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# BROADENING EXTENSION IMPACT BY CREATING INNOVATIVE LEARNING OPPORTUNITIES

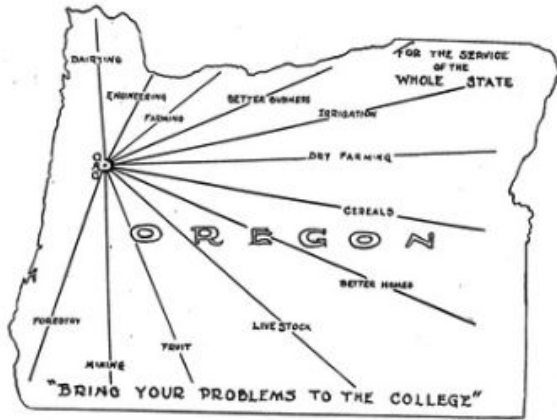


Oregon State  
University



The word "SCOPE" is displayed in a stylized, 3D block font. Each letter is contained within a separate, slightly offset rectangular block. The blocks are colored as follows: 'S' is dark blue, 'C' is light green, 'O' is dark blue, 'P' is light blue, and 'E' is orange. The letters are white or colored to match their respective blocks. The entire graphic is set against a black background, which is itself framed by a thick orange border.

**S** **C** **O** **P** **E**



Map of Oregon published on the cover of the first edition of the Oregon Extension Bulletin in 1912 encouraging the people of Oregon to bring their problems to the college.



Early extension agents in Eastern Oregon, 1915.

“That Cooperative extension work is the most successful adult education movement in all the history of education. It has become great because of effectiveness growing from wide scope and sound organization.” *50-year review of off-campus educational programs*

*Ballard 1911-1961*

“..to you who have known the long dark roads, the night meetings in lonely schoolhouses, the rain, the heat, the mud, the endless round of the daily task...to you we say, ‘Well Done!’”

**B.H. Crocheron, 1946**

**Director of the California Extension Service**

(Rasmussen 2002; Taking the University to the People: Seventy-five Years of Cooperative Extension)

*“County Extension agents constantly live amid change in people and their surroundings”*

**Howard G. Diesslin**

**Retired Executive Director for Extension, National Association of State Universities and Land-Grant Colleges**

*(Rasmussen 2002; Taking the University to the People: Seventy-five Years of Cooperative Extension)*





Face-to-Face



Telephone



Newspaper



Radio



Television



Internet

# Responses to a First Time Use of Internet Inservice Training by Agricultural Extension Agents

R. M. Lippert\* and C. O. Plank

Responses to a post training questionnaire from agents who had never previously participated in an Internet training revealed that they were strongly receptive to this form of training. The questionnaire also clearly showed that the internet can be an effective way to implement an inservice training within the U.S. Cooperative Extension Service.

(Lippert & Plank 1999)

J. Nat. Resour. Life Sci. Educ., Vol. 28, 1999

# Emerging Technologies and Distributed Learning

for publication in  
*The American Journal of Distance Education*

Chris Dede  
Graduate School of Education  
George Mason University  
Fairfax, VA 22030  
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January, 1996

Highlighted emerging  
technologies that would  
reshape both face-to-face  
education and distance  
education.



