

Mind-Centered Pedagogy

Fostering Deep and Flexible Knowledge



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Anticipation Guide

Directions: Agree or Disagree or Edit.

1. Anyone can teach.
2. Active learning in students is fostered by note taking and discussions with fellow students.
3. Technology allows teachers to teach more powerfully, more efficiently, and with less effort.

Overview

1. Introduction
2. Learning
3. Learning and Memory
4. Learning and Memory in Action
5. Conclusion



clarity 

The Need for Clarity



Learning First



processing

words 

Rest Snore Sound
Tired **Sleep** Bed Comfort
Awake Eat Wake
Dream Slumber Night

What does the activity tell us?

1. Meaning & knowledge are **constructed** from experience.
2. Meaning & knowledge construction result from **processing**.
3. Meaning & knowledge are **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.

(Brewer & Trewyens, 1981; Hyde & Jenkins, 1973; Wanner, 1968; Watkins & Tulving, 1975)



6 Principles for Developing Deep and Flexible Knowledge

1. Learning through **practice at retrieval**
2. Learning through **varied tasks** and **purposes**
3. Learning at the **principle** level
4. Learning **awareness** and **control** (metacognition)
5. Learning in response to **developmental feedback**
6. Learning embedded in **prior knowledge & experience**

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

math 

Processing...



Organizing Learning and Memory

How did/do you organize the content of your classes?

18 

PTSNBYDNHGWSAIOEUA
SWAHOYDEGBAPSUTNIN
PAT SINBOYDENHUGWAS



Chunking

A technique of **meaningfully** grouping items

Conceptually
Chronologically
Geographically
Hierarchically

to make them easier to process, remember, and recall.

Chunking – An Example

PAT STINEBOYHENSEN HUG WAS

Chunking and Short-term Memory

$$7 \pm 2$$

Storage

PAT SIN BOY DEN HUG WAS

Chunking and Working Memory

$$3 \pm 2$$

Storage & Processing

PAT SIN BOY DEN HUG ~~WAS~~

Using Chunking in Teaching

Learning and Memory in Action



strategy

cats 

Challenge of Strategies



Oral Explanations

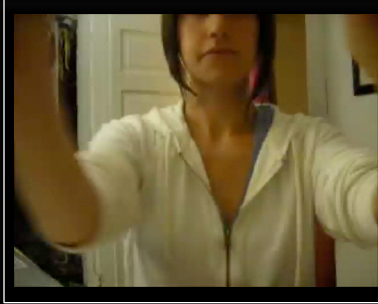
(why)

Learning Environment: Students create clear and coherently organized 10-15 minute videos that reflect the student's understanding of the current topic under discussion, plus an application to their lives.

Learning Artifact Processing: Students analyze and interpret readings, notes, and discussions; organize concepts and ideas; apply to a life issue; create an oral explanation.

Learning Assessment: Video are assessed using a scoring guide focused on organization, clarity of thought and expression, essential content explanation and application.

Oral Explanation: Human Learning



Oral Explanations

Grading: Each Oral Explanation is worth 100 pts and will be graded using the following criteria:

- | | |
|---|--------|
| 1. Organization | 20 pts |
| a. are introductions and conclusions used effectively? | |
| b. <u>do</u> the expressed ideas follow a logical progression? | |
| c. are explanations and applications provided? | |
| 2. Clarity of Thought and Expression | 20 pts |
| a. are the ideas expressed well, well thought out, and integrated? | |
| b. are there clear and logical transitions between ideas? | |
| c. are correct grammar and syntax used? | |
| 3. Essential Content Explanation | 30 pts |
| a. does the content of the explanation accurately reflect the addressed constructivism? | |
| b. does the explanation explain, rather than just list, the main concept components? | |
| c. is the content of the explanation free from personal interjections? | |
| 4. Essential Content Application | 30 pts |
| a. is a problem, issue, or situation explained clearly? | |
| b. are concepts from the texts and class used to address the cited problem? | |
| c. is the application thorough, meaningful, and appropriate? | |

Oral Explanations

1. Learning through **practice at retrieval**
2. Learning through **varied tasks & purposes**
3. Learning at the **principle level**
4. Learning **awareness & control** (metacognition)
5. Learning in response to **developmental feedback**
6. Learning embedded in **prior knowledge & experience**
7. Learning is facilitated by **chunking** during T & L

Learning, Memory, & You



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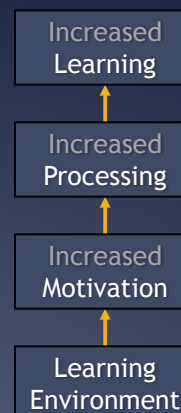


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7 C's of Motivation

Agency

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)

25-Word Summaries

Fostering Deep & Flexible Knowledge

Learning Environment: Students create a 25-word statement addressing the essential ideas, focusing on explaining and integrating ideas, not listing topics.

Learning Artifact: Students read a chapter or article, or watch a video, and extract, organize, summarize, and integrate the reading's essential ideas into a clear and concise statement.

Learning Assessment: Summaries are assessed using a scoring guide focused on structural format, clarity of thought and expression, and delineation of core messages.

25-Word Summaries

Fostering Deep & Flexible Knowledge

Radical constructivism views knowledge as constructed through repeated experiences reconfirmed or rejected through comparison over time; this structures our experiences, which we perceive as reality. [25 words]

25-Word Summaries

Grading: Each Chapter Summary Statement is worth 50 points and will be graded using the following criteria:

- | | |
|--|--------|
| 1. Structural Format | 10 pts |
| a. Is the summary 25 words or less? | |
| b. Is the summary a coherent sentence, or sentences? | |
| c. Does the summary avoid a simple listing of concepts, terms, or themes? | |
| 2. Clarity of Thought and Expression | 15 pts |
| a. Are the ideas expressed well, well thought out, and integrated? | |
| c. Does every word in the summary have a meaningful purpose? | |
| d. Are correct grammar and syntax used? | |
| 3. Delineation of Core Message | 25 pts |
| a. Does the summary accurately reflect the reading's central or essential message? | |
| b. Are the reading's central or essential messages fully integrated? | |
| c. Does the summary reflect an understanding of the reading? | |

plus Feedback



with Dragon Dictate

25-Word Summaries

1. Learning through **practice at retrieval**
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5. Learning in response to **developmental feedback**
6. Learning embedded in **prior knowledge** and **experience**