

Five Guidelines for Teaching with Transfer in Mind

“We’ve reviewed this type of problem in class many, many times. Then I change a few details and my students act like they have never seen it before!”

Have you ever found yourself uttering this sentiment? This is a common issue, especially when teaching problem solving or decision-making skills. Being able to apply previously-learned concepts and skills to a new context is called *transfer*. Transfer is one of the most valued aspects of learning; after all, isn’t a main goal of college to prepare students to go out and solve real life problems? Unfortunately, considerable studies have indicated that transfer does not occur automatically and can be difficult to achieve.

In higher education, we often put emphasis on the answers and conclusions of what we teach. Yet when our goal is to teach students to transfer learning – often through problem solving, case studies and lab work – it is actually more valuable to focus on the processes and the structure of the problem, rather than the answers. Below are a few guidelines to help foster transfer in problem solving:

1. Transfer requires significant original learning. Make sure students have enough time to truly learn a concept or skill in the first place, ideally within a realistic context.
2. At the same time, we should also provide students with examples from multiple contexts to help them see that the deeper underlying structures are applicable to other situations.
3. When using multiple examples, spend time comparing and identifying similarities and differences. “What if we changed this one aspect of the problem? What if we completed the steps in a different order? Why are the outcomes of these two case studies so different?”
4. Use your assignments and discussions to focus students’ time on the steps and patterns of a problem. Ask them to “show their work.” Identify common pitfalls and use sample problems that specifically address these pitfalls. Explore incorrect steps and patterns to show why they do not work.
5. Recognize that you may fall into the “expert blind spot” where you simply don’t remember what it’s like to not know how to solve a certain problem. When modeling the process, take sufficient time, more than you think you need, to articulate the decisions and assumptions that underlie each step.

When teaching students to solve problems, if we keep our focus on the process, we can better help students learn how to transfer their learned skills to multiple contexts.

Resources

Davis, J.R. & Arend, B. (2013) *Seven Ways of Learning: A Resource for More Purposeful, Effective, and Enjoyable College Teaching*. Sterling, VA: Stylus Publishing.

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Willingham, D. (2009). *Why Don't Students Like School? A Cognitive Scientist Answers Questions about How the Mind Works and What it Means for the Classroom*. (San Francisco: Jossey Bass).

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