

Learning Objectives for Scrum Foundations Certified Scrum Master(CSM) Certified Scrum Product Owner(CSPO)

Gene Gendel, Certified Enterprise Coach – Emeritus | Certified LeSS Coach and Trainer

KSTS Consulting, INC | www.keystepstosuccess.com



Scrum Foundations

Learning Objectives





1.1. describe how Scrum is aligned with the values and principles of the Scrum's relationship to the Agile Manifesto 4 values: http://agilemanifesto.org/ and 12 principles: http://agilemanifesto.org/principles.htm 1.2. define Scrum and describe its purpose. Empirical process, light framework, inspection and adaptation. To deliver products/services/value in short cycle time 1.3. list the five core Scrum values. Courage, Commitment, Focus, Openness, Respect 1.4. define empirical process control and list the three pillars. Transparency, inspection, adaptation **1. Scrum Theory** 1.5. explain why Scrum is a framework and list two ways a framework is different from a process or methodology. A methodology is a set of principles, tools and practices which can be used to guide processes to achieve a particular goal. A framework is a loose but incomplete structure which leaves room for other practices and tools to be included but provides much of the process required. 1.6. explain how product planning in an empirical environment differs from traditional fixed planning. Short cycle time, frequent client feedback, 'iron triangle' is not locked, customer-focus, product centricity, concept-to-cash, proximity of gemba and customers 1.7. restate that Scrum exists only in its entirety, and realizing its benefits requires disciplined and dedicated practice. Talk about Scrum cycle: roles, events, artifacts. No false dichotomy: not right vs wrong but rather consistent vs. inconsistent 1.8. describe the benefits of an iterative and incremental approach. Short feedback loop, continuous client feedback, early course-correction, trimming tail, 80/20 benefit...

Gene Gendel, Certified Enterprise Coach – Emeritus | Certified LeSS Coach and Trainer

KSTS Consulting, INC | <u>www.keystepstosuccess.com</u>



	2.1. define the three roles in a Scrum Team, list their primary responsibilities, and illustrate how they interact with each other to deliver the Increment within a Sprint
2. The Scrum Roles	ScrumMaster – Product Owner – Team – Exercise: "who stole my cheese"
	2.2. define a cross-functional team and identify at least three benefits of a cross-functional, self-organizing team
	Fewer: bottle necks, local optimization, Shorter: cycle time, feedback loops Autonomy, independence, safety,
	2.3. describe the impacts of people performing multiple Scrum roles.
	Conflict of interest Confusion to people outside of Scrum Getting all types of work partially done but none of work fully done Viewing Scrum, as trivial



3.1. explain the concept of a time-box and state that all Scrum events are time-boxed.

Why timebox?, Talks about time boxing of each Scrum event.

It is over when it is over. Limit topics and depth of discussion.

3.2. list at least three benefits to time-boxing.

Repetitiveness, discipline, focus.

motivates closure, improves predictability.

3.3. list the five events within Scrum, define the purpose of each event, and identify the participants, timing, and maximum recommended time-box

3. The Scrum Events

Daily standup – Team, SM. Up to 15 min PBR – 10-15% of sprint. Team, SM, PO SP 1 – 2h for 2w sprint (Team, SM, PO), SP 2 - 2h for 2w sprint (Team, SM) Sprint Review - Team, PO, SM, SME/stakeholders Retrospective - Team, SM

3.4. describe that quality should not be sacrificed.

Rework, paying more in a long run, unhappy customer Developers' "magic toolbox"

3.5. discuss a scenario when a Product Owner may consider Sprint cancellation and identify at least two alternatives.

Dramatic change of strategic priorities.

Alternatives: postpone work till next sprint, partially swap work items for the ones that were not started yet.



	4.1. list the three artifacts within Scrum and define the purpose of each.
	Product Backlog
	Sprint Backlog Product Increment (PI)
	· · · · · · · · · · · · · · · · · · ·
4. The Scrum Artifacts	



	5.1. define the definition of "Done" and the purpose for the Scrum Team.
	DoD vs. DoR. Mention Undone (and types of handling it). Understanding when PI is done, how well a team progresses towards sprint-end
	5.2. restate that the definition of "Done" evolves over time.
5. Artifact Transparency	It matures, expands. UNDONE - shrinks
	5.3. identify at least two reasons why the Scrum Team dedicates time for Product Backlog refinement
	Prep for next sprint, estimate work, keep informed up changing priorities, forecast completion of bigger features,
	5.4. list at least three activities that might be discussed as part of Product Backlog refinement.
	Priorities Dependencies -> opportunities to work together Estimation



Learning Objectives





	Scrum Theory
	1.1. describe how the values of Scrum — focus, courage, commitment, openness, and respect — are present in a specific Scrum event, artifact, or role.
	just give examples of each.
	Scrum Roles
	1.2. list at least three rights and five responsibilities of the Product Owner, Development Team and Scrum Master
	3 Rights: decide on work and its priorities, push back on requests coming through other channels, decide 'how' work gets done, self-manage/make decisions 5 Responsibilities: deliver PL meet DoD, follow/coach/stick to Scrum process, keep backlog visible/transparent, manage biz expectations
	1.3. discuss at least two reasons why the Product Owner is a single person and not a group or a committee
1. Lean, Agile, and Scrum	Single source of truth for team (death by committee). Avoidance of conflict of interest Better for Biz to streamline priorities and decide on strategy
	1.4. discuss how and why the Product Owner maintains authority over the product while working collaboratively with the Development Team and stakeholders to gather their ideas, feedback, and input.
	Strategy, vision – for product. Main person to set priorities (not clarifications). One man should be in charge of priority setting.
	1.5. list at least five characteristics of the Development Team.
	Co-located, cross-functional, long-lived, flat-orged, self-managed, 3-9 people.
	1.6. identify at least three negative consequences that arise when the Development Team consists of fewer than three or more than nine people.
	If <2, not enough skill-set, domain knowledge. If >9 – too many handovers, dependencies, communication nodes, risks of over-commitments, high WIP, attempts to manager
	1.7. state at least two reasons why no one can force the Development Team to work from a different set of requirements than the Product Owner's.
	Impact on capacity →attention/focus dilution → multi-tasking/task-switching → priorities not met Should be only one single source of truth, multiple tactical problems are being sold. Loss of strategic vision



1. Lean, Agile, and Scrum	1.8. give one example of how a Scrum Team will inspect and adapt and increase transparency at each of the Scrum events
	Daily standup – scrum board, burn-down chart, escalation of impediments PBR – dependencies, estimation of work SP 1 — validating historical velocity vs. expected capacity, forecasting upcoming sprint scope SP 2 – break down of PBIs into small tasks Sprint Review - show, review PSPI, receive feedback Retrospective - identify process impediments
	1.9. describe at least three responsibilities for the Development Team, Product Owner, and Scrum Master during Sprint Planning, Daily Scrum, Sprint Review, and Retrospective.
	To be honest, fair and respectful To be proactive and engaging To be collaborative, supportive of each other. Shared ownership, learning.
	Sprint and Increment
	1.10. describe at least two reasons why the Sprint goal does not change during a Sprint.
	Re-planning is costly, user expectation, Minimize task-switching leads to lots of waste
	1.11. define the outcome of every Sprint and describe at least three reasons why that is important
	PSPI –adds to PI Feedback from customers Learning/improvement of the process
	1.12. discuss at least three reasons why the Increment must be brought to the current definition of "Done" regardless of whether the Product Owner chooses to release the Increment
	PO may want to release at any point later so PI should be ready To avoid the problem of 'undone' work after sprint. To minimize technical debt in a backlog. Predictability of delivery. Cadence.



Sprint Planning

1.13. discuss the focus of the activities of the Product Owner and Development Team during the two topics of Sprint Planning: the "What" and the "How."

