The Team-Knowledge-Model

Visualize team progress
MARK BREGENZER
Principal Consultant
Agile Methodology

Agile Experience:
→ Agile Coach at Valtech since 2011
→ Agile Coach since 2009
→ Certified Scrum-Master since 2007

Software development Experience:
→ Since 1997 as developer, lead developer, subproject leader…

Telecommunication and automotive
Scaling: Key for productivity and performance

Team states according to their ability to scale:

→ scaling potential
→ scaling state
→ scaling impediment
→ scaling progress

Successful scaling means continuous learning and know-how ramp up for all team members.
Know-how: Responsibility of the team

Teams often face these questions/challenges:

- How to handle learning and being productive?
- How to see who is expert, who needs help?
- How to focus in which direction a team develops?
- How to combine individual and team targets?

The Team Knowledge Model, based on flow model, can deliver some answers, but…
...what is the flow?

The flow in the world of working means the balance between requirements/challenges and skills.

You are in the flow, if you can say:

I’ve got interesting work topics.
I’m working smoothly with unbroken continuity, as in the manner characteristic of a fluid!
Flow Model for individuals  (Mihály Csikszentmihalyi)
Learning at the edge of the flow (Joseph Pelrine)

- Challenges
  - Anxiety
  - Apathy
- Skills
- Flow
- Peter principle
- Mobbing
- Boredom
Team Knowledge Model (TKM)

Only tracking velocity to display team improvements is not enough!

The Team Knowledge Model visualizes…

→ the knowledge distribution within the team (scaling potential)
→ balance of challenges and skills (scaling state)
→ lack of knowledge in the team (scaling impediment)
→ knowledge development over time (scaling progress)
TKM: Individual first

→ Individual
→ Independent
→ Self estimated
TKM: Starting point

Challenges

- low
- medium
- high

Skills

- low
- medium
- high

- Coding know-how
- Testing know-how
- Domain know-how

Team needs more testing skills
TKM: Working on results

Improvement of team knowledge is a team target

→ Find concrete measures

→ Identify pairs for learning

→ Agree on schedule for the update of the TKM
TKM: Progress

Challenges vs. Skills

low  medium  high

Coding know-how
Testing know-how
Domain know-how

Oops, this team member left behind!
TKM: Ideal world (goal)

Ideal world, not realistic!
But a vision 😊
TKM: Real example

This chart was created during the first team building workshop.
Team setup was done with new and experienced employees.
TKM: Working on results

→ Discuss results
  • Expert needed?
  • Hugh circle?
  • Smal circle?

→ Find measures to improve
  • Pair-Programming
  • Pair-Learning
  • Questioning
  • Learning day
  • Wish list
TKM: Real team progress

This chart was created after one year team working.
Hot spots:

- Nearly all areas improved
- Team works mainly on SMI Interface, which is clearly visible
- Testing knowledge increases in the whole team quite well
Hints

→ Self estimation process is not an accurate science, but a good indicator for self confidence and mood

→ Recommended frequency: 3, 4 or 6 month

→ Use maximum of six improvement areas

→ Do not write names to the x
Problems

- Some people have problems with offering their self estimation to others
- TKM can be misused by management to judge people
- Finding right measures is more difficult, if it’s done anonymously
Potentials

→ Use the TKM in multi team projects to setup the right team structure

→ Give target TKMs to the teams to coordinate know-how development in multi team projects

→ Use Shu-Ha-Ri instead of low, medium and high
Thank you

MARK BREGENZER
Principal Consultant

+49 172 2 855 788
mark.bregenzer@valtech.de

→ valtech.de
How do we remember what we learned?

People generally remember...
(learning activities)

Passive Learning

Active Learning

People are able to...
(learning outcomes)

Define
List
Describe
Explain

Demonstrate
Apply
Practice

Analyze
Define
Create
Evaluate

10% of what they read
20% of what they hear
30% of what they see
50% of what they see and hear
70% of what they say and write
90% of what they do.

Use Pair Programming to improve individuals/teams

- **Challenges**
  - Wasting skills of expert working efficiently
  - Becoming overwhelmed

- **Flows**
  - One Learning
  - Other Coaching
  - Both in flow at a higher level

- **Goals**
  - working efficient
  - Flow
Some helpful learning practices

- Pair-Programming
- Coding-Dojos
- Community of Practice (cross-team-learning)
- Pair-Learning, Pair-Reading
- Reserve time for individual learning in each sprint
- Forums (e.g. an Agile-Design-Forum and introduce the S.O.L.I.D. design principals)
- Introduce ATDD and TDD (will lead to better domain, test and coding understanding)
Another example of a team knowledge ramp up

Hot spots:
- Team develops quite well at Testing, Coding and Tooling.
- Less people feel overwhelmed
- Scrum-Master and Interface Architect causes the three Xs at the bottom.