



Kanban
University



Scrum Better with Kanban

Applying Kanban principles and practices in Scrum.

Silke Noll

Yes We

KANBAN



Kanban university copyright

Scrum Better with Kanban

Applying Kanban principles and practices in Scrum.

All material in this document copyright © 2023 Kanban university.

This material is distributed only to registered attendees of Kanban university and its network partners training classes. It is not permitted to re-distribute this material or to use it in other training classes or workshops, with or without charge. It is not permitted to re-use parts of this training material in your own presentations or publications without permission.

If you wish to license this material for use in training sessions, please contact Kanban university. Email: info@Kanban.University

Introduction to the class

Getting started, meeting the class, and learning about your Scrum implementations

What is your purpose for attending this class?

What do you hope to take away?

- Write your top 3 reasons for attending Scrum better with Kanban in your workbook.
- Put them in short words in the purpose area on the board.



Describe your Scrum implementation

- In your workbook, describe what is taking place in your Scrum Team(s).
- Place them in short words on the board. Into the categories of planning the work, doing the work, reviewing the work, improving the process, and things that are not Scrum.



STUDENT COPY

STUDENT COPY

STUDENT COPY

Structure of the class

1 Introduction of the class

2 Introducing the Kanban method

3 Using Kanban

4 Understanding change

5 Closure

STUDENT COPY

Module 02

STUDENT COPY

The Kanban method

For Scrum practitioners

STUDENT COPY

STUDENT COPY

What do you already know about Kanban?

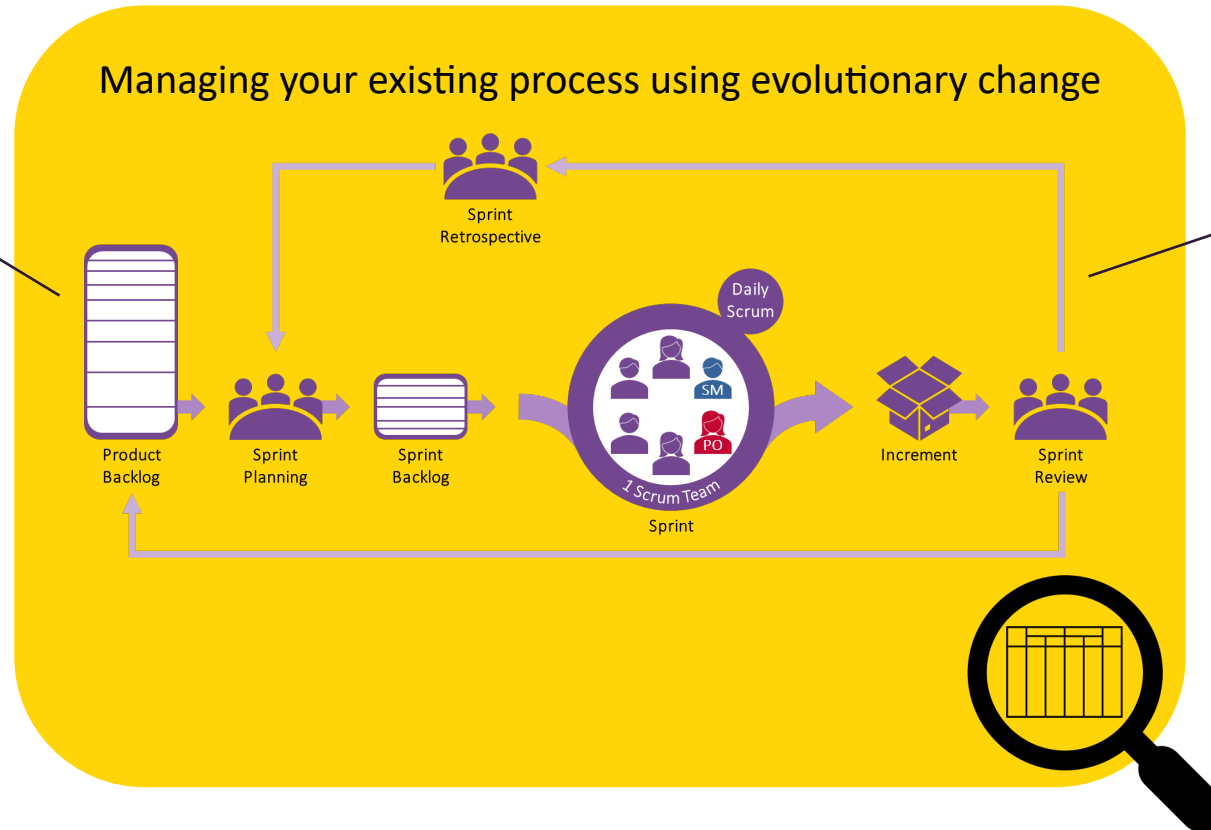
- Take a minute and make a few notes. Not more than 3 items.
- When signaled by the trainer, put your items on the board.
- Anything is acceptable.



Scrum and Kanban framework, methodology, or method

Scrum is a lightweight framework. It is purposefully incomplete, only defining the parts required to implement Scrum theory.*

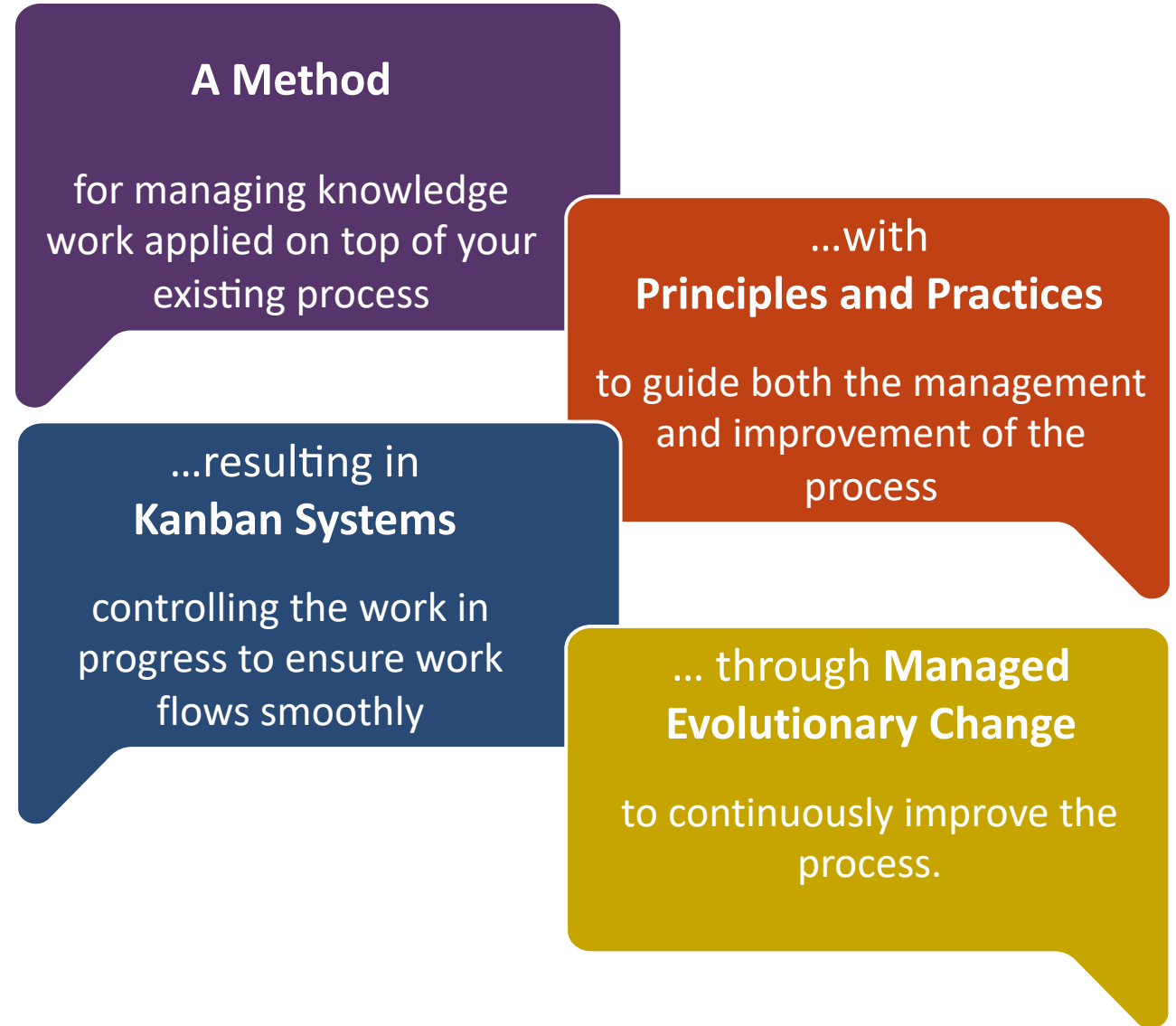
*The 2020 Scrum Guide



Kanban is a method for managing evolutionary change that is applied on top of your existing process for knowledge work.

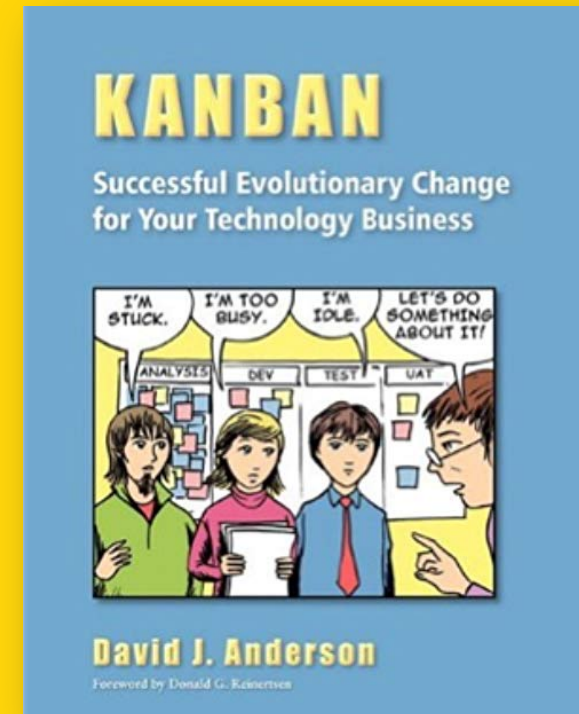
What is Kanban?

For now, remember:



Origins of the Kanban method

- Basic values shared with lean.
- Kanban was pioneered by David J Anderson in 2004/05 at Microsoft.
- Kanban has been adopted to knowledge work.
- Kanban is used today in many service industries.



Change management principles



1. Start with what you do now:
 - Understanding current processes, as actually practiced;
 - Respecting existing roles, responsibilities, and job titles.
2. Gain agreement to pursue improvement through evolutionary change.
3. Encourage acts of leadership at all levels.

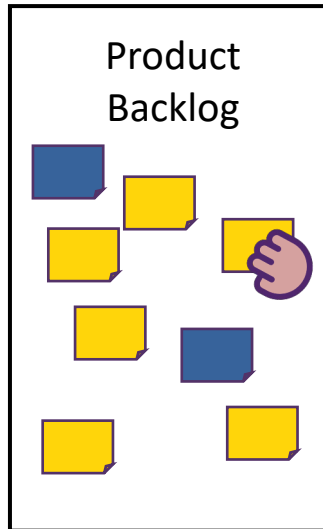
Start with what you do now

- Your organization has a set of services that deliver something of value to the customers.
- Within each of those services is at least one system.
- Let's dive into each of these concepts.

What is a service?

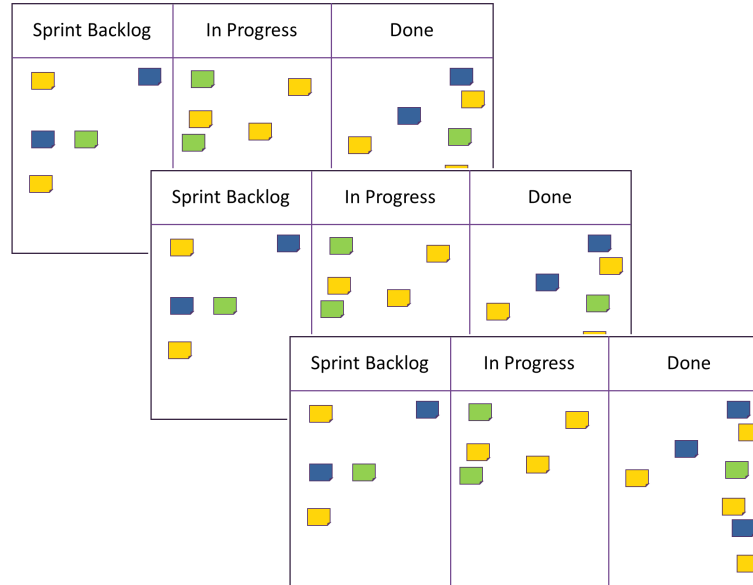


Service and systems



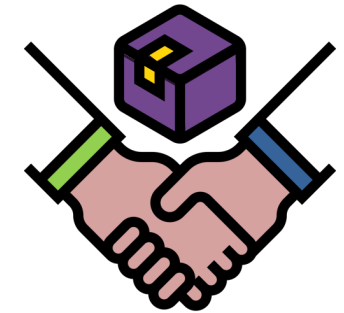
Customer has need

Requests a
product or service



Service delivery

Respond to the need
with a series of activities

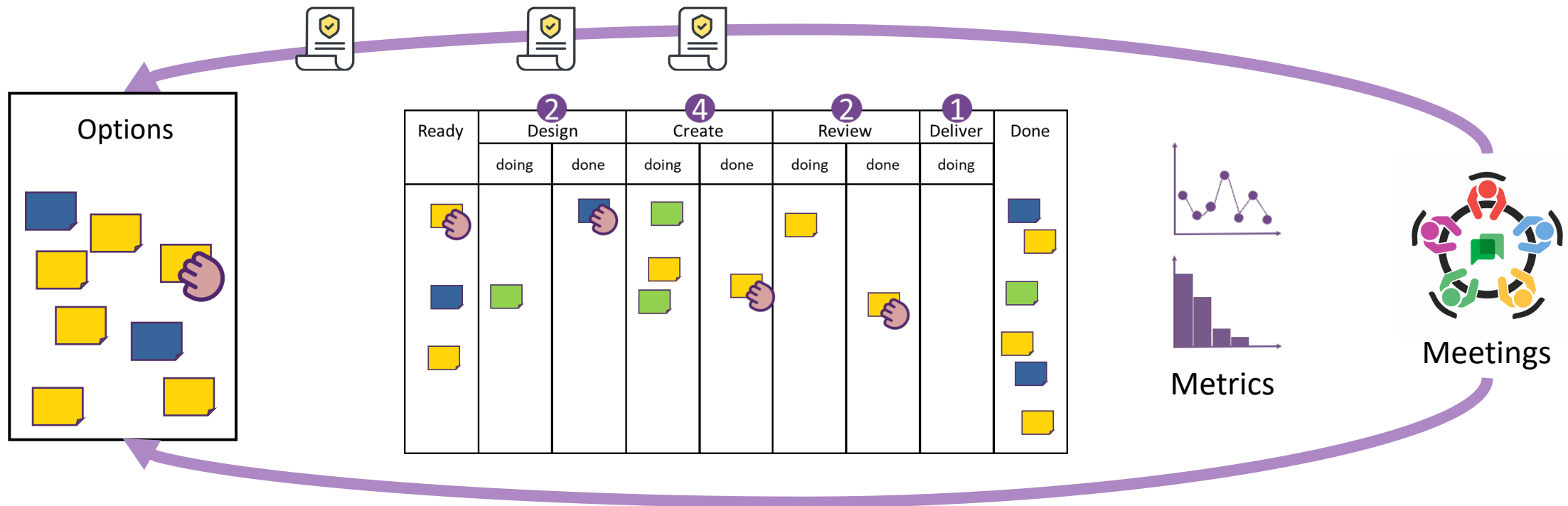


Need fulfilled

Requestor accepts or
acknowledges delivery

What is a system?

A model of a Kanban service delivery workflow. A Kanban system contains the board, work items represented as cards, policies, metrics, cadences and feedback loops.

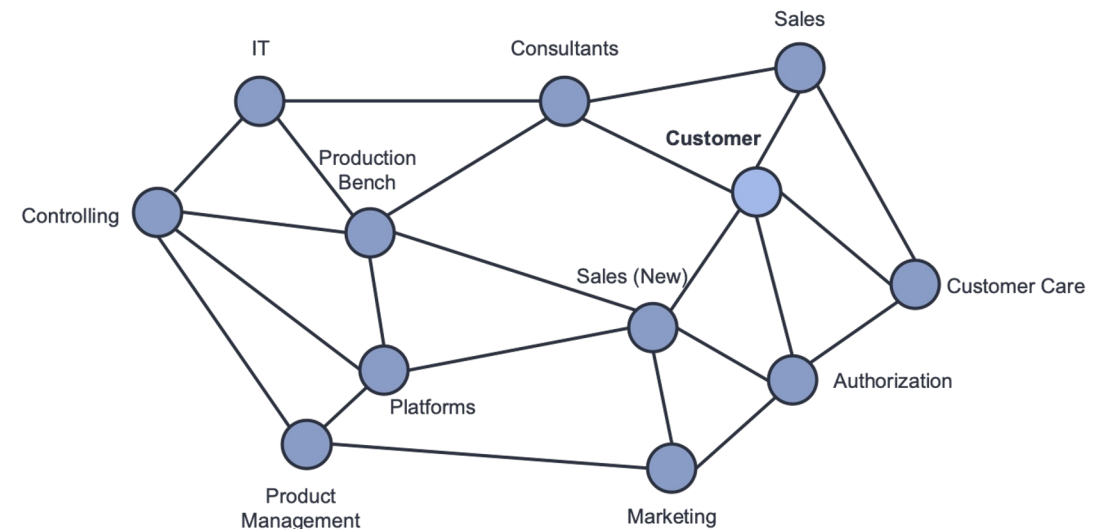


Service delivery principles

Your organization is a network of interdependent services with policies that determine its behavior.

Therefore:

- Understand and focus on the customer's needs and expectations;
- Manage the work, let workers self-organize around it;
- Regularly review the network and its policies to improve outcomes.



STUDENT COPY
STUDENT COPY
STUDENT COPY

The Kanban practices

STUDENT COPY
STUDENT COPY

Kanban method: general practices



Visualize



Limit WIP



Manage flow



Make policies
explicit



Establish
feedback
loops



Improve
collaboratively,
evolve experimentally

Kanban practice

We want to make work and its flow visible so that it is not hidden. We also want to make information about the work, its risks or the process visible through such elements as charts.

Visualize



Kanban practice

A policy that constrains the amount of work allowed in a given part of the Kanban system. Limits prevent starting new work when downstream capacity is already utilized and unable to complete the work.

Limit WIP



Kanban practice

The point of a workflow is to result in delivery. We focus on managing the flow of the work in order to get smooth, predictable, and potentially faster delivery.

Manage flow



Kanban practice

An explicit description of various policies that shape how the service delivery works.

**Make policies
explicit**



Kanban practice

A feedback loop starts with feedback information about the existing service delivery and then requires action based on whether the result is in line with the desired goals or must be altered in order to improve or align with those goals. Feedback without action is not a feedback loop.

Establish Feedback loops





Feedback without action
is not a feedback loop.

Kanban practice

An intentional design to determine if a hypothesis is valid or not. The experiment is accepted by the whole team.

Improve
collaboratively,
evolve
experimentally



What is Kanban?

- Let's review your input on the board.
- Place your sticky note into one of the two boxes.:
 - Yes, this is Kanban
 - No, this is not Kanban at all

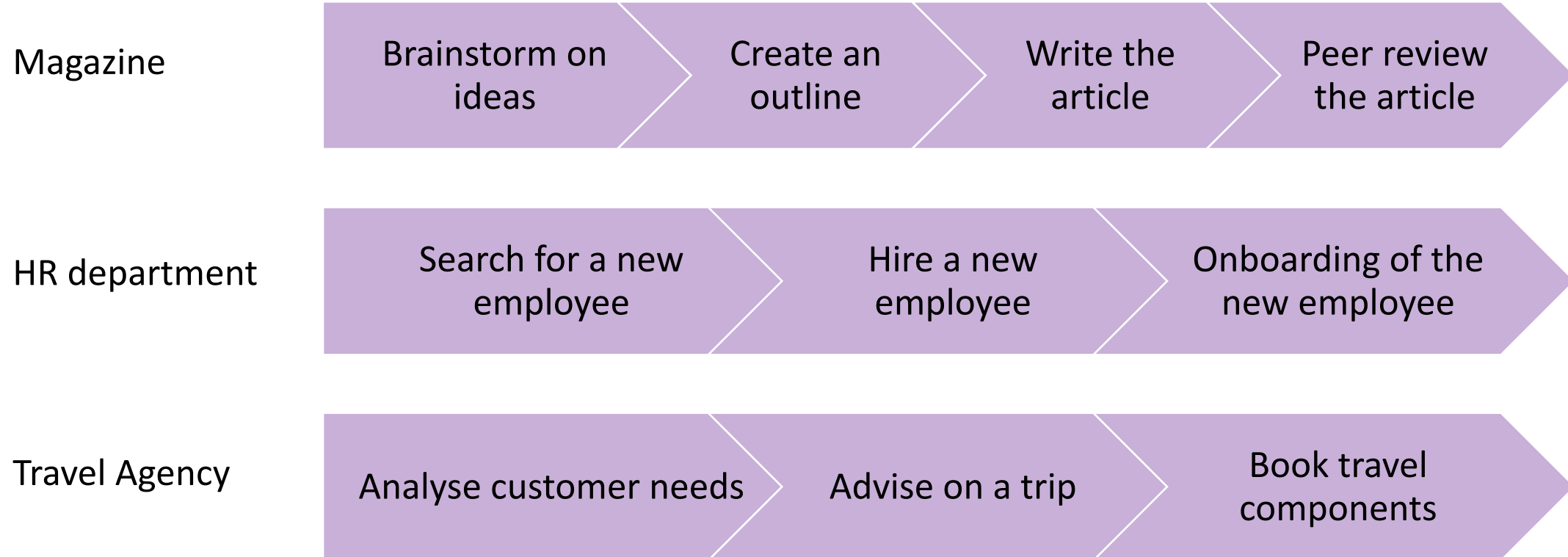


STUDENT COPY
STUDENT COPY
STUDENT COPY

Introduction to workflow, work item type and work item

STUDENT COPY
STUDENT COPY

In Kanban we model workflows

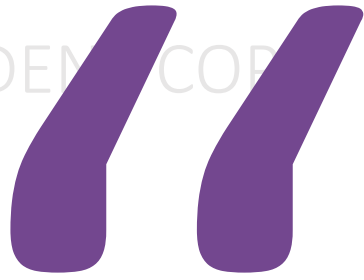




We can manage different types of work or requests on one Kanban board.