What: Overall strategic goal, Sprint Goal/scope, understanding of historical Velocity/Overall, team capacity How: how to do work, breaking down PBIs/estimation/dependencies/skill capacity, individual availability.

1.14. practice writing a Sprint Goal and identify at least two benefits of having a Sprint Goal.

-should be based on some example of product/service..

Daily Scrum

1.15. discuss at least three ways the Daily Scrum differs from a status meeting and why the various constraints exist to support the Development Team.

3 differences: by the team- for the team, work/baton-centric, not 'who did what', very short (timeboxed), explicit visualization of WIP, less focus on 'how much time spent', only team is present (no managers)

1.16. identify at least three possible structures the Development Team could use to run the Daily Scrum within the time-box

Round-robin (by person), by PI (high to low in priority), impediments first, or work that is in WIP only

Sprint Review

1.17. describe at least three of the activities that take place during the Sprint Review that pertain to work beyond what has been completed in the Sprint,

Identifying future improvements/additional PIs, gauging overall progress against a backlog/degree of completion (strategic), hearing feedback from SMEs, stakeholders

1.18. identify at least three potential outcomes for a Sprint Review.

Updated Backlog, PSPI is being shipped/or not shipped. Suggestions for next sprint. Actionable/Input into a Retrospective. Updated historical Velocity. Changes to DoD

1. Lean, Agile, and Scrum



Sprint Retrospective

1.19. explain at least three distinct responsibilities for the Scrum Master during the Sprint Retrospective.

catalyze/facilitate, prevent from galvanizing, gearing towards actionable

Product Backlog

1.20. describe at least two responsibilities of the Development Team, Product Owner, and Scrum Master in the development and maintenance of the Product Backlog.

Two: deliver highest value first. Keep customers/SMEs informed of progress.

1.21. identify at least three essential characteristics of the Product Backlog.

Prioritized, Estimated, shared (no individual, or team-specific)

1. Lean, Agile, and Scrum

1.22. list at least four attributes of a Product Backlog item.

INVEST-able

Sprint Backlog

1.23. identify at least three essential characteristics of the Sprint Backlog.

Prioritized, estimated, team-specific

1.24. explain how the Sprint Backlog can be changed, who can make changes, and the limits of these changes.

Add/remove/swap - by team, at POs discretion



	Definition of Done
	1.25. identify at least two reasons why multiple teams working on the same Product Backlog must have a shared and consistent definition of "Done."
	Shared PSPI (lowest common denominator) – shared integration points. Tech. dependencies. Avoiding Local Optimization (e.g. by component team)
	1.26. describe at least three opportunities where the Scrum Team might adapt their definition of "Done" to meet new insights or circumstances.
	Additional skill-set acquired./Undone work shrinks Engineering practices improved (e.g. test automation, CI). Stricter product requirements come to surface Product definition expands and more teams join
1. Lean, Agile, and	
Scrum	1.27. explain the importance of a strong definition of "Done" and describe at least two risks associated with a weaker definition of "Done."
	Production-ready PSPI Risks: un-done work (hardening, stabilization sprints), not potentially shippable / mismanaging PO/customers expectations
	1.28. outline at least one way to create a definition of "Done."
	Look at 'UNDONE' work and decide what can be gradually chipped away from it, in favor of DOD List all things that render a PBI as shippable, including tech and non-tech dimensions Acceptance Criteria + list of all activities that need to be completed before DoD is met



Facilitation

2.1. list at least three ways the Scrum Master could facilitate for the Scrum Team.

Ask questions and reflect on observations

Facilitate with system modelling

Share past experiences

2.2. demonstrate at least three techniques for facilitating group decision making

-system thinking

2. Scrum Master Core Competencies

-Breaking in pairs/discussing/voting \rightarrow winner goes on to another round --Dot voting/Planning Poker to vote on what earns highest priority (as opposed to complexity). Coaching 2.3. state a distinction among facilitating, teaching, mentoring, and coaching. --CLASSIC: what we expect people to know on CEC/CTC application 2.4. list at least three different challenges facing a self-organizing team. -Lack of authority -Interference from first-line management -Individual performance based motivation and incentives 2.5. practice the implementation of at least one Retrospective technique that could help to resolve a challenge faced by a self-organizing team. Try one of the techniques, described in 2.2. e.g. SYSTEM THINKING



3.1. define servant-leadership

Cover: ownership, empowerment, command-control, Theory X vs Y, Expect-Achiever-Catalyst, inverted organization, team maturity over time...