# DIVERSIFYING COURSE MODALITIES

In-Person

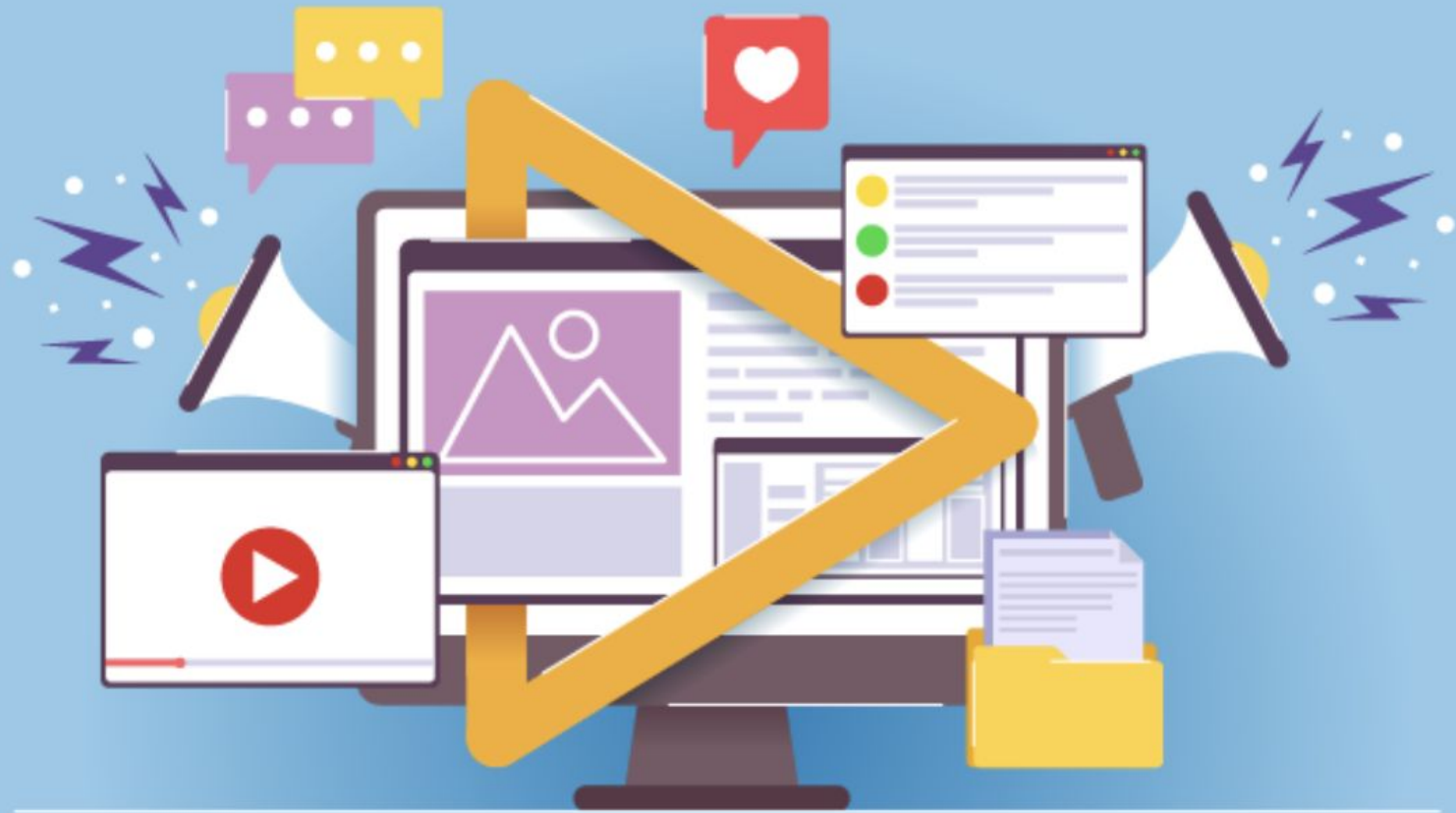


Hybrid



Online



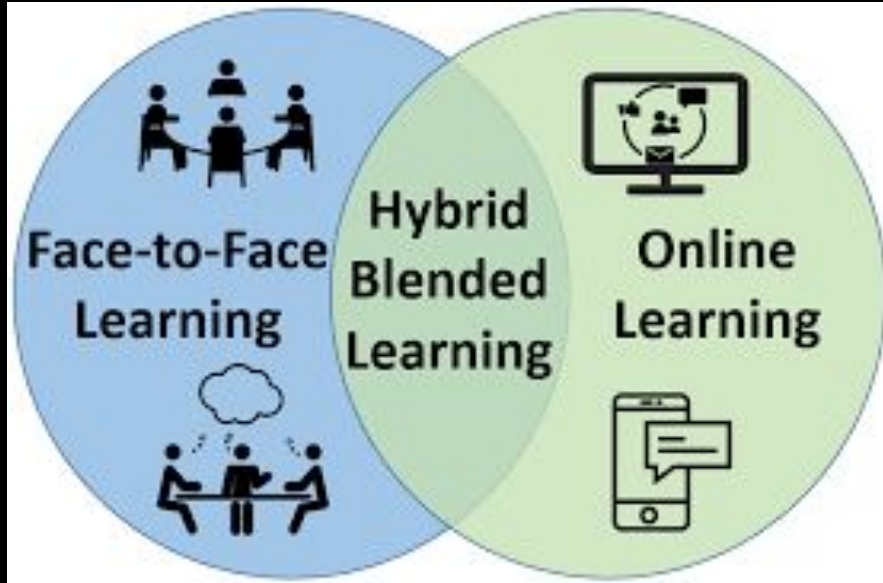


# LAND MANAGEMENT

## PLANNING (Face-to-Face)



Land Management Course:  
7 modules-7 weeks



# LAND MANAGEMENT PLANNING (Hybrid)

Land Management Course:  
7 modules  
4 Face-to-Face (synchronous)  
3 Online (asynchronous)

The screenshot shows the Oregon State University Professional and Continuing Education website. The header includes the university logo, the text "Professional and Continuing Education", and a "Course Login" link with a search icon. The main navigation bar lists "Home", "Courses and Certificates", "Resources", "For Companies", and "About Us". The course title is "LAND MANAGEMENT PLANNING FOR PUBLIC AGENCIES AND PROFITABLE RANCHES - A SELF-PACED COURSE". A video player features Sergio Arispe, an Oregon State University Extension Service specialist, with a video duration of 0:00 / 2:25. A registration sidebar on the right lists the course as "On demand. Access any time.", "Online", and "\$200 (+ \$60 registration fee)", with "REGISTER NOW" and "REQUEST MORE INFORMATION" buttons. A QR code is also present.