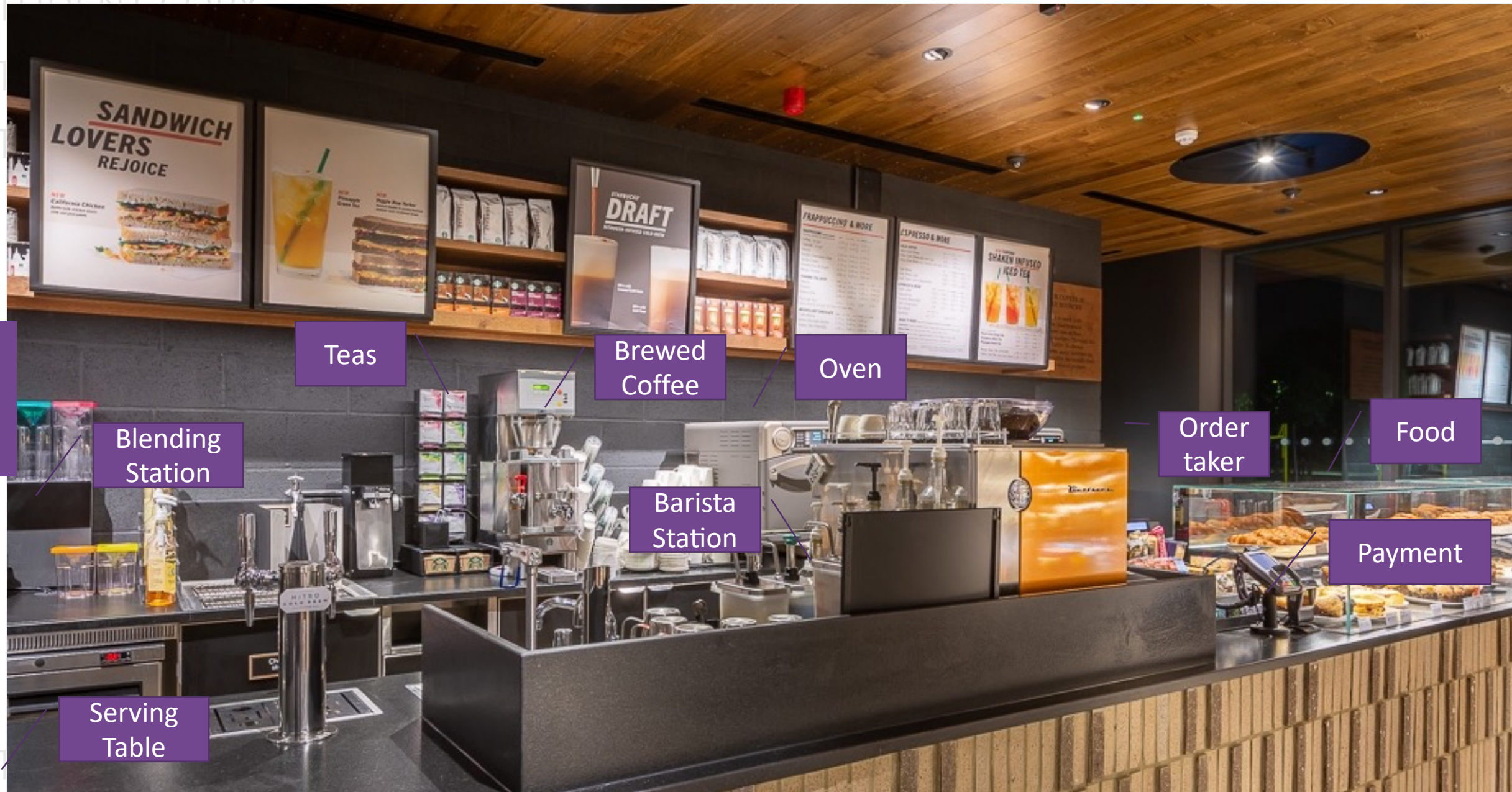
Workflow steps do not necessarily have handoffs. Handoffs almost always result in workflow steps.



Work item types follow the same workflow.

Think about the operation of a coffee shop. How many different types of requests can you identify?





Coffee shop work item types

Steps

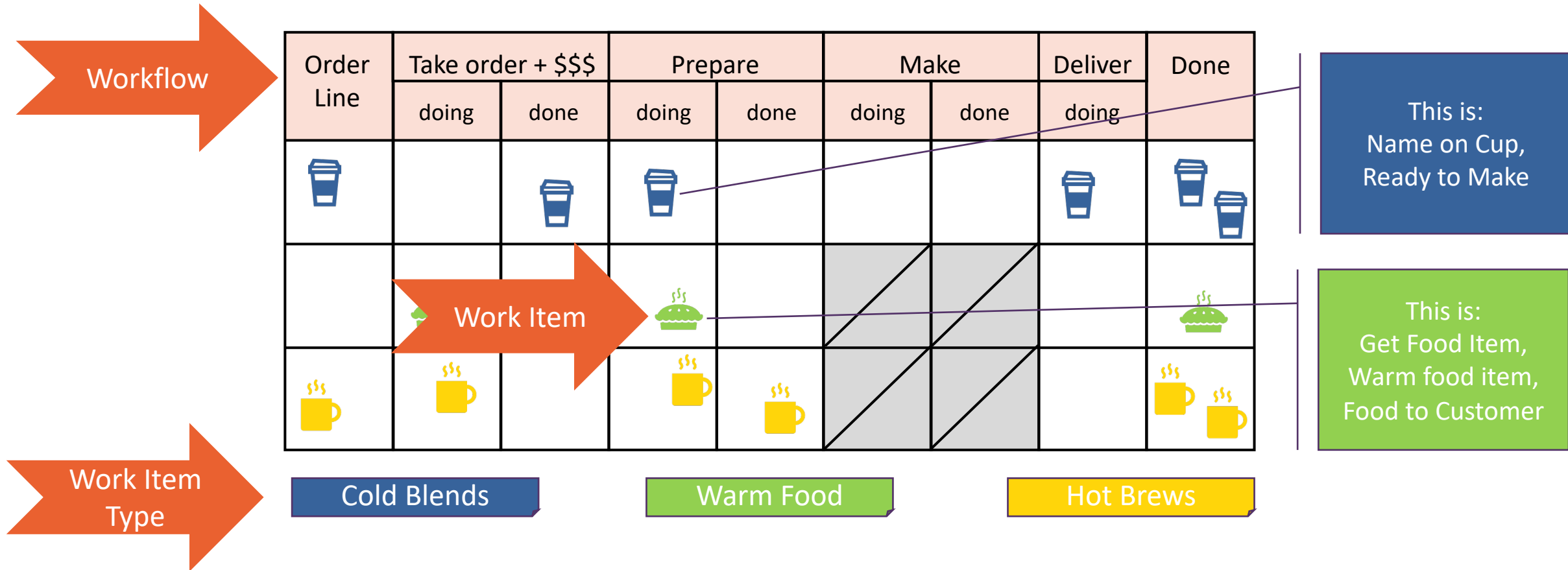
Queue	Take order	Pay	Work Item Type	Get Food Item	Warm Food Item	Food to Customer	Name on Cup	Get Brewed Item	Brewed to Customer	Ready to Make	Process Milk	Make Espresso	Blend Drink	Add Whipped Cream	Deliver to Customer
X	X	X	Cold Food	X		X									X
X	X	X	Warm Food	X	X	X									X
X	X	X	Brewed Coffee				X	X	X						X
X	X	X	Hot Teas				X	X	X						X
X	X	X	Milk & Espresso				X			X	X	X	X	?	X
X	X	X	Espresso				X			X		X	X	?	X
X	X	X	Frappuccino				X			X	X		X	?	X

Coffee shop work item types

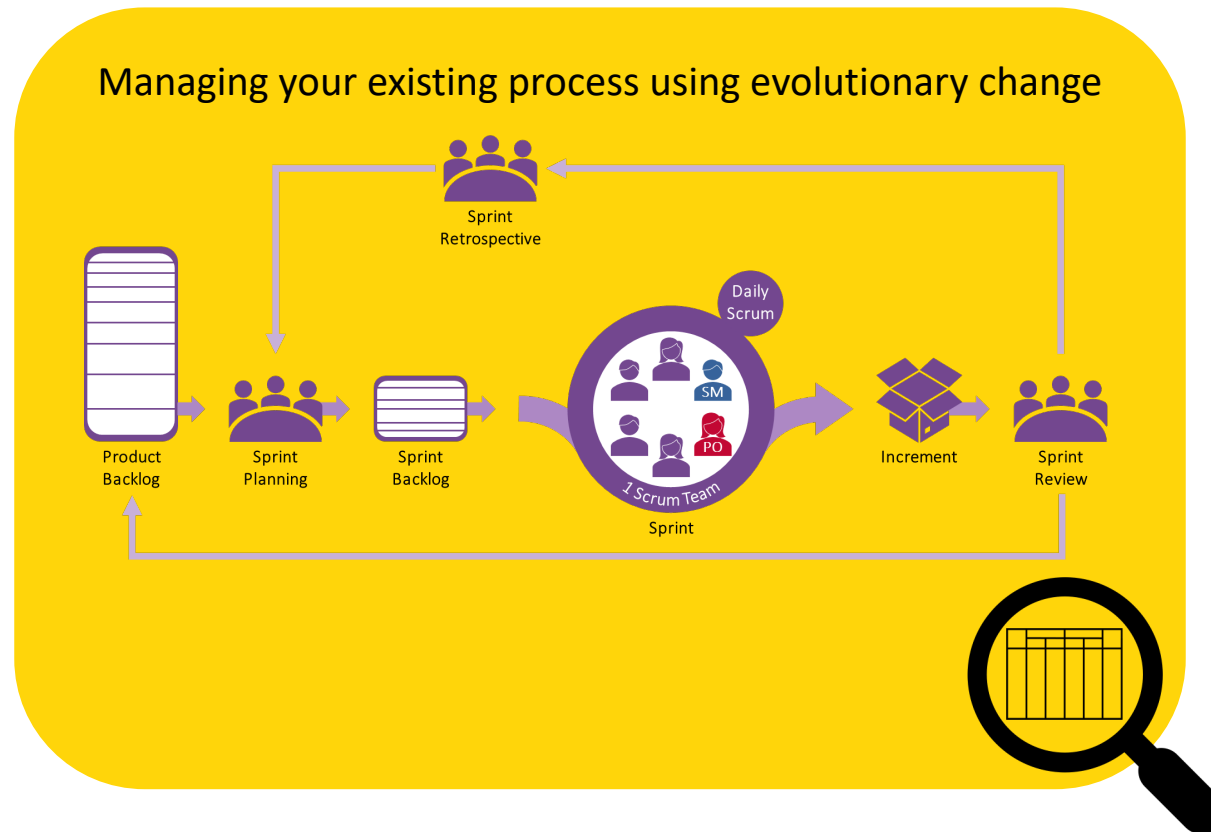
Dominant activities

Order Line	Take Order			Prepare							Make				Deliver
Queue	Take order	Pay	Work Item Type	Get Food Item	Warm Food Item	Food to Customer	Name on Cup	Get Brewed Item	Brewed to Customer	Ready to Make	Process Milk	Make Espresso	Blend Drink	Add Whipped Cream	Deliver to Customer
X	X	X	Cold Food	X		X									X
X	X	X	Warm Food	X	X	X									X
X	X	X	Brewed Coffee				X	X	X						X
X	X	X	Hot Teas				X	X	X						X
X	X	X	Milk & Espresso				X			X	X	X	X	?	X
X	X	X	Espresso				X			X		X	X	?	X
X	X	X	Frappuccino				X			X	X		X	?	X

Workflow, work item type and work item



Applying a Kanban workflow concept to Scrum



Potential Scrum work item types

Bugs

Confirm bug exists

Develop fix

Rapid test

Deploy fix

User Stories

Write Story

Design
Solution

Develop
Solution

Test

Deploy

Spikes

Design a spike

Execute a spike

Review and learn

Work item types and workflow mapping

Bugs	Confirm Bug Exists	Develop Fix	Rapid Test	Deploy Fix	
User Stories	Write User Stories	Design Solution	Develop Solution	Test	Deploy
Spikes	Design a Spike	Execute a Spike	Review and Learn		

Work item types and workflow mapping

Bugs	Confirm Bug Exists		Develop Fix	Rapid Test	Deploy Fix	Done
User Stories	Write User Stories	Design Solution	Develop Solution	Test	Deploy	Done
Spikes		Design a Spike	Execute a Spike		Review and Learn	Done

Work item types and workflow mapping

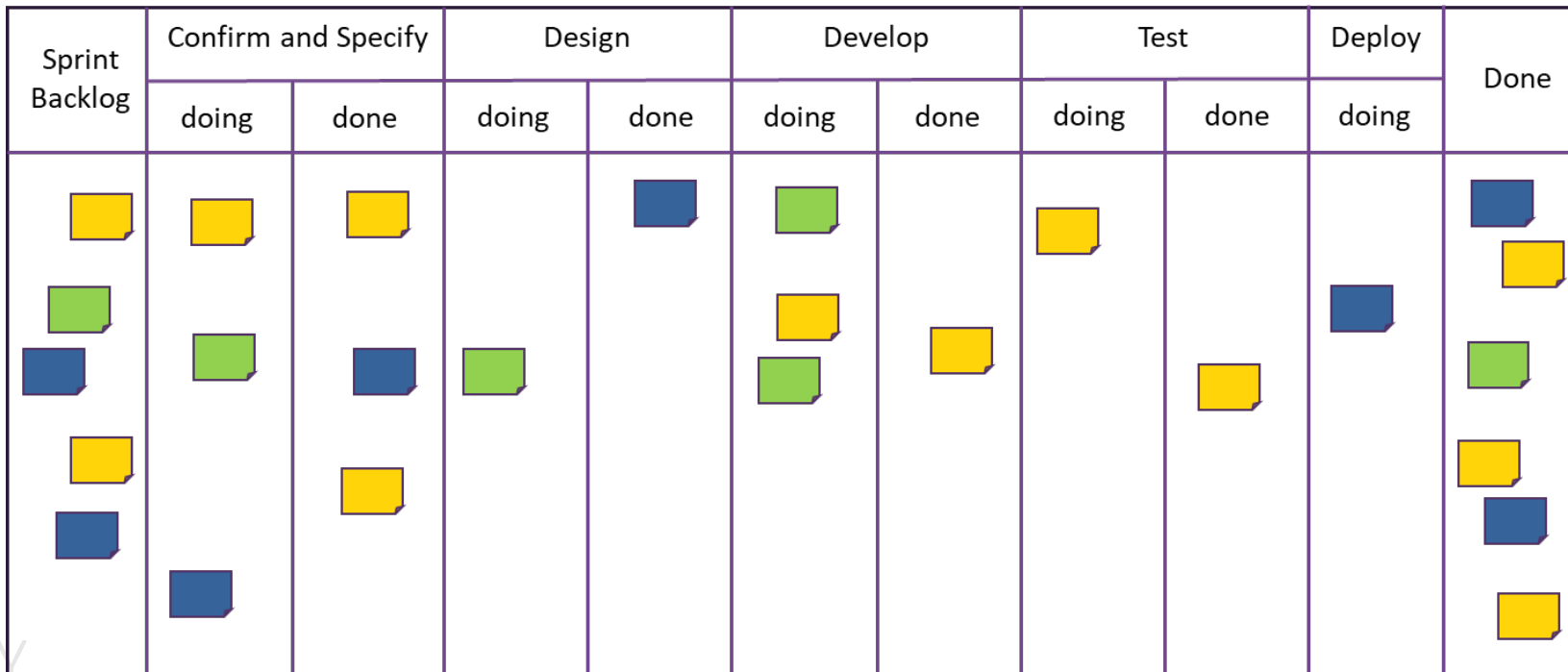
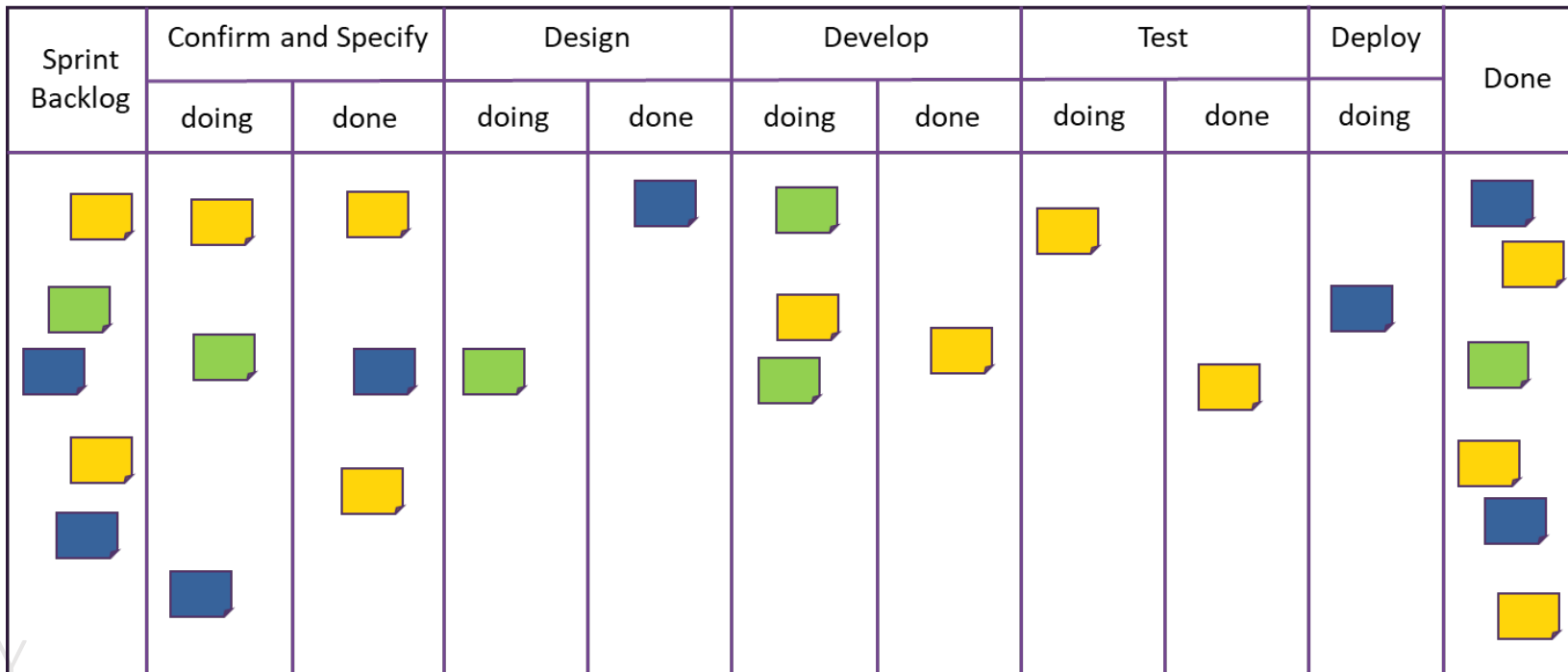
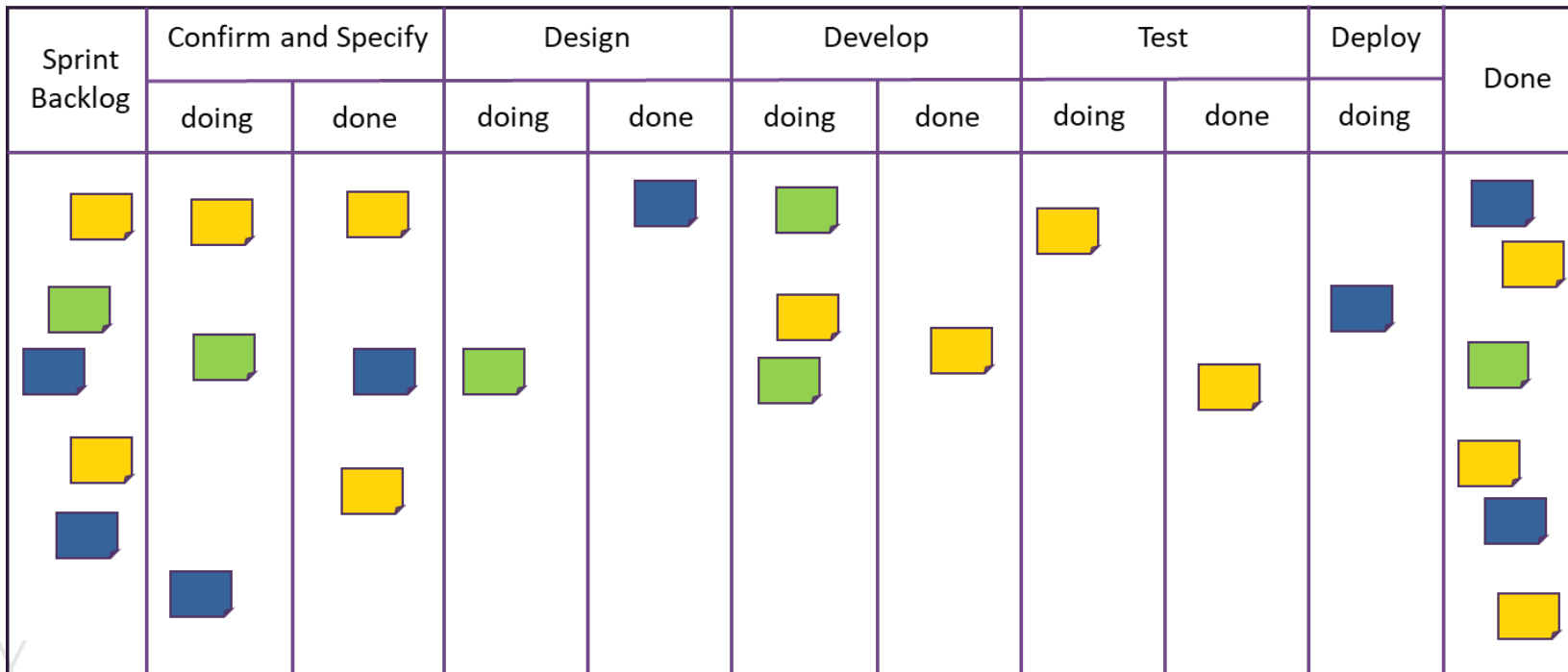
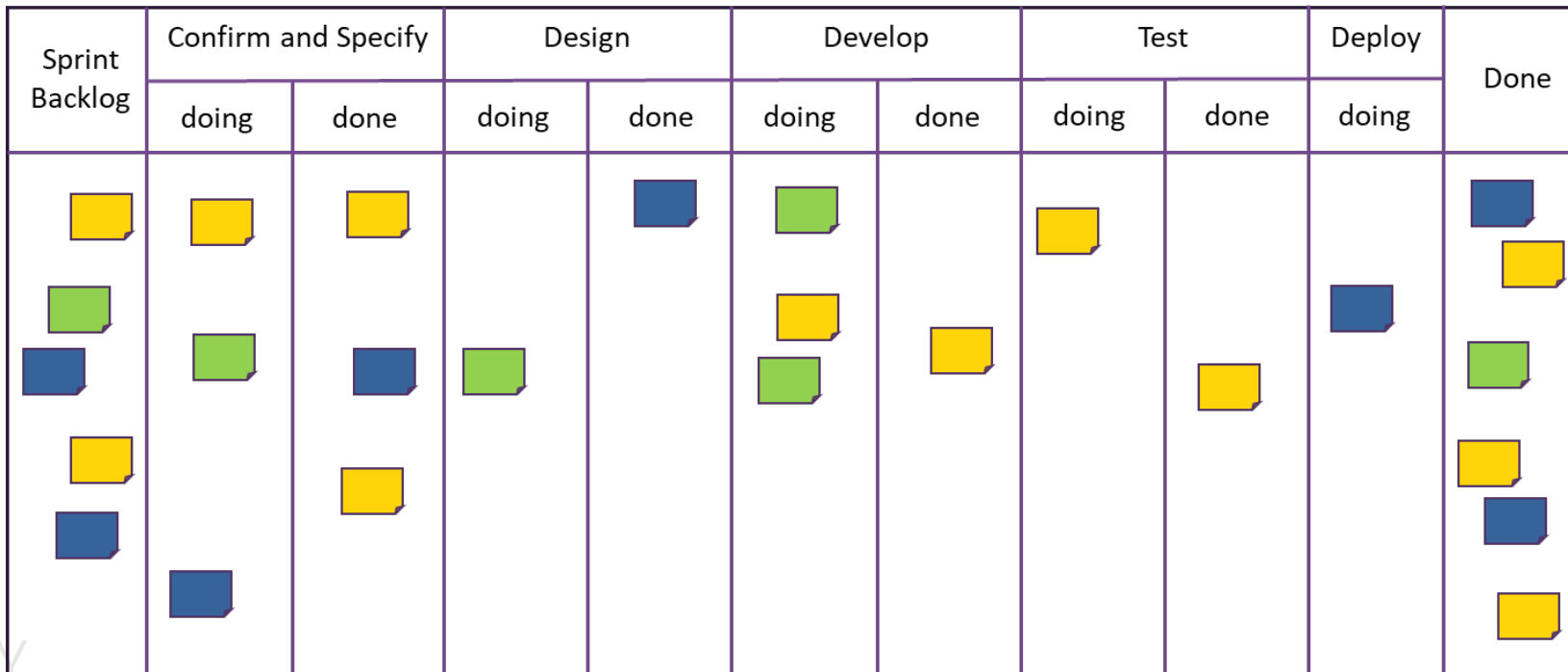
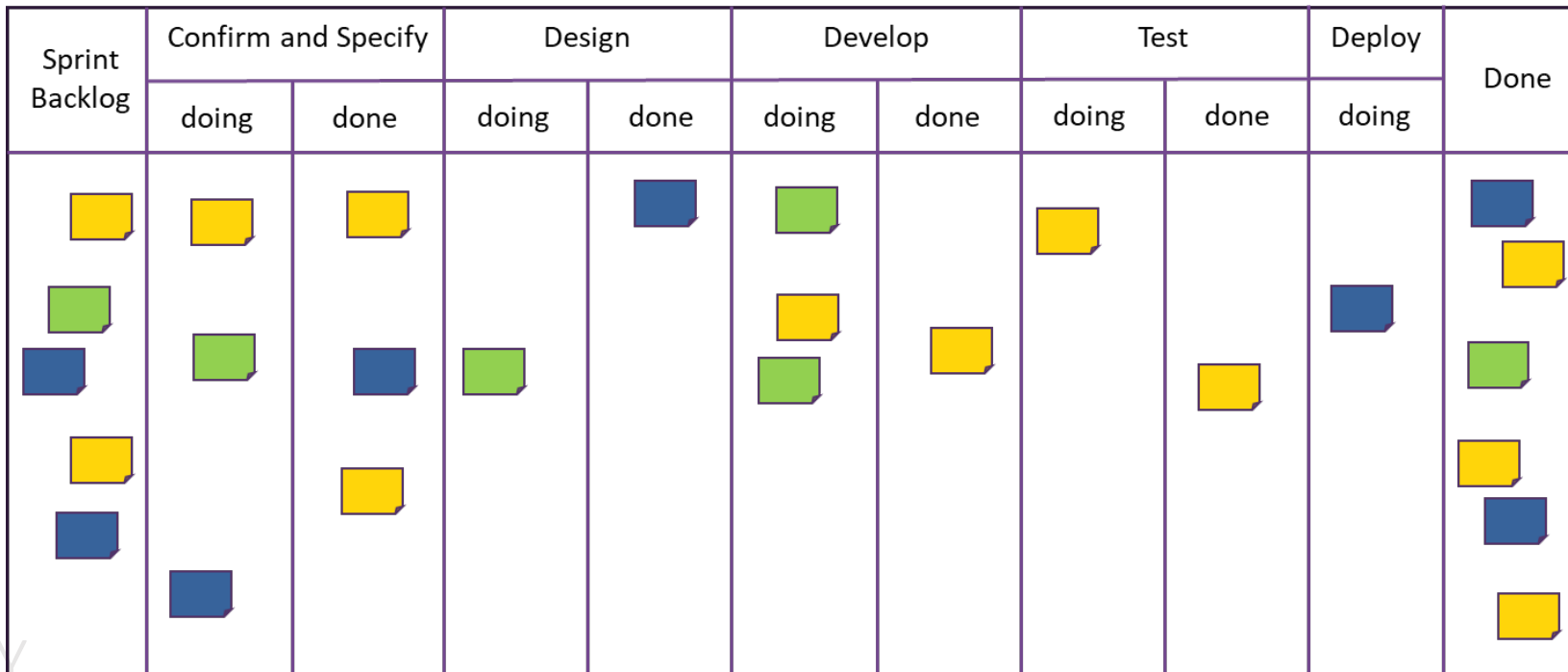
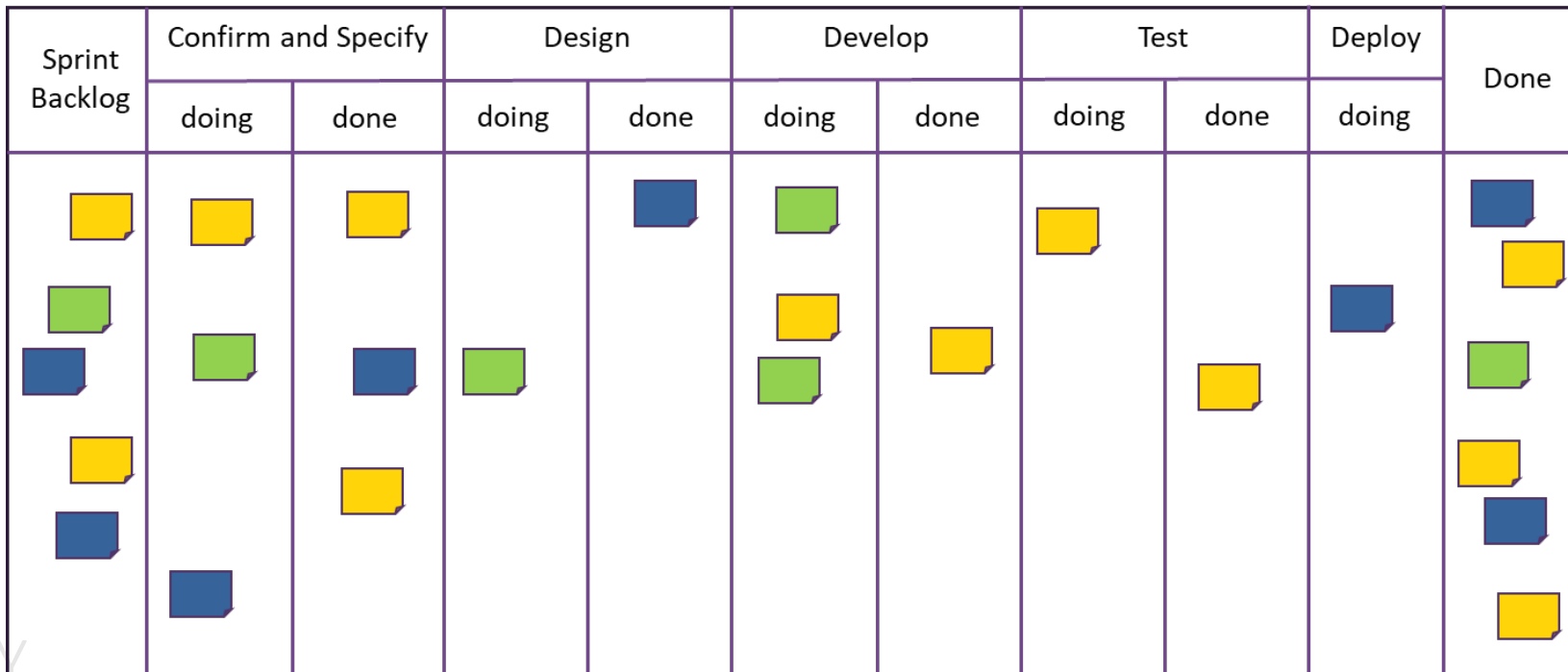
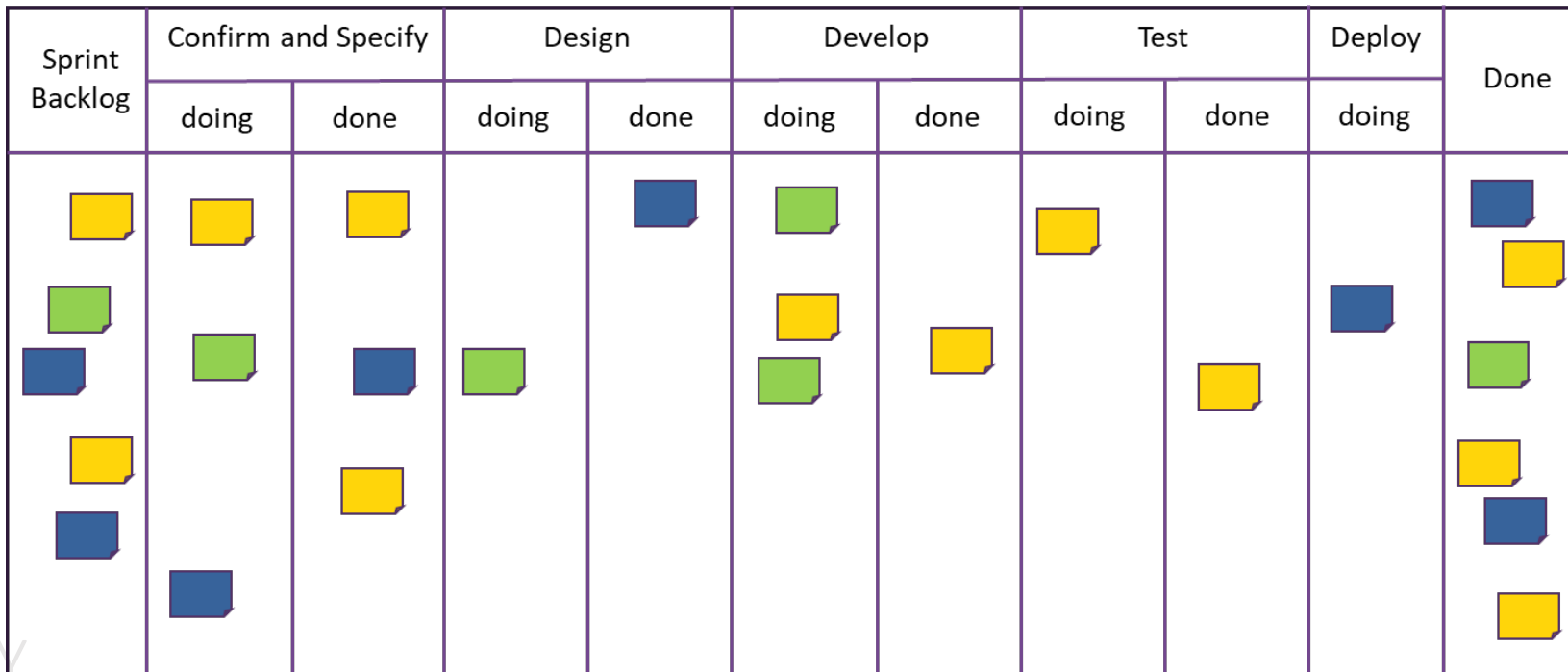
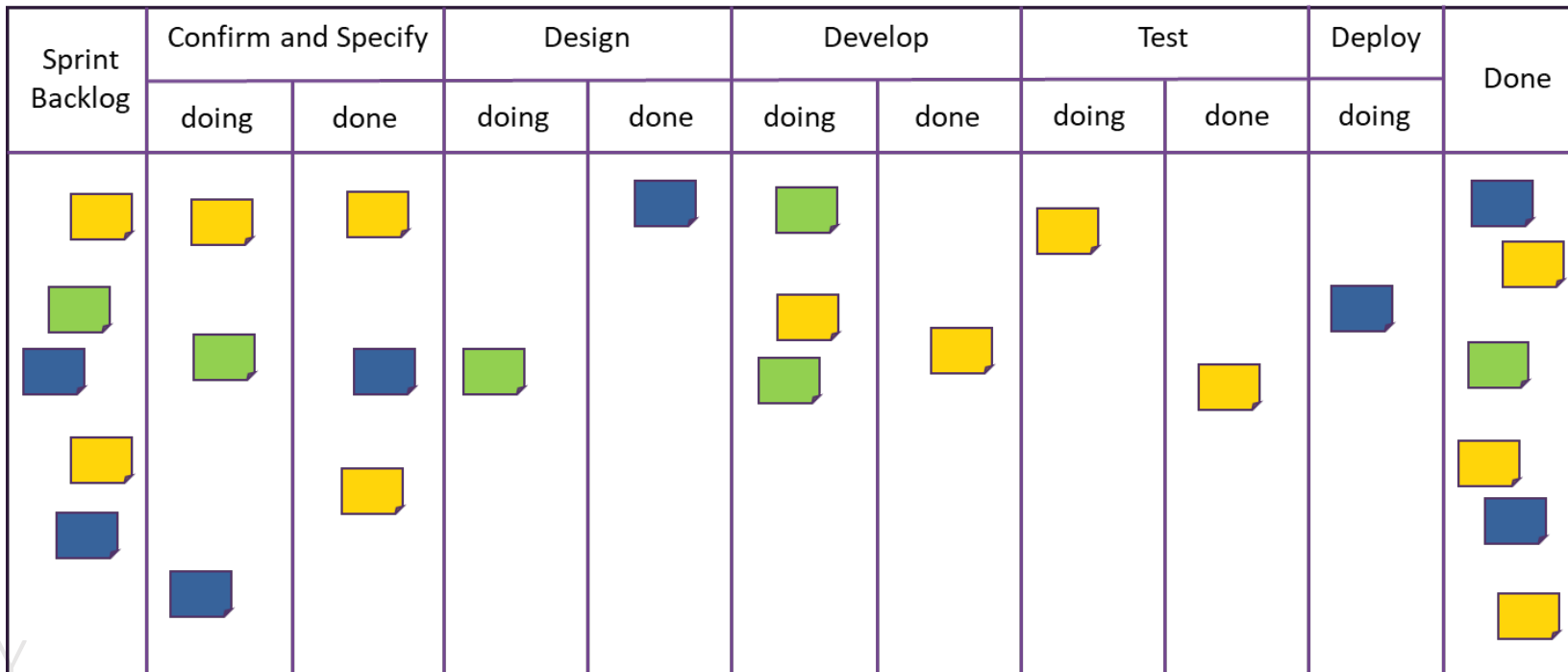
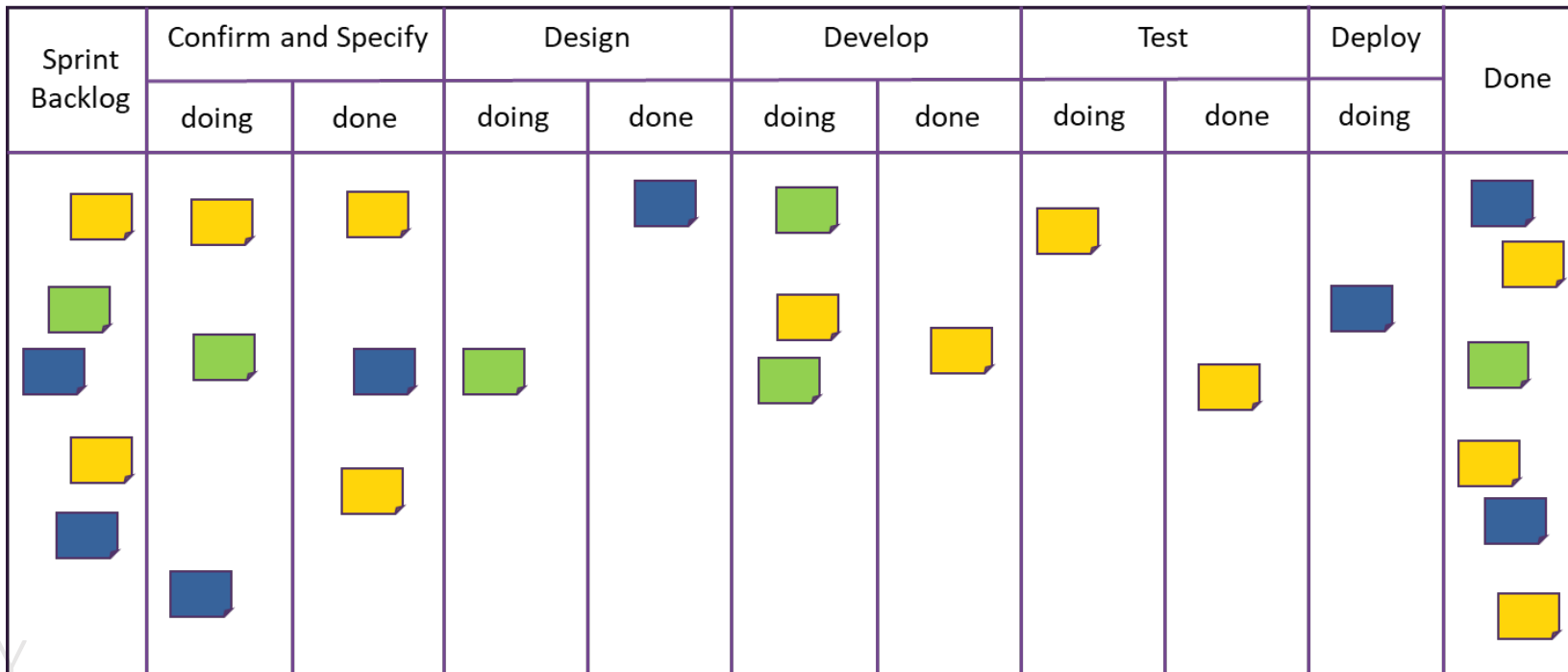
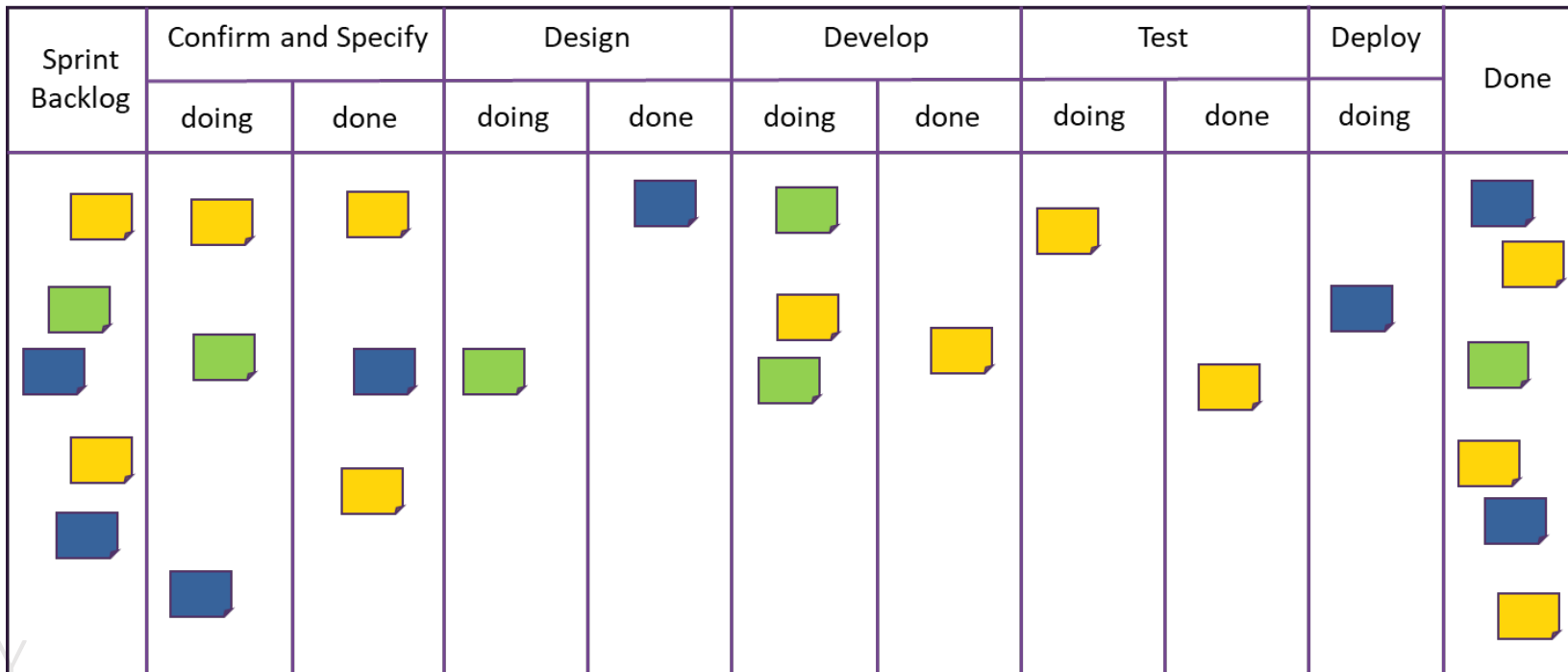
	Confirm and Specify	Design	Develop	Test	Deploy	Done
Bugs	Confirm Bug Exists		Develop Fix	Rapid Test	Deploy Fix	Done
User Stories	Write User Stories	Design Solution	Develop Solution	Test	Deploy	Done
Spikes		Design a Spike	Execute a Spike		Review and Learn	Done

From Scrum board

Sprint Backlog	In Progress	Done
    	     	       

From Scrum board to Kanban board

Sprint Backlog	In Progress	Done
		

Sprint Backlog	Confirm and Specify		Design		Develop		Test		Deploy	Done
	doing	done	doing	done	doing	done	doing	done	doing	
										

Why would you want to use Kanban?

- Given what you have learned so far, write down some reasons why you would want to use Kanban.
- What are some of the challenges you anticipate when attempting to use the Kanban method?



Module 3

Using Kanban

To address challenges in your Scrum

STUDENT COPY

STUDENT COPY

STUDENT COPY

Meet Sal and Rosie

Hi, I'm Sal, short for Salvador and I'm a long-time Scrum practitioner.



Hi, I am Rosie and #yesweKanban.

STUDENT COPY

STUDENT COPY

ST
Can you tell me how I can
make my Scrum better
with Kanban?



For example, for events?
Our events last so long!
Especially the Daily
Scrum and the sprint
planning.



STUDENT COPY
STUDENT COPY
STUDENT COPY



In Kanban we have cadences. Cadences are meant to supplement or replace existing events.

STUDENT COPY
 Kanban University
STUDENT COPY



A cadence is a regular and repeated pattern of activity.

<https://www.Merriam-webster.Com/dictionary/cadence>



A cadence is a type of meeting or review providing feedback from one or more services for the purpose of reviewing, coordinating, or improving the work being delivered.

<https://Kanban.University/glossary/>

What are some of the cadences you're using today?

Go back to your description of your Scrum implementation and reflect on which events you have that are operating like a cadence?



Kanban cadences

Cadences to improve the organizational coordination and alignment.



Cadences to improve a single service and one or more systems.
Can start at the team level.

Kanban cadences

Team Kanban Meeting

Team Retrospective

Team Replenishment

Kanban cadences

Team Kanban Meeting

A collaborative conversation about the status of the work, the impediments in the workflow, and problems in the emergent process.

Team Retrospective

The team reflects on how they work and which aspects of the process could be improved to get better outcomes.

Team Replenishment

Select work items from the backlog to commit next, and to replenish the queue for delivery until the next team replenishment meeting.

