

Teaching and Learning Seminar

Simon Cleary: Academic Director

Scaffolding

Masons, when they start upon a building,
Are careful to test out the scaffolding;

Make sure that planks won't slip at busy points,
Secure all ladders, tighten bolted joints.

And yet all this comes down when the job's done
Showing off walls of sure and solid stone.

So if, my dear, there sometimes seem to be
Old bridges breaking between you and me

Never fear. We may let the scaffolds fall
Confident that we have built our wall.

Seamus Heaney

Scaffolding?

Scaffolding

Supported behaviours and actions that students can replicate till they normalize them

Ways of allowing students to do more than they can on their own

Examples?

Scaffolding

INTENTIONS:

1. recruitment (getting students interested in the task);
2. reduction of the degrees of freedom (simplifying the task);
3. direction maintenance (keeping the learner on track to their specific target);
4. contingency management/frustration control (rewarding and punishing for student performance and keeping students motivated); and
5. student performance and keeping students motivated); and
6. cognitive structuring (providing explanations to organise a learning task).

Stephanie M. A. Kruiper, Martijn J. M. Leenknecht & Bert Slof (2022) Using scaffolding strategies to improve formative assessment practice in higher education, *Assessment & Evaluation in Higher Education*, 47:3, 458-476, DOI: 10.1080/02602938.2021.1927981

Scaffolding

MEANS:

To support these scaffolding intentions, a teacher can use different scaffolding means. These means can be diverse, e.g. modelling (showing how to do something), instruction (on what to do), explaining (how to do a task in more detail), providing hints (explaining only parts of the task), providing feedback (suggestions for improvement), verification (clarifying or confirming information of the student), verbal participation (i.e. having a student interact in a discussion), and asking a student questions (Pata, Lehtinen, and Sarapuu 2006; Postholm 2006; Van de Pol, Volman, and Beishuizen 2010).

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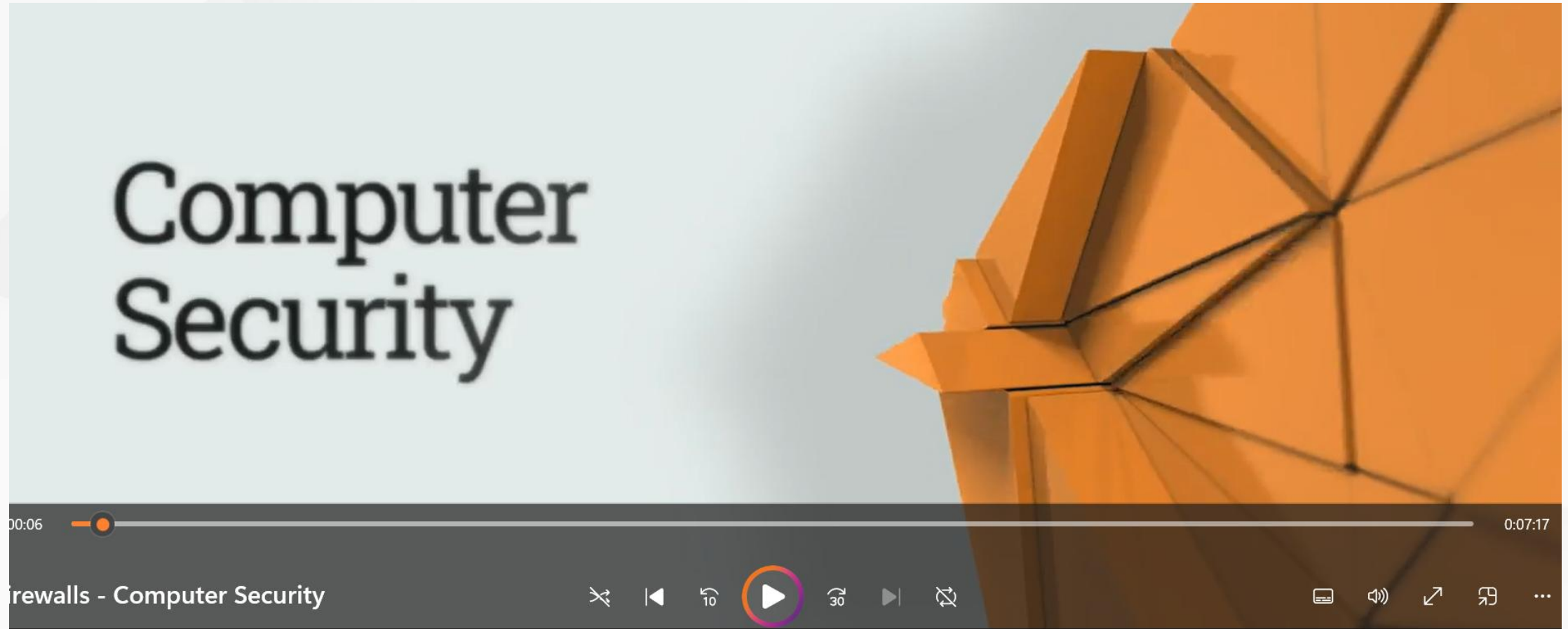
Scaffolding strategy to support active learning