3.2. describe three scenarios where the Scrum Master acts as the servant-leader for the Development Team servant-leadership

Removes internal/escalates external impediments, coaches others, claims no ownership of deliverables, helps team own their decisions, not rent from SM

3.3. discuss at least one scenario in which the Scrum Master, acting as a servant-leader, improved at least one aspect of the Development Team.

Request an example from Group. As an example, use: escalation of lack of shared work space for a collocated team (re: caves & common)

3. Service to the Development Team

3.4. identify possible violations of Scrum by a Product Owner or stakeholder who is applying excessive time pressure and illustrate how to address them.

Asking to do more work in a sprint than historical velocity and capacity suggests. How to address: talk about WIP, multi-tasking, task switching, 80/20 rule, technical debt...- as potential results of violation

3.5. define technical debt and explain the impact of accumulating technical debt.. define servant-leadership

Anything that prevents releasing a beautiful product: bugs, lack of unit testing, lack of automation, lack of technical skill set.

3.6. list at least five development practices that will help Scrum Teams deliver a high-quality product Increment and reduce technical debt each Sprint.

TDD, CI/CD, unit testing, pair – programming, test automation, trunk-based development

3.7. list at least three ways development practices may impact the Development Team's ability to deliver a potentially releasable Increment each Sprint. define servant-leadership

Long-lived branches. No TBD.

Lack of Zero-bug policy – too many buggy features

Lack of CI/CD – too much 'undone' work and the need to have stabilization and hardening

Lack of test automation: to much untested work by end of sprint (\rightarrow undone work)



Certified Scrum Master (CSM)

Value of Development Practices

	4.1. identify at least three collaboration techniques that a Product Owner can use to work with the Development Team or stakeholders
	-User role modelling (for new products) -Story mapping -Customer/User journey /Business value stream
	4.2. explain at least three ways the Scrum Master could support the Product Owner.
4. Service to the	Promoting rules/guidelines of Scrum and educating Product Owner Amplifying to Team importance of prioritization Protecting Team from external distractions
Product Owner	
	4.3. list at least two benefits that arise if a Product Owner participates in the Sprint Retrospective.
	Hears about Team's issues and can empathize Provides direct feedback to Team

Leaves with his/her own TO-DO items



Impediment Removal
5.1. discuss at least two ways that the Scrum Master assists the Scrum Team with responding to impediments
-helping identify who will take them on -escalating to sr. management
5.2. discuss at least three common organizational impediments outside the scope of a team that can affect the effectiveness of Scrum Teams.
Geographic distribution End-of year Fixed Budgeting Individual performance appraisals
Coaching the Organization
5.3. describe at least one example of a major organizational design change implied by implementing Scrum.
Org design flattening. Abolishing first line management.
5.4. discuss why Scrum does not have a project manager and what happens to traditional project management activities
It is a self-management process, by a team. Responsibilities are given to Team and PO.
5.5. describe at least two stakeholder behaviors that support the Scrum Team's success and at least two behaviors that do not support the Scrum Team's success.
2 that support: plenty of clarifications/availability. All new request to PO only 2 that don't support: side-orders, lack of availability, lack of knowledge
5.6. describe at least two benefits that could be lost if Scrum is only partially implemented.
Loss of empirical process of inspection and adaptation Lack of shippable product



Learning Objectives

1. Product Owner Core Competencies 2. Describing Purpose and Strategy 3. Understanding Customers and Users 4. Validating Product Assumptions 5. Working with the Product Backlog



