

Taking Teamwork Online: A tale of two assessment items

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Our medicinal chemistry teaching involves two team exercises: a **Drug Design Exercise** (level 5) and **Drug Action Presentations** (level 6). To adapt to an online only delivery for 2020-21 due to COVID-19 we carefully evaluated which aspects of working in groups were truly effective teamwork, and needed to be maintained.

Drug Design Exercise: Students work in teams to develop a lead molecule into a drug candidate through iterative rounds of lead optimisation, presenting their work in an interactive team talk.

- Aim of teamwork: Collaborative content creation
- In practice some students 'freeload' – harder to deal with this online?
- Decision: Keep teamwork aspect, translate to online, review assessment

Drug Action Presentations: Students work in teams to create and deliver a cohesive presentation on a class of drugs; describing, comparing and contrasting their mechanisms of action.

- Aim of teamwork: Breadth of knowledge, context and critical analysis.
- In practice students tend to divide up the tasks and work individually
- Decision: Find another way to achieve teamwork aims.

Online Drug Design Exercise

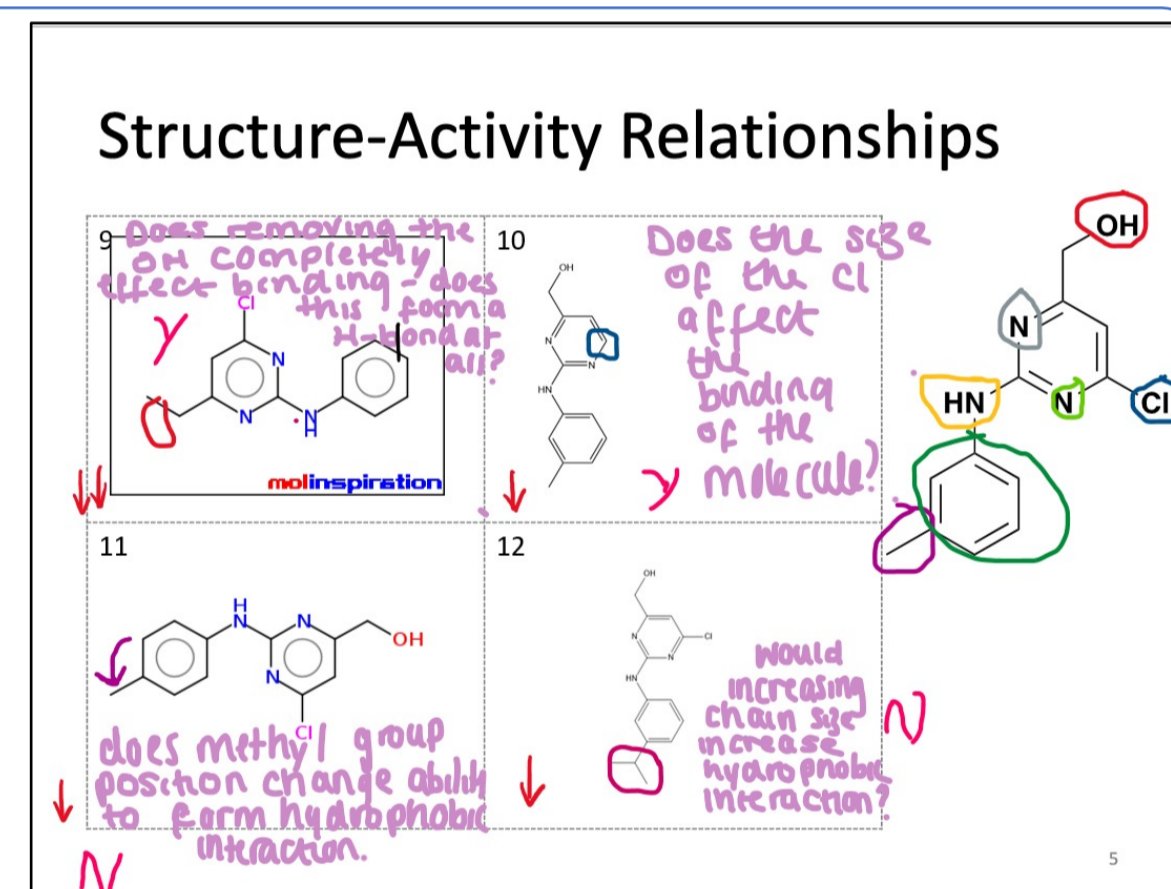
- Teamwork kept and translated online
- 3 synchronous sessions using MS teams
- Each team has a private channel
- Lecturers can be tagged for help
- Content created in team PowerPoint files
- Lecturers add feedback between sessions

Modified Reflective Assessment

- Team talks logistically difficult: replaced with individual reports
- Assessment focusses on interpreting results and reflecting on team choices
- Both students and lecturers felt this was a much fairer system
- A range of marks was awarded within each team

Evaluation and Future Directions

- Collaborative content creation was maintained online (but both staff and students would prefer a return to in person teamwork when possible)
- Reflective analysis: benefits students with a chance to consolidate learning - will keep this assessment approach even when team talks are possible.



Online Drug Action Presentations

- Adjusted to individual presentations
- 4 synchronous symposia on MS Teams
- Students cover single drug molecule
- Screencasts give context support
- Students can present live or pre-record
- Live questions after each presentation

New Top Trumps Assessment

- Students create 12 Top Trumps cards across a range of drug classes
- Reflective analysis required explanation of scoring categories awarded
- Assesses breadth of knowledge, context and critical analysis
- Encourages students to engage and ask questions in symposia

Evaluation and Future Directions

- Increased number of student questions in symposia (use of chat helps)
- Many excellent and inventive Top Trumps produced (a lasting memento!)
- Reflections show thoughtful points made in context by most students, demonstrating engagement with more content and in greater depth.

Top Trumps: Tamoxifen

Fact file:
Date to market: 1972
Class: Oestrogen receptor
Target/mode of action:
Partial antagonist that competitively binds to the oestrogen receptor.

- Lipinski ****
- Magic bullet ****
- Blockbuster ****
- Wow factor ****

Top Trumps: Tamoxifen

Fact file:
Date to market: 1972
Class: Anti-cancer (oestrogen receptor)
Target/mode of action: It works by binding to estrogen receptor which led to inhibition of growth promoting effect of estrogen.

- Lipinski ****
- Magic bullet **
- Blockbuster *
- Wow factor ****

Identified practice to keep and write into our modules long term:

- **Modified DDE assessment** including **reflective analysis**, which works better than team talks in terms of **fair assessment** and **consolidating learning**.
- **New Top Trumps assessment** encourages **engagement** with both **breadth and depth** of a wider range of content than achieved with group presentations.

Note: Increased assessment burden for both staff/students mediated by reducing (2020-21) and removing (2021-22) exam replacement assessment from modules.