Kanban cadences: Team Kanban Meeting

A collaborative conversation about the status of the work, the impediments in the workflow, and problems in the emergent process.

Questions to ask:

- What's keeping this work item from flowing to the next stage or column?
- Are there work items that are not represented on the board?

Guidance:

- Focusing on the future, not what happened yesterday – avoid a historical status format.
- Focus on the work rather than worker.

Team Kanban Meeting



1. How can we keep work flowing and drive to finish?
2. If capacity is available, what should we pull next?



What's keeping this work item from flowing to the next stage or column?
Are there work items that are not represented on the board?
Focusing on the future, not what happened yesterday – avoid a historical status format.
Focus on the work rather than worker.



Everyone involved in the
Work at the board, usually
Someone moderates.



Meeting typically held daily
At the same time in front of
The board.

Using elements from Team Kanban Meeting during Daily Scrum (1)

Daily Scrum: the purpose of the Daily Scrum is to inspect progress toward the sprint goal and adapt the sprint backlog as necessary, adjusting the upcoming planned work.

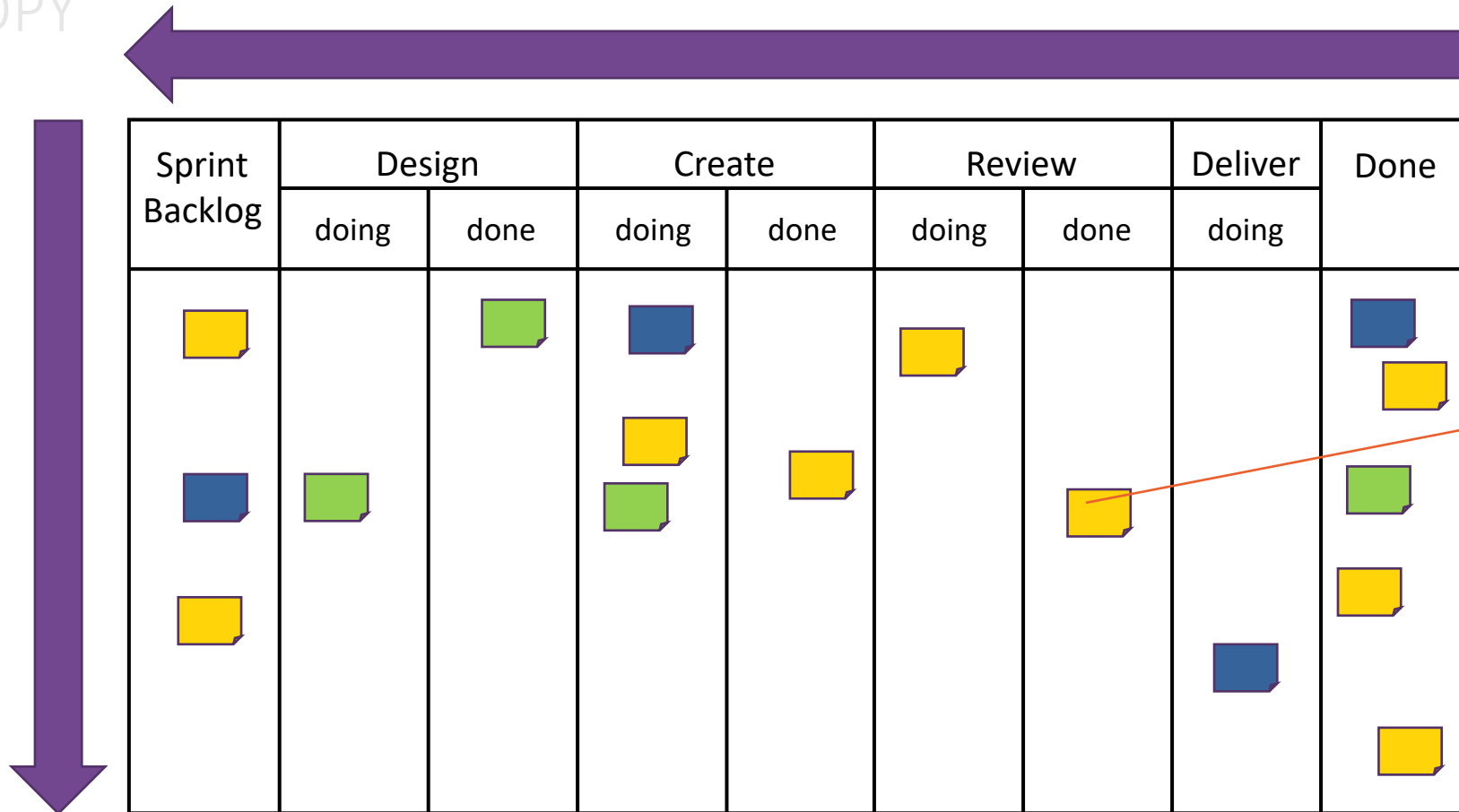
Team Kanban Meeting: a collaborative conversation about the status of the work, the impediments in the workflow, and problems in the emergent process.

Using elements from Team Kanban Meeting during Daily Scrum (2)

Initially shift the focus of the Daily Scrum using the agenda from the Team Kanban Meeting.

- Walk the board from right to left, top to bottom. Manage work, not workers. Focus on completing work items and resolving issues.
- Discuss priorities and team member pull decisions. Any options for collaboration? Treat issues that require more time after the meeting.
- Discuss work items ready to be started. Dependencies or risks?

Walk the board



Manage the
work, not the
workers

Kanban cadences: Team Retrospective

The team reflects on how they work and which aspects of the process could be improved to get better outcomes.

Retrospectives are typically short and focused. What matters is design of experiments. Only helpful if you have an experiment coming out of it.

Kanban cadences: Team Replenishment (1)

Select work items from the backlog to commit next, and to replenish the queue for delivery until the next team replenishment meeting.

- Different than sprint planning.
- You can start having replenishment conversations during sprint planning event.
- Replenishment is about replenishing capacity rather than planning out what can be done in each timebox.
- Capacity is initially indicated by the queue.

Kanban cadences: Team Replenishment (2)

You can evolve in this direction over time if you want. Potential benefits can include:

- Less effort on planning;
- Predictability without estimation;
- Just in time work breakdown;
- More focus on doing the work than planning the work.

What's your plan?

- Think of how you would introduce one or more practices from one cadence to the Scrum Team. Pick just one event.
- What actions would you take?
- Do you anticipate any challenges introducing this new approach?
- How would you design this change so it's "safe-to-fail"?



Discuss your plan

- In pairs, discuss how you would introduce one or more practices from one cadence to the Scrum Team. Pick just one event.
- What actions would you take?
- Do you anticipate any challenges introducing this new approach?
- How would you design this change so it's "safe-to-fail"?



STUDENT COPY

STUDENT COPY

STU

That's great, Rosie. I'll
want to bring this up to
my team at our next
retrospective.



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



You're welcome, Sal. Do you have anything else you need help with?

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

Yes, for some reason, we
just can't seem to be
predictable with our
deliveries.



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Let's take a look.
Predictability, or the lack
thereof, can be caused by
several factors.

STUDENT COPY
 Kanban
University
STUDENT COPY

What could be causes of unpredictability?



STUDENT COPY

STUDENT COPY

STU

Yes! We have all this
unplanned work; it's
driving us crazy!



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



I had the same problem. I worked with the team to visualize the problem.

STUDENT COPY
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

You can visualize
unplanned work?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Yes. We made a separate swim lane to reflect and observe the “unplanned” work item type.

STUDENT COPY
 Kanban University
STUDENT COPY

Unplanned work

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
  			  					   
								

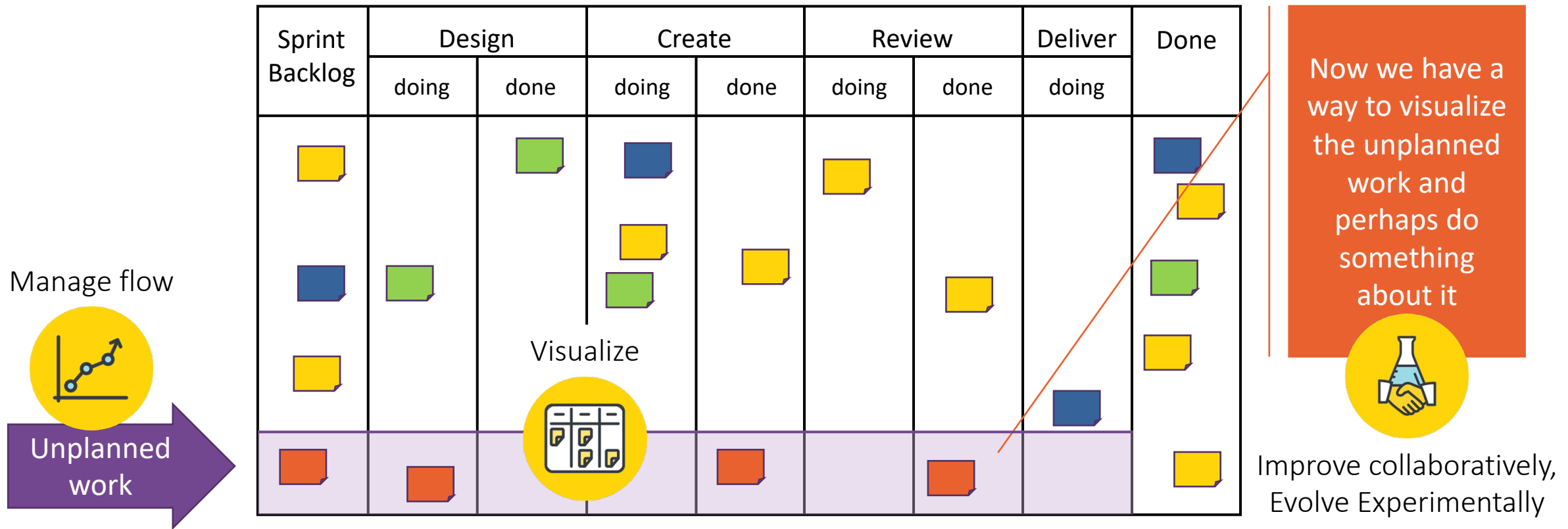
Unplanned work

Now we have a way to visualize the unplanned work and perhaps do something about it

Which Kanban practices were used by Rosie's team?



Practices used for managing unplanned work



STUDENT COPY
STUDENT COPY
STUDENT COPY



Using several Kanban practices, we now have a way to observe and understand your unplanned work.

STUDENT COPY
STUDENT COPY

Great, but even beyond the unplanned work we seem to have other consistent challenges with predictability and meeting our goals.



STUDENT COPY
STUDENT COPY
STUDENT COPY



That's not unusual. We
had those problems as
well.

STUDENT COPY
 Kanban
University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We had been spending a lot of time estimating and planning, only to find that the estimates were highly influenced by delays once we started doing the work.

STUDENT COPY
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

That's definitely
something I hear my
colleagues complain
about as well.



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



This was an area where
Kanban really helped us
understand how our
work was flowing.

STUDENT COPY
 Kanban
University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We watched our flow
and found that there
were several areas where
we would occasionally
have delays that would
affect our predictability.

STUDENT COPY
STUDENT COPY

Where are your delays?

- Write down as many causes of delays as you can find in your Scrum implementation in your workbook.
- Place them in short words on the board.



Let's take a look at your delays

- Breakout into pairs to review and discuss the delays
- Group the delays into categories
- Let's review.



STUDENT COPY

STUDENT COPY

STU

How did your team
monitor and address
delay?



We looked at our
historical data. It opened
our eyes to what was
happening to our flow.
I'll show you.

STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY

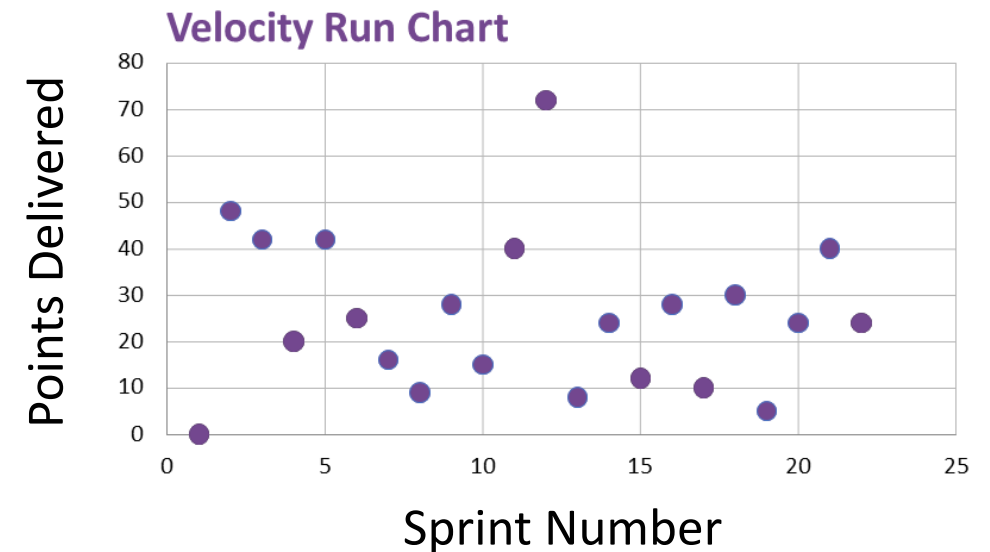


The first thing we did was
make a run chart of our
velocity.

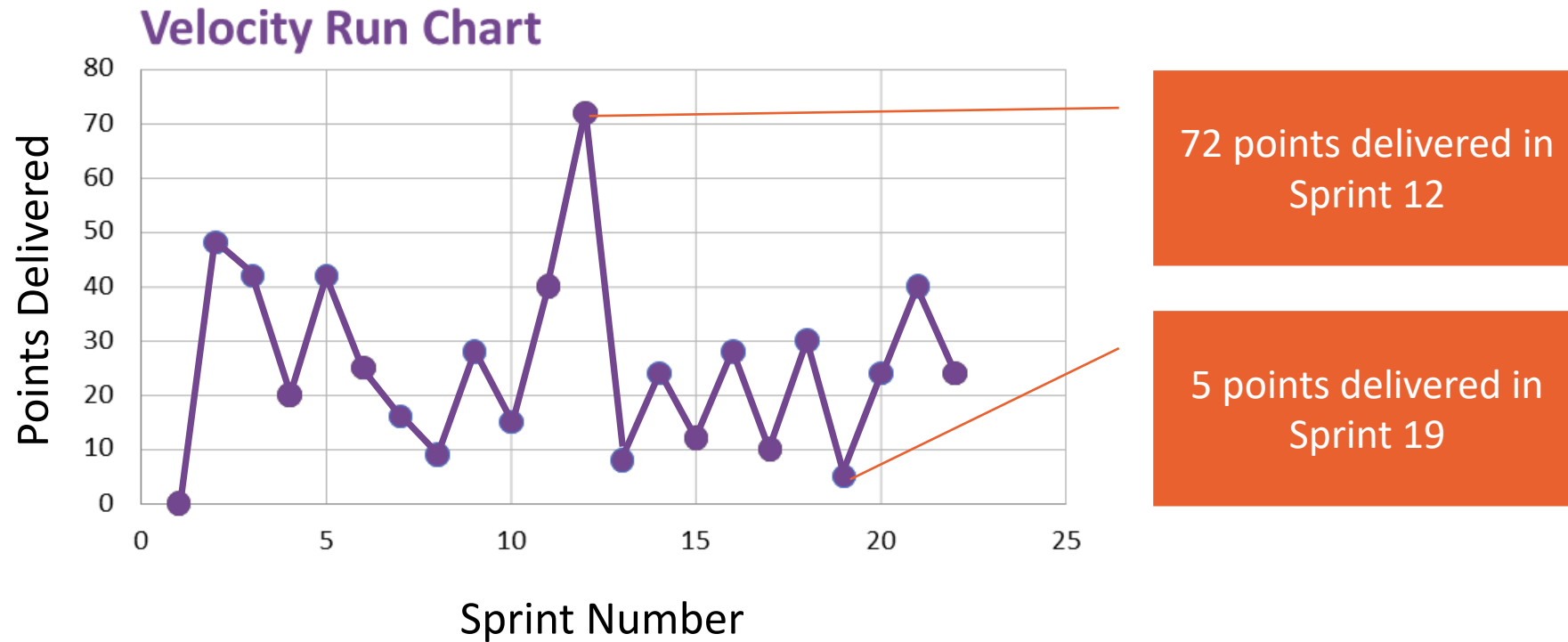
STUDENT COPY
 Kanban
University
STUDENT COPY

Run Chart

- Vertical axis can represent lead time (days), velocity or throughput (points or items per cycle).
- Bottom axis represents the order work was completed (lead time) or cycle [sprint] (velocity or throughput).
- Each dot is a completed work item or cycle.
- Two key visual readouts:
 - Variability;
 - Trending.



Rosie's Team Run Chart



STUDENT COPY
STUDENT COPY
STUDENT COPY



With the high variability,
the natural reaction of
the team was to think
they needed to do a
better job estimating and
planning.

STUDENT COPY
 Kanban
University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



But despite their increased detail and effort there was no improvement in the variability.

STUDENT COPY
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We went back and compared the variability using a run chart for throughput. Basically, equal to considering each PBI to have a size of one (PBI Size = 1).

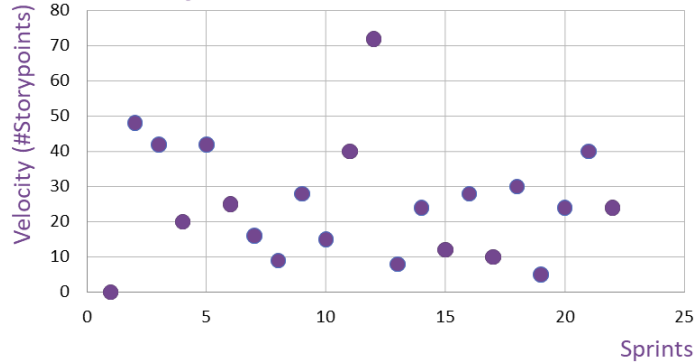
STUDENT COPY
STUDENT COPY

STUDENT COPY

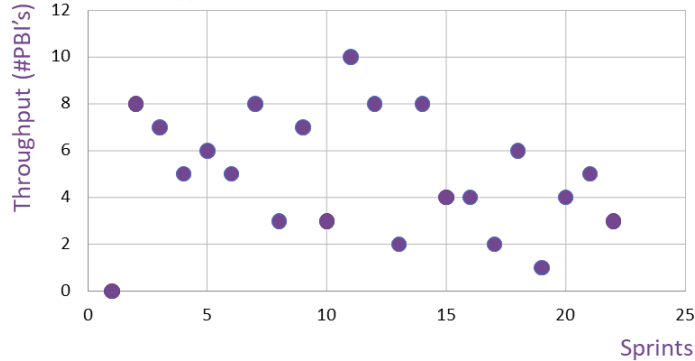
STUDENT COPY

STUDENT COPY

Velocity Run Chart



Throughput Run Chart



The throughput chart showed the same variability as the velocity chart. Maybe we were barking up the wrong tree. Estimating harder was not removing variability.

STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



The team really didn't like the long planning sessions anyway. They decided to Improve Collaboratively and Evolve Experimentally.

STUDENT COPY
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We ran an experiment whereby we skipped upfront estimation and detailed planning, instead only planning when needed when we pulled a new PBI.

STUDENT COPY
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



And by looking at the Run Charts we were able to tell if we were getting better or worse during the experiment.

STUDENT COPY
STUDENT COPY

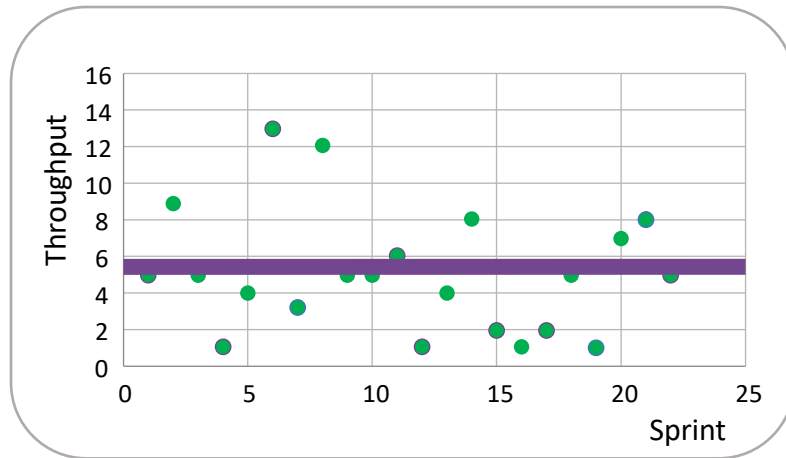
STUDENT COPY
STUDENT COPY
STUDENT COPY



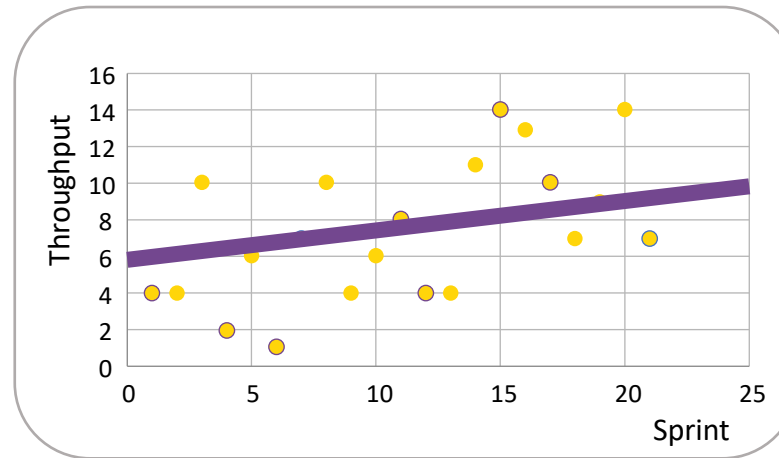
Here are some examples
of run charts and trends.

STUDENT COPY
 Kanban
University
STUDENT COPY

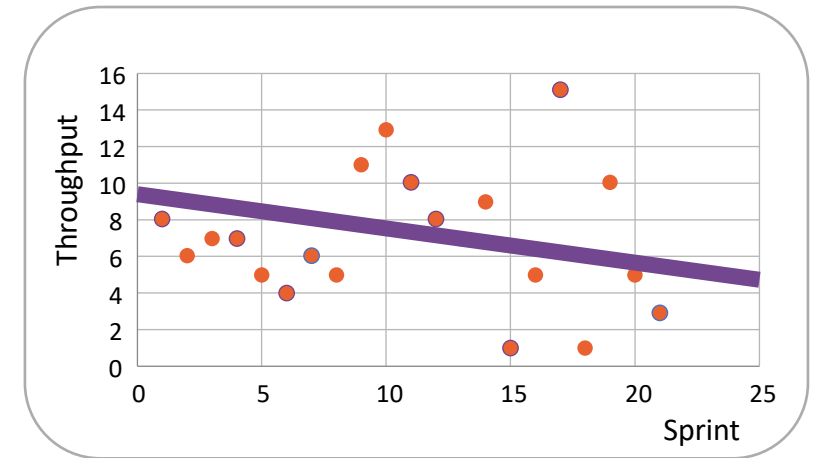
Run Chart examples



Team **Apple**
Stable



Team **Banana**
Improving



Team **Orange**
Getting slower

STUDENT COPY
STUDENT COPY
STUDENT COPY



We improved, but not a lot by this alone. The team felt good that they focused on delivery and not on estimates that were not really helping.

