Open Your Class with This Tomorrow
Mindware: Tools for Smart Thinking

Activity 1: Classroom Examples
Do you need more examples? Perhaps you are tired of using that same old example or the one in your textbook. Try these new examples in class, during a student discussion, or on an assessment. Some basic examples and experiments have been provided. This may be a wonderful opportunity to review the scientific approach and terminology with your students.

Schemas

1. Examples: house, family, civil war, insect, fast food restaurant, fancy restaurant
2. Trait Experiment
    a. Introduce participants to trait words
        i. Half the group was shown: “self-confident, independent, adventurous, and persistent” among ten trait words.
        ii. Half the group was shown: “reckless, conceited, aloof, and stubborn” among ten trait words.
    b. Read the following paragraph and rate Donald on a number of traits
        i. Donald spent a great amount of his time in search of what he liked to call excitement. He had already climbed Mt. McKinley, shot the Colorado rapids in a kayak, driven in a demolition derby, and piloted a jet-powered boat- without knowing very much about boats. He had risked injury, and even death, a number of times. Now he was in search of new excitement. He was thinking, perhaps he would do some skydiving or maybe cross the Atlantic in a sailboat. By the way he acted one could guess that Donald was well aware of his ability to do many things well. Other than business engagements, Donald’s contacts with people were rather limited. He felt he didn’t need to rely on anyone. Once Donald made up his mind to do something it was as good as done no matter how long it might take or how difficult the going might be. Only rarely did he change his mind even when it might well have been better if he had.
    c. The paragraph was meant to be ambiguous. The first task was meant to reduce the ambiguity and shape the readers’ judgements of Donald.
        i. Seeing the words “self-confident, persistent” resulted in a generally favorable opinion of Donald. Those words invoked a schema of an active, exciting, interesting person.
        ii. Seeing the words “reckless, stubborn” triggered a schema of an unpleasant person concerned only with his own pleasures.

Stereotypes

1. Examples: introvert, party animal, police officer, Ivy Leaguer, physician, cowboy, or priest. Usually a stereotype is a negative word, but there could be trouble if we treated physicians the same as police officers or introverts the same as extraverts.
2. Princeton Experiment on Stereotypes
    a. Participants watch a video about a 4th grader named Hannah
        i. One version of the video: Hannah's parents were reported as professional people and showed her playing in an obviously upper-middle-class environment.
        ii. Other version of the video: Hannah's parents were reported as working class and showed her playing in a run-down environment.
    b. The next part of the video showed Hannah answering 25 academic achievement questions dealing with math, science, and reading. Hannah's performance was ambiguous: she answered some difficult questions well but sometimes seemed distracted and got easy questions wrong.
    c. Researchers asked participants how well they thought Hannah would perform in relation to her classmates
        i. Students who saw upper-middle-class Hannah estimated she would perform better than average.
        ii. Students who saw working-class Hannah assumed she would perform worse than average.
    d. Knowledge of the social class influenced the decision.

Framing

1. Examples: undocumented worker vs. illegal alien, freedom fighter vs. terrorist, inheritance tax vs. death tax, 75% lean vs. 25% fat, condom has 90% success rate vs. 10% failure rate
2. Amos Tversky Experiment
    - Physicians were told of 100 patients who had surgery, 90 lived through the immediate postoperative period, 68 were still alive at the end of the year, and 34 were still alive after 5 years.
        - 82% given this info recommended the surgery
    - Physicians were told of 100 patients who had surgery, 10 died during or after surgery, 32 died by the end of the year, and 66 had died by the end of 5 years.
        - 56% given this info recommended the surgery

Representative Heuristics

1. Representative heuristics affect judgement of probability of a limitless number of events. One year a farmer in Oklahoma lost his crops by hail. He did not have insurance, but he didn't get any the next year because he believed it wouldn't happen again. That's an unrepresentative pattern for hail. Hail is a rare event. Unfortunately, it hailed again the next year. He didn't bother to get insurance for the next year because it was believed hail would not strike the same place three years in a row. But it happened once again.
2. Representative heuristics affect judgements about causality. Some people are convinced that Lee Harvey Oswald did not act alone in the assassination of John F. Kennedy. They believe there was a conspiracy because they find it implausible that a single, unremarkable individual would act alone.

Availability heuristic

1. Are there more Russian novelists than great Swedish novelists? It is easier to think of more Russian authors, but there are more Swedish.
2. Are there more tornadoes in Kansas or Nebraska? Many may think of Kansas, even though that famous example you are thinking of never happened.
3. Are there more words with the letter r in the first or third position? Most people say it's the first position. It's easier to come up with words beginning with r than words having an r in the third position- because we "file" words in our minds by their initial letters and so they are more available as we rummage through memory. But there are more words with r in the third position.

Fundamental Attribution Error

1. Bill Gates is the richest person in the world. At age 19 he dropped out of Harvard to start Microsoft. He is bright, but few know about his precollege experiences. In eighth grade his parents switched him from public to a private school with a terminal linked to a mainframe computer. He was one of a very few with extensive time to explore a high powered computer and have access to free programming time. Most other teenagers would not have this access. His situation is often forgotten.
2. The economist Smith had twice as many publications in professional journals than the economist Jones. We naturally assume Smith is more talented and hardworking. But, economists who get their PhDs in a "fat year" that has many university jobs available, do much better in the academic job market than those in a "lean year."

