

Chunking and Chewing

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Creative Strategy:

This creative strategy is based on the concept of cognitive load, which is a tenant of Information Processing Theory. Students “chunk” information together by making as many connections between different concepts as possible. Connections are deepened through multiple, creative “chewing” strategies, such as visualization and metaphors. Making connections enhances learning and frees space in the working memory for more learning to occur.

Context:

This activity can be adapted to all content areas and grade levels. Depending on the age of the students, connections will be more or less sophisticated and thought provoking.

Activity:

The activity can be completed in small groups, or as a whole class. It is helpful to demonstrate the activity in a large group setting, and then have students split into small groups and work independently.

1. First, introduce the topic. This activity is a great way to review a large quantity of material. For example, the topic could be broad, such as “Why are plants essential to our lives?” or more specific, such as “What were the key factors leading to the Industrial Revolution?”
2. Each group should have a large stack of cups and a marker (dry erase markers work well on Solo cups, and the writing can be erased so the cups can be reused). Be sure to have two colors of cups.
3. As a group, brainstorm as many concepts related to the topic as possible, and write each concept on a cup. For example, if the topic is “Why are plants essential to our lives?”, students could write ideas such as *oxygen, food, energy, construction materials, beauty, scents, homes for animals, clothing* etc.
4. Spread all of the cups on the table and challenge the students to identify uniting themes and stack together related concepts. Students will write “uniting themes” on the different colored cups, and stack the related cups together. For example, *construction materials* and *homes for animals* could be stacked into the uniting theme of *structural components*.
5. Encourage students to “chew” the chunked information by using creative strategies such as metaphors and visualization. What image could represent a particular chunk of information? What metaphor could unite the ideas?
6. Students should stack the cups as many times as possible. After identifying initial uniting themes, challenge students to unstack the cups and repeat the process.

Adaptations:

- While this strategy can help young students understand basic patterns and categories, it can also be used as a critical thinking challenge for older students. English students can write names of characters on each cup and stack them according to similar character traits, or common internal struggles. History students can write names of influential individuals and stack them together to understand how interpersonal relationships impact important historical decisions.
- Young children can draw pictures on the cups, instead of writing words.
- Challenge the students to identify unifying themes that other groups used to stack related concepts.

If you don't have enough cups, students can write concepts on slips of paper, and sort them into cups for each unifying theme

Materials:

Plastic cups (preferably two colors)
Dry-Erase Markers

Resources:

How to chunk:

http://thelearningcoach.com/elearning_design/chunking-information/
<http://thepeakperformancecenter.com/educational-learning/thinking/chunking/chunking-as-a-learning-strategy/>

How to chew:

Visualization strategies

<http://www.realsimple.com/health/mind-mood/emotional-health/visualization-techniques>

<http://www.ascd.org/publications/educational-leadership/oct09/vol67/num02/Helping-Students-Process-Information.aspx>

<http://www.educatorstechnology.com/2011/08/list-of-some-of-best-cartoon-making.html>

Techniques and examples

<https://www.pinterest.com/smekens/visualization/>

Graphic organizers

<https://mcdn1.teacherspayteachers.com/thumbitem/Visualizing-Graphic-Organizer-1100435/original-1100435-1.jpg>

<https://s-media-cache-ak0.pinimg.com/236x/05/93/f2/0593f25c93109afc4adb19a094b9406e.jpg>

Mind Maps

<https://www.ncetm.org.uk/resources/26769>

<http://lateraction.com/articles/mind-maps/>

Metaphors

<http://education-portal.com/academy/lesson/what-is-a-metaphor-examples-definition-types.html>

<https://www.teachervision.com/reading-and-language-arts/skill-builder/48893.html>

Evaluation: