Software Engineering Group Project

COMP2043.GRP

Session 06:
Being Reflective

Acknowledgements

- Some of the materials we use may come directly from previous teachers of this module, and other sources …
- Thank you to (amongst others):
  - Dr Julie Greensmith

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Overview

- What is reflection?
- Why it is an important skill
- How it is used in SE

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Perceptions of self-reflection

- In your teams
  - Make a mindmap of what you associate with the word reflection
  - From this, extract some themes
  - Use the themes to come up with a 1-sentence definition of reflection
  - Write this in your journals

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Reflection definition

"A process of reviewing an experience of practice in order to describe, analyse, evaluate and so inform learning about a practice"

- Reid (1993, p.305)
    - Reid B (1993) 'But We're Doing it Already!' Exploring a Response to the Concept of Reflective Practice in Order to Improve its Facilitation, Nurse Education Today, 13: 305-309.

- How does this compare with your group's definition?
- How many of you think that you do this already?

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Reflection is …

- **Self awareness**
  - thinking of yourself, your experiences and your view of the world
- **Self improvement**
  - learning from experiences, and wanting to improve some area of your life
- **Empowerment**
  - putting you in control of making changes, and behaving in a different way

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All of these things relate to you having the power to constantly review and assess yourself

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Reflection essentials

- To think and write reflectively you have to:
  - **Experience** something
  - **Think** about what happened
  - **Learn** from the experience
- You think reflectively all the time, you probably just don't realise you're doing it

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Drawing on your own experience

- Think about the first time you wrote a computer program
  - **Experience**: what did you do?
  - **Think**: how did you feel at the time?
  - **Learn**: how did learn from the experience?

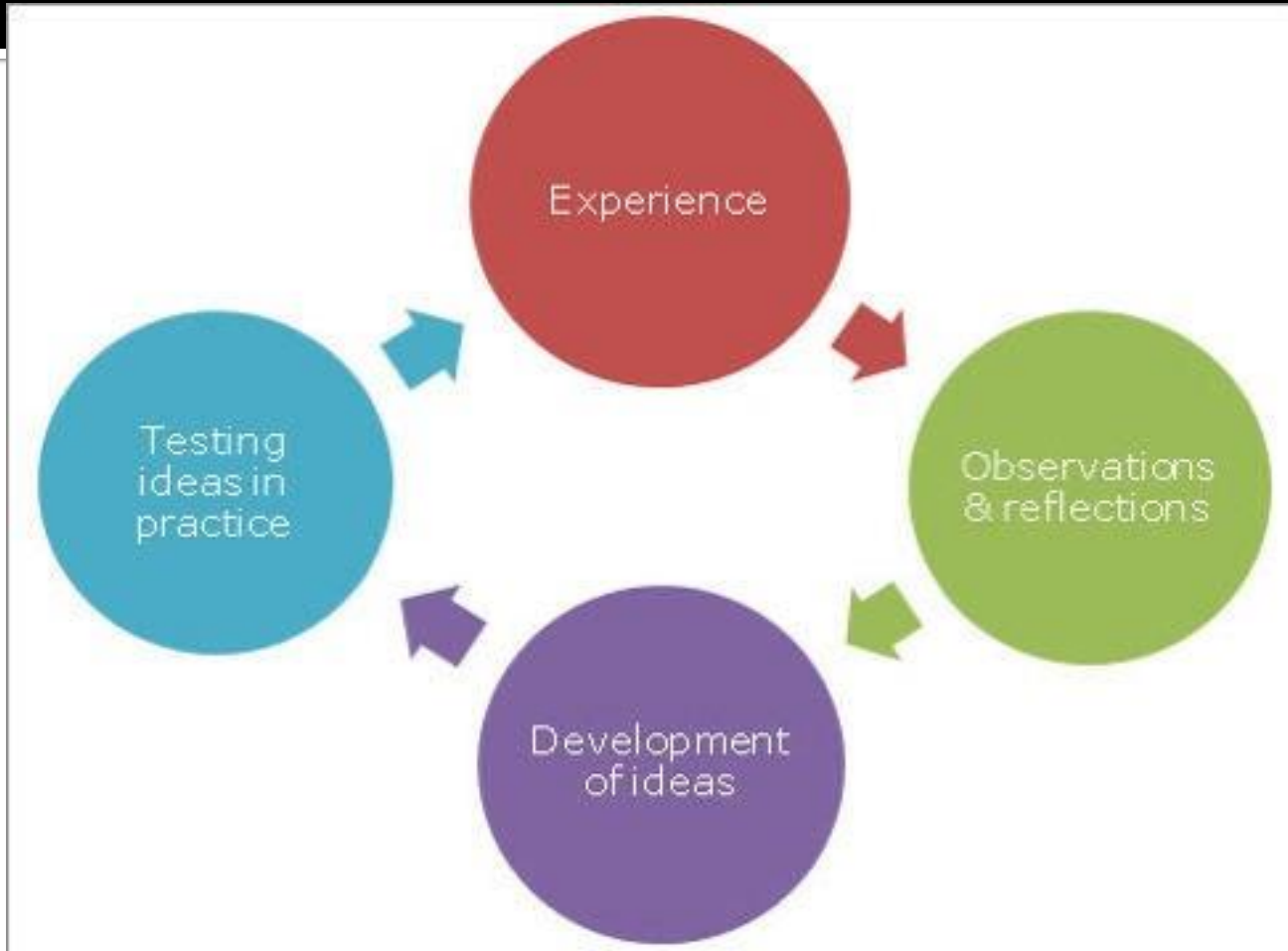University of Nottingham
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Spectrum ZX+

- **Experience**:
  - age calculator
- **Think**:
  - excited; feeling powerful; a bit frustrated
- **Learn**:
  - manipulate a computer; concentrate harder

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Kolb's Experiential Learning Cycle

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Kolb's four stages

- Experience
  - doing something, having an experience
- Observation
  - reviewing and reflecting on the experience
- Development
  - abstract conceptualisation, learning from it
- Testing
  - applying what you have discovered to a new situation

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A Kolbian example

- **Experience**: You give a 5 minute presentation in class and receive low marks for presentation style.
- **Observations** and **reflections**: You overran the 5 minutes and kept forgetting what you wanted to say.
- **Development** of ideas: You spoke to your lecturer and a CS guru to get some advice on presentation techniques. You noted down some ideas on how to prepare differently next time.
- **Testing** ideas in practice: You prepared your presentation in advance. You had some notes to refer to. You practiced delivering your presentation within 5 minutes to your friends.

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Write your own example
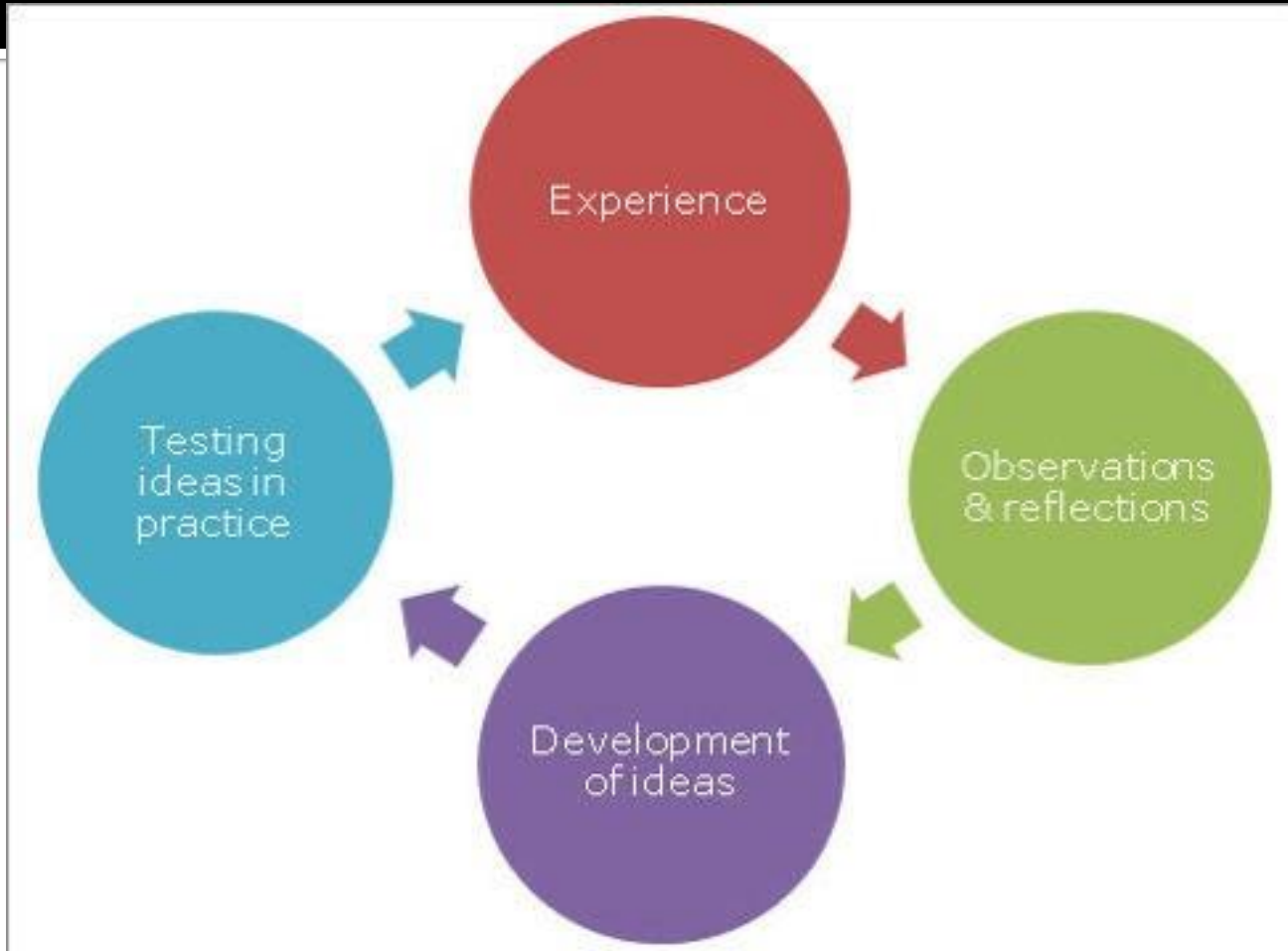
Schön's model

Reflection in action	Reflection on action
Experiencing	Thinking about something that has happened
Thinking on your feet	Thinking what you would do differently next time
Thinking about what to do next	Taking a step back
Acting straight away	Exploring different perspectives

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Reflection in action

- Reflecting on what is happening NOW to improve your performance in real time
- You are in a lecture and keep being distracted by WeChat notifications
- You want to get the most from the lecture so need to find a way to help you focus
- You decide to start making some notes of the key points to actively engage

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Reflection on action

- Performing a **retrospective** evaluation
  - You notice that sometimes after a lecture you can't remember what was covered
  - You find out about the lecture topic in advance and write down some questions you want answered
  - You make notes during the lecture to help you focus
  - After the lecture, you talk about it with others, to help you understand and form your own opinions

