

The One Question that Changed My Teaching Methods



Kirsten Hope Walker, M.A. Ed., M.S. Ed.

Quotes

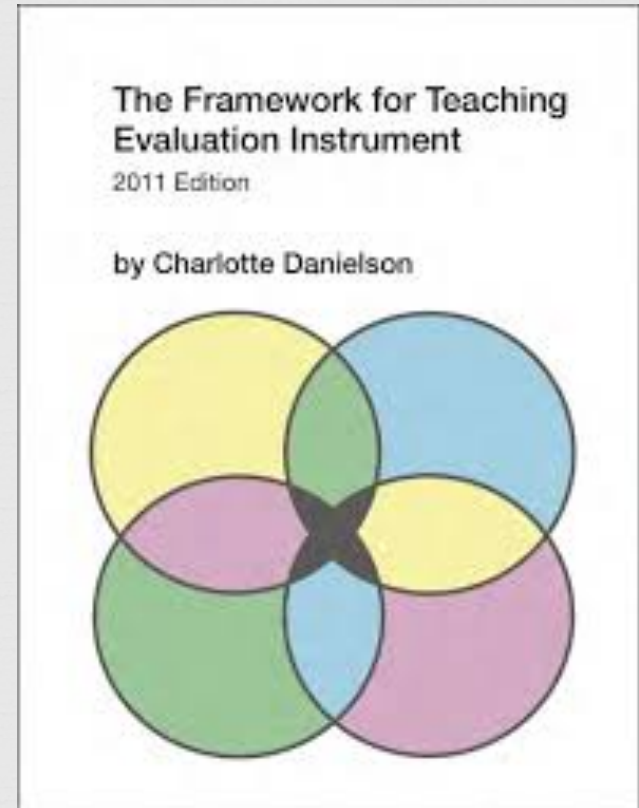


- ☞ All life is an experiment. The more experiments you make the better. - Ralph Waldo Emerson
- ☞ The true method of knowledge is experiment. - William Blake
- ☞ I have always been more interested in experiment, than in accomplishment. - Orson Welles

Danielson Framework



☞ #4 Develop skills to engage all students in challenging learning activities.



Today's objectives



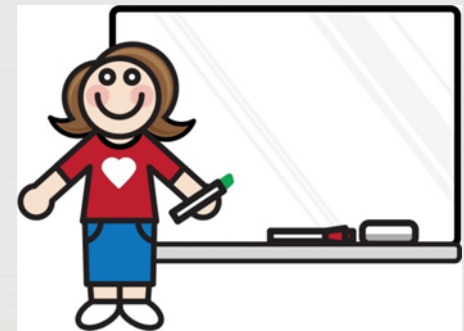
- ❧ Adapt curriculum to be more relevant to your students' world view.
- ❧ Explore the many ways interdisciplinary content can be incorporated into all lessons.
- ❧ Appraise the knowledge gained through stewardship opportunities, discussions, and debates.

Who am I to say?



How does my background and experiences play into this?

Childhood aspirations



Paths to teaching

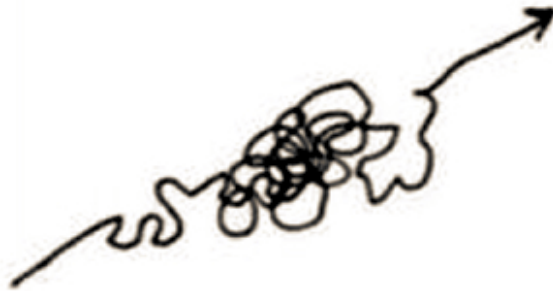


Success



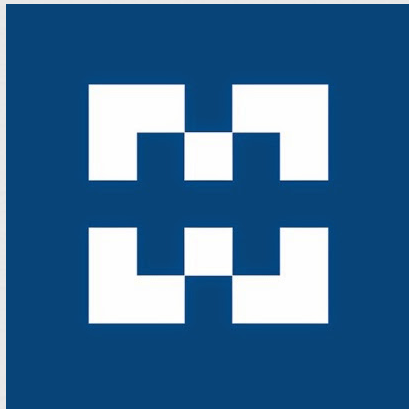
what people think
it looks like

Success



what it really
looks like

My Formal Education



Prescott College



Formal, Non-formal, Informal (Know the difference)



Where I have been



Outside the Box
Environmental Education



ILLINOIS SUSTAINABLE
TECHNOLOGY CENTER
PRAIRIE RESEARCH INSTITUTE



The Question



Why it changed the way I approached teaching.