	Fundamentals of the Product Owner Role
	1.1. describe at least three distinct responsibilities of the Product Owner and at least two benefits of mastering the role.
	Clearly expressing Product Backlog items; • Ordering the items in the Product Backlog to best achieve goals and missions; • Optimizing the value of the work the Development Team performs; • Ensuring that the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next; and, • Ensuring the Development Team understands items in the Product Backlog to the level needed.
	1.2. identify the impact on a Scrum Team and organization of at least three anti-patterns that might exist for Product Owners.
	1.3. discuss at least three types of organizational contexts that affect the approach to the Product Owner role.
1. Product Owner Core Competencies	Working with Stakeholders
	1.4. use at least one technique to provide transparency to stakeholders on progress toward goals.
	1. E. list at loost three techniques to engage stakeholders to gether information or insights
	1.5. list at least three techniques to engage stakeholders to gather information or insights.
	1.6. list at least three different decision-making approaches a Product Owner might use.
	1.7. discuss at least two situations where the Product Owner might act as a neutral facilitator and when they might use a different engagement approach.



	Working with the Development Team
	1.8. describe how the Product Owner collaborates with the Development Team for activities such as defining "Done" and backlog creation, refinement, and ordering.
	In PBR
	Product Ownership with Multiple Teams
	1.9. list at least three challenges of being a Product Owner with multiple teams.
1. Product Owner Core	Personal capacity (prioritization vs. clarification) Being in charge of a bigger/wider product that is harder to manage Servicing a wider array of users and customers
Competencies	



	Product Strategy
	2.1. describe vision and practice the creation of a product vision.
	Mission is a general statement of how you will achieve your vision. Strategies are a series of ways of using the mission to achieve the vision. Goals are statements of what needs to be accomplished to implement the strategy. Objectives are specific actions and timelines for achieving the goal.
	2.2. describe strategy and relate it to mission and goals.
	See above
	Product Planning and Forecasting
2. Describing Purpose and Strategy	2.3. describe at least three different strategies for the incremental delivery of a product.
	-intra sprint -end of each sprint -compiling a few sprints worth of PSPI and delivering at once (MMF)
	2.4. explain at least three techniques to plan product delivery over time.



	3.1. describe why a Product Owner performs discovery and validation work.
	Strategist, visionary
	3.2. illustrate at least one approach for segmenting customers and users.
3. Understanding Customers and Users	Ppl who use. Vs ppl who pay
	3.3. practice at least one technique to prioritize between conflicting customer (or user) needs.
	BV (numerical) vs. Complexity
	3.4. describe at least three aspects of product discovery and identify how each contributes to successful product outcomes
	 Discovering new customers Discovering new customer needs Discovering unknown dependencies
	3.5. use one technique to describe users and customers, their jobs, activities, pains, and gains.
	As in 3.2. above + definitions Customer Journeys
	3.6. list at least three ways to connect the Development Team directly to customers and users, and describe at least three benefits of Development Team direct interactions
	How: "just talk", PBRs, lunch & learn, Sprint Reviews Benefits: less misunderstanding, shorter cycle time to respond, building trust.



	4.1. describe how Scrum supports validating product assumptions.
	Short feedback loop/cycle time. Sprint Reviews -→ Frequent deployments
	4.2. list at least three approaches to validating assumptions by their cost and the quality of learning.
	Make an assumption → roughly estimate cost of an effort → estimate financial impact → make an effort → see how it materializes → retrospect (quality of learning)?????
4. Validating Product Assumptions	4.3. describe at least one approach to choosing which assumption should be validated first.
	Plot all assumptions on X-Y pane. Y – impact (or risk of NOT doing something). X – costs. Pick one that has highest impact lowest cost.



