Online Trainings

October 27, 2016

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Webinar Series Outline

• Week 1: Overview, October 13
  – How to develop a training program mission statement, create and perform end-user needs assessments, advertise the training, training promotion, and create a good presentation

• Week 2: Onsite Training, October 20
  – Online versus onsite trainings; how to develop onsite trainings, including training levels (introductory to advanced), training structure, developing case studies and hands-on exercises, timelines, and program evaluation

• Week 3: Online Training, October 27
  – How to develop online trainings, including training levels (introductory to advanced), designing online presentations, developing assignments and exercises, software, and timelines
Learning Objectives

• Understand the key steps needed to develop an online or onsite training

• Learn how to conduct outreach and promote trainings

• Learn how to develop and deliver effective presentations on remote sensing topics and applications
Seven Steps to a Successful Remote Sensing Training

1. Develop a Training Mission Statement (Week 1)
2. Assess End-User Needs (Week 1)
3. Build a Network (Week 1)
4. Training Promotion (Week 1)
5. Develop Training Material (Weeks 1-3)
6. Conduct the Training (Weeks 2-3)
7. Evaluate the Training (Week 2-3)
Week 3 Outline

- Online Trainings
- Training Structure
- Software
- Timeline & Deliverables
- Summary
Online Trainings
Online vs. Onsite Trainings

**Online Trainings**
- Online *live* webinar series; also recorded and freely available on-demand
- 60-90 min per weekly webinar, 3-5 weeks
- Course materials:
  - Presentations and demos
  - Exercises or Homework

**Onsite Trainings**
- Held in a computer laboratory
- 2-7 days in length
- Mixture of lectures and exercises
- Course materials:
  - Presentations
  - Guided Instructions for exercises
Criteria for Choosing Online vs. Onsite Trainings

**Available Resources**
- Onsite: requires considerable resources for both trainers and trainees
- Online: less resources needed since there are no travel costs and trainings are shorter in duration

**Audience Size**
- Onsite: best for <50 people
- Online: can reach hundreds to thousands of people

**Content**
- Onsite: well suited to basic and complex remote sensing topics
- Online: can be basic or advanced; not well suited to certain types of complex analysis or types of remote sensing data
What is an online training?

- Available over the internet live or on demand
- Allows participation regardless of attendee location
- There are many forms of online training:
  - hourly sessions for several weeks
  - multi-day
  - self paced
- Mixture of presentations, live demonstrations, and Q&A
Gradual Learning Process

**Fundamentals Level 0**
- Webinars
- Assumes no prior remote sensing knowledge
- Examples:
  - *Fundamentals of Remote Sensing*
  - *Satellites, Sensors, Data and Tools for Land Management and Wildfire Applications*

**Basic Trainings Level 1**
- Webinars & Workshops
- Requires basic knowledge of remote sensing
- More general applications
- Example:
  - *Introduction to Remote Sensing for Conservation Management*

**Advanced Trainings Level 2**
- Webinars & Workshops
- Requires basic training
- Focuses on specific applications
- Example:
  - *Advanced Webinar: Creating and Using Normalized Difference Vegetation Index (NDVI) from Satellite Imagery*
Training Structure
Considerations for Online Training

• Invite guest speakers
  – Add training topics beyond your team’s expertise

• Work with stakeholders
  – facilitate end-user needs assessments
  – structure the agenda

• To facilitate global participation
  – offer training at multiple time zones
  – provide written transcripts of the training
  – provide training materials in more than one language

• Number of trainers
  – two or more
  – presenting, answering questions, handling technical problems
Types of Online Training

<table>
<thead>
<tr>
<th>Length</th>
<th>Timing</th>
<th>Sharing Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours</td>
<td>Live</td>
<td>Sharing slides with audio presentation</td>
</tr>
<tr>
<td>Days</td>
<td>On-Demand</td>
<td>Self-paced online module</td>
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<tr>
<td>Weeks</td>
<td></td>
<td>Broadcast a classroom presentation</td>
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</tbody>
</table>

- Hours
- Days
- Weeks

- Live
- On-Demand
Question

- What format of online trainings do you present? (e.g.)
  - Sharing slides with audio presentation
  - Self-paced online module
  - Broadcast a classroom presentation
  - Other
ARSET Agenda Example

• Length of time varies from 3-5 weeks
• 1-1.5 hr. webinars, twice a day
• Week 1: NASA satellite missions, models, and resources relevant to chosen application
• Weeks 2-5: Each week covers different subjects within the general topic being covered

