



Issue Forum #1: 21st Century Skills

Leader: Kirsten Smith

Facilitator: Bev DeVore-Wedding

Overview of Topic:

The challenges we face as we entered the 21 Century have actually been the challenge of education, more specifically, of science education for more than a century! It is essential that productive and contributing citizens be scientifically literate, regardless of their avocation or career paths.

Teachers have two main tasks: educating students to be scientifically literate (content-bases, real-world connections) and using their 21st century skills to solve future challenges. Our students will have a plethora of problems and life choices to deal with now and in their futures. They will require more than just science content knowledge. They will need to understand how to logically evaluate situations, applying their scientific knowledge creatively to solve problems, resolve issues, and make informed decisions. As teachers, we and our future teachers need to use our own scientific literacy and critical thinking skills to participate as science literate citizens and role models outside of our classrooms.

The focus of this forum is identify and determine action steps about teaching science using inquiry and incorporating 21st skills (critical thinking and problem solving, communication and collaboration and creativity and innovation) into our teaching practices, curriculum, and professional development.

Guiding Questions:

- What 21st Century skills are essential for the teaching of science? How are our schools faring in the development of 21st Century skills?
- How will curriculum development and planning need to change (incorporating 21st Century skills)?
- How should/does pre-service and in-service science professional development incorporate the teaching of 21st Century skills?
- Where will appropriate resources come from to support teaching 21st Century skills?
- *What role will our state and federal lawmakers play in 21st Century Skills education?
- *What is the potential role for and the implications of the Science Conceptual Framework for 21st Century skills?

Essential Readings

Bybee, R. 2010. A New Challenge for the Education Leaders: Developing 21st Century Workforce Skills. In *Science education leadership: Best practices for a new century*. Ed. J. Rhoton, 33-49. Arlington, VA: NSTA Press

Partnership for 21st Century Skills. Overview. Skills Framework. 2011.

http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=120

Additional Suggested References

Bybee, R. 2010. *The Teaching of Science: 21st Century Perspectives*. Arlington, VA: NSTA

Century, J. 2010. Looking Forward into the 21st Century: Implications for the Science Leader. In *Science education leadership: Best practices for a new century*. Ed. J. Rhoton, 3-15.. Arlington, VA: NSTA Press

Colorado Department of Education, Science Standards. 2011.

<http://www.cde.state.co.us/scripts/allstandards/COSTandards.asp> more specifically the science standards,

<http://www.cde.state.co.us/scripts/allstandards/COSTandards.asp?stid=7&stid2=0&glid2=0>

Metiri Group 2011

<http://www.metiri.com/21st%20Century%20Skills/PDFtwentyfirst%20century%20skills.pdf>

Thinkfinity 2011

<http://www.metiri.com/21st%20Century%20Skills/PDFtwentyfirst%20century%20skills.pdf>

National Science Teachers Association (NSTA). NSTA Position Statement (Draft): Quality Science Education and 21st Century Skills (*NSTA Draft 2/21/2011*)

http://science.nsta.org/nstaexpress/PositionStatementDraft_21stCenturySkills.pdf