STUDENT COPY
STUDENT COPY

That's quite interesting.
I'll have to look at our
data to see if we have a
similar situation. Did you
look at any other data?



Yes. We measured the
lead time of our work
and charted it. I'll show
you.

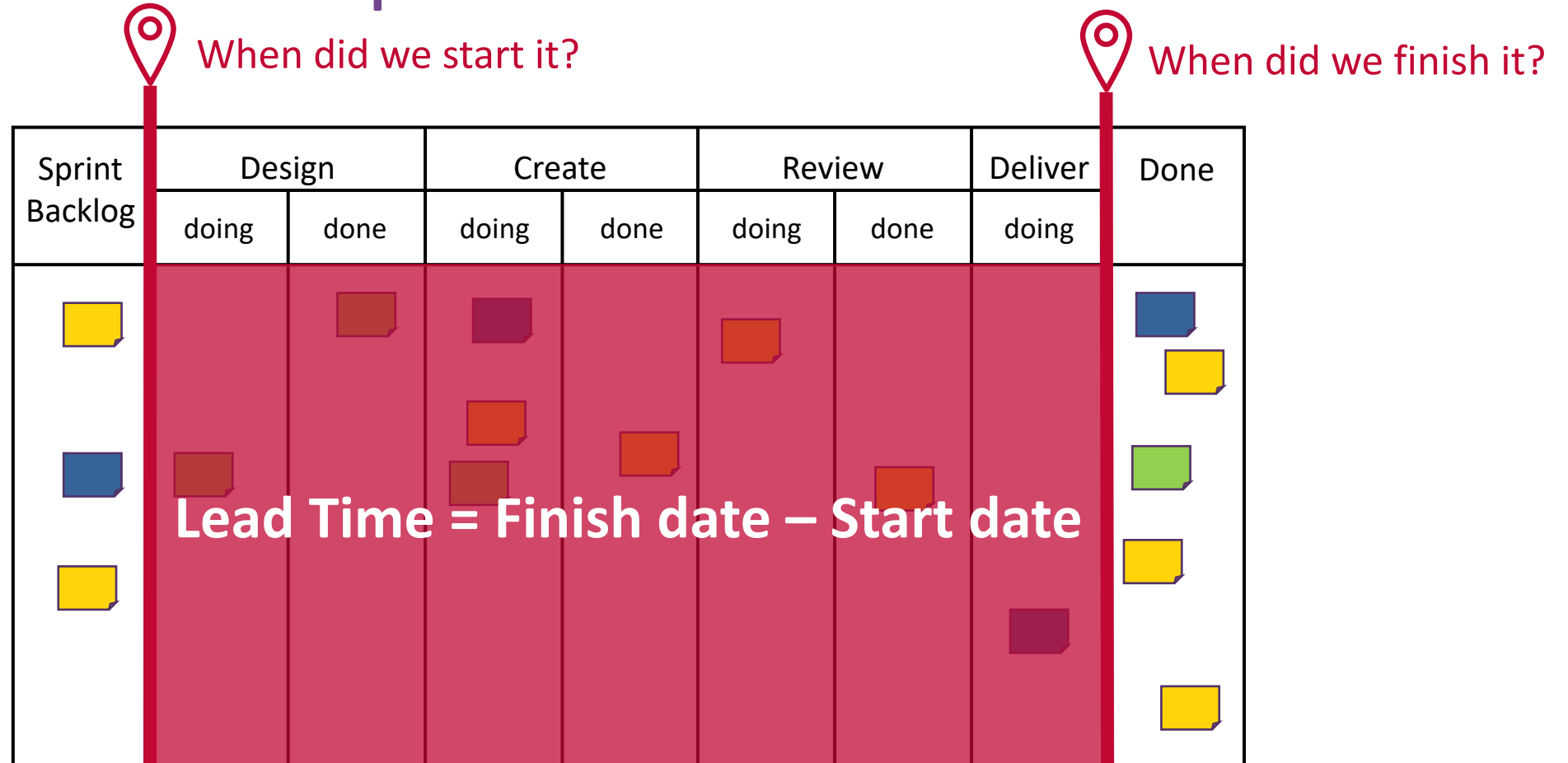
Lead Time

Agree on:

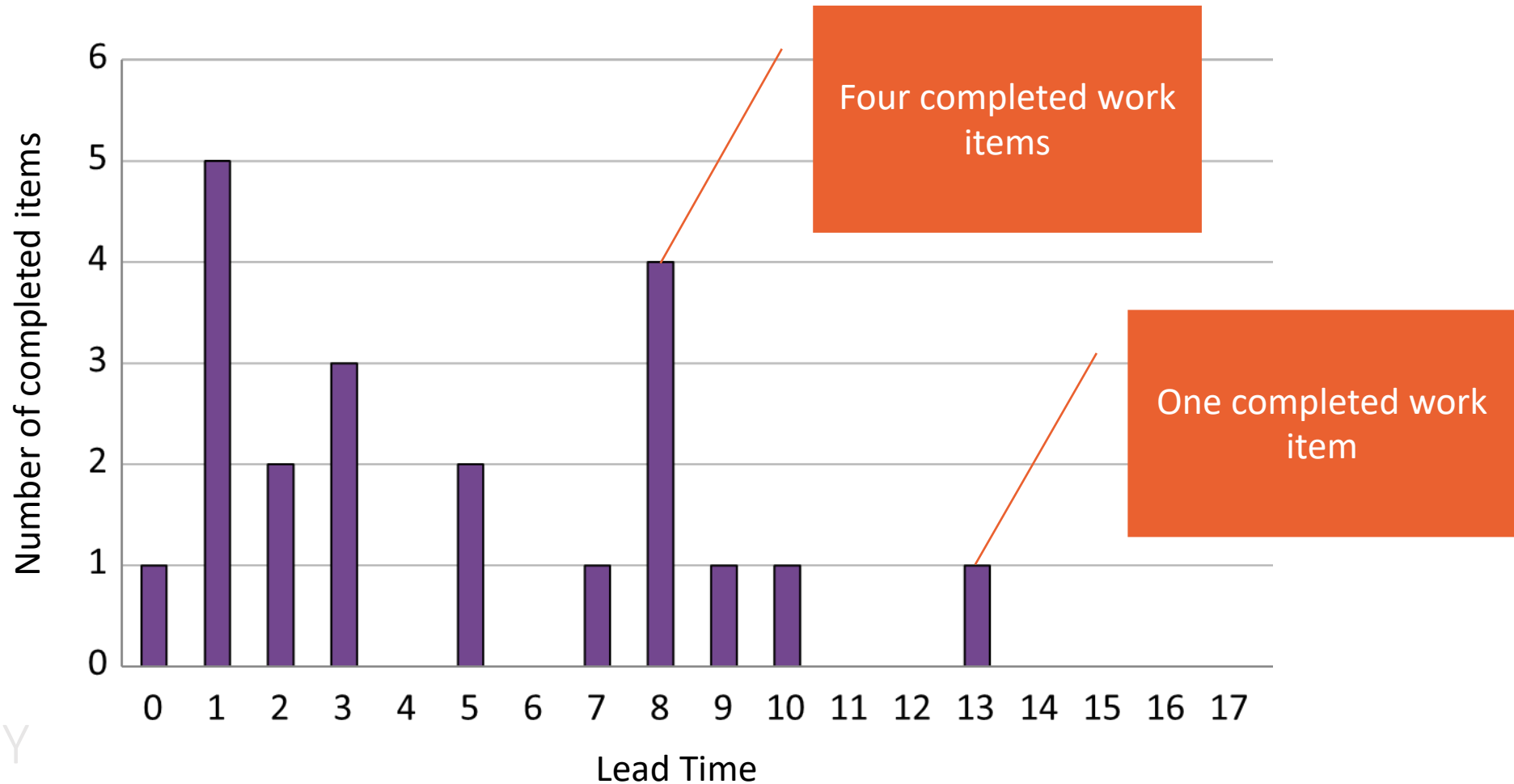
- When to start measuring
- When to stop measuring



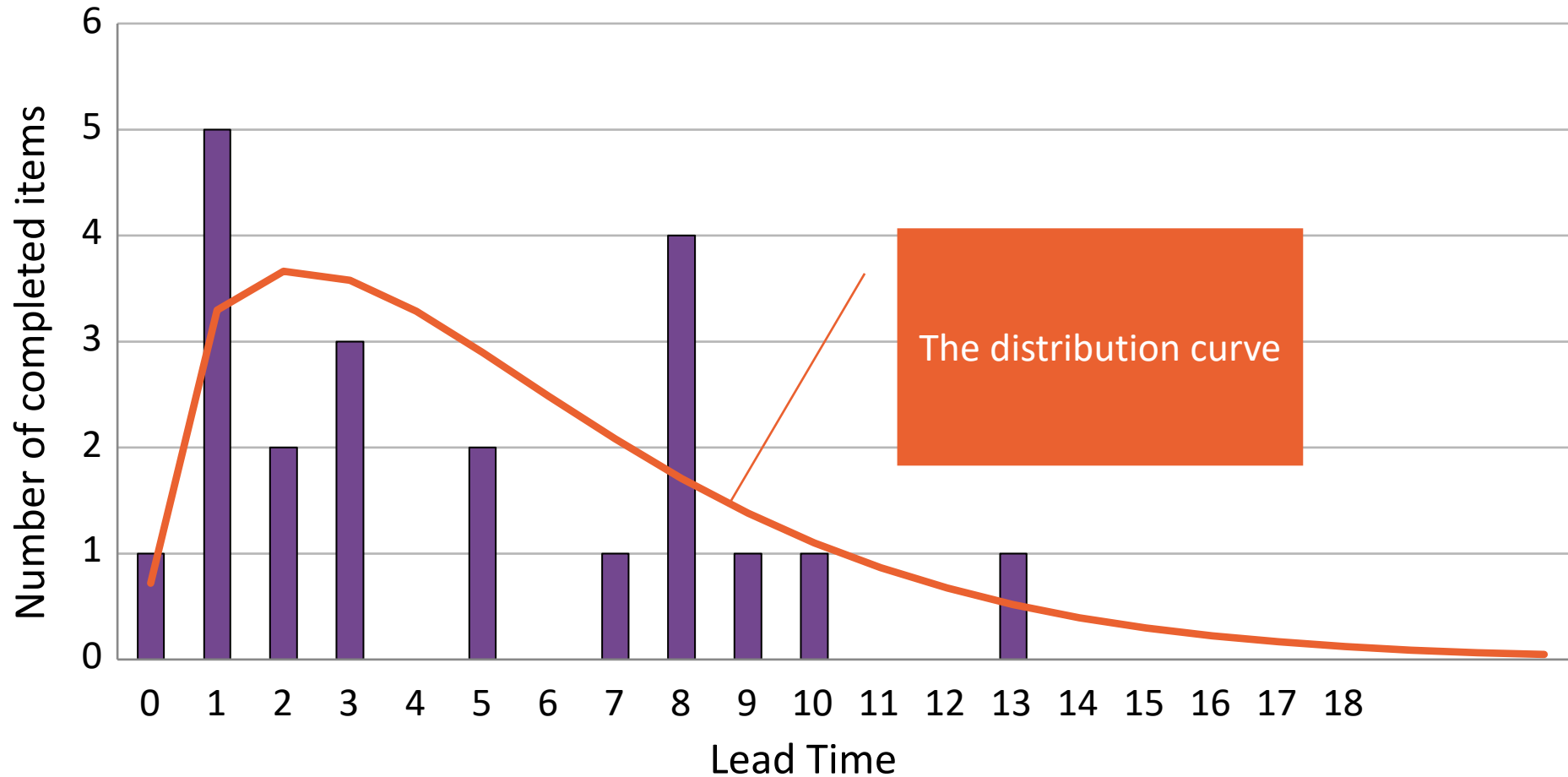
Lead Time example



Rosie's team lead time histogram



Rosie's team lead time distribution



STUDENT COPY
STUDENT COPY
STUDENT COPY



The lead time
distribution gave us
another angle on the
variability of our delivery

STUDENT COPY
 Kanban
University
STUDENT COPY

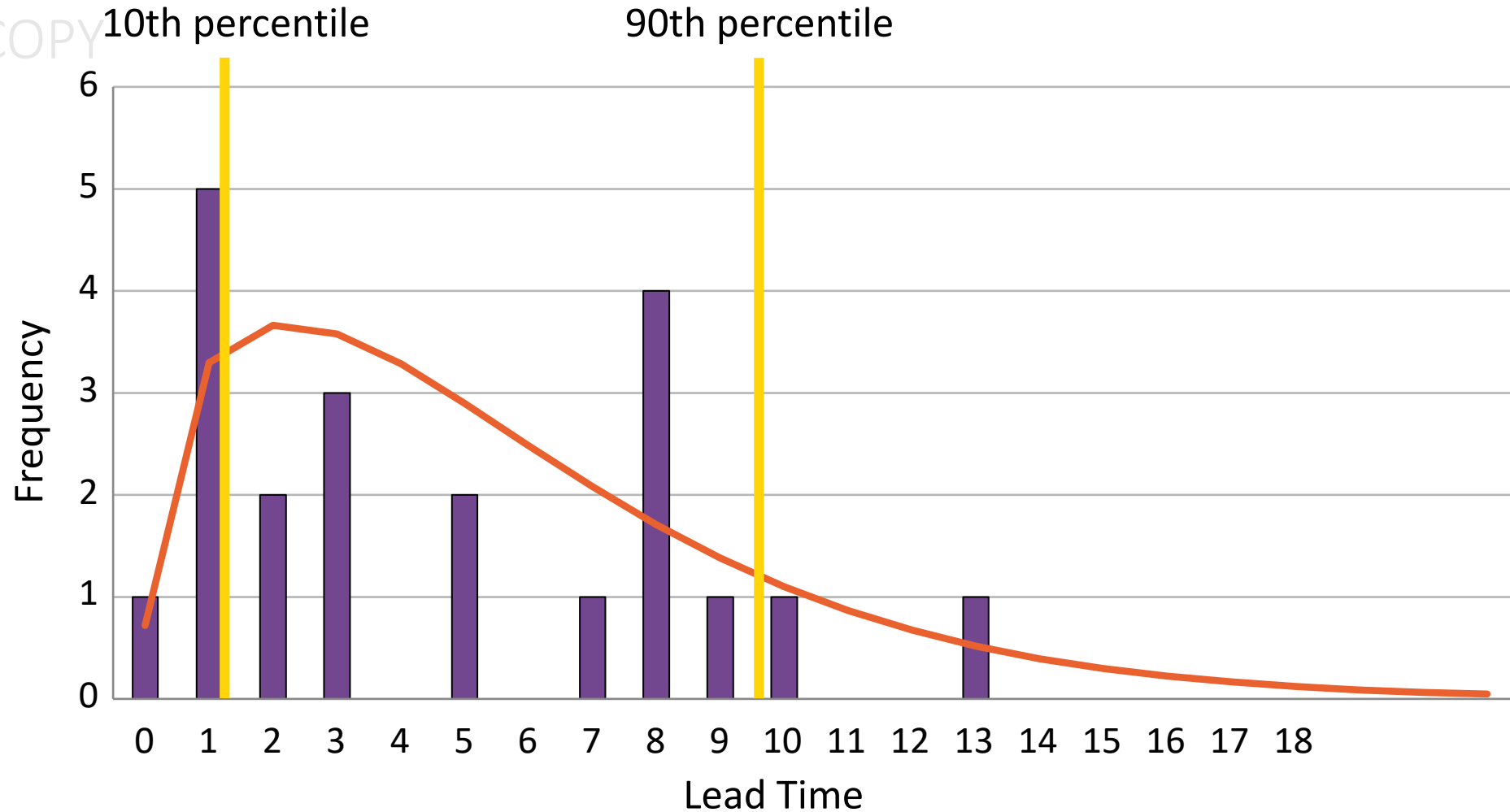
STUDENT COPY
STUDENT COPY
STUDENT COPY



We learned that our distribution was not unusual. 10% of the items were completed in just a day, and 90% of the items in less than 9.8 days.

STUDENT COPY
 Kanban University
STUDENT COPY

Rosie's team lead time distribution percentiles



STUDENT COPY
STUDENT COPY
STUDENT COPY



This gave a P90/P10 ratio of 9.8. That's not great, but it also isn't as bad as what we call a "fat tail" where the ratio is above 20.

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Fat tail distributions are highly unpredictable. If you have a fat tail distribution you really need to trim the tail to have a chance of predictability.

STUDENT COPY
STUDENT COPY

So, you didn't have a fat tailed distribution. Did you leave it alone or did you take any actions to trim the tail anyway?



STUDENT COPY
STUDENT COPY
STUDENT COPY



The team was motivated to improve. We decided to look into our common sources of delay.

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We looked at our common sources of delay and we recognized there were three primary categories of delay.

STUDENT COPY
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



These were
Dependencies, Discovery,
and Dormancy.

STUDENT COPY
 Kanban
University
STUDENT COPY

That's cool. So only three categories to track for delay, right?



Three primary categories with perhaps some other outliers. These three were the ones we focused on, starting with Dependencies

Dependency on Service Provider

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
	help							

Dependency on Decisions

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
  			  		  			    

Derailed?

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
  			  		 			    

Dependencies are a real challenge for us. The team feels so helpless as they don't have control.



We made sure to visualize and manage our dependencies. In some cases, we thought the best answer was to work around them.

STUDENT COPY
STUDENT COPY
STUDENT COPY



We made sure to visualize and manage our dependencies. In some cases, we thought the best answer was to work around them.

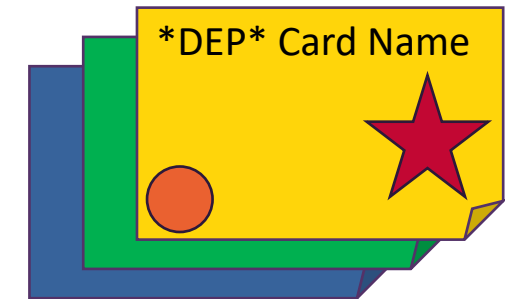
STUDENT COPY
 Kanban University
STUDENT COPY

How many different
ways can you think of to
visualize dependencies?



Ways to visualize dependencies

- Change the design of the ticket
 - Color of the ticket
 - Star/sticker/dot on sticky note
 - Digital tool: use field with linked item
- Change the design of the board
 - Separate swim lane
 - Separate section on board



Sprint Backlog	2 Design		4 Create		2 Review		1 Deliver	Done
	doing	done	doing	done	doing	done	doing	
								
			 	 				
								 

Needs support from outside the Team

STUDENT COPY
STUDENT COPY
STUDENT COPY



The focus on managing the dependencies had a positive impact on managing this delay.

STUDENT COPY
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We also made use of lead time data to help us manage dependencies.

STUDENT COPY
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

I don't get it. Can you
give me an example?



Sure. Lead time gives
an indication of how
long an item will take.
So, by knowing the
history of our service
provider we can make
our plans accordingly.

STUDENT COPY

STUDENT COPY

What happens if the provider's lead time will not meet your needs?



Then we have contingencies. We can look to escalate the item to see if it can be done sooner, or we can look to work around the dependency.

Yes, we've seen those challenges. That's some great advice on how to manage it.



It also helped groups that were dependent on us to plan and manage their expectations.

STUDENT COPY

STUDENT COPY

STU

That makes sense.



Yes. It allowed us to
manage expectations and
improve the flow of our
work.

STUDENT COPY

I didn't know you could do that with dependencies. Did you use the same approach for Discovery?

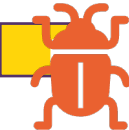
When it came to delay associated with Discovery, we looked more at the nature of the Discovery.



Difficulty

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
  			  					    

Defect

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
  			  					    

Departures – temporary and long term

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
  			  					    

Bye,
bye!



Scope change

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
								
								
								
								

The nature of the problem has changed.

STUDENT COPY
STUDENT COPY
STUDENT COPY



In the case of discovery,
we realized that this is an
inevitability of
knowledge work and that
there will always be
unknowns that are
unknowable in advance.

STUDENT COPY
 Kanban
University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



By and large we realized
that we needed to accept
this inevitable variability.

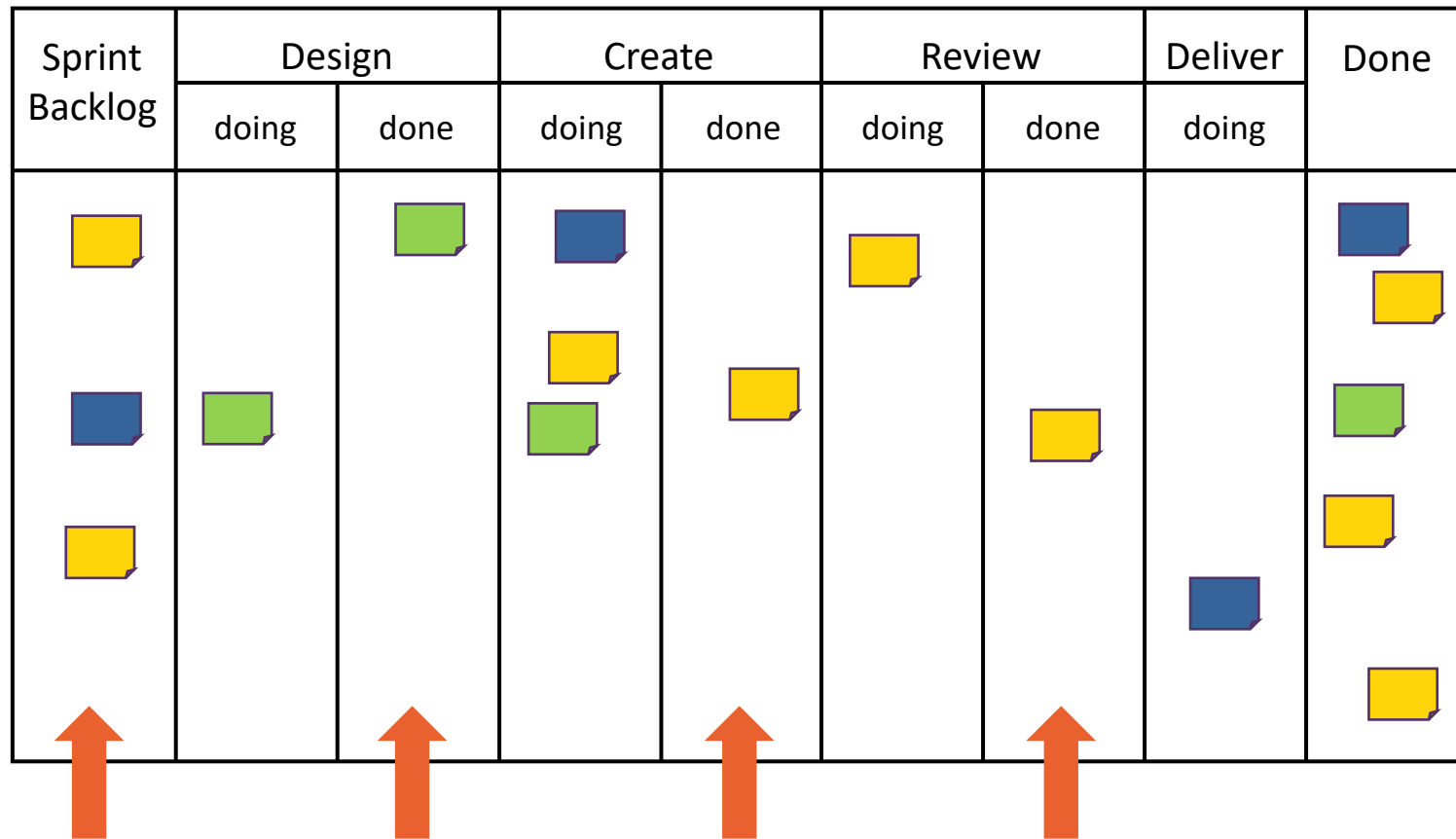
STUDENT COPY
 Kanban
University
STUDENT COPY

This is pretty cool. So now I can see how we could use lead time, the histogram, and the run chart. What about Dormancy? Isn't that just a lead time thing?



