Connecting the Dots: Insights into Millennial Students from Learning Research

Michele DiPietro
Kennesaw State University, mdipietr@kennesaw.edu

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Michele DiPietro, PhD
Executive Director,
Center for Excellence in Teaching and Learning
Kennesaw State University
mdipietr@kennesaw.edu
http://www.kennesaw.edu/cetl
President Elect,
 Professional and Organizational Development Network in Higher Education
http://www.podnetwork.org

Motivation and Context

- Characterizations of Millennial students frequently focus on:
  - Multi-tasking
  - Technology
- Less attention to:
  - How cultural, parental and educational trends may shape students' readiness for learning
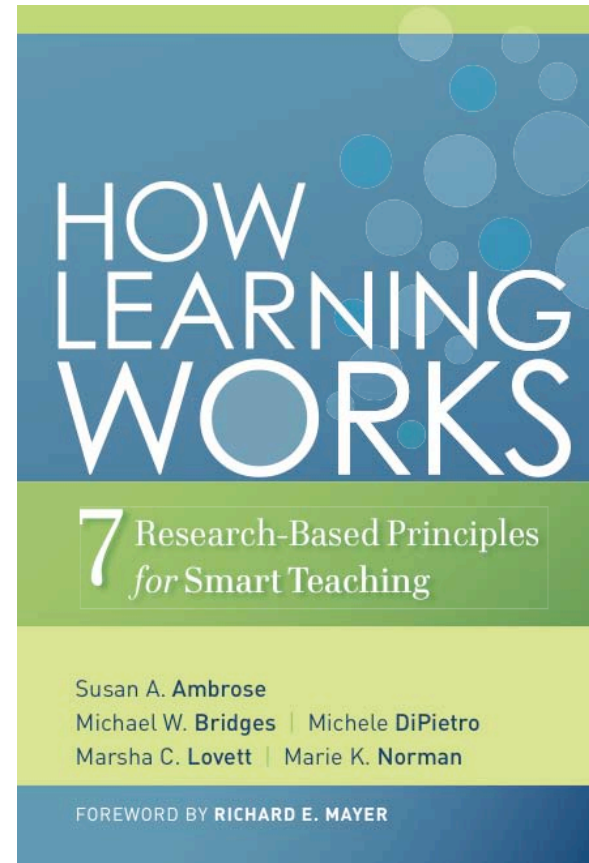
1. Seven Core Traits of Millennials

- Special
- Protected
- Team-oriented
- Trusting Optimists
- Conventional
- Achieving
- Pressured

Howe, N. & Strauss W. (2000).
Millennials Rising: The Next Great Generation. Random House: New York.

2. Seven Learning Principles

- Joint work with former Carnegie Mellon colleagues

- Synthesis of 50 years of research

  – Constant determinants of learning

  – Principles apply cross-culturally

    - Being translated in Chinese and Korean

HOW
LEARNING
WORKS

7 Research-Based Principles
for Smart Teaching

Susan A. **Ambrose**
Michael W. **Bridges** | Michele **DiPietro**
Marsha C. **Lovett** | Marie K. **Norman**

FOREWORD BY **RICHARD E. MAYER**

2. Seven Learning Principles

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.

Ambrose, S., Bridges, M., DiPietro, M., Lovett, M., and Norman, M. (2010). How learning works: Seven research-based principles for smart teaching. Jossey-Bass.

3. Interactions

- Do the seven generational traits facilitate or complicate the learning process for Millennial students?

	Prior Knowledge	Knowledge Organization	Motivation	Mastery	Practice and Feedback	Development and Climate	Metacognition
Special					A		
Protected						B	
Team Oriented							
Trusting Optimists							
Conventional							
Achieving							
Pressured			C			D	E

4. Implications for learning

A. Feedback

B. Independence

C. Risk-taking, failure and creativity

D. Intellectual development and epistemological beliefs

E. Metacognitive skills

A. Feedback

- Habituated to positive reinforcement
  - What gets praised? Effort, Product, Ability?

