VISTA UNIFIED SCHOOL DISTRICT
EXCELLENCE ★ INNOVATION

VUSD Best Practices Conference • Friday, January 17, 2014

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H.O.T.S. - Critical and Creative Thinking

Participants will identify and articulate intellectual behavior in both critical and creative thinking in the arts. Join us to nurture curiosity, apply thoughtful relevant learning, and innovate through *Higher Order Thinking Skills*.

Enduring Understanding: Creative and Critical thinking are integrated into all aspects of life, as a part of cultural, expressive, and intellectual subjects of study.

Essential Question: How can we scaffold teaching to create learning experiences while identifying thought processes to enhance life-long learning and address content needs?

Evocative Teachers: Embrace the Learner, provide reflective dialogue, and invite students to assimilate information, while students discover, pursue, and apply knowledge, and share group and personal conclusions or outcomes.

Dynamic Learning and Thinking: Teachers need to actively engage and create knowledge and learning experiences with Dynamic Learning and Thinking that connects relationships of people, sound, and process in a piece where the impact of this process meets the needs for all involved. The ensemble constructs its own knowledge and learning through experiential opportunities and reflection.

Expert Learners and Teachers: We want expert *learners* as much as we want to be expert *teachers* – this creates life-long learning and teaching as it provides strategies for students and teachers to processes information and to delve further into the 'learning moment' while teachers, in turn, search and discover the teachable moment.

Structured Inquiry: Structured inquiry leads to understanding, as students look for answers while they are constructing new knowledge. It prepares students for independent, higher-order thinking, as they explore, conceptualize, and apply information. Within structured inquiry, the teachers provide questions, processes, and activities that guide the learner through the steps of the task. While it begins within a structure, it eventually moves towards independence.

Critical and Creative Thinking – the Cognitive Domain - Bloom's Taxonomy
http://eduscapes.com/tap/topic69.htm

Critical Thinking – Critical thinking involves logical thinking and reasoning including skills such as comparison, classification, sequencing, cause/effect, patterning, webbing, analogies, deductive and inductive reasoning, forecasting, planning, hypothesizing, and critiquing.

Creative Thinking – involves creating something new or original. It involves the skills of flexibility, originality, fluency, elaboration, brainstorming, modification, imagery, associative thinking, attribute listing, metaphorical thinking, and forced relationships. The aim of creative thinking is to stimulate curiosity and promote divergence.

System Thinking: It is ALL about the class, as a whole living system and the interactions within the living system of the classroom**:** The classroom climate and culture, classroom management and relationships, and how we (and students) are perceived, received, and interact with the living system as a whole - the class, the process, and the desired end product. (Is your class a safe and dynamic learning environment?)

Socratic Questioning: What types of questions do we ask to *facilitate* the process?

Asking questions based on Bloom's Taxonomy (Research Socratic Questioning)

Bloom's Revised Taxonomy: Remembering, Understanding, Applying, Analyzing, Evaluating, Creating

- **Questions that clarify:**

  Can you explain the overall timbre of this ensemble, thus far?

  What do you mean when you say . . .

  Can you give me an example of an augmented rhythm pattern?

  Does anyone have a question about the ensemble patterns to this point? Suggested form of this piece?

- **Questions that Probe or ask for reasons and evidence:**

  How do we know this rhythm is complementary?

  Can you play another example of a contrasting pattern?

- **Questions that ask or explore for alternative views or ideas**:

  Is there another rhythm we could add to this and why?

  If we added a different timbre, what could it be and why?

- **Questions that request application of information to 'test' the implications:**

  Explain how this musical idea fits with what we created earlier

  If we add this new pattern, what happens to the overall timbre?

  Listen to the layered ensemble, what should we add and why?

  If we add this pattern will it complement the previously suggested pattern and how will it do so?

- **Questions about the discussion or question:**

  Who can summarize the overall process of our composition process?

  Are we closer to completing this composition process? Why or why not?

  Do you have any questions about this?

Adapted from: (Adapted from Teaching Thinking - Philosophical Enquiry in the classroom by Robert Fisher (1998) Brunel University)

Throughout the outlined process below, the structured inquiry and reflective questioning process will support constructivist teaching and learning.

http://on.docdat.com/docs/510/index-138879.html

Thinking tools – what are they?

www.criticalthinking.org

The Thinker's Guide to The Nature and Functions of Critical & Creative Thinking

http://eduscapes.com/tap/topic69.htm

Critical and Creative Thinking - Bloom's Taxonomy and words:

http://giftedresource.com/gifted-hot-topics/creativity/

There is a Creativity Crisis in America!

http://kumardeepak.wordpress.com/2012/07/18/components-of-creativity/

Innovation, contrary to popular belief, doesn't happen with a lone inventor working alone in his laboratory, though there have been quite a few discoveries and inventions this way.

http://kumardeepak.wordpress.com/learning-techniques/

Here are some learning techniques based on research in the fields of education, neuroscience, cognitive psychology, etc.

http://infogr.am/Higher-Order-Thinking-Skills?src=web

Awesome Info-graphic

http://ruthcatchen.wordpress.com/2012/04/03/tips-to-improve-critical-thinking-in-arts-education/

Tips to Improve Critical Thinking in Arts Education

http://www3.wooster.edu/teagle/vendiagram.php

Creative and Critical Thinking Venn Diagram

http://www.scoop.it/t/21st-century-skills-of-critical-and-creative-thinking

21st Cent Skills of critical and creative thinking

http://www.scoop.it/t/bloom-s-taxonomy-presented-visually/p/4003020910/2013/06/10/70-web-tools-organized-for-bloom-s-digital-taxonomy-edudemic?_tmc=gvgjaS8lpnDmcAAcs6QjYsGoo66K3ywnKlAJ7DCmn_Q

Web tools organized for Bloom's Digital Taxonomy

http://blogs.kqed.org/mindshift/2012/05/flip-this-blooms-taxonomy-should-start-with-creating/

Bloom's taxonomy inverted

http://www.scoop.it/t/21st-century-skills-of-critical-and-creative-thinking

Creative Confidence: People with creative confidence have a greater impact on the world around them

http://www.uft.org/insight/helping-students-develop-higher-order-thinking-skills

Helping students develop higher-order thinking skills. The soul of an education

http://mrtylerwright.wordpress.com/discussions/

Inquiry-based learning approaches emphasize the need for student learning to be investigative and student-driven.

http://www.utar.edu.my/fegt/file/Revised_Blooms_Info.pdf

Revise Bloom's Taxonomy

http://www.adobe.com/aboutadobe/pressroom/pressreleases/pdfs/201211/110712AdobeEducationCreativityStudy.pdf

Adobe on Creative Thinking—Study: Creativity Should be Taught as a Course

https://wwwimages2.adobe.com/content/dam/Adobe/en/education/pdfs/adobe-creativity-education-findings.pdf

Adobe on Creative Thinking—Creativity and Education: Why it Matters

http://www.worwic.edu/Media/Documents/Assessment/Bloom's%20Taxonomy%20Breakdown.pdf

Bloom's Taxonomy Breakdown: Roles, Process Verbs & Products from Bloom's Taxonomy of the Cognitive Domain