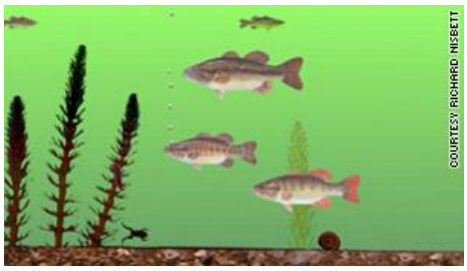
3. Theological Student Experiment
    a. Theological students are assumed to be more likely to help those in need. The researchers sent a number of Princeton theological students to a building across campus to deliver a sermon on the Good Samaritan, telling them the route to follow.
        i. Some were told they had plenty of time to get to the building.
        ii. Others were told they were already late.
    b. On their way to deliver the sermon, each of the seminarians passed a man who was sitting in a doorway, head down, groaning and coughing and in obvious need of help.
        i. If not in a rush, almost 2/3 of the seminarians offered help to the man.
        ii. If running late, only 10% offered help to the man.
    c. Of course, if you knew only that a particular seminarian helped and another one didn't, you would have a much more favorable impression of the one who offered help. Being in a rush wouldn't likely occur to you as a factor influencing the seminarian who failed to be a Good Samaritan.
    d. When you describe the experimental setup to people, they don't think that the situation- being late versus not- would have any effect on whether the seminarian would help or ignore the person in distress. Given this belief, they can only perceive failure to help as being due to poor character, something internal to the person.

Culture

1. Social psychologist Takahiko Masuda asked Japanese and American college students to rate the expression of the central figure in the cartoon below.

    a. Japanese students rate the central figure as less happy when he's surrounded by sad figures (or angry figures) than when he's surrounded by happier figures.
    b. American's were much less affected by the emotion of the surrounding figures.

2. Participants were shown a 20 second color video of an underwater scene and asked what they saw.



   a. Americans were likely to start off by saying, “I saw three big fish swimming off to their left; they had pink fins and white bellies and vertical stripes on their backs.”
   b. Japanese were much more likely to say, “I saw what looked like a stream, the water was green, there were rocks and shells on the bottom, there were three big fish swimming off to the left.” Only after the context was established did the Japanese zoom in on what are most salient objects for Americans. Altogether, the Japanese reported seeing 60% more background objects than did Americans.

Conscious and Confabulation

1. Word Pair Experiment
   a. People memorized word pairs. For example, “ocean-moon.”
   b. Then they were asked to participate in a word association study. For example, name a detergent. Having memorized the particular word pair from the first experiment made it more likely that the detergent named was “Tide.”
   c. After the word association task was over, participants were asked why they came up with the word they did. They almost never mentioned the word pair they had learned. Instead participants focused on some distinctive feature of the target (“Tide is the best known detergent.”), some personal meaning (“My mother uses Tide.”), or an emotional reaction to it (“I like the Tide box”). When asked about any possible effect of the word cues, 1/3 did say some of the words probably had an effect. But there is no reason to assume that those participants were actually aware of the link. For some of the influential word pairs, not a single participant thought they had had an effect on their associations. For other pairs, many participants claimed there had been an influence of the word pairs, whereas only very few had been influenced.
   d. This study establishes that not only can people fail to be aware of a process that went on in their heads, they can fail to retrieve that process when asked directly about it.

Halo Effect

1. College Teacher Experiment
    a. Students were shown an interview with a college teacher who spoke with a European accent.
        i. Half the group was shown: teacher presented himself as warm, agreeable, and enthusiastic person.
        ii. Half the group was shown: teacher presented himself as a cold, autocratic member who was distrustful of his students.
    b. Participants then rated the teacher's likeability and also three attributes that would not vary across the two experimental conditions: his physical appearance, his mannerisms, and his accent.
    c. Students who saw the warm teacher of course liked him much better than participants who saw the cold version of the teacher, and the students' ratings of his attributes showed they were subject to the halo effect. It occurs when knowing something very good about a person (or very bad) colors all kinds of judgements about the person.
        i. Those who saw the warm version rated the teacher's appearance and mannerisms as attractive, and most were neutral about his accent.
        ii. Those who saw the cold version rated all these qualities as unpleasant and irritating.

Subliminal Perception

1. Subliminal Experiment
    a. Words were presented on a computer screen for 1/10 of a second. To make sure participants were unaware of what they had seen, a "masking stimulus" consisting of a line of Xs where the word had been was presented.
        i. Some participants were exposed to words with a hostile meaning
        ii. Some participants were exposed to words with neutral meaning.
    b. The participants then read about "Donald" whose behavior could be construed either as hostile or as merely neutral. ("A salesman knocked at the door, but Donald refused to let him enter.")
    c. Participants exposed to the hostility-related words rated Donald as being more hostile than did participants exposed to the neutral words. Immediately after reading the paragraph, participants couldn't distinguish words they had seen from those they hadn't, and didn't even know that words had been flashed at all.

