

# Using Structured Debates to Assess Critical Analysis in Environmental Policy

## Abstract

This case study demonstrates how a structured debate format can transform traditional written assignments into engaging assessments that develop critical thinking and evidence-based argumentation skills. By implementing a formalized debate structure with clear roles and timings, supported by students' evidence-based handouts, the approach ensures students develop and demonstrate deep subject knowledge while building confidence in professional presentation and discussion skills. The success of this approach is evidenced by high levels of student engagement and demonstrated improvement in use of academic sources.

## Keywords

Debate assessment, Evidence-based discussion, Critical analysis, Group work, Professional skills, Oral assessment

## Overview

Dr. Neil Simcock has developed an innovative debate-based assessment in a final-year module examining renewable energy and low carbon futures. Moving away from traditional written policy briefings, the approach creates structured opportunities for students to critically analyse complex environmental policy issues while developing professional discussion skills.

## The Challenge

Several challenges needed addressing:

- Making assessment more engaging than traditional written formats
- Ensuring students engage deeply with academic literature

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- Developing critical analysis skills
- Creating assessment resistant to AI generation
- Building professional oral skills
- Supporting students anxious about public speaking

## The Assessment Design

### Structure:

- Groups of 4 students randomly assigned to argue for/against nuclear energy
- 25-minute structured debate format including:
  - Opening statements with evidence handouts
  - Rebuttal sections
  - Cross-examination
  - Closing statements

The debate format was developed through careful research of existing practice. He particularly drew on resources from American universities, including debate structures from Pennsylvania State University. This research helped inform the formal debate structure including timed sections for opening statements, rebuttals, and cross-examination. "I wasn't sure how it was going to work because it was the first time I'd done it and I was so pleased... this is actually for the right topic, this is a really effective not just assessment tool but learning tool," explains Neil.

### Evidence Requirements:

- Groups provide referenced handouts supporting their arguments
- Submit reference lists to Canvas
- Expected to use peer-reviewed sources
- Required to reference evidence during presentations

### Supporting Inclusive Practice:

- Only debate participants present (no large audience)
- Focus on content over performance: "I'm interested in have they gained sufficient knowledge... use of evidence and critical analysis. That was what I was looking at, not so much the performative side."
- Flexible participation options for anxious students
- Clear marking criteria independent of debate "winner"

# Implementation Details

## Timing and Resources:

- 30 students in groups of 4 (8 groups total)
- Four debates scheduled across one day
- 25 minutes per debate with 15-minute marking intervals
- Two staff members present for assessment

## Marking Process:

- Both markers take independent notes during debate
- Confer immediately after each debate to agree marks/feedback
- Use BuddyCheck for peer assessment of group contribution
- Not based on 'winning' but quality of argument and evidence

# Supporting Student Success

## Pre-Debate Preparation:

- Regular in-class discussions to build confidence
- Practice debate workshop added in second iteration
- Clear guidance on expectations for each debate section
- Advice on preparing rebuttals:

## Group Support:

- Students choose their own groups
- All expected to participate but flexibility for anxiety issues
- BuddyCheck used to ensure fair contribution
- Clear timing structures with consistent enforcement

# Challenges and Solutions

## Key Challenges:

1. Time Management:
  - a. Some students running over time limits

- b. Solution: Consistent 30-second grace period then firm cutoff to limit particular students or groups from running. Grading criteria consider how well they can fit in their argument within a given time.
2. Understanding Requirements:
  - a. Initial confusion about rebuttal sections
  - b. Solution: Additional clarity in guidance and practice sessions
3. Inclusive Practice:
  - a. Concerns about debate format favouring confident students
  - b. Solution: Focus on content over performance, small audience setting

**Understanding Requirements:** A key challenge emerged around students' understanding of the rebuttal section format. "A lot of them didn't seem to understand what the rebuttal section was," explains Neil. Instead of critiquing the opposing team's arguments, some groups simply delivered another opening statement. "One of the reasons it's difficult is that you don't know exactly what the opposing group is going to say in their opening statement, and then you've only got two or three minutes to sort of prepare a rebuttal."

To address this, Neil developed several solutions:

- Clear guidance on rebuttal expectations in advance
- Advice on preparation: "You should try and consider what is the opposition likely to say... prepare for that. For example, if you're arguing against nuclear power, you should also look into what are the arguments in support of nuclear power"
- A practice debate on a different topic to build understanding

While some groups initially struggled with this section, the solutions helped students understand that effective rebuttals require both advance preparation and quick critical thinking during the debate.

**Inclusive Practice:** Many LJM students may perceive formal debates as belonging to an exclusive educational tradition they feel disconnected from - one of private schools, debating societies, and a confidence that comes from that privileged background. This perception can be particularly acute for students from minority backgrounds. Additionally, students with anxiety may find the very concept of debate intimidating, regardless of their background.

The assessment was therefore deliberately designed to create a safe, inclusive space where all students could demonstrate their knowledge confidently:

- Only debate participants and markers present: "The rest of the class isn't watching... there's not this big kind of 20 other people all watching"
- Focus on content over delivery style: "I'm interested in their understanding of the content and their critical thinking and analysis more than the performative aspect"
- Reading from notes permitted
- Flexible participation options with alternative contribution roles with agreement from the group
- Marking criteria emphasize evidence and analysis over presentation
- Clear separation from debate 'winning': "Both teams could get a mark of 80% if they were both really good"

These strategies helped create what Neil describes as "a less intimidating, more inclusive environment" while maintaining academic rigor through focus on evidence-based debate.

## Impact and Outcomes

The assessment has achieved several positive outcomes:

- Improved engagement with academic literature
- Development of evidence-based argumentation skills
- High levels of student enjoyment
- Successful integration of quieter students
- Efficient assessment process combining two markers
- Reduced concerns about AI-generated submissions

## Transferability

While developed for environmental policy, the core principles could be adapted for other subjects:

- Structured debate format
- Evidence-based argumentation requirements
- Focus on content over performance
- Small group setting
- Efficient dual-marker approach
- Integration with written assessment

The success of this approach, managing 30 final-year students across multiple debate sessions, suggests it could serve as a model for other programs seeking to develop critical analysis and professional discussion skills while maintaining academic rigor.