

RESEARCH REVIEW 2020

CMU SEI Agile Virtual Schoolhouse

William Hayes and Suzanne Miller

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The DoD recognizes an urgency to embrace Agile and DevSecOps principles to deliver capability at the speed of relevance. We have developed a virtual training channel that leverages best-of-breed resources with SEI subject matter expertise in a flexible online format for virtual and remote team education.

Why Talk About Training at a Research Review?



SEI's Agile in Government Research from 2009-2016 identified many of the areas of acquisition, engineering, and management that posed adoption barriers for Agile and Lean approaches.

SEI leadership in this research area provided education that led to legislative and policy changes that are starting to become institutionalized.

The Virtual Schoolhouse is a “low drag” approach for SEI stakeholders to access the research content, its application in DoD programs, and SEI experts who understand both the research and the application context.

The discussions achievable with the Virtual Schoolhouse provide SEI with topics and concerns that inform our research stream.

- How do AI and machine learning play into my use of model-based engineering in my Agile/Lean approach?

The SEI is always looking to evolve its transition approach to meet the needs of the DoD communities we serve—regardless of quarantine status!

Agile Virtual Schoolhouse: Format

The SEI Agile Virtual Schoolhouse delivers a sequence of Learning Packages. Each Learning Package has two key elements:



SELF-STUDY ASSIGNMENT: This is a curated collection of publicly available resources on the Learning Package topic. Participants are invited to view videos and read publications that introduce key insights.



LIVE VIRTUAL CLASS: An SEI subject matter expert will deliver a two-hour online lecture and facilitate group discussion. This live interaction provides a richer exploration of the subject matter introduced in self-study.

Participant Feedback Has Been Positive

100% of Virtual Schoolhouse participants providing feedback confirmed that they've learned something that they can apply to their job.

"Informative teaching from highly knowledgeable trainers with wide experience of applying the principles involved."

"Very good overview of Agile and DoD's software modernization route."

"It's the future, and this is a good place to start."

"Good consistent DoD domain messages, tools and terminology."

"The principles are important. Everyone must understand that before they launch into an Agile project."

"Collects a lot of relevant information into a single package and maintains a consistent thread."

"The speakers had a very good understanding of the topic and could back up the academics with real-world examples, which is rare."

Participant Experience 1: Learning Package Self-Study



Learning Package self-study assignment of curated asynchronous resources that provide

- Shared vocabulary and context
- Combination of popular foundational publications and new thinking
- Bite-size study flexibility for busy schedules

Participant Experience 2: Live Virtual Class with Chat

Some Observable Characteristics of Agile Implementations

Iterative—elements are expected to move from skeletal to completely fleshed out over time, not all in one step

Incremental—delivery doesn't occur all at once

Collaborative—progress is expected to be made by stakeholders and the development team working collaboratively throughout the development timeframe

Modular Architecture—multiple self-organizing, cross-functional teams can work concurrently on multiple product elements (e.g., requirements, architecture, design, and the like) for multiple loosely coupled product components

Dedicated—team members are allowed to focus on the tasks within an iteration/release as opposed to task-switching across multiple projects

Time-boxed or Flow-based—relatively short-duration development cycles that permit changes in scope rather than changes in delivery time frame

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Participants can engage with instructors or with each other via the chat sessions.



[4:02 [PM Brent](#):
2 weeks seems pretty reasonable and broadly utilized in my experience

[4:03 [PM Stephen](#):
it can work at either.

[4:03 [PM Bob](#):
Most folks argued for 30 days, so I was very happy with 2-weeks:)

[4:03 [PM William](#):
agree with that

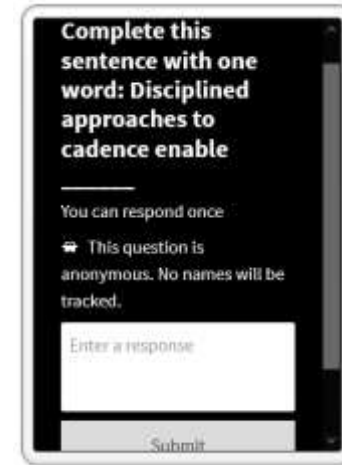
[4:04 [PM Stephen](#):
That's because folks are trying to align to the traditional reporting periods that have been established over decades. 30 days is bringing legacy into the future and not adapting to the very real need for change.