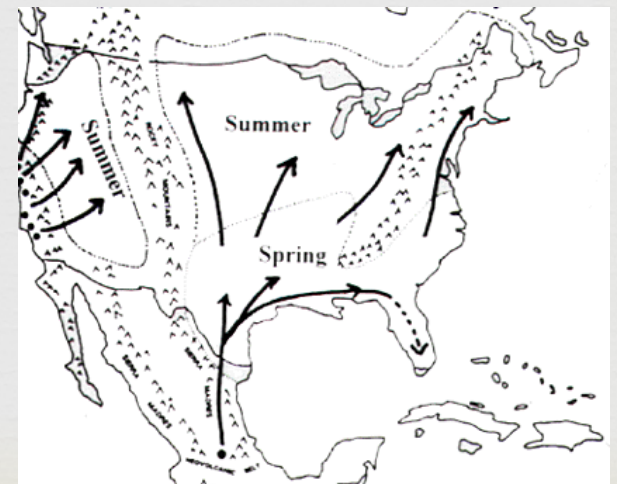
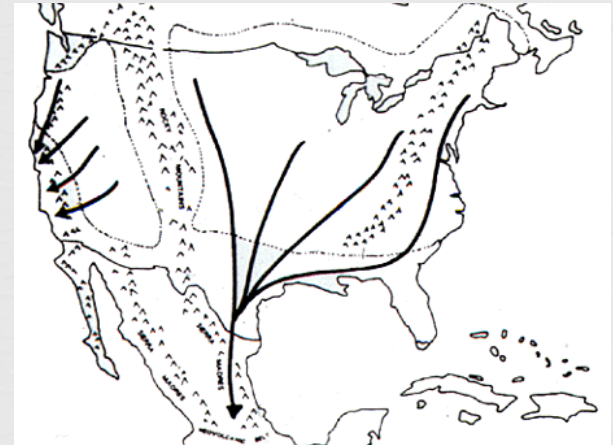
Sophomore Physical Science Class



The answer
I didn't want to give her.



My research/ answer



Adapt curriculum to be more relevant to students' worldview



What did I do?

Science is Everywhere!



Challenge: Tell me the science of whatever you want.



Pre-service Teachers



- ❧ Capstone environmental education class
- ❧ Incorporate technology to lessons
- ❧ History, physical education, reading, problem solving, alliteration, and fun!
- ❧ NIU Geocache Race!

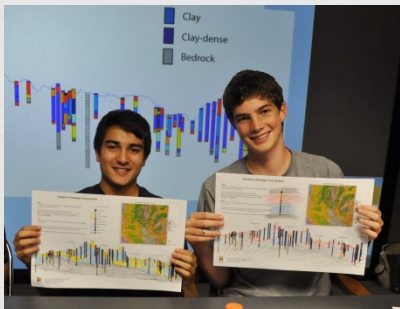


Northern Illinois
University

Prairie Research Institute Science Camp 2013

- 12 students, 50+ scientists
- Rising high school juniors, seniors, and recent graduates
- Exposure to work by scientists
- Instills the value of science education
- Opportunity to job shadow the next year.

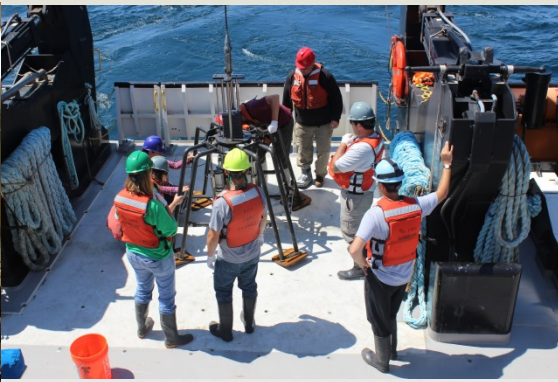




Prairie Research Institute Science Camp 2014

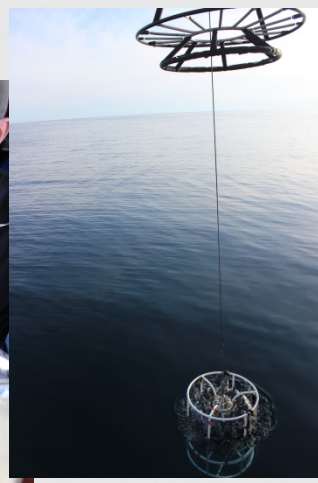
- 12 students, 30 scientists
- Rising high school juniors, seniors, and recent graduates
- Exposure to work by scientists
- Instills the value of science education
- Opportunity to job shadow the next year.