Water Resources
• Week 2: Overview of precipitation and soil moisture data
• Week 3: Overview of runoff, streamflow, and reservoir height data
• Week 4: Overview of evapotranspiration and groundwater data
• Week 5: Regional water budget estimation and water resources data

Advanced NDVI
• Week 2: Deriving NDVI from Landsat
• Week 3: MODIS NDVI Time Series
• Week 4: MODIS NDVI Time Anomalies
Training Components

- Lecture
- Demonstrations
- Homework
- Question and answer session
- Evaluation
Lecture

• Keep your audience in mind
  – speak slowly
  – avoid jargon and acronyms
  – avoid idioms

• Provide interactive components to keep the audience engaged
  – polls
  – quizzes
  – forums
Demonstrations

- Purpose: show steps so that participants know how to navigate the webtool or portal
- Pre-recorded vs. live demonstrations

Level 1: Basic Trainings
- Access the portal or website
- Navigate the portal or website
- Show the functionality of the tool
- Download a data file
  - how to import into GIS

Level 2: Advanced Trainings
- Download and access data
- Apply data to real-life scenarios
  - use case studies
- Analyze remote sensing data
- Separate, offline exercises for practice
- Run code
Homework Assignments

• Balance between adequate testing of knowledge and ease of evaluating assignments to provide feedback

• Multiple choice questions are easiest to grade
  – Limited in their ability to test the depth of understanding on the subject matter

• Most effective assignments mix multiple choice and short answer or essay questions

• Provide an incentive to complete homework

• Collection method
Question & Answer Session

- Opportunity for attendees to ask presenters questions
  - also for trainers to ask participants questions
- Opportunity for participant networking
- Can be dispersed throughout the lecture or at the end
- For trainers
  - reframe questions from participants and repeat them
  - designate a single trainer to answer questions

Additional Opportunities for Trainers

- End-user needs assessment
  - What future topics would like see a training on?
- Solicit feedback on webtools and products
  - Have you used Giovanni before? What for?
  - How user-friendly did you find Giovanni?
Program Evaluation

Goals:
• Assess progress toward meeting learning objectives
• Assess the impact of the training
• Provide an ongoing means of improving the program

Tools:
• Surveys
• Interviews
• Focus groups
• Note: these tools are also used to collect end-user needs (see week 1)
Program Evaluation

• Provide an opportunity at the end of the training for people to take the survey
• Send survey reminders
• Possibly: 6-month survey later can assess impact of training
• Question & answer sessions and polls are also a method for program evaluation
• Results can be used to show impact of your program and to justify continued support
Question

• What about the components we mentioned (listed below) have worked or not worked well for you?

• Components:
  – Lecture
  – Homework
  – Demonstrations
  – Question and answer session
  – Evaluation
Software
Considerations

• Broadcasts presenter’s slides, audio, and video
• Make sure webinar rooms are large enough
• Handles:
  – Registration
  – Reminders
  – Emailing attendees link for access
• Method for live interaction with participants
• Good to have a ‘landline’ call-in option
• Ability to automatically mute participant audio
• Recording capability
Question

- Poll: does your program do live, on-demand trainings, or both?

- If your program or organization does online trainings, what software do you use?

- What are the advantages & disadvantages?
Timeline and Deliverables
Timelines & Deliverables
Online Training

4-6 months prior
- develop a preliminary agenda
- begin outreach efforts
- send invitations & presentation guidelines to speakers
- identify modules & case studies

3 months prior
- finalize training agenda
- continue outreach efforts
  - email
  - listserv
  - stakeholders
  - Twitter

2 months prior
- complete/create virtual seminar space
- begin registration
- create webpage
- post final agenda on the website

1 month prior
- complete all training materials
- review and edit materials
- send to be translated (if necessary)
- update survey as needed
Timelines & Deliverables

Online Training

- **3 weeks prior**
  - practice with presenters in webinar software
  - translate materials

- **2 weeks prior**
  - complete training materials
  - upload materials to webinar software & website
  - send training event reminders

- **a day after a presentation**
  - post webinar recording online

- **last day of last training**
  - distribute the first survey

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National Aeronautics and Space Administration

Applied Remote Sensing Training Program
Timelines & Deliverables

Online Training

- 2 weeks after training:
  - send participants a survey reminder
  - update website with all materials

- 6 months after training:
  - send second survey or impact assessment
Summary
Week 3 Outline

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