Deep and Flexible Learning
for the General Education Student
in three acts


Peter E. Doolittle
Director, School of Education
Professor, Educational Psychology
Virginia Tech • Blacksburg • Virginia

Anticipation Guide

Directions: Agree, Disagree, or Edit each statement.

1. Deep learning in students is fostered by aligning teaching styles with learning styles.

2. Technology allows teachers to teach more powerfully, more efficiently, and with less effort.

3. Assessments should be designed to determine what students know and do not know.
Deep/Flexible Learning

High-Impact Practices
- First-Year Experiences
- Learning Communities
- Writing-Intensive Courses
- Undergraduate Research
- ePortfolios
- Service Learning
- Capstone Courses

By Design → Not Magic

Deep and Flexible Learning

in three acts
Act 1

Debrief

1. Meaning is constructed during experience.
2. Knowledge/meaning construction result from processing.
3. Knowledge is organized.
4. When specifics are lost, meaning remains.
5. Strategies are used to function more effectively.
6. We can assess the effectiveness of our thinking.
What we process we learn.
Active Learning
Hands On, Minds On

Cognitively
Socially

Behaviorally
Affectively
Act 2
Debrief

Performance → Performance → Performance

Learning

Weak and Narrow Learning and Performance
Little Experience

Deep and Narrow Learning and Performance
Consistent Experience

Deep and Flexible Learning and Performance
Varied Experience

What we process we learn.

Flexible learning leads to flexible performance.

Cognitively

Behaviorally

Affectively

Socially
A hiker is looking for a one-night get-away and decides to climb the path to McAfee’s Knob, spend the night at the top, and then to traverse back down the path the next day.

The narrow path spirals around and around the mountain (the only path to the top). The hiker begins walking up the mountain at sunrise and walks all day, reaching the top at about sunset. The hiker spends the night at the top. At sunrise the next morning, the hiker begins walking down the mountain, arriving at the bottom around noon.

The question is: Is there a point on the path when the hiker is coming down that she passed at the same time of day when she was climbing up the mountain?
Debrief

* Processing during learning and performance is improved by having an awareness of what one knows, what one can do, and when to apply one’s knowledge. [metacognition]

* Processing during learning and performance is improved by being in control of one’s knowledge: planning, monitoring, and evaluating. [metacognition]

What we process we learn.

Flexible learning leads to flexible performance.

Awareness and control over what we know and can do increases learning to new areas of performance.
6 Principles for Developing Deep and Flexible Knowledge

Deep
1. Learning through practice at retrieval
2. Learning at the principle level
3. Learning in response to developmental feedback
4. Learning embedded in prior knowledge & experience

Flexible
2. Learning through varied tasks and purposes
4. Learning awareness and control (metacognition)
6. Learning embedded in prior knowledge & experience

(Engle, 2006; Halpern & Hakel, 2003; Mariano, Doolittle, & Hicks, 2009; Wagner, 2006)

Learning Principles
• Practice at retrieval
• Vary tasks and purposes
• Focus on principles
• Foster awareness & control
• Provide developmental feedback
• Embed in prior knowledge & experience

High-Impact Practices
• First-Year Experiences
• Learning Communities
• Writing-Intensive Courses
• Undergraduate Research
• ePortfolios
• Service Learning
• Capstone Courses

By Design Not Magic
Motivation

What we process we learn.

Flexible learning leads to flexible performance.

Awareness and control over what we know and can do increases learning to new areas of performance.

Memory

7 C’s of Motivation

1. Choice
2. Caring (Interest/Value)
3. Control
4. Challenge
5. Collaboration/Connectedness
6. Competence
7. Curiosity

(Deci & Ryan, 2000; Gagne & Deci, 2014; Jones et al., 2013; Schunk, Pintrich, & Meece, 2008)
Memory and Multitasking

Multitasking: The Myth

- Tapscott, 1998
  - multitasking
- Frand, 2000
  - “multitasking way of life”
- Prensky, 2001
  - “digital natives accustomed to the twitch-speed, multitasking”
Multitasking: Did we know?

“The greater the number of objects to which our consciousness is simultaneously extended, the smaller is the intensity with which it is able to consider each.”

Hamilton, Mansel, & Veitch 1861

Multitasking

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Multitasking Research

- MT with laptop ➞ retention & class performance
- MT while studying ➞ class performance

- laptop MT ➞ performance by multitasker (11%)
- laptop MT ➞ performance by nearby peers (17%)


Multitasking: Self-Efficacy

Doolittle, Terry, Watson, & Adams (2018)
Motivation

What we process we learn.

Flexible learning leads to flexible performance.

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Memory

Deep and Flexible Learning
for the General Education Student

Flipping Essentials

What flipping is and is not.

Flipping Basics

Flipped

Before

Video

Inquiry

The “Flip”

Moving from Teacher-Centered to Learner-Centered

During

After

Learning is not magic, it’s by design.
Lecturing versus Flipping

Lecture

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Notes
Reading & Quiz
Case
Reflection

Nature & Quality of Processing??

Flipped

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Study for Test
Nature & Quality of Processing is Enhanced

Basic Flipped Classroom Design

Reading & Tweet Summary
Concept Maps
Comprehension Reflection

Flipped

Before
During
After
Processing

Cognitive
Behavioral
Social
Affective

Nature & Quality of Processing is Enhanced

Nature & Quality of Processing??