Great question, Sal. Dormancy is when the work doesn't get the attention it needs.

Dawdle – wait in queue



Distraction - multitasking

Sprint Backlog	Design		Create		Review		Deliver	Done
	doing	done	doing	done	doing	done	doing	
  			 					    

STUDENT COPY

STUDENT COPY

STU

So, how do you increase
the attention on the
work?



What's one way to
increase a team's focus
using a Kanban board?

STUDENT COPY

STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

Make it look nice?



Well, that's never a bad idea. Increasing focus comes from having less to work on as a team.

STUDENT COPY

STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

That makes sense. Less work is more focus, then?



That's right. That's why we used the policy of limiting work in progress to address our Dormancy issues.

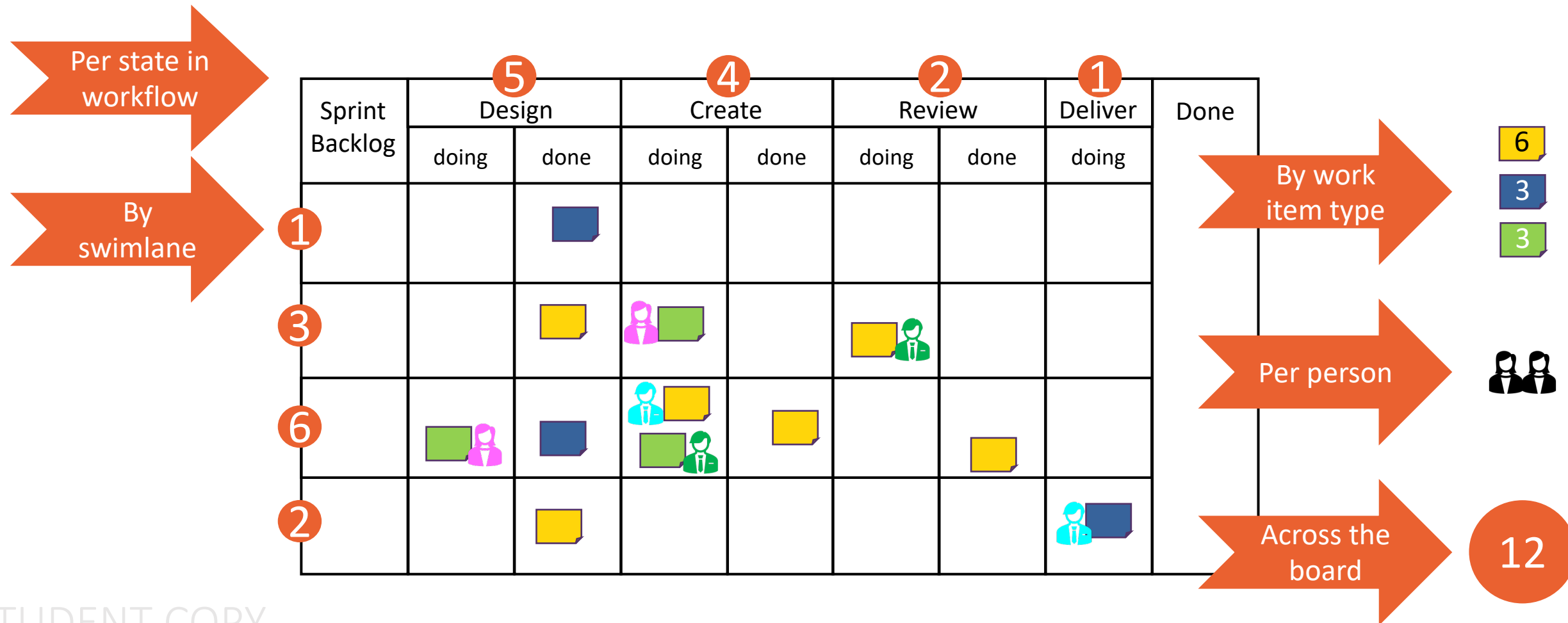
STUDENT COPY

STUDENT COPY

How and where can WIP be limited?

- WIP limits can be determined
 - By the type of work
 - By the group or person making the request
 - Per person
 - Per state in the workflow
 - Or across the entire board

Visualizing WIP-limits



STUDENT COPY

STUDENT COPY

STU

That sounds great, but
I'm not sure if my
colleagues are willing to
do that.



STUDENT COPY

STUDENT COPY

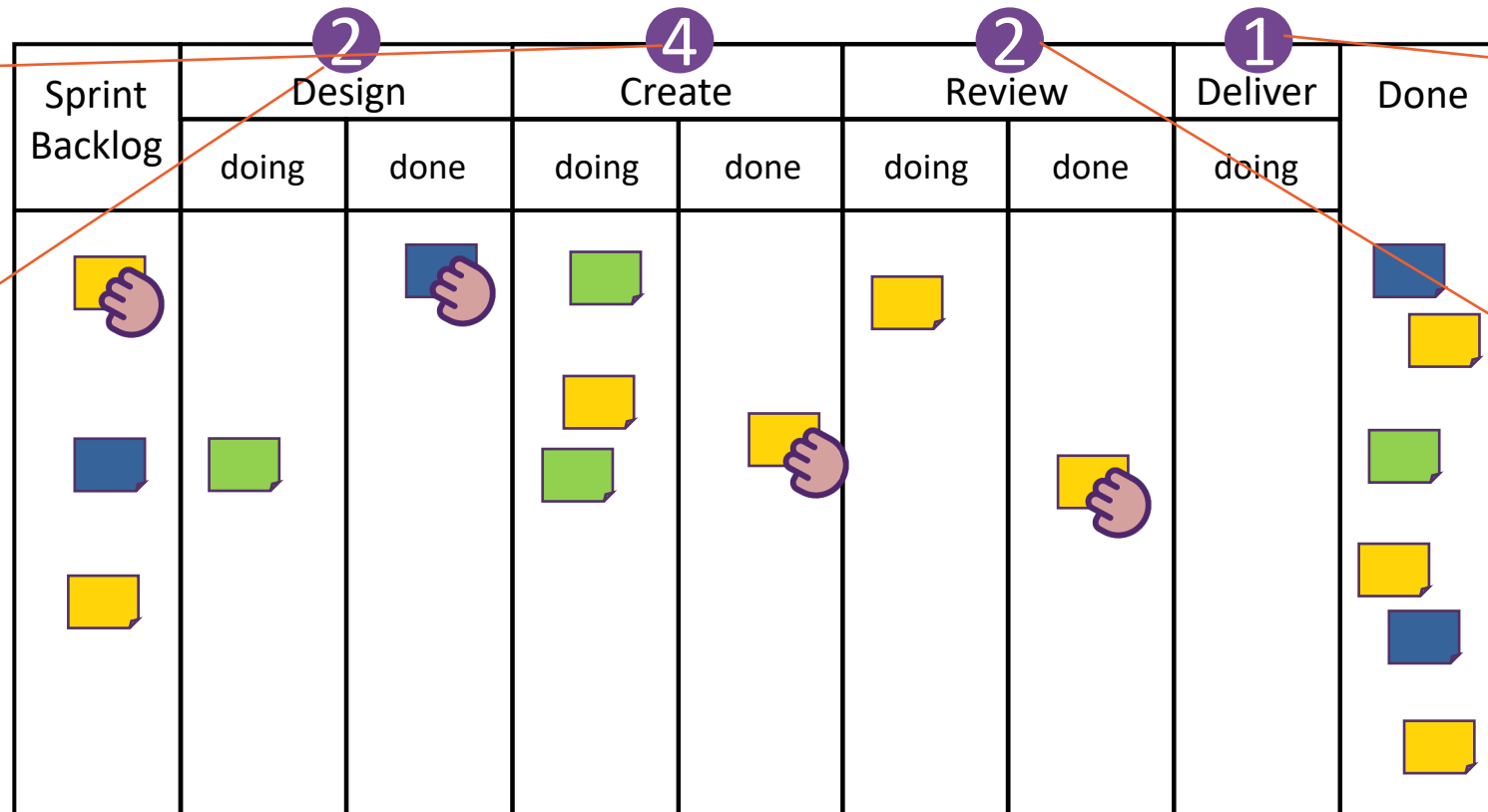
STUDENT COPY
STUDENT COPY
STUDENT COPY



I understand, I'll share how to get your team onboard a bit later. For now, when you limit your work in progress, you create a pull system.

STUDENT COPY
STUDENT COPY

Kanban systems are pull systems



Now, there is capacity here

And we have capacity to pick up something new.

There is capacity here

Pulling work from *Deliver* will create capacity here too – the pull signals move upstream.

STUDENT COPY

STUDENT COPY

STU

It looks so simple. Did it
work?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Amazingly well. Limiting WIP really helped to reduce multitasking. Items were frequently getting ignored or sitting in handoff queues.

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



The end result was a reduction of lead times. The team felt more focused and not overburdened at all. Our delays reduced and our productivity improved.

STUDENT COPY
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

I hadn't realized that all
of this affects our
predictability.



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



In the end, we realized that our attempts at refining, estimating and planning were consuming a lot of time we could spend on doing the work.

STUDENT COPY
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We had good data on lead times and throughput and started using this data from the performance of the system to predict the future performance of the system.

STUDENT COPY
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Our forecasts were as accurate as when we were spending so much time refining, estimating and planning.

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Understanding our delays and actively managing those that we could, we improved lead time, throughput and predictability.

STUDENT COPY
 Kanban University
STUDENT COPY

Thanks to you, Rosie, I understand how Kanban uses practices to address the various sources of unpredictability.



Solve for a delay

- In your breakout group, design a solution for one category of delay.
- How will you get the team involved?
- Is anyone needed to help you solve for the delay?
- Any challenges or perhaps resistance you will run into?



But how did you actually
get the Scrum Team to be
willing to experiment and
change, especially with
WIP limits?



STUDENT COPY
STUDENT COPY
STUDENT COPY



We used evolutionary
change.

STUDENT COPY
 Kanban
University
STUDENT COPY

Module 4

Understanding change

Thoughtfully designing change for your Scrum

What do you or your organization love about Scrum?

- In your workbook, describe what you or your organization love about your Scrum implementation.
- Place them in short words on the board.

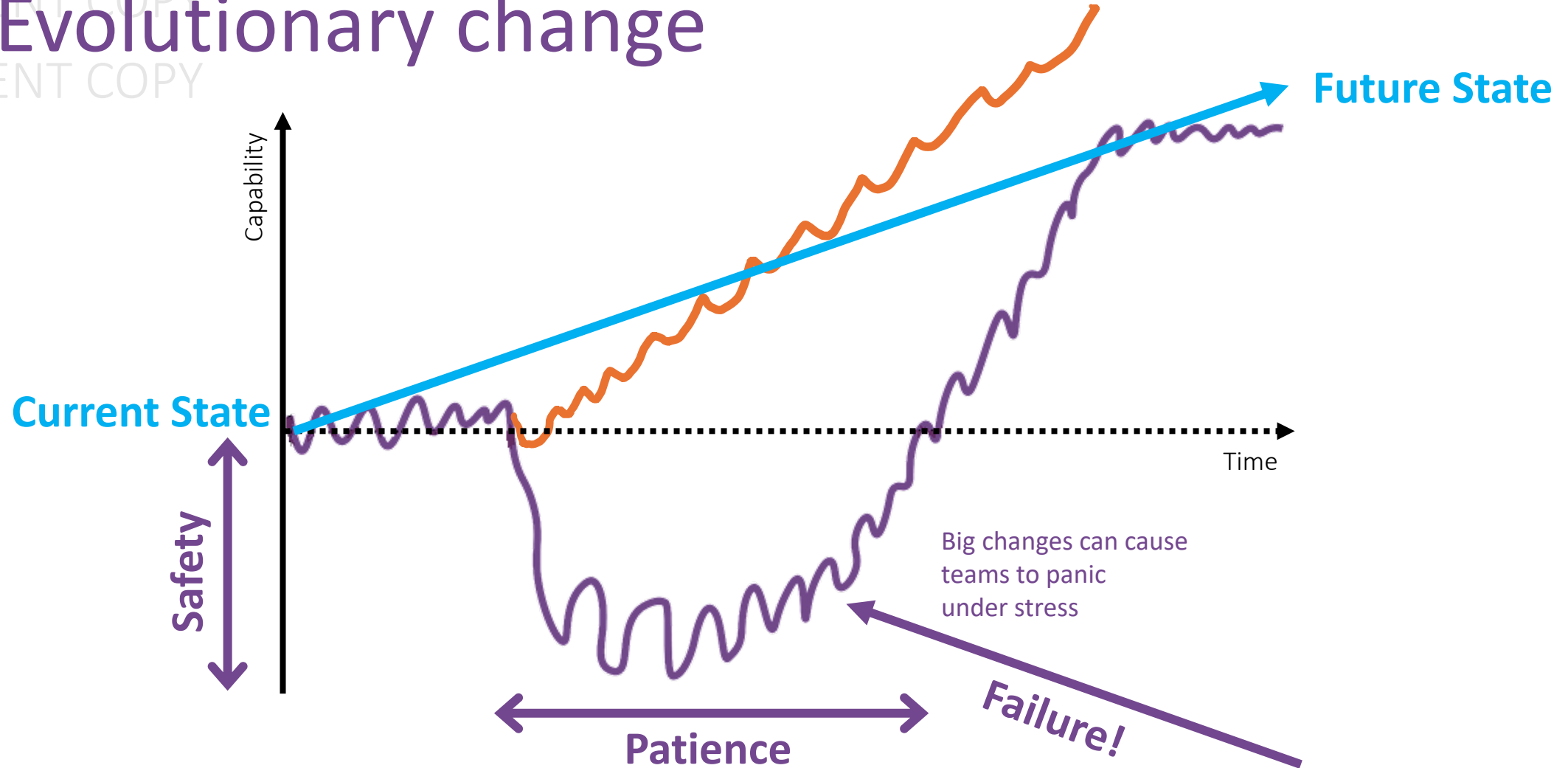


Change management principles



1. Start with what you do now:
 - Understanding current processes, as actually practiced;
 - Respecting existing roles, responsibilities, and job titles.
2. Gain agreement to pursue improvement through evolutionary change.
3. Encourage acts of leadership at all levels.

Evolutionary change



STUDENT COPY
STUDENT COPY
STUDENT COPY



Evolutionary change, not revolutionary

STUDENT COPY
STUDENT COPY

What are some examples of evolutionary change in Scrum?

Describe a change you have seen in your Scrum environment that reflects the evolutionary nature of learning through small incremental changes.



Evolutionary change formula

Areas to consider when planning out evolutionary change.



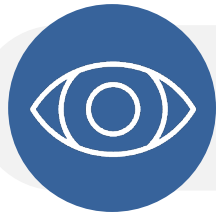
The Change Potion



Leadership

lead

3



Reflection Mechanism

reflect

2



Stressor

stress

1

Fill out your problem

- What's the problem you want to solve related to your work?
- Be prepared to spend about a minute or two reading out your “case” to the class.

Review your “describe your Scrum” area if need be, to identify existing and ongoing stressors.



Let's vote!

- We will take a few minutes now to vote on your favorite "case".
- We will use the top "cases" for a series of upcoming exercises.



Join a problem

- Now that we've voted, make a decision where you'll want to participate on a particular problem.
- You can only choose one problem.
- Put your name on a sticky next to the problem you want to participate in additional exercises.



Kanban practice

An intentional design to determine if a hypothesis is valid or not. The experiment is accepted by the whole team.

Improve
collaboratively,
evolve
experimentally



STUDENT COPY

STUDENT COPY

STU

So, how did you address
the problem?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We started by
discovering the problems
first.

STUDENT COPY
 Kanban
University
STUDENT COPY

So, you went through
multiple rounds of
understanding to see if
you had more than just
one problem?



STUDENT COPY
STUDENT COPY
STUDENT COPY



Yes. We all spent quite some time thinking through the initial problem. We started to scan and look at all the problems around our environment

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

Really? How much time?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Well, it took us a few days, here and there, thinking through the problems and reflecting on what we had observed previously.

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We used a whiteboard to
write down all the big
pains that we could think
about.

STUDENT COPY
 Kanban
University
STUDENT COPY

That's pretty cool. So there's usually more than one problem present at the same time?

Doh! Good point!



Sal, when have you only seen one problem present at the same time???

STUDENT COPY

STUDENT COPY

STUDENT COPY



Here were some
of the teams'
problems.

The Sprint Backlog

The pressure to deliver everything while also dealing with everything else going on.

Quality Assurance Juggernaut

Either the testing environment was down or we just sent too much to be tested at once.

General Managers and Product Managers Wanted "More"

They wanted more done and felt the best answer was to push more into the backlog.

Software Engineers Aren't Testers

Software Engineers didn't want to do "boring mundane mindless" testing.

Testers Don't Trust Software Engineers

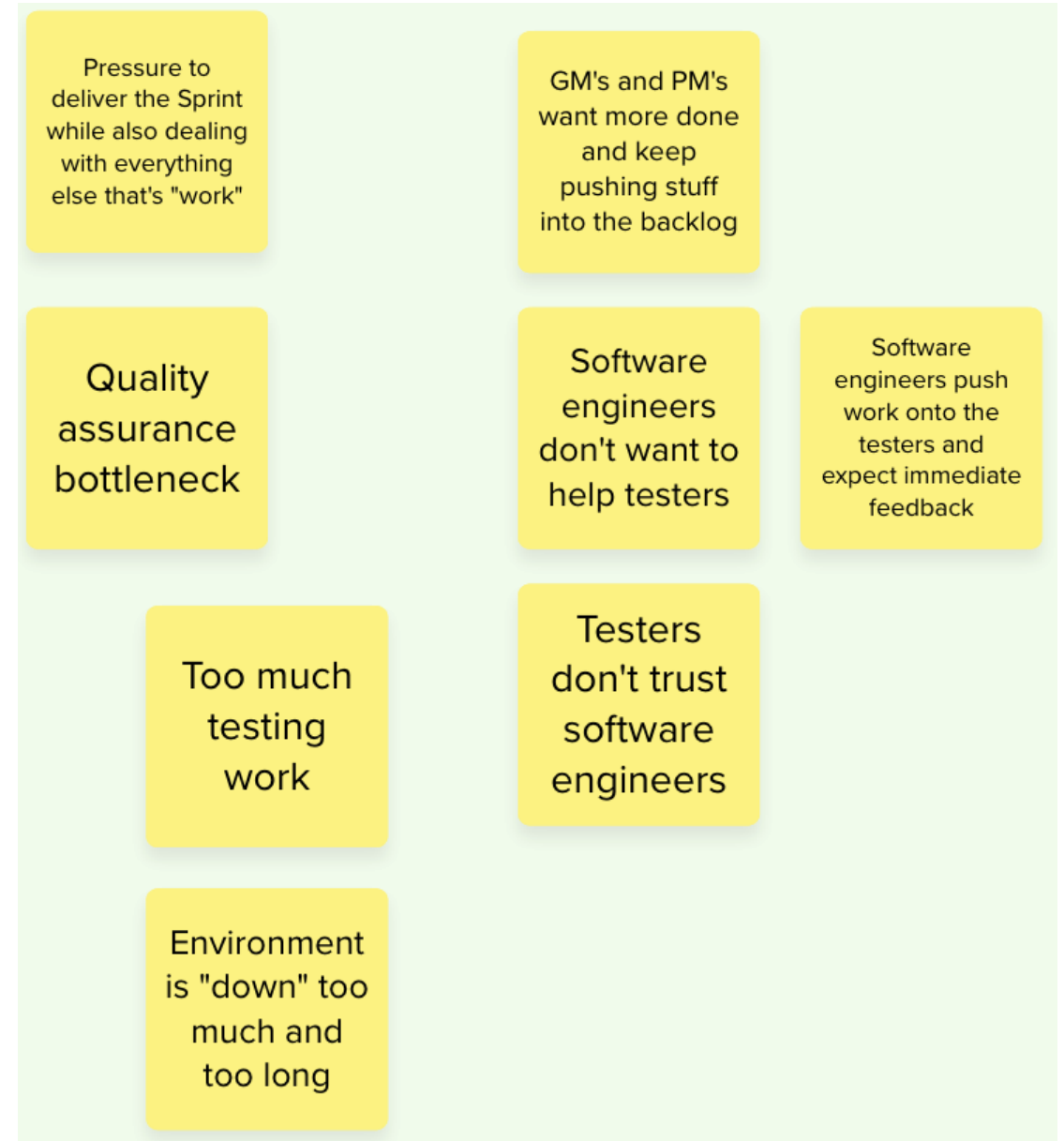
Testers felt Software Engineers couldn't be trusted to do real testing.

STUDENT COPY

 Kanban
University

The team's problem(s)

- Pressure to deliver the sprint while also dealing with everything else that's "work".
- Quality assurance bottleneck.
- Too much testing work.
- Environment is "down" too much and too long.
- Gm's and pm's want more done and keep pushing stuff into the backlog.
- Software engineers don't want to help testers.
- Software engineers push work onto the testers and expect immediate feedback.
- Testers don't trust software engineers.



What's the problem?

- You've heard the initial problem and now it's time to "dig in".
- In your breakout, identify additional problems that could be associated with this problem.
- Is the problem clear, unique, and understandable?
- Are there additional aspects that you might need to include when describing the problem?



STUDENT COPY

STUDENT COPY

STU

So, how did your team
solve all of those
problems?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We'll we had to figure out which problems we could influence.

STUDENT COPY
 Kanban University
STUDENT COPY

The Scrum Teams' influence on problems

High team influence

We have a lot of influence over addressing this problem. There's a good chance we can solve this problem.