# LAND MANAGEMENT PLANNING (Online)

Land Management Course:  
7 Online Modules  
4 Face-to-Face (synchronous)  
3 Online (asynchronous)

# THE PROFESSOR

## (THE ONE STOP SHOP)

- Possesses the content knowledge & technical skills
  - Secure funding
  - Content creation
  - Program planning & management
  - Continuous professional development
- Advantages
  - Efficiency
  - Consistency
  - Control
- Disadvantages
  - Lacks capacity
  - Generalist compared to specialist
  - Risk of burning out



# THE CONTRACTING PROFESSOR

## (THE PROJECT MANAGER)

- Creates content and contracts out technical services ensuring a high-quality product
  - Project management
  - Vendor selection & management
  - Quality assurance
  - Communication
- **Advantages**
  - Cost efficient
  - Access to expertise
  - Focus on core competencies
- **Disadvantages**
  - Dependency
  - Communication Issues
  - Loss of control

# THE COLLABORATIVE PROFESSOR

## (THE TEAM PLAYER)

- Coordinates a team of experts with each contributing their unique skills & knowledge
  - Team coordinator
  - Resource management
  - Conflict resolution
  - Continuous improvement
- Advantages
  - Diverse skill sets
  - Shared workload
  - Peer learning
- Disadvantages
  - Coordination challenges
  - Potential for conflict
  - Consistency

QUESTIONS  
DISCUSSION

# INNOVATIVE LEARNING



(Carmigniani et al. 2011)

Augmented Reality Technologies, systems and applications

CASE  
STUDIES

**VIRTUAL TOUR**  
&  
**VIRTUAL FIELD  
DAYS**



Described as, “...a simulation of an existing location that is composed of a sequence of video images.”

(Osman, Wahab, and Ismail 2009, p, 173).

# Hardware & Software

Software: 3D Vista

Lens: Nikon AF-S NIKKOR 20mm f/1.8G ED Lens

Camera: Nikon D810

Accessory: Nodal Ninja Ultimate M2 Panoramic Head  
With RD8-II Rotator

Stitching software

# BREAKOUT SESSION (20 mins)

Learning Objective: Identify ecological outcomes associated with dormant season grazing in the Northern Great Basin (Southern Idaho, Nevada, Oregon (TBD)).

1. Either in groups, or individually, visit the Fine Fuels Management Virtual Tour website and get a sense of recreating a field tour.
2. Which functions are user-friendly?
3. What experiences pose challenges?
4. What is the best way to measure impact?
5. How may either librarians and/or rangeland personnel use virtual tours?



<https://fine-fuels-vt.anrs.oregonstate.edu/>

# INNOVATIVE LEARNING



(Carmigniani et al. 2011)

Augmented Reality Technologies, systems and applications

# AUGMENTED REALITY

1968

Ivan Sutherland invented the head mounted display in 1966.

- First to create an AR system using an optical see-through head-mounted display.



(Carmigniani et al. 2011)



## DIVE4Ag

### Distant, Immersive, Virtual Education for Agriculture Literacy

The DIVE4Ag project brings Pacific Northwest middle and high school youth opportunities to explore topics in agriculture through virtual reality and other online activities. Together, Oregon State University's Precollege Programs and OSU Extension 4-H Youth Development Program lead the effort with community partners to implement an innovative Agriculture Distance Education Toolkit, expected to be fully launched by November 2022.