- Can be very different from the kind of constructive feedback necessary for learning

"Less skilled payers will get more playing time...Parents will cheer for all the kids at a game"
-- Rules of the Massachusetts Youth Soccer Association

B. Independence

- Close relationship with parents
- May fail to seek guidance from appropriate sources
- Parental interference
- Little experience in independently dealing with:
  - challenges or difficulty
  - solving problems
  - making decisions
  - managing time / life

"I hardly think it's appropriate for six-year-olds to be making decisions about which [Pokémon] cards to trade."
--a mother upset because her son's school allowed him to trade a valuable Tauros for a mere Dodrio, The Wall Street Journal

C. Risk-taking

- Focus on performance and credentialing rather than learning
  - less intrinsic motivation
- Failure as something to avoid at all costs
  - little experience with failure
  - difficulty met with a team of tutors, coaches, specialists, etc.
  - Innovation and creativity carry higher risk of failure

Giles: This is the SATs, Buffy. Not connect the dots. Please pay attention. A low score can seriously harm your chances of getting into college.
Buffy: Gee, thanks. That takes the pressure right off.
--Buffy the Vampire Slayer

D. Intellectual development and epistemological beliefs

- Less developed understanding of knowledge
- Less sophisticated view of the role of instructor
- Uncomfortable with ambiguity
- Fact-driven experience acts as default strategy
- Difficulty in seeing context, the big picture or the role of evidence

"In college, I hope to gain the ability to deal better with people different from myself. I also want to become a better student and concentrate more time on my education. I would also like to dye my hair blonde." –New first-year.
Erickson, B., Peters, G., and Strommer, D. (2006) "Teaching College Freshmen (2nd ed.)" San Francisco: Jossey-Bass.
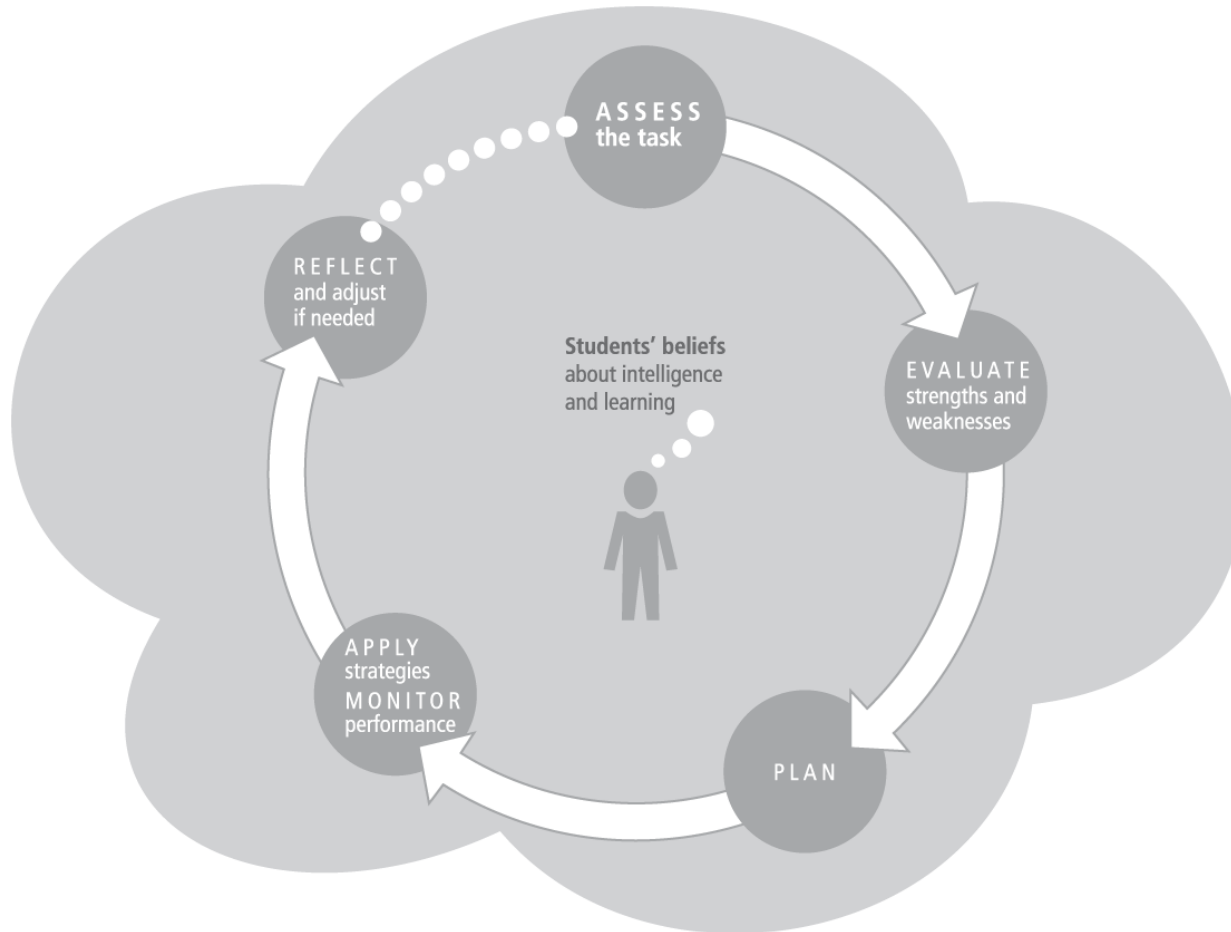
E. Metacognitive skills