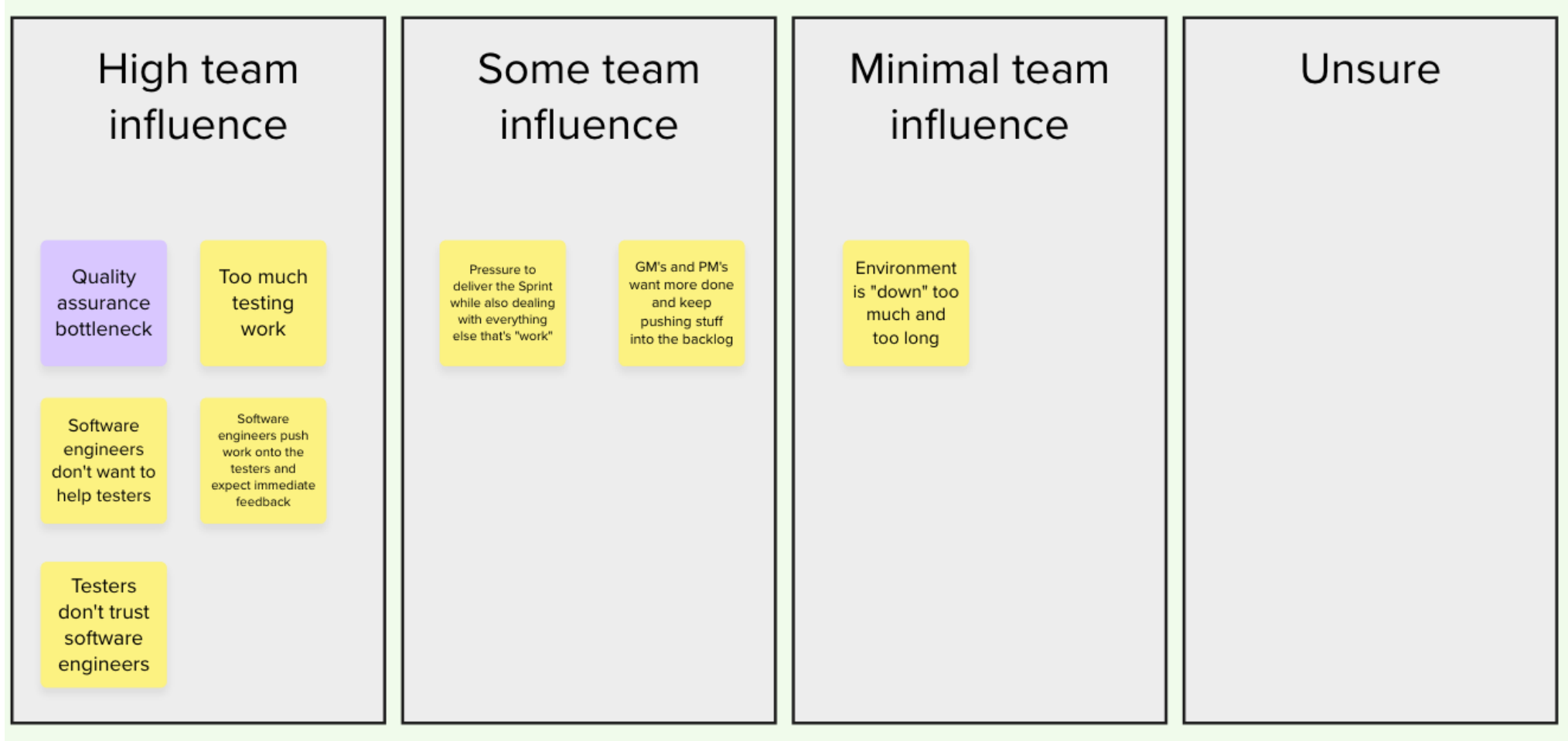
Some team influence

We have some influence over addressing this problem. We may be able to move things in the right direction to solve this problem.

Minimal team influence

There is little chance that we can influence this problem. It's outside of our ability to influence this problem to be addressed or resolved.

The Scrum Teams' problems



How much influence does the team have on the problems?

- In your breakout, place the problems into one of the three areas.
- If you're unsure, then place the problem into unsure area for now.



Pick your favorite problem

- Reviewing the list of problems that fit into the “somewhat” and “high”, choose the problem you most want to address at this time.
- Copy or move this problem to the “ideas” area.



STUDENT COPY
STUDENT COPY
STUDENT COPY



We then singled out one problem at a time and worked through potential ideas to address the problem.

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

That seems like a lot to
do.



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



It is, that's why we gauged things along the way. Figuring out which problem was worth addressing first as well as potential ideas to address the problem.

STUDENT COPY
 Kanban University
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

How did you figure out
the potential ideas?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We generated ideas
using the Kanban
practices as inspiration.
As a team, we generated
as many ideas as we
could.

STUDENT COPY
 Kanban
University
STUDENT COPY

The Scrum Teams' ideas

Problem to solve:

Quality
assurance
bottleneck

Visualize

Expand the workflow to show visualize what QA is focusing on

Limit WIP

Establish a WIP limit of one test per tester

Manage Flow

We could agree to monitor the WIP for the QA folks over the next 2-3 Sprints

We could try to use metrics to help us understand what work has a lot of QA needs

Make policies explicit

The WIP limit is one policy

Establish feedback loops

We will bring this experiment up in our retro

Improve collaboratively, evolve experimentally

We'll do this for about 2-3 sprints and see how it goes

We'll talk about this during our retros

What are your ideas?

- Using your favorite problem, develop at least three potential ideas by referencing the six practices from the Kanban method.
- Place your ideas underneath the practice that will most likely help to solve the problems.



What are your ideas?

- Pick your three favorite ideas to share with the class.
- You will have about a minute to share your ideas.



STUDENT COPY
STUDENT COPY
STUDENT COPY



We then assessed the
ideas for difficulty.

STUDENT COPY
 Kanban
University
STUDENT COPY

The Scrum Teams' assessment of ideas

Quality
assurance
bottleneck

We will bring
this
experiment up
in our retro

Expand the
workflow to
show visualize
what QA is
focusing on

We'll talk
about this
during our
retros

We'll try to use
metrics to help
us understand
what work has a
lot of QA needs

We've agreed to
monitor the WIP
for the QA folks
over the next 2-
3 Sprints

The WIP
limit is one
policy

Establish a
WIP limit of
one test
per tester

We'll do this
for about 2-3
sprints and see
how it goes

easy

not so easy, not so difficult

difficult

Provide a reason as
to why an idea is
somewhat difficult or
mostly difficult

Our
technology
can make it
hard to track
WIP :(

We think it
might be hard to
stay focused
while respecting
this policy

Our environment
changes so much,
that we may not
be able to stay
focused for 2-3
sprints on this idea

Assess your ideas by difficulty

- Copy your ideas over to the assessment area.
- Review and assess the idea for difficulty.
- For ideas that are somewhat or more difficult, place a short explanation below them to indicate why they are difficult.



STUDENT COPY
STUDENT COPY
STUDENT COPY



Then we worked through
the less difficult ideas
first.

STUDENT COPY
 Kanban
University
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

What happened to the
remaining ideas that
were difficult.



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



Well, we waited on attempting those ideas. We wanted to learn with the easy ideas first and then updated our understanding of the problem and ideas.

STUDENT COPY
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

Great. What did this
work do for the team?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



It gave us a clear
description of a
hypothesis for change.

STUDENT COPY
 Kanban
University
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



It was also an opportunity for us to attempt experimenting with WIP limits to solve a problem.

STUDENT COPY
 Kanban University
STUDENT COPY

The Scrum Team's hypothesis

We believe that if we ...

Expand the workflow to show visualize what QA is focusing on

We'll talk about this during our retros

We'll try to use metrics to help us understand what work has a lot of QA needs

We've agreed to monitor the WIP for the QA folks over the next 2-3 Sprints

We will be able to address ...

Quality assurance bottleneck

What is your hypothesis?

- Copy your problem and ideas into the “hypothesis” area below.
- Be prepared to explain your hypothesis and how you’ll know if it is succeeding or not.



STUDENT COPY

STUDENT COPY

STU

Something is missing
here, Rosie.



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



What do you mean?

STUDENT COPY
 Kanban
University
STUDENT COPY

STUDENT COPY

STUDENT COPY

STU

I do not see how the
team kept track of this
change. How did they do
that?



STUDENT COPY

STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY



We kept track of the changes in our retro or whiteboard tool.

We talked about them ahead of each retrospective.

We reviewed and discussed any open changes, experiments, ideas.

STUDENT COPY
 Kanban University
STUDENT COPY

How will your team track these ideas?

What tools or techniques are you already using that you could use to track your ideas and more?



Update your workbook

In this module, we have taken you through the evolutionary change. Update your workbook with your lessons learned.



STUDENT COPY

Module 05

STUDENT COPY

Class closure

Final reflections and resources.

STUDENT COPY

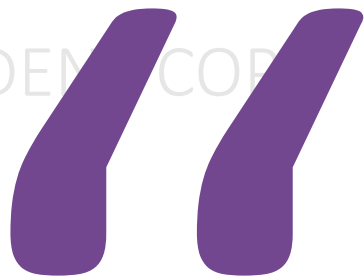
STUDENT COPY

STUDENT COPY
STUDENT COPY
STUDENT COPY

“

A good plan, violently
executed now, is better than
a perfect plan next week

General George Patton



The first rule of fight club
is: you do not talk about
fight club.

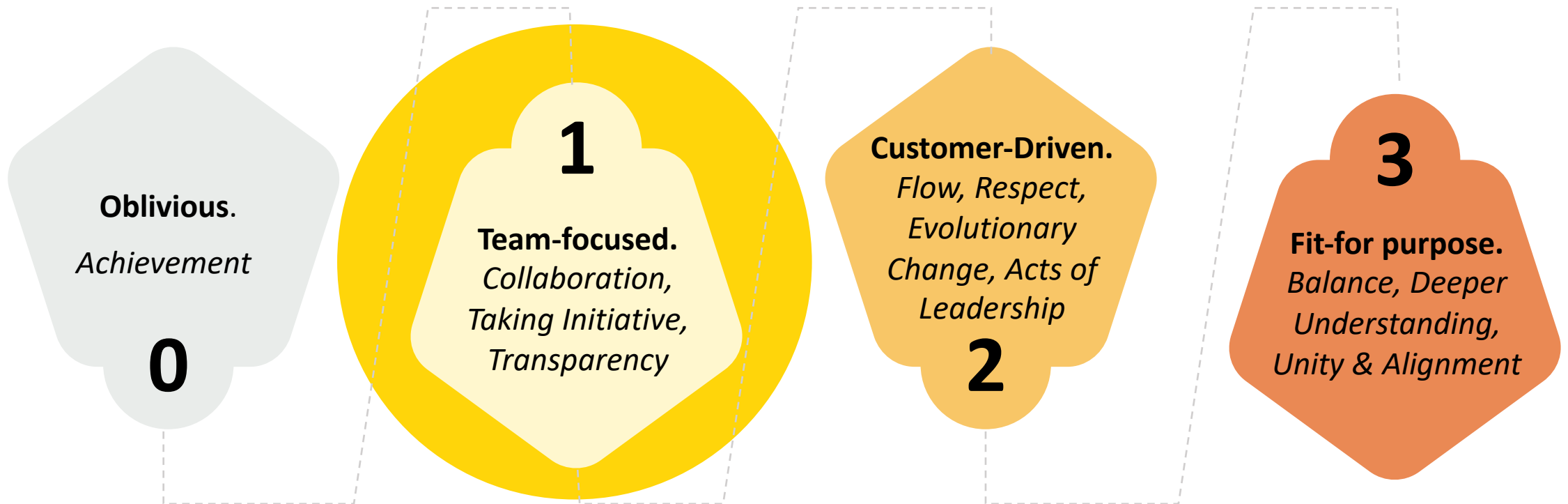
Fight club by Chuck Palahniuk

Rate your objectives

- Move your stickies along the scale provided by your trainer.
- Per sticky: to which degree has this objective been fulfilled?
- Important: please put additional stickies next to the original ones with the key reason for this rating.



Different levels of organizational maturity



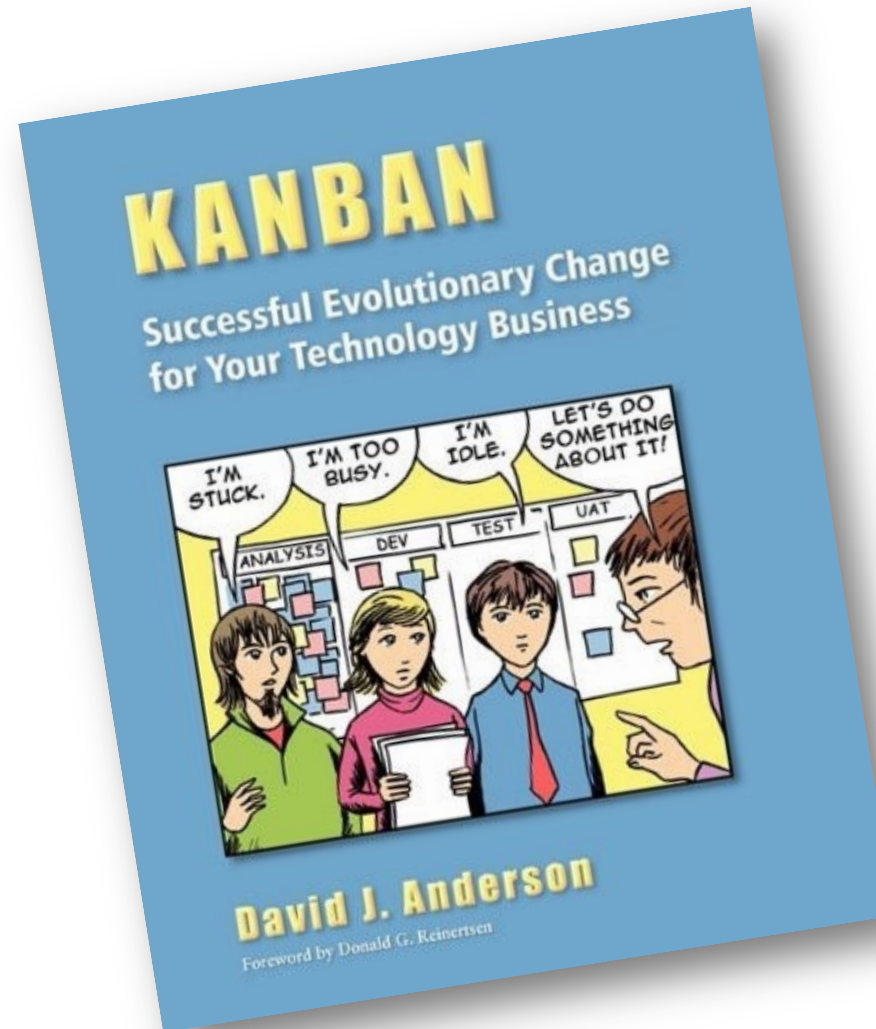
Focus of this class

STUDENT COPY
STUDENT COPY
STUDENT COPY

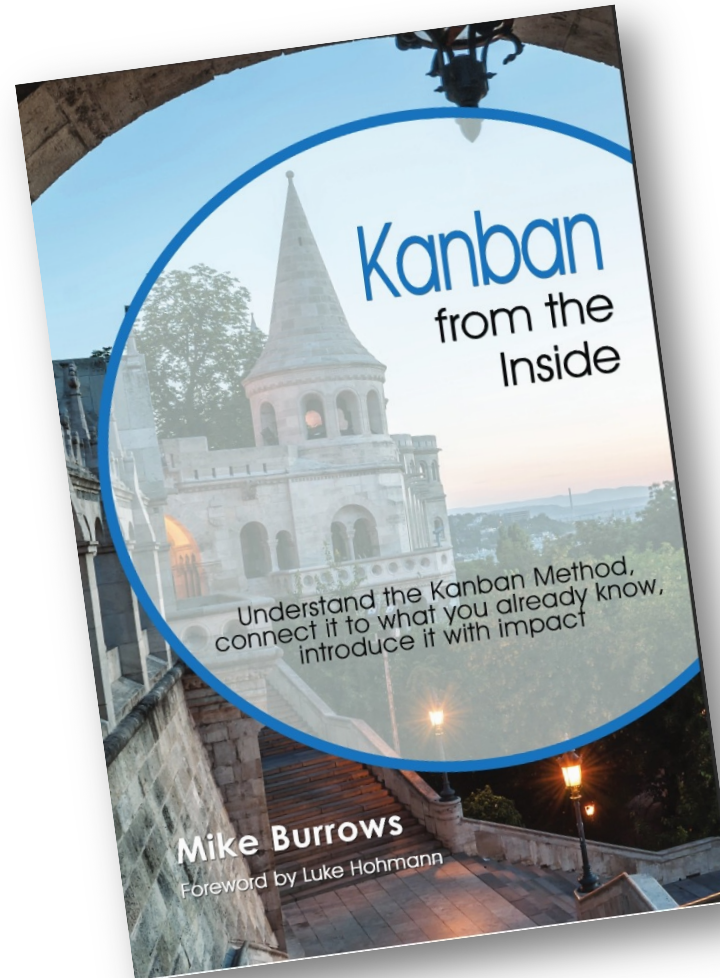
Resources

STUDENT COPY
STUDENT COPY

Kanban “blue book”



Kanban from the inside



STUDENT COPY
STUDENT COPY
STUDENT COPY

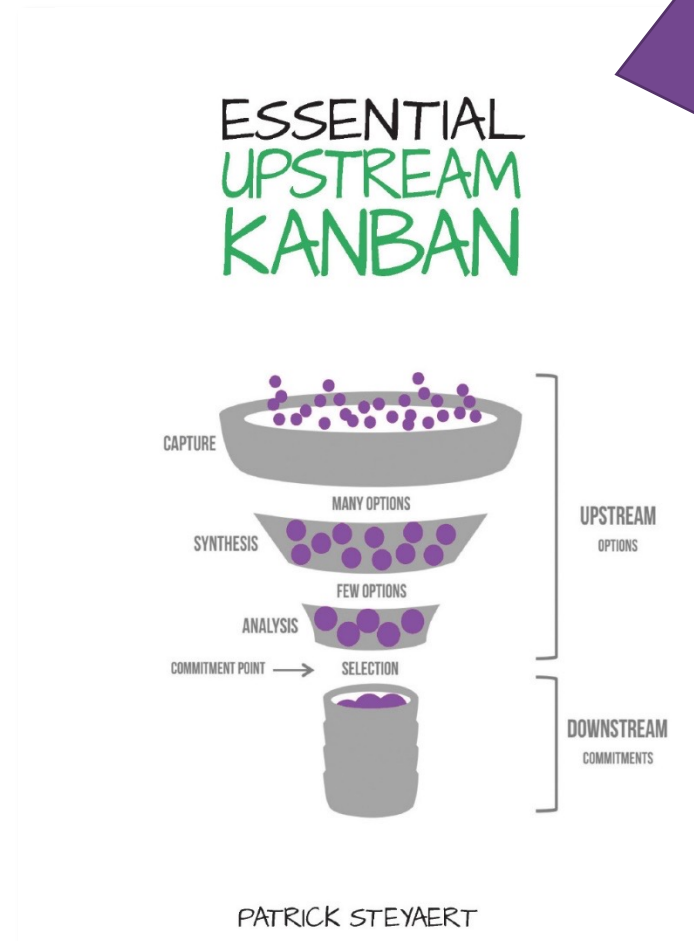
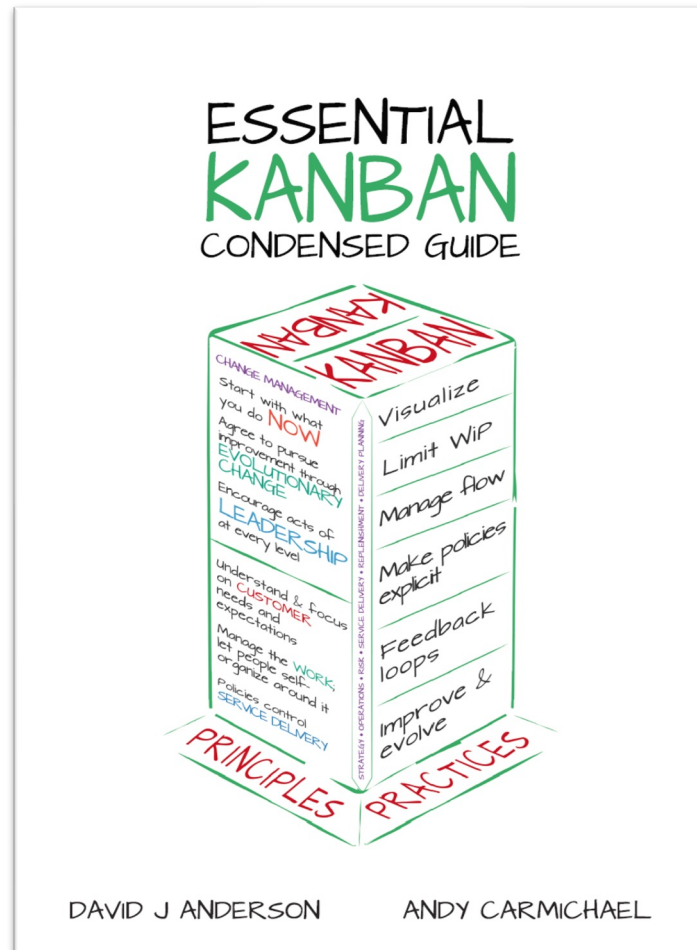
Kanban Maturity Model



STUDENT COPY
STUDENT COPY

Essential Kanban guides

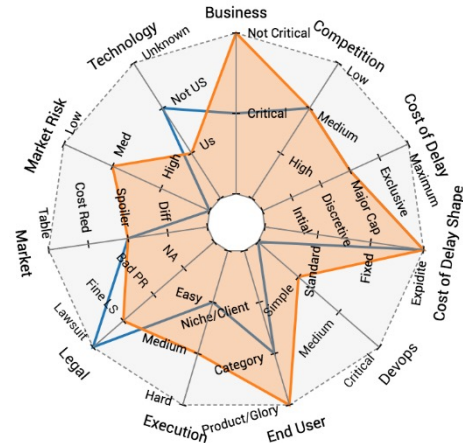
Also available in French,
Spanish, Portuguese
and German.



Download for free at <https://www.Kanbanbooks.com>

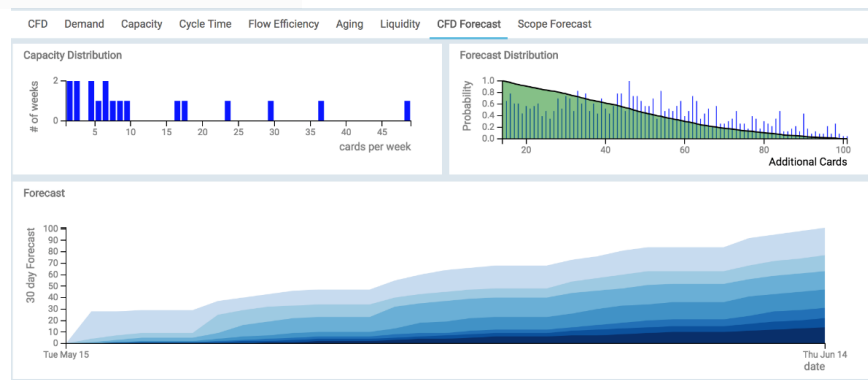
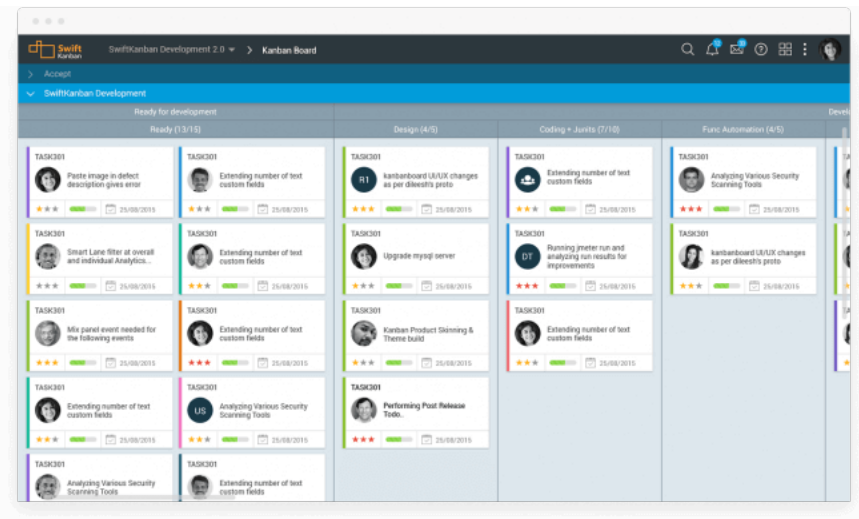


Swift
Kanban
from  nimble



Visualize your workflow and increase your team's productivity with SwiftKanban visual management and collaboration tool.