Mere exposure

1. Example: Participants listen to a communication played for one ear while having various tone sequences piped into the other ear. It turns out that the more frequently people hear a given tone sequence, the more they like it. And this is true even when people have no awareness that the tones were played for them. After the experiment, participants couldn't distinguish tones they had heard from those they hadn't.

Unconscious Perception

1. If you cut the conscious mind out of the process of choosing, you can sometimes get better results.
2. Dutch Experiment
    a. Students were asked to pick the best of four apartments. Each apartment had some attractive features ("very nice area of town") and some unattractive features ("unfriendly landlord"). One apartment was objectively superior to the others because it had 8 positives, 4 negatives, and 3 neutral features- a better mix than the others.
        i. Some participants had to make their choice immediately, with little time to think about the choice either consciously or unconsciously.
        ii. Other participants were asked to think carefully about their choice for 3 minutes and review all the information as best they could. These participants had plenty of time for conscious consideration of the choice.
        iii. A third group saw the same info as the others, but participants weren't able to process it consciously because they had to work on a very difficult task for the 3 minute period. If they were processing the information about the apartments, they were doing so without awareness.
    b. Participants in the third, distracted group working on the difficult task were 1/3 more likely to pick the right apartment than the group allowed plenty of time for conscious thought. Moreover, the latter group failed to make better choices than the group given scarcely any time to think.

Conformity

1. Want to get people to use less electricity? If they're using more electricity than their neighbors, leave a hang tag on their door telling them so. In addition, add a frowny-face emoticon and give them suggestions about how they can save energy. If they're using less energy than their neighbors, leave a hang tang on their door telling them that. But be sure to add a smiley emoticon or the information may result in their actually increasing energy usage. This intervention has resulted in savings of more than $300 million in energy costs for the state of California.

Choice: Less can be more

1. Examples: Coca-Cola options.
2. Jam Experiment: Social psychologists set up a booth at the grocery store where they displayed a variety of jams.
    a. Half the time during the day there were six jams on the table and half the time there were 24 jams.
    b. People who stopped at the booth were given a coupon good for $1 off any jam they purchased in the store.
    c. Many more people stopped at the booth when there were 24 jams than when there were only 6. But 10 times as many people bought a jar of jam when there were only 6 at the able than there were 24.

Overjustification Effect

1. Nursery School Experiment
    a. Children could draw with felt-tip markers they hadn't encountered before. The children were observed and the amount of time each spent drawing with the markers was recorded.
    b. Two weeks later, an experimenter approached some of the children and asked them whether they would like to draw some pictures for him using the markers in order to have a chance to with a Good Player Award; "See? It's got a big gold star and a bright blue ribbon, and there's a place here for your name and your school. Would you like to win one of these Good Player Awards?" Other children were simply asked whether they would like to draw with the markers. All children who "contracted" to draw with the markers were given the Good Player Award. Some children did not "contract" for drawing with the markers, but the experimenter gave them one anyway. And some did not "contract" for the award and did not get one.
    c. One to two weeks later, the marker activity was again placed on the table.
    d. Children who got the award after having contracted to draw with the markers in order to win it drew with the markers less than ½ as much as children who got an unanticipated award or no reward at all. The young contractors realized that drawing with the markers was something they did in order to get something they wanted. The other children could only infer that they were drawing with the markers because they want to.

Standard Deviations

1. Examples: The standard deviation of the rate of return on an investment is a measure of the volatility of the investment. Frequently used in finance.

Interviewer Illusion

1. Examples: Graduate students, army officers, business people, medical students, Peace Corps volunteers
2. Graduate Study Applicant Interview
    a. Many put more weight on the 20-30 minute interview. The problem is the judgement is based on a small sample of behavior that is outweighing a much larger amount of evidence, including college GPA (reflects behavior over 4 years across 30 or more courses), GRE scores (reflects 12 years of schooling and general intellectual ability), or letters of recommendation (based on hours of contact).
        i. College GPA predicts performance in graduate school. (r=.3)
        ii. Interview predicts performance in graduate school. (r=less than .10)
    b. Many still think the interview tells them more than letters of recommendation.

Social Desirability Bias

1. Harvard Mood Study
    a. Rate the following factors in order of degree to which they seem to influence your mood on a given day.
    b. Rate the importance on a scale of 1 (very little) to 5 (a great deal).
        i. How well your work went
        ii. Amount of sleep you got the preceding night
        iii. How good your health is
        iv. How good the weather is
        v. Whether you had any sexual activity
        vi. Day of the week
        vii. If you are a woman- stage of the menstrual cycle
    c. Study done at Harvard asked participants to rate their mood at the end of the day for 2 months. They also reported answers to all of the questions above. At the end they were asked how each of the factors affected their mood.
    d. Participants were not accurate. There was no correlation between a factor's actual effect on mood and their beliefs about how much the factor influenced mood.
    e. Also guesses about a typical student were pretty much the same as her guesses about herself.

Regression to the Mean

1. Examples: Second-meal experiences at a restaurant, rookie of the year in the next year, stock value the next year, worst-performing student's performance in the next school year