



Handout 3

Seven Principles of Learning

1. Students' prior knowledge can help or hinder learning.
 2. How students organize knowledge influences how they learn and apply what they know.
 3. Students' motivation determines, directs, and sustains what they do to learn.
 4. To develop mastery, students must acquire component skills, practice integrating them, and know when to apply what they have learned.
 5. Goal-directed practice coupled with targeted feedback enhances the quality of students' learning.
 6. Students' current level of development interacts with the social, emotional, and intellectual climate of the course to impact learning.
 7. To become self-directed learners, students must learn to monitor and adjust their approaches to learning.
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Reference: Ambrose, S.A., Bridges, M.W., DiPietro, M., Lovett, M.C., & Norman, M.K. (2010). *How Learning Works: Seven Research-Based Principles for Smart Teaching*. San Francisco: Jossey-Bass.

Additional information on the **principles of learning** is available online through the Eberly Center for Teaching Excellence & Educational Innovation, Carnegie Mellon: www.cmu.edu/teaching/principles