**﻿Concept Card Mapping**

**﻿Description:**

*Concept Card Mapping* is a variation on the familiar strategy of concept mapping (Novak, 1998). Instead of constructing their own concept maps from scratch, students are given cards with the concepts written on them. They move the cards around and arrange them as a connected web of knowledge. They create linkages between the concept cards that describe the relationship between concepts. Moving cards provides an opportunity for students to explore and think about different linkages.

**﻿How this FACT promotes student learning:**

*Concept Card Mapping* provides an opportunity for students to activate their prior knowledge, think about the relationships between familiar concepts, and make a visual representation of the connections in their own knowledge network. When students create maps collaboratively in small groups, the maps promote discussion. Individuals become more aware of their own ideas and may modify them accordingly as a result of the discussion generated in their group. Because there is no one "right answer", this FACT provides an open entry point for all learners. In the process of exploring their own and others' ideas, they use that information to connect ideas and terminology together in a coherrent way, deepening their understanding of the structure of a topic. Students who tend not to speak up in class have been found to contribute freely in the nonthreatening activity of mapmaking (White & Gunstone, 1992).

**﻿How this FACT informs instruction:**

Teachers can use *Concept Card Mapping* as an elicitation prior to instruction or at key points in a sequence of lessons to gather information about how students make linkages among a connected set of concepts and terminology. Using a common set of predetermined words or phrases allows the teacher to see how different students, or groups of students, make conceptual sense of the same ideas in different ways. The student-generated sentences are examined carefully by the teacher to reveal any coneptual misunderstandings or incorrect ideas. The linkages made by students reveal the level of sophistication of their ideas, accuracy of content knowledge, and depth and breadth of their thinking. The information is used to inform the development of lessons that will provide students with an opportunity to explore and solidify important connections.

Different maps can be selected by the teacher to provide teacher-to-student and student-to-student feedback during the formal concept development phase of whole-class instruction. Discussion focuses on whether students agree or disagree with the connections made on the map and ways they may have made different linkages. The maps can also be used by the teacher to initiate questions that probe deeper for student understanding. *Concept Card Mapping* can be used again at the end of an instructional unit to help students reflect on the extent to which their knowledge increased or ideas changed since their original map was created.

**﻿Design and Administration**

For the purpose of this technique, a concept is defined as a simple one- to two-word or three-word mental construct or short phrase that represents or categorizes an idea (Carey, 2000; Erickson, 1998). Choose concepts central to the topic of instruction and place them in squares that students cut out from a sheet of paper. If students have never created a concept map, start by introducing concept mapping through an interactive demonstration. Model and emphasize the importance of creating clear, connecting sentences.

Concept cards can be used as an individual activity or with pairs or small groups of students. When using this FACT with pairs or small groups, encourage students to think first about their own connections and then discuss them with others. Students decide which connections best represent the pair's or group's thinking. Once students are satisfied with their maps, they can glue down their cards, write in their linkages to form sentences, and share their maps with others for feedback.

**﻿General implementation attribute:**

Ease of use: Low Time Demand: Medium Cognitive Demand: High

**﻿Modifications:**

Combine pictures with words for younger students. Include a few blank cards for students to write in their own concepts to include on their map. If students struggle with determining the connecting words or phrases, consider providing examples of different connectors that can be used with topic chosen.

**﻿Caveats**

The cognitive demand of this FACT depends on the concrete or abstract nature of the concept words selected and the number of cards to map. Choose the appropriate level of demand that matches the grade level of the students and complexity of the topic they are learning about.

**﻿Disciplines to be used in:**

This FACT can be used in science, math, social studies, language arts, and health.

Keeley, Paige. (2008) *Science Formative Assessment: 75 Practical Strategies for Linking Assessment, Instruction, and Learning.* Thousand Oaks, CA: Corwin Press.