- Multitasking history
- Fact-driven educational experience
- Little opportunity to practice higher-level cognitive functions, such as planning, monitoring, evaluation, and reflection

"I don't think notes are necessary in math, because it's all in the book."
Carnegie Mellon sophomore focus group

The metacognitive cycle

From Ambrose, S., Bridges, M., DiPietro, M., Lovett, M., and Norman, M., (2010) "*How Learning Works: 7 Principles for Smart Teaching.*" San Francisco: Jossey-Bass.

Generative Principles

- Intellectual development and epistemological beliefs
  - Make uncertainty safe
  - Resist a single right answer
  - Demonstrate that personal opinion alone is insufficient
  - Probe for evidence
  - Identify and challenge inaccurate beliefs about knowledge
  - Set expectations about instructor's role in the learning process
  - Set realistic expectations about the role of effort, practice and ability

Generative Principles

- Metacognitive skills
  - Give assignments that focus on strategies, planning or methods of preparation rather than implementation
  - Provide checklist, rubrics or other heuristics to monitor progress
  - Provide opportunities for self-assessment
  - Provide opportunities for reflection

Generative Principles

- Risk-taking / fear of failure / creativity
  - Model how you deal with problems, difficulties or challenges.
  - If risk-taking and creativity are desired, make them explicit learning objectives
    - Reward them
  - Help student think about "failure" in a formative way

Generative Principles

- Independence
  - Institutions can educate parents about independence and set appropriate expectations
  - Leverage parental concern into a collaborative partnership to develop independent adults
  - Use FERPA to manage parental interference
  - Institutions can provide broader life skills workshops (time management, conflict resolutions, etc)
  - Set appropriate expectations among students regarding personal responsibility

More Information

- Anderegg, D. (2003) *Worried All the Time : Overparenting in an Age of Anxiety and How to Stop It.* Free Press: New York.
- Baxter-Magolda, M. (1992) *Knowing and Reasoning in College : Gender-Related Patterns in Students' Intellectual Development.* Jossey-Bass.
- Belenky, M., Clinchy, B., Goldberger, N., and Tarule, J. (1986) *Women's Ways of Knowing: The Development, of Self, Voice, and Mind.* Basic Books.
- Henderson, V. L., & Dweck, C. S. (1990). Motivation and Achievement. In S. S. Feldman & G. R. Elliott (Eds.), *At the Threshold: The Developing Adolescent* (pp. 308–329). Cambridge, MA: Harvard University Press.
- Howe, N. & Strauss, W. (1992) *Generations: The History of America's Future, 1584 to 2069*. Harper Perennial: New York.
- Howe, N. & Strauss W. (2000). *Millennials Rising: The Next Great Generation*. Random House: New York.
- Howe, N. & Strauss W. (2003). *Millennials Go to College*. AACRAO & LifeCourse Assoc. : Great Falls.

More Information

- McGuire, S. & Williams, D. (2002) The Millennial Learner: Challenges and Opportunities. In D. Lieberman and C. Wehlburg (Eds.) To Improve the Academy, 20, 185-196. Bolton, MA: Anker.
- Nathan, R. (2005). *My Freshman Year: What a Professor Learned by Becoming a Student.* Cornell University Press: Ithaca.
- Perry, W. (1968) *Forms of Intellectual and Ethical Development in the College Years: A Scheme.* Holt, Rinehart and Winston.
- Schommer, M. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology, 82 (3),* 498-504.
- Schommer, M. (1994). An emerging conceptualization of epistemological beliefs and their role in learning. In R. Barner & P. Alexander (Eds.), *Beliefs about text and instruction with text* (pp. 25–40). Hillsdale, NJ: Erlbaum.
- Sterns, P. (2003). Anxious Parents: A History of Modern Childrearing in America. New York University Press: New York.
- Strauss, W. & Howe, N. (1997). *The Fourth Turning: An American Prophecy.* Broadway Books: New York.