

Las Vegas +30
**Personalizing Urban Sustainability with a
 Cyberlearning Curriculum Unit**

Kent Crippen
 University of Nevada Las Vegas
<http://climatechange.education.unlv.edu>

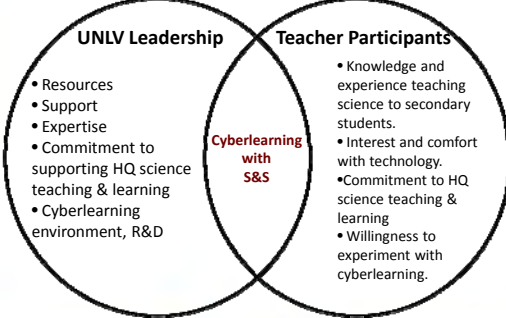
UNLV logo, EPSCoR logo, Nevada Department of Education logo, and funding information from the National Science Foundation (EPS-0901913, EPSCoR-07)

C4D Team

- Las Vegas Area Teachers
 - Nya Berry, Green Valley HS, Henderson, NV
 - Cindy Kern, Green Valley HS, Henderson, NV
 - Jake Rollans, Green Valley HS, Henderson, NV
 - Roxanne Sanchez, Green Valley HS, Henderson, NV
 - Petya Crones, Del Sol HS, Las Vegas, NV
 - Wendy Schmett, Del Sol HS, Las Vegas, NV
 - Abeera Rehmat, Las Vegas Islamic Academy, Las Vegas, NV
 - Rebecca Reichenbach, West Preparatory Academy, Las Vegas, NV
- UNLV Faculty & Graduate Students
 - Kent Crippen, C&I
 - P.G. Schrader, C&I
 - Heather Skaza, Environmental Science
 - Ellen Ebert, C&I

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Collaboration Model



UNLV Leadership

- Resources
- Support
- Expertise
- Commitment to supporting HQ science teaching & learning
- Cyberlearning environment, R&D

Teacher Participants

- Knowledge and experience teaching science to secondary students.
- Interest and comfort with technology.
- Commitment to HQ science teaching & learning
- Willingness to experiment with cyberlearning.

Cyberlearning with S&S

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Goal: How will climate change impact people living in the Western US?

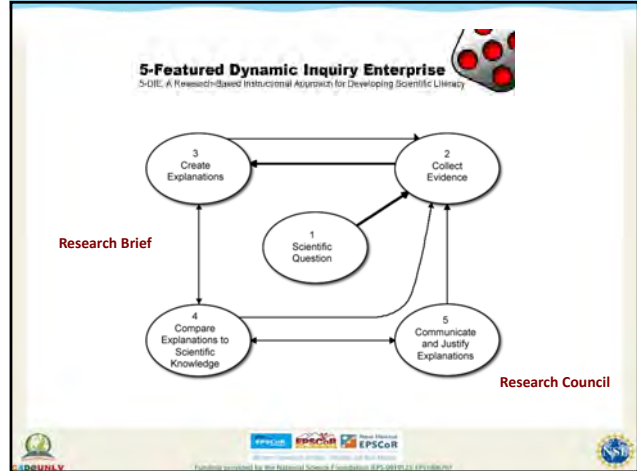


<http://bit.ly/ce2GgC>

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Theoretical & Design Frameworks

- Social Cognitive Theory
 - (Bandura, 1998, 1997)
- Conceptual Change Theory
 - (Dole & Sinatra, 1998; Vosniadou et al, 2001)
- Self-Regulated Learning Theory
 - (Shunk, 2001; Winne, 2001)
- Scaffolded Knowledge Integration
 - (Linn, 2006)
- Four Component Instructional Design (4C-ID)
 - (van Merriënboer & Pirschner, 2007)



Create Explanations

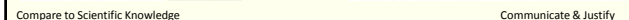
Collect Evidence

5-DIE Example
<http://bit.ly/fvmsW>

What does it take to survive and thrive in Las Vegas 30 years from today?

Compare to Scientific Knowledge

Communicate & Justify









Formative Evaluation

- Green Valley High School
 - Fidelity of the curriculum modules
 - Student outcomes
 - content knowledge
 - autonomy
 - interest
 - efficacy
 - Teacher enactment of inquiry
 - Interaction effect among teachers and students



Thank You

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Western State University of Colorado, Fort Collins, CO 80521
Funding provided by the National Science Foundation (EPS-0039173, EPSCoR-02)