The Importance of Hands-on Experience in PV Installer Training

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Virginia Carrig is the Operations Manager of the Ulster BOCES Adult Career Education Center and the Renewable Energy Coordinator for its Clean Energy Training Academy in Port Ewen, New York. Carrig has played a leadership role in developing programming in PV, Wind, Solar Thermal and Geothermal technologies and in achieving recent ISPQ Accreditation for the school’s PV program. She holds a BS from Marist College.
Abstract:

Samuel Butler once said, “Don't learn to do, but learn in doing.” This has been Richard Gottlieb's guiding philosophy since he first learned by doing at the Shelter Institute in Bath, Maine where he attended a course in building construction 30-years ago. For six-weeks his class spent each morning in classroom lectures and each afternoon on a job site doing what they had learned that morning. This teaching method so impressed Gottlieb that it became the instructional model that he has employed for the past 25-years as a PV instructor. Teaching first for Solar Energy International and more recently for Greenfield Community College and Ulster BOCES, Gottlieb has successfully trained hundreds of new PV installers utilizing this format of instruction.

Join Gottlieb and Virginia Carrig of Ulster BOCES Clean Energy Training Academy as they explain how they have adapted the “Shelter Institute” model into their ISPQ Accredited 40-hour PV Installer’s Class. Learn how they find “live” installations for hands-on training, how and when they incorporate the training into the class structure, safety concerns, and the overall benefits of field training in the development of a PV installer.

This presentation will include plenty of examples of successful installations completed by students under Gottlieb's careful supervision.
History:

- Shelter Institute
- Solar Energy International
- Ulster BOCES Clean Energy Training Academy
Understanding the Pieces:

- Safety Equipment
- Site Evaluation Tools
- PV Modules
- Putting it all together
  - Mock roof in classroom
  - Ground mount on school property
Mock Roof
Ground Mount
The Ultimate Experience
The “Live” PV Installation
Where to find installations for your class:

1. Instructor Initiated Installations
2. Student Initiated Installations
3. Installer Initiated Installations
Instructor Initiated Installations:

Woodstock Town Hall
Cantine Island Community
Student Initiated Installations:

Ackerly Residence
Installer Initiated Installations:

Kholsa Residence
Mannino Electric
Benefits of Live Hands-on Training:

- Reinforces theoretical concepts explored in the classroom
- Students *may* be able to count the installation towards NYSERDA or NABCEP field experience
- Students get a comprehensive overview of being a PV integrator
Concerns:

- Insurance liability
- Project supervision
  - Maintain 4:1 ratio students to professionals (can utilize former students)
  - Fall safety & shock safety
- Select projects based on safety considerations
  - Do not put novices on a steep roof
Safety, Safety, Safety first! NO EXCEPTIONS!