#### DIVE4Ag

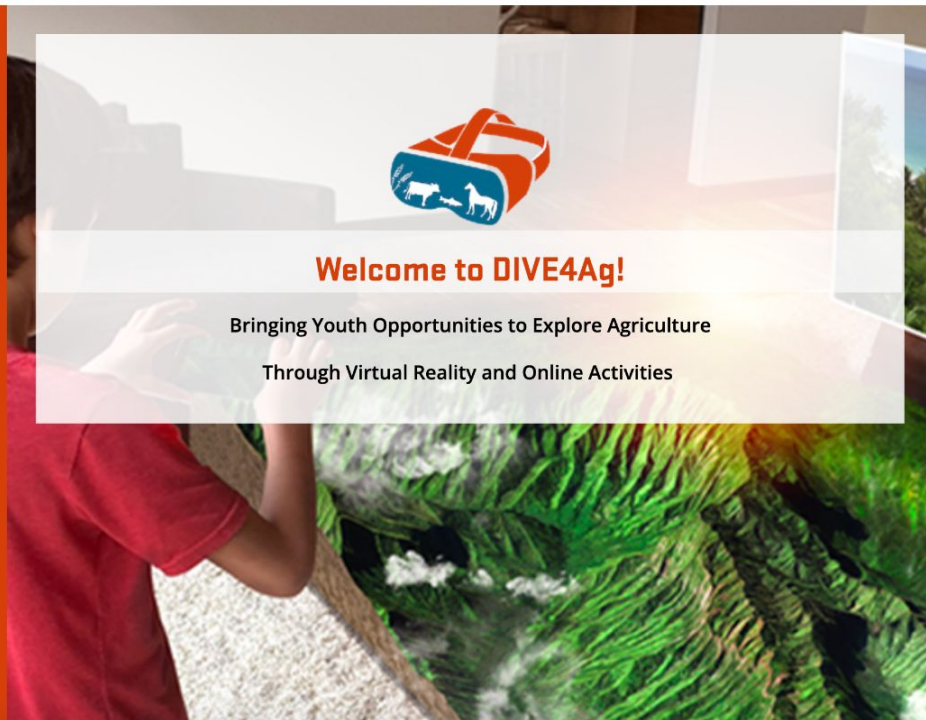
### Educación virtual, inmersiva y a distancia para la alfabetización sobre la agricultura.

El proyecto DIVE4Ag brinda a los jóvenes de escuelas intermedias y secundarias del noroeste del Pacífico oportunidades para explorar temas de agricultura a través de la realidad virtual y otras actividades en línea. Juntos, los Programas Preuniversitarios de la Universidad Estatal de Oregón y el Programa de Desarrollo Juvenil 4-H de OSU Extension



**Welcome to DIVE4Ag!**

Bringing Youth Opportunities to Explore Agriculture  
Through Virtual Reality and Online Activities



## LEARNING OBJECTIVES:

1. Describe important rangeland components and characteristics
2. Identify the largest rangeland ecosystem in Oregon
3. Recall plant groups that promote threaten functionally healthy sagebrush steppe rangelands
4. Illustrate a threat to sagebrush steppe rangelands and actions to improve sagebrush steppe rangelands towards healthy plant communities

## TOPICS:

### ANIMALS



### PLANTS



### SOILS



### WATERSHEDS



### FORCES OF ECOLOGICAL CHANGE



## KEY FACTS & INFO:

1. Sagebrush rangelands provide habitat and support diverse animal species
2. Wildlife are animals that are not domesticated and depend on rangeland animal and plant species
3. Domesticated animals are used to manage sagebrush rangelands and produce value from rangeland plant materials
4. Diverse wildlife species require different habitat elements to meet their life history needs.
5. Sagebrush obligates are animals that depend on sagebrush for survival

1. Fundamental component of rangeland ecosystems that stabilize soil, and via photosynthesis convert sunlight, water, carbon dioxide, and minerals into a source of food and oxygen for insects and animals.
2. Contribute diversity to sagebrush rangelands.
3. Divided into plant functional groups: grasses, ~~forbs~~, shrubs, and trees
4. Identified as either native, introduced, or invasive
5. Diversity contributes to functionally healthy rangelands
6. Invasive annual grasses and juniper expansion are threats to sagebrush rangelands in the Northern Great Basin

1. Sagebrush rangelands soils are abundant and diverse
2. Soil characteristics support different plant communities
3. Retain water and are critical to watershed function and health

1. Sagebrush rangelands serve as important watersheds for capture, storage, and safe release of abundant water
2. Watersheds are important for wildlife, domestic animals, and agricultural production
3. Water sources for many urban and agricultural areas depend on water from rangelands, and as the population grows watersheds on rangelands will be increasingly important

1. Rangelands experience unique challenges due to extreme environments in which they occur
2. Five factors that cause rangelands to change over time include grazing, fire, invasive plants, weather & climate, fragmentation, and management
3. Proper grazing can maintain or promote healthy plant communities while improper grazing can degrade sagebrush rangelands
4. Invasive plants are rapidly degrading sagebrush rangelands
5. Wildfire can have positive and negative effects on rangelands

# BREAKOUT SESSION (20 mins)

1. Either in groups, or individually, visit the Fine Fuels Management Virtual Tour website and get a sense of recreating a field tour.
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<https://dive.oregonstate.edu/virtual-reality-field-experiences>



**CONCLUSION (10 mins)**

Funding Mechanisms