	Differentiating Outcome and Output
5. Working With The Product Backlog	5.1. describe the relationship between outcome and output.
	Output = velocity. Outcome = business impact
	5.2. describe at least three attributes of a Product Backlog item that help assess maximizing outcome.
	Increment is the sum of all the Product Backlog items Increment must be "Done," Increment is inspectable, useable condition. Defining Value
	5.3. define value and list at least two techniques to measure value.
	-value = business impact -customer satisfaction, customer base increase/retention -ROI: direct mapping of investment/effort to financial benefit
	5.4. describe value from the perspective of at least three different stakeholder groups.
	 Project team – learning, career growth, improved life style, financial rewards (team level) Sponsors - return on investments Customers – useful features that make user experience more pleasant and efficient
	5.5. list at least five terms and definitions related to product economics that contribute to financial success.
	Batch size, cost of holding/inventory, cost of shipping, cycle time/lead time, quality deprecation
	Ordering Items
	5.6. describe at least three criteria for ordering the Product Backlog.
	Business Value . Sizing (Volume of effort + complexity). Dependencies



Creating and Refining Items 5.7. identify at least three sources of Product Backlog items. -Team (identified technical work that needs to be done) -Other Teams (to address dependencies) -Product Owner / SMEs business 5.8. describe at least three techniques for generating new Product Backlog items and create at least one Product Backlog item that includes description of desired outcome and value. Discussing Customer Journey/Workflow, -Talking to end-users. Interviewing them for their 'daily needs', -Breaking down big stories (epics) into small ones, reviewing technical debt (finding stories that are technical only, e.g. code refactoring,) 5.9. list at least three techniques to enhance customer or user contribution to creating Product Backlog items. Story mapping, Customer Journey/Value stream mapping, "what is my day like" - exercises 5. Working With The 5.10. describe at least one approach to Product Backlog refinement. **Product Backlog** In priority order. Epic decomposition into INVESTable pieces \rightarrow picking highest priority and estimating. 5.11. recognize the pros and cons of a "just-in-time" approach for Product Backlog refinement vs. an "all-at-once" approach Just in time: PROS: no overwork, latest info, highest value first. CONS: not enough time to get all info, unforeseen dependencies All at once: PROS: comprehensive view, the big picture, enough time to think. CONS: to much overwork, waste. Risk of biting too much to swallow 5.12. use at least three tools to communicate the purpose and intent of Product Backlog items to improve the Development Team's shared understanding. System usability metrics (e.g. number of failed log ins) Monthly sales results - Customer feedback (e.g. survey) 5.13. explain at least two approaches to identify small, valuable, and releasable subsets of a big idea or feature. -Work backwards from a specific customer need (even very small) -Work forward, from a big request (epic), by splitting something that is INVESTable



References

Self-Study the following:

- http://www.scrumguides.org/docs/scrumguide/v2017/2017-Scrum-Guide-US.pdf#zoom=100
- <u>https://www.scrumalliance.org/learn-about-scrum/scrum-elearning-series</u>
- <u>http://scrummasterchecklist.org/</u>
- <u>https://www.crisp.se/wp-content/uploads/2012/05/Scrum-checklist.pdf</u>

Learning Objectives:

- <u>https://www.scrumalliance.org/ScrumRedesignDEVSite/media/ScrumAllianceMedia/Files%20and%20PDFs/Certifications/Foundational/Scrum-Foundations-LOs-2018.pdf</u>
- https://www.scrumalliance.org/ScrumRedesignDEVSite/media/ScrumAllianceMedia/Files%20and%20PDFs/Certifications/CSM/CSM-LOs-2018.pdf
- <u>https://www.scrumalliance.org/ScrumRedesignDEVSite/media/ScrumAllianceMedia/Files%20and%20PDFs/Certifications/CSPO/CSPO-LOs-2018.pdf</u>
- https://www.scrumalliance.org/ScrumRedesignDEVSite/media/ScrumAllianceMedia/Files%20and%20PDFs/Learning%20Objectives/E_CSM_LO_5-20-21.pdf
- <u>https://less.works/courses/less-basics-learning-objectives.html#LearningGoals</u>

The following could be a short guideline for a student to monitor their learning:

- CSM <u>https://www.scrumalliance.org/ScrumRedesignDEVSite/media/pdfs/CSM-Test-Content-Outline.pdf</u>