, Lauritzen, & Maddox, 2010).

In a typical study examining the “unconscious thought advantage,” or UTA, participants must make a complex decision like choosing a car. They first view attributes for different cars and then are (a) given time to deliberate carefully, (b) asked to complete a distracting task like a crossword puzzle, or (c) forced to decide immediately. Performing the puzzle presumably distracts the person’s less capable conscious processes and allows his or her superior unconscious processes to make a better decision. Many studies indicate that participants who are given the distracting puzzle task are more likely to select the optimal choice relative to participants in the other two conditions.

As appealing as UTA might be, Ben Newell (2015) cautions that a careful analysis of the evidence suggests that disengaging effortful thought does not necessarily aid performance. Instead, optimal functioning occurs when people have time to think and can focus on a single task. Newell identifies three potential weaknesses in the argument for UTA: (a) methodology, (b) replicability, and (c) predictive value.

His approach offers the perfect opportunity to highlight the ways in which scientific theories are scrutinized and refined.

Methodology

To engage students in a critical analysis of UTA, instructors might ask students to think about their choice of colleges. Ask students to write down the factors they considered when selecting a college (e.g.,

in- versus out-of-state, size of school, etc.), and then reflect on how they made their decisions. Did anyone make a list of pros and cons for each school? Or create a spreadsheet to compare the schools?

Expand the discussion to include other complex decisions (e.g., buying a smartphone) and highlight the fact that companies often will develop visual matrices that allow easy comparison of their products to others (for great examples, search Android phones vs. iPhones). So in real-world settings, complex decisions are often made after a fairly extensive review of data, with side-by-side comparisons.

How is decision making assessed in the lab? Newell notes that in many of the UTA studies on decision making, attributes for the different options are presented sequentially and in random order (preventing side-by-side comparisons), and the attribute information generally is not available during deliberation. Further, participants are instructed to deliberate for a specific period of time, rather than determining their own end point. Using consistent deliberation times across conditions allows experimenters to rule out time as the essential determinant of performance, but these procedures obviously differ from real-world settings. At the very least, the controlled timing and lack of side-by-side comparisons pose challenges for the ecological validity of UTA studies, and may bias the outcomes against deliberate thought processes.

Replicability

Instructors may want to emphasize that a hallmark of any valid scientific finding is replication. It also is worth explaining to students that it can be difficult to publish a failure to replicate, especially if the failure involves a null effect. Null effects are difficult to interpret, and journals are reluctant to publish ambiguous results.

Despite this publication bias, there are published studies that show no advantage for decisions that follow a period of distraction (e.g., Newell & Rakow, 2011; Newell, Wong, Cheung, & Rakow, 2009). Whereas a failure to replicate doesn't necessarily invalidate a finding, it suggests that there may be important boundary conditions for the effect. For example, UTA may be found only when participants are not able to engage in side-by-side comparisons of the pros and cons for each alternative prior to making a decision. Students might examine the methodology across studies to discern possible boundary conditions for UTA.

Predictive Value

Encourage students to consider the implications of UTA and make predictions about performance. Ask students to consider this scenario: Some people have a high working-memory capacity and can remember 10 digits and repeat them in backwards order. Others have a low working-memory capacity and can only remember and repeat 4 digits in backwards order. If the UTA is real and we can rely on our unconscious processes rather than working memory to succeed, should working-memory capacity predict performance in a complex learning task? No. People with low working-memory capacity should be as good as those with high working-memory capacity whenever unconscious processes mediate performance, but data do not bear out this prediction. In a study by Lewandowsky, Yang, Newell, and Kalish (2012), the best learning performance was associated with high working-memory capacity.

These criticisms of UTA make us reconsider the need for analytic processing in complex cognitive tasks, but the debate concerning UTA is far from over. That fact may be dissatisfying to students, who often crave a simple and definitive answer from science. The value of the work of Newell and colleagues lies in the understanding that the truth is often complicated, and at least in some circumstances, that complexity requires careful, analytic thought.

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