



ICAGILE LEARNING ROADMAP AGILE FUNDAMENTALS TRACK

LEARNING OBJECTIVES



LICENSING INFORMATION

The work in this document was facilitated by the **International Consortium for Agile (ICAgile)** and done by the contribution of various Agile Experts and Practitioners. These learning objectives are intended to help the growing Agile community worldwide and as such this work is licensed under the following license.

Creative Commons Attribution 4.0 International License



<http://creativecommons.org/licenses/by/4.0/legalcode>

YOU ARE FREE TO:

- **Share** — copy and redistribute the material in any medium or format
- **Adapt** — remix, transform, and build upon the material for any purpose.

UNDER THE FOLLOWING TERMS:

- **Attribution** — You must give **appropriate credit to The International Consortium for Agile (ICAgile)**, provide a link to the license, and **indicate if changes were made**. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

NOTICES:

- No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as **publicity, privacy, or moral rights** may limit how you use the material.

SPECIAL THANKS

For the Agile Fundamentals Track, ICAgile would like to give special thanks to the following track contributors.

- Alistair Cockburn
- Ahmed Sidky
- Dennis Stevens



Learning Objectives

1. History & Mindset

1.1. History

1.1.1. Origins of Agile

Many people entering the Agile world see the Agile Manifesto as the beginning of the world, where it was really the summing up of much previous work.

The purpose of this LO is to anchor the ideas of Agile development in earlier work, giving the learners a continuity from the past to the present.

1.1.2. Agile Manifesto

The 2001 Manifesto for Agile Software Development is still the anchor document for all forms of Agile development.

The purpose of this LO is to make clear what was and wasn't intended with 'Agile'.

1.1.3. Agile beyond software development

Agile is gaining increasing adoption throughout the organization.

The purpose of this LO is to introduce the learner to Agile beyond the software development team.

To be acceptable, this LO should include discussion of the tracks in the ICAgile roadmap - which disciplines are covered, and how the tracks integrate with one another to support the entire enterprise.

1.2. Culture & Mindset

1.2.1. Understanding the Agile mindset

Many people come to Agile looking for "the Agile process". However, while some processes and methodologies may be more supportive or common in Agile organizations than others, the mindset must come first.

The purpose of this LO is to help learners understand that Agile is a mindset.

1.2.2. Establishing the Agile mindset

Experiencing the Agile mindset is the best way to establish it in a learner.

The purpose of this LO is to have the learner experience situations in which the Agile mindset is likely to be different, so the learner can internalize the difference experientially, not just in concept.

To be acceptable, this LO should include exercises that allow the learner to experience the Agile mindset.

1.2.3. Agile in context

The level of knowledge and experience held by individuals, teams and organizations can affect behaviors, processes, and adoption.

The purpose of this LO is to introduce the learner to team or organizational development models, so that beginners can see where they are limited and experts can understand their colleagues' limits in applying these ideas.

To be acceptable, this LO should include discussion of shu-ha-ri, Dreyfus, or a similar novice-to-expert development model.

2. Individuals & Interactions

2.1. Creating Shared Understanding

2.1.1. Developing soft skills

Soft skills such as attitude, community, trust and morale have traditionally been left out of team-based design. Agile brings them to the fore.

The purpose of this LO is to highlight how changing community drivers changes work outcomes.

2.1.2. Understanding communication barriers

Projects can be impacted when organizations underestimate the cost of physical and cultural separation.

The purpose of this LO is to review the costs of physical and cultural distances, and to introduce ways to successfully address the communication barriers these can raise.

2.1.3. Sharing knowledge

When teams ignore tacit vs. documented knowledge, they are not able to make conscious decisions about sharing information.

The purpose of this LO is to discuss options for sharing knowledge with current and future team members.

2.1.4. Physical work environments

It is easy to set up work spaces that hinder rather than help the team.

The purpose of this LO is to illustrate concepts of Agile working environments.

To be acceptable, this LO should include examples of work environments that encourage Agile team behaviors.

2.1.5. Collaboration techniques

Collaboration needs to be experienced, not just talked about.

The purpose of this LO is to let learners experience techniques for improved collaboration.

2.1.6. Techniques for shared understanding

The Agile community has adopted several tools and techniques to support shared understanding.

The purpose of this LO is to experience the advantages created by tools and techniques that improve shared understanding.

To be acceptable, this LO should include examples such as information radiators, burn charts, kanban charts, daily stand-ups, etc.

