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Crossword Puzzles: An Exercise for Developing Creativity

Many people consider creativity as something found abundantly in geniuses and artistic people, but not themselves. In truth, the seeds of creativity lie inside everyone and simply need to be nourished. Here's a way to do demonstrate that premise to students.

Let's start with an example that provides an insight into the inner workings of creativity. Linus Pauling won the 1954 Nobel Prize in Chemistry for discovering the alpha helix. How did he do it? The road to his discovery was a 1930's train-ride he took from London. While travelling, he read an article in the journal *Nature* claiming the 3D structure of proteins could never be known. Pauling rebutted the article's argument because he remembered a contrary fact about peptide bonds from college. Before the train arrived in Oxford, he had drawn out a model of the alpha helix that revolutionized medicine.

One accepted definition of creativity comes from Plucker et al (2004): "Creativity is the interaction among aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context" (90). While Pauling's discovery was certainly novel and useful, his thinking process also underscores two key skills in the creative mind. First, the mind must know something, and,

second, the mind must be able to use that knowledge to look at something from a different perspective or to integrate it into a different construct than it is used to. Emily Dickinson suggested that same process when she wrote "Tell all the truth, but tell it slant"; later she defined the poet's creativity as being able to distill "amazing sense" from something seemingly familiar, such as "the familiar species" of flower beside the door that the ordinary person misses.

How do we teach these twin skills to our students? One simple way is through using crossword puzzles that appear in daily newspapers. Begin by drawing four connected crossword boxes on the board and putting a 1 in the top of the first box. Then write the clue for 1 Across (1A), "First place." Without any knowledge, students will have trouble filling in any of the four letters, which emphasizes our first point that creativity first necessitates a knowledge base.

Now let's assume one student, perhaps having just watched the Olympics, comes at 1 Across from the slant of sports and pencils in the four-letter answer for "First place" "GOLD." Put a clue for 1 Down (1D) on the board "TV statuette" and draw three connected boxes below the 1. If your students can't fill in the down boxes now, write in the most probable answer, "EMMY." Now you force your students, especially the one who supplied "GOLD," to perform a very difficult skill—switching perspectives from the one on which they have already settled.

After staring at the puzzle for a while, someone will be able to change the original slant. Maybe a science major blurts out the four-letter word "WOMB." Of course, that answer must be wrong, but the student has demonstrated the mental agility to switch perspectives. If no

one can guess another four letter word for “First place,” suggest the slant of religion, and probably someone will volunteer the answer “EDEN.”

In this case, that student is right, but you could just as easily has created a 1D clue that starts with a “G” or a “W” to emphasize that two skills make the creativity work: a large knowledge base and the mental ability to switch perspectives in order to solve the problem.

Go to the puzzle page of your local paper or favorite online site, pull out a few such words, and create similar exercises in order to enhance your students’ creativity.

Reference

Plucker, J., Beghetto, R.A. , & Dow, G. (2004). Why isn’t creativity more important to educational psychologists? Potential, pitfalls, and future directions in creativity research. *Educational Psychologist*, 39, 83-96.