

# Agile Fundamentals



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# **SPECIAL THANKS**

**ICAgile would like to thank the contributors to the Agile  
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## HOW TO READ THIS DOCUMENT

This document outlines the Learning Outcomes that must be addressed by accredited training organizations intending to offer ICAgile's Agile Fundamentals Certification.

Each LO follows a particular pattern, described below.

### **0.0.0. Learning Outcome Name**

*Additional Context, describing why this Learning Outcome is important or what it is intended to impart.*

The Learning Outcome purpose, further describing what is expected to be imparted on the learner (e.g. a key point, framework, model, approach, technique, or skill).

# LEARNING OUTCOMES

## 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.*

Anchor the ideas of Agile development in earlier work, giving the learners 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.*

Make clear that the Agile Manifesto is a set of values, not a prescription for a particular type of process. Also, learners should be introduced to the fact that the values on the left are preferable to those on the right.

#### 1.1.3. Agile Beyond Software Development

*Agile is gaining increasing adoption throughout the organization.*

Agile methods can extend beyond software development.

### 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.*

Introduce Agile as a mindset and explain that agility is achieved through both "being" and "doing" Agile. The Agile mindset is characterized by things like valuing early failure for learning, collaboration, continuous improvement, continuous discovery, etc.

#### 1.2.2. Establishing the Agile Mindset

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

Allow the learner to experience situations in which the Agile mindset is likely to be different from their current way of working, so the learner can internalize the difference experientially, not just in concept.

#### 1.2.3. Agile in Context (As a Journey)

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

Introduce the learning models that help contextualize the novice-to-expert journeys of individuals, team and organizations. This helps learners relate to

each other and other parts of their organization on an Agile transformation journey

## **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.*

Highlight how changing community drivers affects work outcomes.

#### **2.1.2. Understanding Communication Barriers**

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

Review the costs of physical and cultural distances, and 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.*

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.*

Illustrate concepts of setting up Agile working environments that are conducive to swarming, collaboration and teamwork.

#### **2.1.5. Collaboration Techniques**

*Collaboration needs to be experienced, not just talked about.*

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.*

Experience the advantages created by tools and techniques that improve shared understanding.

### **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.*

Define what is 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.*

Introduce the concept and value of incremental development, and how it differs from effort-based 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.*

Develop and practice techniques for breaking problems into value-based parts 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.*

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.*

Describe 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.*

Introduce the concepts of early, frequent and continuous integration, and link them to project effectiveness.

##### **3.2.3. Cost & Benefit of Frequent Delivery**

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

Discuss the benefits, challenges 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.*

Clarify customer-side roles and how they are referred to in Agile methods, particularly sponsor, buyer and user; relate these roles 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.*

Convey the importance of end-user involvement within, as well as at the end of, iterations.

#### 4.1.3. User Feedback

*Ongoing user feedback is important for maximizing customer value.*

Provide the learner with one or more techniques for soliciting feedback from users and sponsors during an iteration or project.

## 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.*

Review different planning stages and timeframes, separating release-level planning from daily & task-level planning.

#### 5.1.2. Estimation

*Agile teams understand the value of collaborative estimation during planning.*

Introduce the learner to the power of relative estimation using the wisdom of the crowd; Incorporate different Agile estimation techniques for different granularities and time scales.

#### 5.1.3. Status

*A team and its sponsors need to know how the work is progressing.*

Provide two or more techniques Agile teams use to track and show the status of the project and the team.

## **5.2. PROCESS & PRODUCT 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.*

Illustrate to the learner how products/projects in different contexts need different methodologies, processes or strategies, and why it is important to adapt processes even within a single product, project or team.

### **5.2.2. Product Adaptation**

*Products need to be adapted based on learning and feedback, however an unprepared team can suffer from reacting too vigorously to change requests.*

Introduce ways to receive feedback and balance responding to change with product stability and work predictability. These might include not accepting new work during an iteration, having a disciplined Product Owner who re-prioritizes for the team in ways that do not disrupt ongoing work, etc.

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