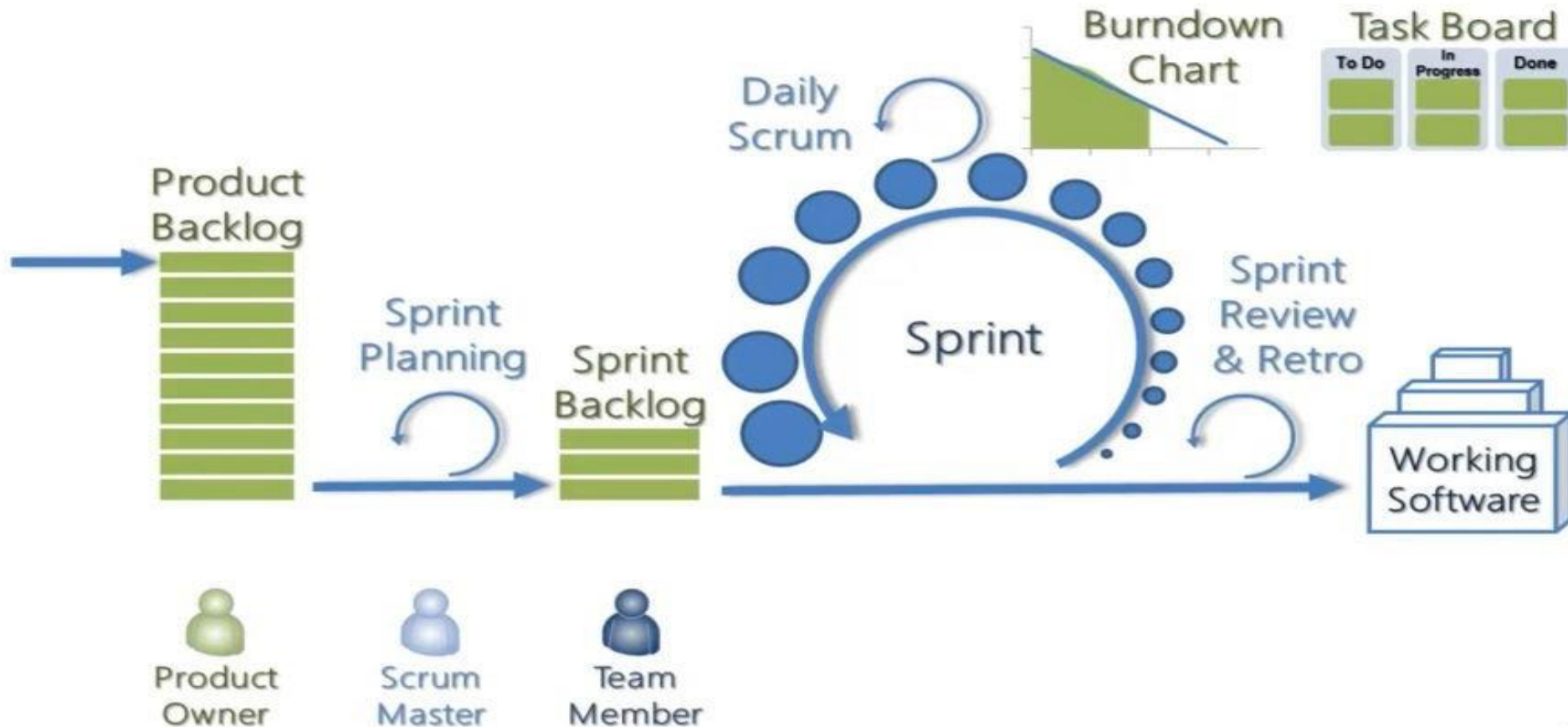University of Nottingham
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Reflection in SE

- Software development is an experiential learning process

  - No two projects are the same

- Success of a project relies on good performance from each member

- **Retrospectives** are performed as a part of an **agile sprint**

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Agile sprint

Writing reflectively

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Three 'what's: [1] what

- What? (description)
  - What happened?
  - Who was involved?
  - What did I do?

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Three 'what's: [2] so what

- Write your interpretation
- What is most important/interesting/ relevant/useful aspect of the event/idea/ situation?
- How can it be explained?
- How is it similar or different to other situations I've experienced?

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Three 'what's: [3] what next

- Give a description of the outcome and what you will change for the next time
- What have I learned?
- How can it be applied in the future?
- How will this help me improve my future performance?

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What to include

- Don't just describe
  - Explore and explain what happened
- Be honest
  - It's ok to admit to making mistakes as well as successes
  - You should also show how you understand why things happen and what you are going to do to improve
- Be selective
  - You don't have to write about everything, just key events or ideas
- Look to the future
  - Reflect on what happened in the past and how it will have an impact on future ideas or activities

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Why do this?

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Why do this?

- To give you the skills to assess yourself
- To become an independent learner
- To be able to perform retrospectives
  - Including the personal reflection for GRP
- To be able to learn from experience as well as learning from lecture slides
- To make the most of the experiences both in university and beyond

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Help each other

- I encourage you to share experiences with each other
- Through discussing in pairs or groups, you will probably gain deeper understanding
- You are also welcome to peer-review

  - Help each other!

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Good luck & have fun!