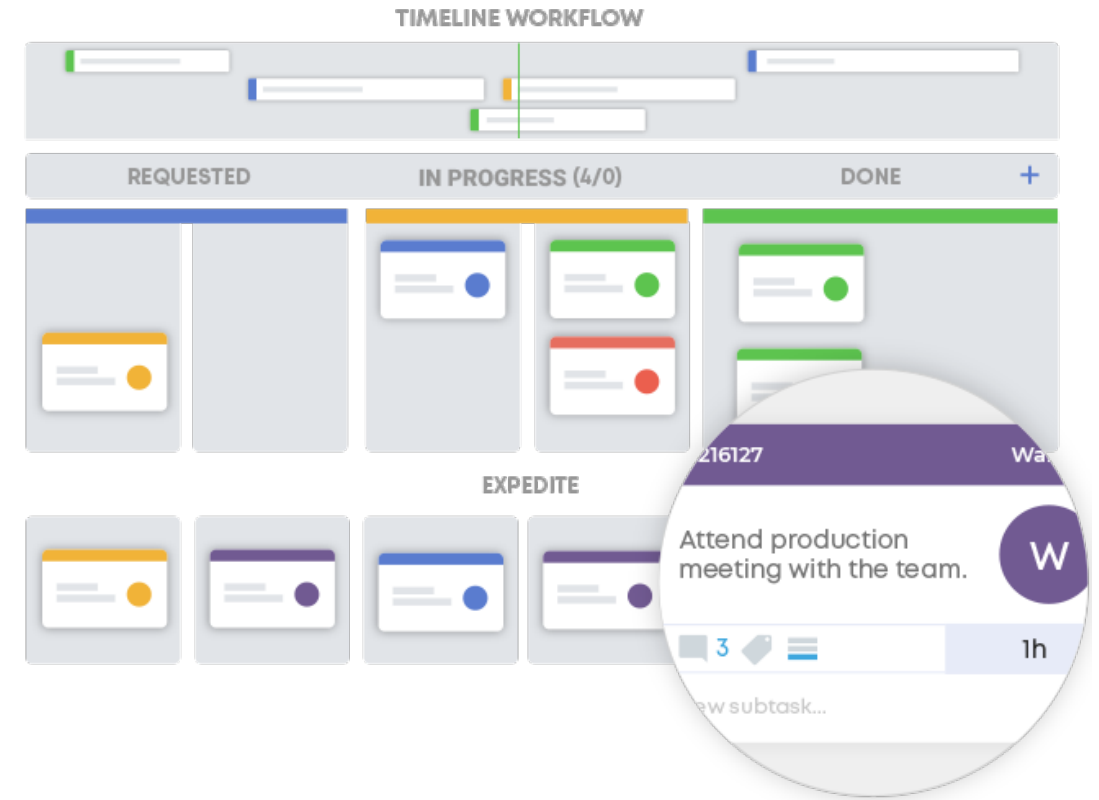
Nimble's SwiftKanban helps remote/distributed teams across business functions with their collaboration and work management needs. It enables you to do Kanban the right way - YOUR way - with robust analytics and support for Team, Portfolio and Upstream Kanban, Scrum/Scrumban and Enterprise Services Planning



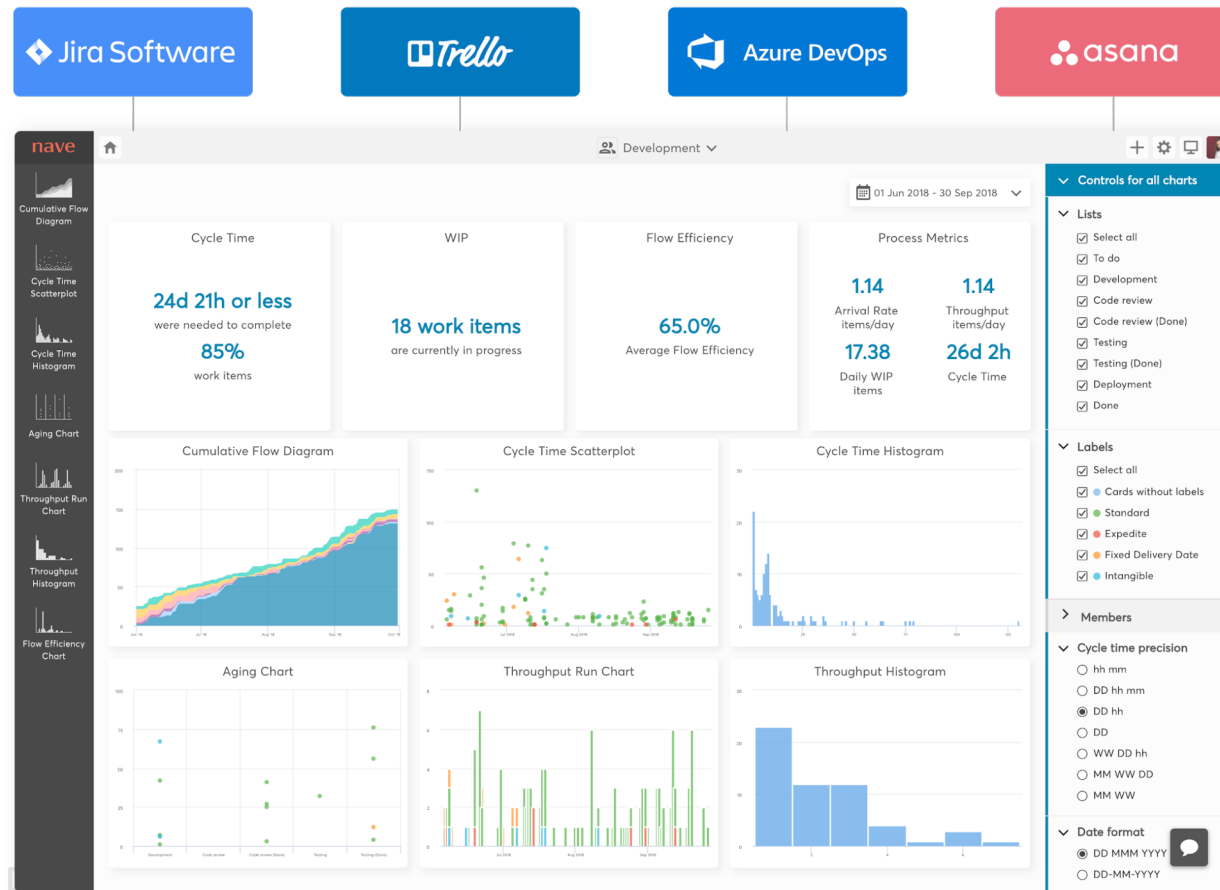


Gain visibility across all projects, connect planning with execution and deliver 3x faster with Kanbanize.

Managing dependencies and tracking the overall status has become the major time-eater for most of the managers and their teams. Having flexible Kanban Boards and built-in Business Rules, you automate all existing processes, dependencies, and interactions. This makes status always accurate, and nothing falls through the cracks.



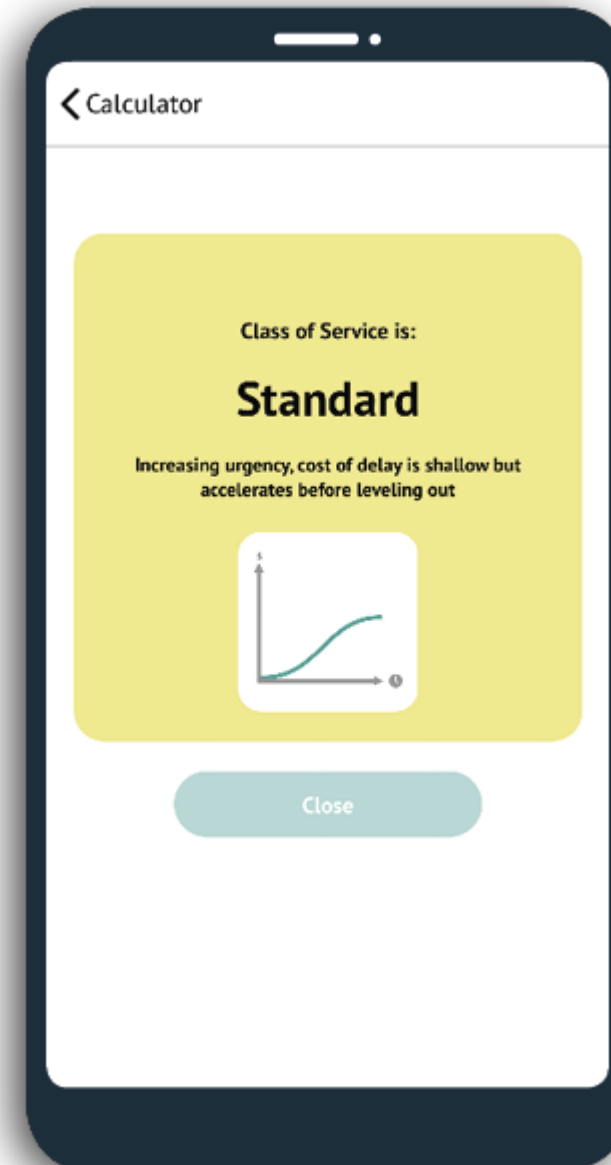
Nave (getnave.com)



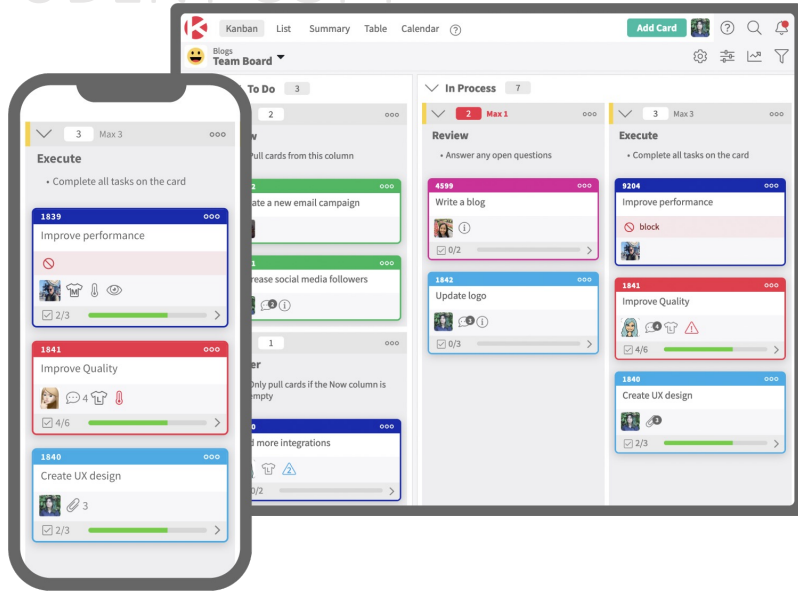
nave

Kanban Analytics on Your Preferred Tool

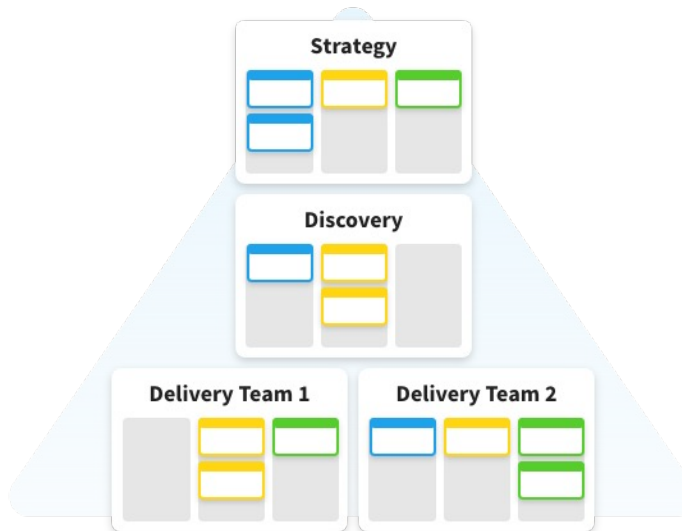
- Evaluate your workflow performance
- Analyze lead times and cycle times
- Monitor how long work stays in progress
- Identify bottlenecks as they occur
- Calculate your work delivery rate
- Make probability-based forecasts



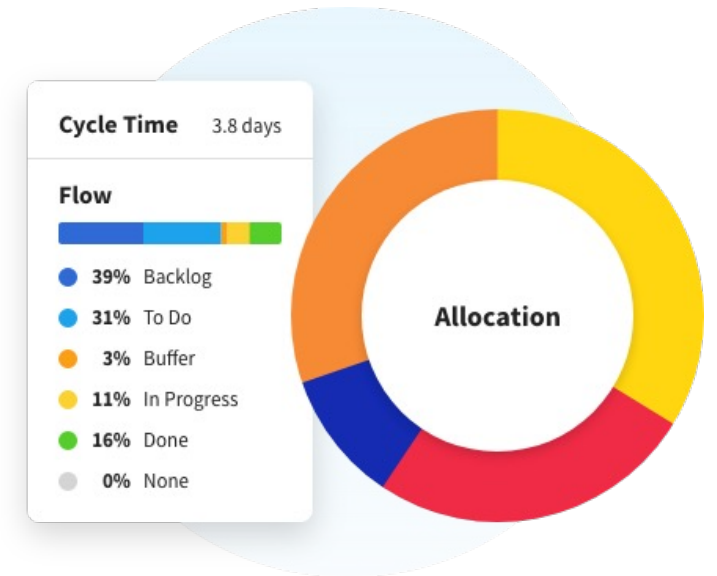
Kanban Zone enables organizations to visualize, measure, and efficiently deliver goals using the Kanban method.



**Responsive
Design**



**Portfolio
Kanban**



**Kanban
Metrics**

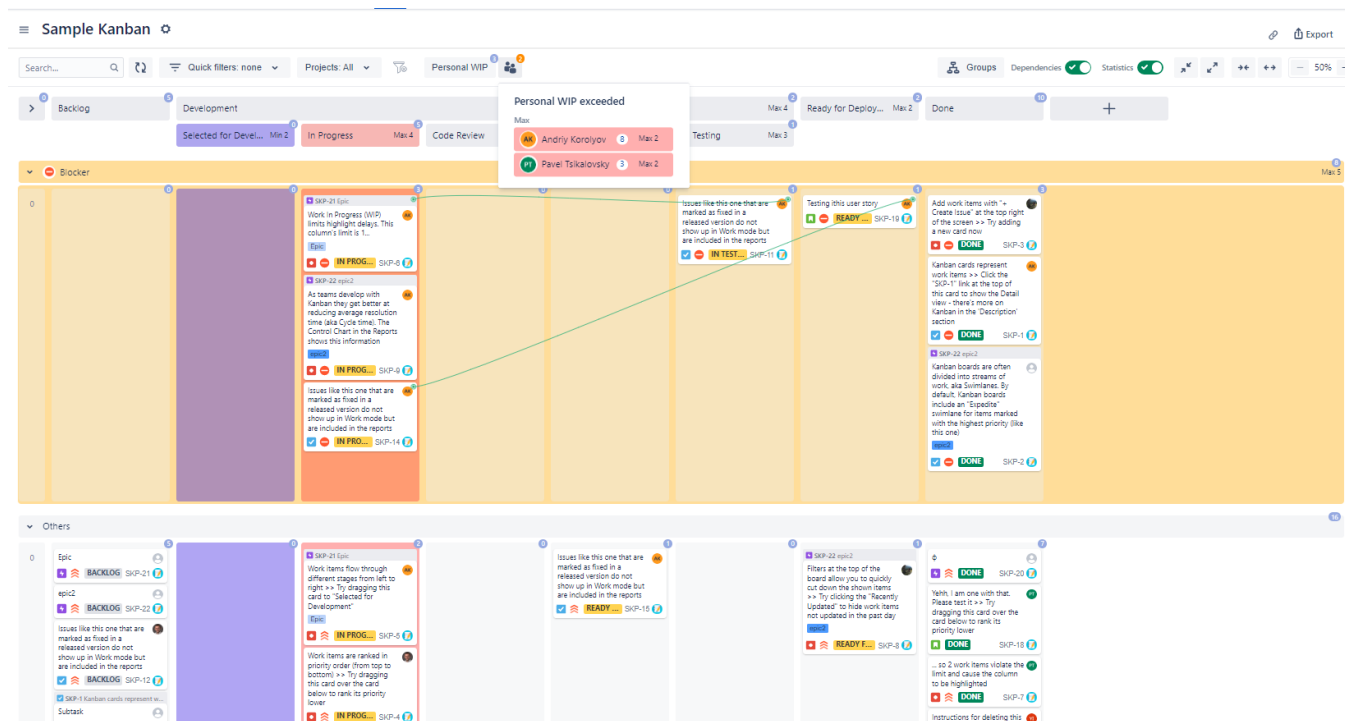
The most **Flexible** way to **Visualize** and **Connect** every aspect of your organization for an effective **Kanban system**.



Advanced Agile & Kanban Boards

Atlassian Marketplace Partner App for Jira by Release Management

- **Kanban** boards with column grouping and advanced WIP configuration (personal, column, column group, swimlane, intersection of column and swimlane).
- Great variety of **visualization techniques** by building a canvas with any Jira issue field to column or swimlane.

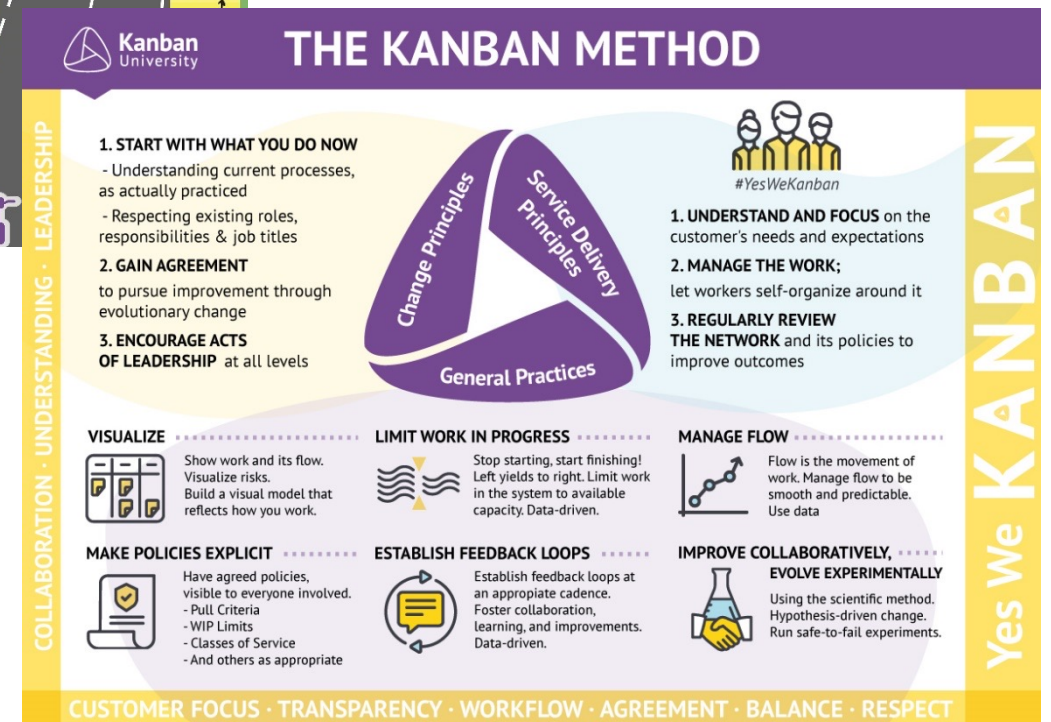
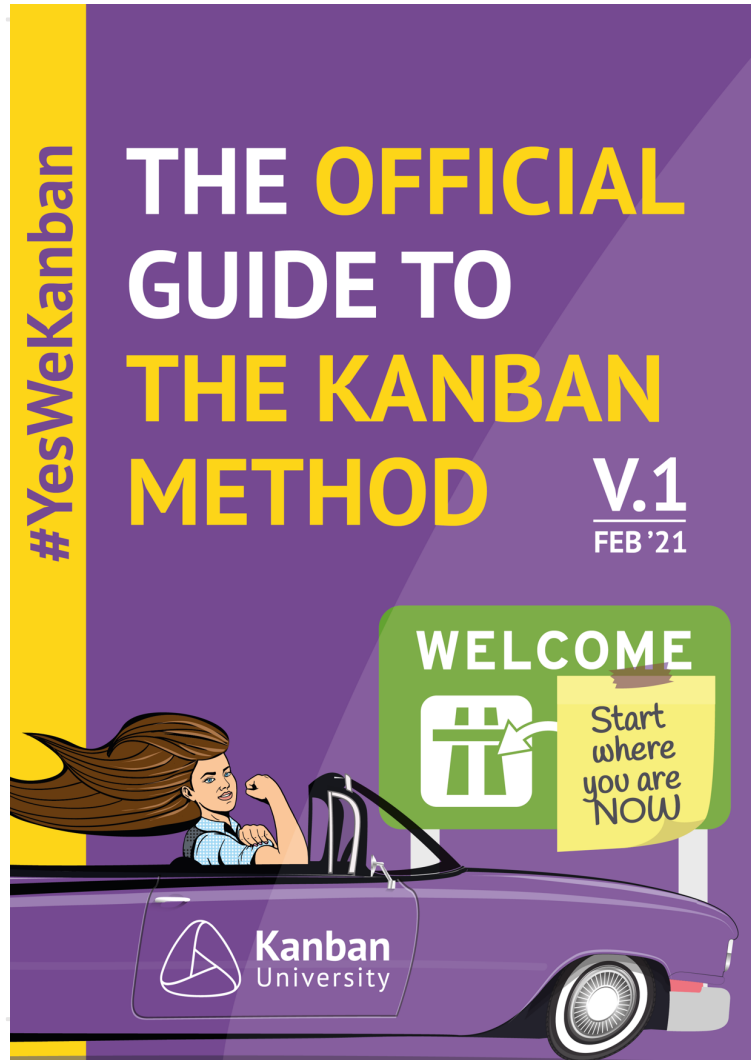


[Learn more](#)



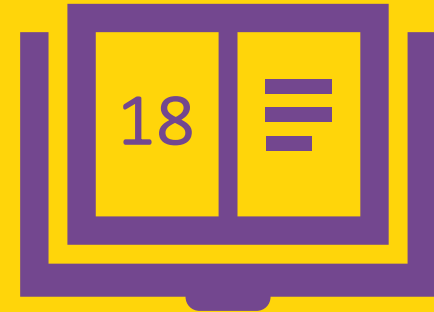
RM / RMCloud

The Official Guide to the Kanban Method



Final learning log

- Take a around the room and review your personal notes. Add anything important to you. You may think of:
- What has most surprised you?
- What is still puzzling you?
- What do you take away from all of this?





Kanban
University

**Thank
You!**

Community contributors

These people supported this class by designing, developing, reviewing, piloting.

Dan Brown

Tim Lennon

Gerhard Wagler

Lisardo Cordero

Tomo Lennox

Bob Willis

Fernando Cuenca

Silke Noll

Van Wray

Christoph Dibbern

Daniel Ploeg

Wolfgang Weidenroth

Ivan Gonzales

York Rössler

Maarten Hoppen

David Spinks

Chungan Ke

Andre Suman

Pierre LeBlanc

Maks Vyshnivetskyi

Thank you