R/V Lake Guardian Lake Michigan Shipboard Science Workshop


- Opportunity for 15 teachers/year
- Week-long trip one of the Great Lakes
- Work with scientists on research
- Great Lakes issues
- Use experience to make science relevant to their students
 - Experiments
 - Scientist connections
 - Hydrolab





the
**MEDICINE
CHEST**

A COLLECTION OF SAFE DISPOSAL CURRICULUM,
ACTIVITIES, AND SERVICE LEARNING RESOURCES



Learn more at:
www.unwantedmeds.com

IISC-10-02



The Medicine Chest

<http://www.iisgcp.org/medicinechest/>

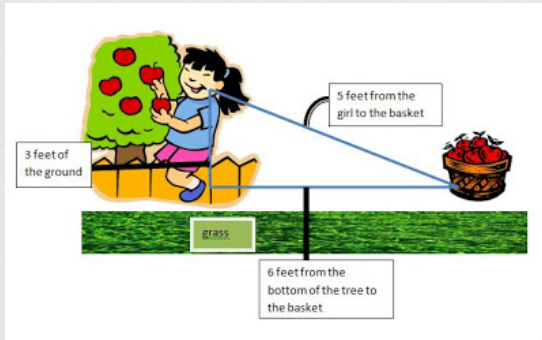
- Metacognitive vocabulary
- Flipped classroom
- NGSS aligned

Explore ways
interdisciplinary content can
be incorporated into all
lessons.



Even the Pythagorean theorem?

Why do I need to know $a^2 + b^2 = c^2$?



Build houses, decks, buildings, and put windows, doors and floors in.

Baseball diamond

Art

Anything that requires a right angle.



Don't stop there!

Tell the story!

- ❧ Greek History
- ❧ Psychology



- ❧ Pythagoras (560-500 B.C.E)
- ❧ Secret Brotherhood of Pythagoreans, devoted to the study of mathematics (cult-like)
- ❧ “Numbers rule the universe!”
- ❧ After completion, sacrificed 100 oxen

ESL Biology

(interdisciplinary approach)

∞ Cultural Biomes = Cultural and Environmental Awareness

Korea

Bosnia

BRAZIL

Mexico

BOLIVIA

Columbia

China

India

Appraising knowledge gained through stewardship opportunities, discussions, and debates



Testing long-term knowledge and not whether or not your
students can guess correctly on a scantron

More of this



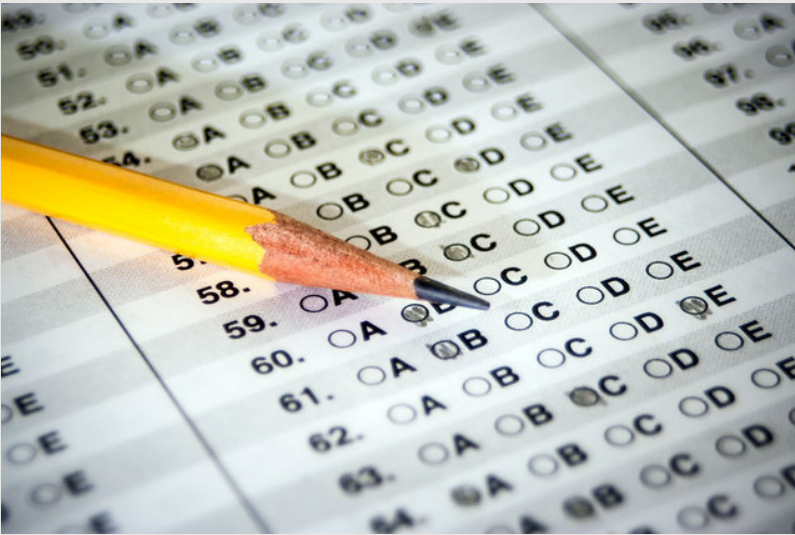
“In school, you can’t always talk about things. In debate, I am free to argue and express my attitude.”

– Charisma

CHARISMA COLES
8TH GRADE
CITY SPRING SCHOOL



Not this



Copyright by Signe Wilkinson

How?



- ❧ Start from the first day of class.
 - ❧ Short essays with specific talking points.
 - ❧ Build with stewardship, discussions, and debates
 - ❧ Insist on including relevance in life.
- ❧ Make the tests shorter, but more meaningful.
- ❧ The final essay is comprehensive and personal.
- ❧ Have your students evaluate the class as to how much they feel they have learned and how they will use it.
- ❧ Incorporate NGSS thinking

Your turn:

Why do I need to know this?



- ❧ Distributive law
- ❧ Optics
- ❧ Pablo Picasso
- ❧ Bacteria or viruses
- ❧ Civil War
- ❧ Isotopes
- ❧ Acids and bases
- ❧ Geologic time
- ❧ Drama
- ❧ Waves
- ❧ Story structure
- ❧ Biomes
- ❧ Balancing a budget
- ❧ Ecology
- ❧ Abnormal Psychology
- ❧ Others...
- ❧ Give rationale, approach (teaching methods), possible outcomes

Share time



Final Quotes



- ❧ I learned this, at least, by my experiment; that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with a success unexpected in common hours. - Henry David Thoreau
- ❧ When teachers complain about your class having “too much fun” during school and it’s making them look bad, respond with “You are the only person that can make you look bad.” - Dr. Robert Carter (NIU)

Questions?



Contact information: walker Kirsten hope@gmail.com or
khw@illinois.edu

Thank you for your time and participation.