Participant Experience 3: Live Polling

Complete this sentence with one word: Disciplined approaches to cadence enable _____



Answers to this poll are anonymous



Agile Virtual Schoolhouse: Sample Curriculum Excerpt

We customize the SEI Agile Virtual Schoolhouse with topics that address the learning goals of the organization, including the following examples:

Agile in the DoD Landscape

Key insights for DoD adopting Agile principles and methods in DoD programs large and small

Agile/Lean Principles Deep Dive

How Agile and Lean principles inform practices in DoD programs and apply to software-intensive environments

Oversight vs. Insight in Agile Government Settings

Changes from the Program Office viewpoint when working with a contractor using Agile and Lean methods

Agile and Requirements

Models and techniques for transition to an Agile requirements mindset in large-scale systems-of-systems contexts

Agile and Testing

How Program Offices move from a traditional testing strategy to reap the benefits of Agile development

Caveats and Things to Watch Out For

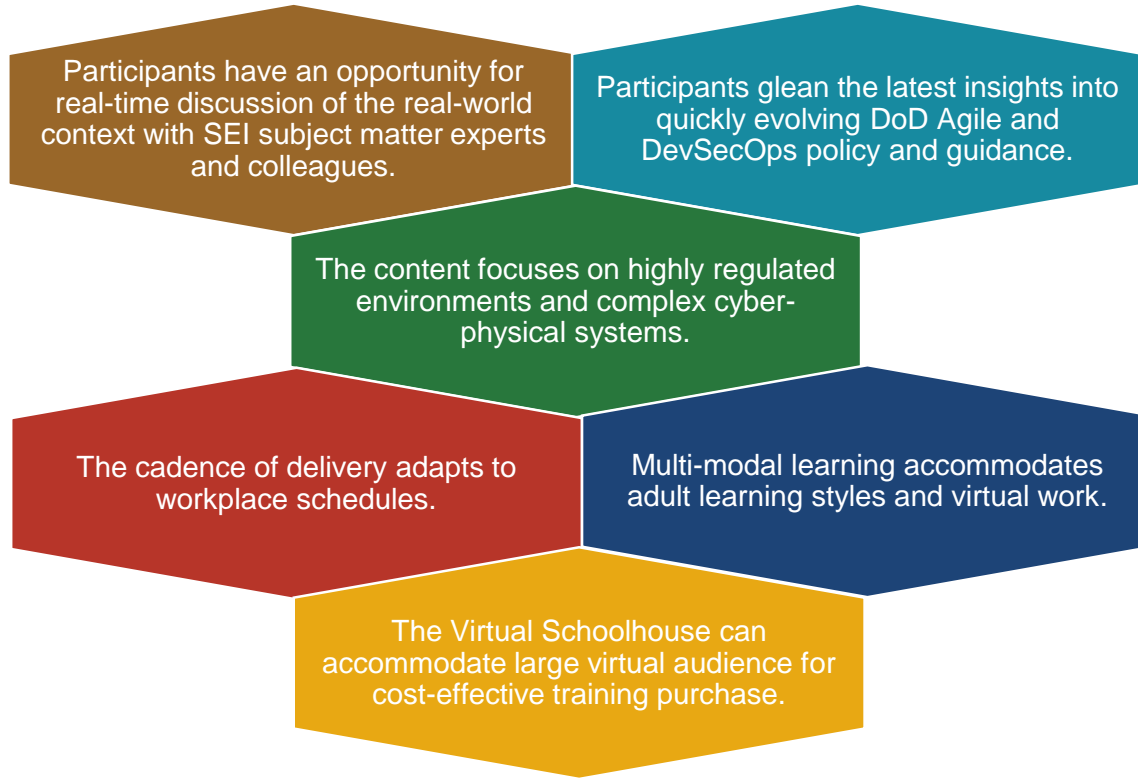
Distro A ONLY! Reminding participants they are in an Unclass Distro A environment frequently mitigates the possibility of inappropriate conversations.

Instructors must not only know academic material but also have domain experience and stories that go beyond “what’s on the slide.”

Instructors must constantly balance seeking evidence of engagement with content delivery.

- Too much “Is anyone listening?” is annoying.
- Too little engenders attention dropping.
- Practicing the Grove Facilitation Model is essential.
 - Attention: orienting to purpose
 - Energy: connecting people
 - Information: drawing it out
 - Operations: getting closure and commitment

Keys to Success



Team Members



William Hayes



Suzanne M. Miller



Crisanne Nolan

Contact: info@sei.cmu.edu