2.2. Shifts in Roles

2.2.1. Shifts in roles

The term "self-organizing" can create concern for individuals and organizations because it infers shifts in traditional power structures. Agile learners and organizations need to define and align old and new role definitions.

The purpose of this LO is to understand what might be meant by "self-organizing" and "self-managing," and where the learner fits in an Agile organization.

3. Value-Driven Development

3.1. Incremental Development

3.1.1. Incremental development

One anchor of Agile development is incremental development.

The purpose of this LO is to understand the concept and value of incremental development, and how it differs from effort- or task-based management.

3.1.2. Value-based work

Many people, even understanding the idea of incremental development, can't see how to break work into small, value-centered work items, and track their progress.

The purpose of this LO is to develop and practice techniques for breaking problems into value-based work, and tracking progress against them.

3.1.3. Retaining quality

It is easy to lose sight of the cost of rework in incremental-iterative development.

The purpose of this LO is to introduce and highlight why Agile developers need to keep an eye on design quality even (or especially) when working incrementally and iteratively.

3.2. Work-in-progress (WIP)

3.2.1. Work-in-progress (WIP)

Work-in-progress (WIP), a term from lean manufacturing, seems to many people a strange concept to introduce outside of manufacturing, but WIP shows up in incremental development.

The purpose of this LO is to describe work-in-progress (WIP), demonstrate how it maps to design work, to incremental development, to multi-specialist and multi-department teams, where it hides on a design project, and why it is useful to track and reduce WIP.

3.2.2. Continuous integration

Continuous integration is a valuable goal in software development; non-software projects can still use the more general concepts of frequent integration.

The purpose of this LO is to introduce the concepts of early, frequent, and continuous integration, and to link them to project effectiveness.

3.2.3. Continuous delivery

Continuous delivery is frequently confused with continuous integration. However, continuous delivery is tied to business rules that take into account a wide range of business decisions, such as marketing, customer support and training.

The purpose of this LO is to define the differences between continuous integration and continuous delivery, and to help the learner understand how continuous delivery can affect broader business operations.

3.2.4. Cost & benefit of frequent delivery



Delivering is not merely giving a demo; it includes costs as well as benefits.

The purpose of this LO is to discuss the benefits, difficulties and costs of delivering frequently.

4. Customer & User Involvement

4.1. Including Customers and Users

4.1.1. Defining the customer

The literature and common usage can be confusing in defining the customer.

The purpose of this LO is to clarify customer-side roles and how they are referred to in Agile methods, particularly sponsor, buyer, and user, and relating them to actual people who need to be satisfied by the project and product.

4.1.2. User involvement

Product/project success correlates with end-user involvement. Many teams face resistance to getting end-users to participate in a project, which then can fail even if the team practiced every other Agile habit besides getting feedback from real users.

The purpose of this LO is to convey the importance of end-user involvement within as well as at the end of iterations.

4.1.3. User feedback

The learner will need a method for engaging users and sponsors mid-project.

The purpose of this LO is to provide the learner with one or more technique for soliciting feedback from users and sponsors.

4.2. Product Adaptation

4.2.1. Product adaptation

An unprepared team can suffer from reacting too vigorously to change requests.

The purpose of this LO is to introduce ways to handle the influx of change requests that come from frequent customer interaction and frequent delivery.

5. Planning & Adapting

5.1. Planning and Adapting

5.1.1. Planning

A misconception of Agile development is that it involves no planning and no promises.

The purpose of this LO is to give learners a view of different planning stages and timeframes, separating release-level planning from daily & task-level planning.

To be acceptable, this LO should include examples of project chartering, release planning, and iteration planning.

5.1.2. Estimation

Expert Agile teams understand the value of estimation during planning.



The purpose of this LO is to give the learner an introduction to different estimation and planning techniques for different granularities and time scales.

5.1.3. Status

A team and its sponsors need to know where it is in its work.

The purpose of this LO is to give the learner at least one technique to track and show the status of the project and the team.

5.2. Process & Project Adaptation

5.2.1. Process adaptation

A common mistake is to imagine that there is a single process that can fit all projects & situations; even a good process becomes mismatched to the team over time.

The purpose of this LO is to show the learner how projects in different contexts need different methodologies (processes or strategies), and why it is important to adapt even within a single project.

5.2.2. Project adaptation

Reflection workshops are necessary for both product and process adjustment. Techniques for conducting reflection workshops are best learned experientially.

The purpose of this LO is to give learners practice in project introspection & reflection.