Using scaffolding

In groups/pairs consider what scaffolding strategies you could provide in the following tasks.

- Consider what you would include to support students to achieve more than they could on their own
- Consider what you would include to introduce and embed academic practices by modelling conventions for a specified task or to develop better study skills.

Task 1: lecture



Scaffolding Technique 1

Provide Key Questions Before Listening

For example:

- What are the three types of firewalls?
- How does a stateless firewall operate?
- What makes a stateful firewall more efficient?
- What is the role of a proxy firewall?

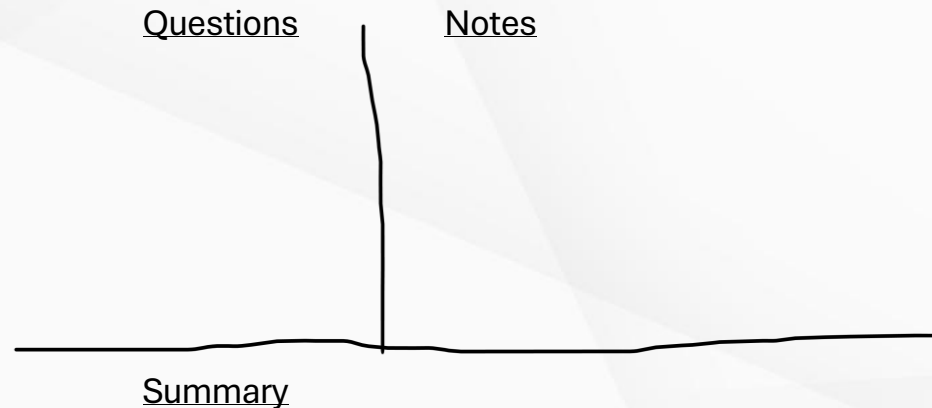
Why do this? What is it trying to achieve? How does it support students?

Scaffolding Technique 2

Use Guided Note-taking

Eg: Cornell Notes: (Divide the Page up)

Title: Computer Security - Firewalls



Why do this? What is it trying to achieve? How does it support students?

Task 2 – Reading seminar

- International students – non-native speakers
- ability to engage in a seminar may be limited as a result of certain factors.
 - What are these? – e.g. confidence to speak in a large group setting.
- Task 2: Preparation and Scaffolding to support: focus is on a Case Study

Scaffolding practical

- Participate in a mock seminar session (Hackley text case study: Beats)
- In small groups:
 - Use the AI summary and notes provided that support the case study text
 - Follow the seminar process guided by the slides
- Notice the various scaffolding activities provided to draw out key points (next slide)
- Notice whether the activities allow students to challenge and question the AI summary provided

Scaffolding technique

- Set clear learning outcomes
- Allow students prior access to all materials
- Provide guided contextualization questions
 - Meaning? Reason?
- Use visuals
- Ask basic comprehension questions
- Encourage students to work in pairs
- Accept that students will use AI
- Provide guided discussion questions
- Encourage students to work in groups
- Move between pairs – small group – whole class – individual response
- Ask directed review questions at end – concept check/ idea check

Scaffolding

Learning Outcomes

Consider ways to engage students in activities through scaffolding

Practice scaffolding within a case study example

Discuss assumptions regarding ChatGPT in undermining reading