



Think Pieces: Reflective Writings in a Discussion-Based Module

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Context: The Module

BL4285 Complex Systems in Animal Behaviour

- Biology Senior Honours Module
- Small-group teaching (~6-18 students)
- Majority of class sessions are discussions of primary literature

Discussion Sessions

- Two papers discussed per session
- Each discussion lead by student discussion leaders
- All students expected to read both papers up for discussion

Think Pieces

"thoroughly enjoyed the think pieces" —MEQ

"quite enjoyed writing them" —MEQ

What is a Think Piece? (see Fig. 1)

- Short piece of reflective writing (300-400 words; max 500)
- Exploration of a single original idea
- Expected to take 15-30 minutes to complete
- Due each discussion session (with one 'bye': i.e., students can miss one)

Planned Roles of Think Pieces

1. Assist student discussion leaders by ensuring other students had already thought critically about the papers up for discussion
2. Requirement for steady level of effort without over-assessing
3. Practice for novel format of final exam

Figure 1. Guidance to students regarding think pieces provided in the Module Handbook

Think pieces

The think piece is a short (about 300-400 words; no more than 500!) response to one or both the papers up for discussion on a particular day. The think piece should explore an idea the paper(s) made you think about. This can be just about anything, but it must be (1) related to the paper(s) and (2) an intelligent description of your idea. Some topics that might be covered in a think piece are:

- How the techniques described could be applied to a different system
- An area where the two papers of the day conflict in their conclusions or assumptions
- A criticism of the methodology and suggestions for improvement
- An idea for a follow-up experiment
- An exploration of an unanswered question the paper sparked in your mind
- The implications of the findings in this paper to a broader theory

This is not an exhaustive list, and is only meant to give you a feeling for what the think piece should be. A number of example think pieces will be provided on MMS. They can be informal in tone, but must be in proper grammatical English, i.e., complete sentences and no text-message or chat-room language.

There will be 9 think pieces (one for each session including discussion of papers), due on MMS at 11:59pm the night before class. Each think piece must be related to at least one of the papers up for discussion the next day, and should include the full reference of the paper at the top (this reference is not included in the word count).

Assessment of Think Pieces

Formative Assessment

- Every think piece receives formative feedback
- Commentary both engaging in idea(s) presented, and providing critical feedback on quality of think piece
- Three-category formative mark provided
 - 2 – original idea(s) related to one or both of the papers
 - 1 – little or no original ideas, or very poorly written
 - 0 – not handed in or not related to one of the papers

"the 0,1,2 system for think-piece marking was a great idea for getting up to speed with what 'kind' of thing we were supposed to write" —MEQ

Summative Assessment

- Multiple patterns trailed over the years
- All with some element of sub-selection of think pieces for full marking
- Most successful: students nominate completed think pieces (with feedback) for full marking twice in semester

"think-piece structure and timing of delivery (i.e two a week but only two pieces ultimately assessed) was novel and allowed me to concentrate on thinking about ideas, rather than how good my mark would be for each think piece" —MEQ

"think pieces were a very interesting task and the option to choose those to be marked was very fair" —MEQ

Relationship to Final Exam

Final Exam

- Unseen element is a primary research article, the "provided paper"
- Exam question provided in Module Handbook (Fig. 2)
- Formal version of a think piece

"the exam is essentially a big think piece" —in class observation

Exam is 'Open Book'

- Students have access to all module material, including past think pieces
- Tests developed skill, not recall

Figure 2. Exam question as previewed in the Module Handbook

Write a full, formal essay on the provided paper using a focus similar to one you might take in a 'think piece'. For example, the essay might focus on:

- A detailed critique of the provided paper
- An experiment that would be the "next step" after the provided paper
- How the techniques described could be applied to a different system
- An area where the provided paper conflicts with another you have read this semester
- Exploration of an unanswered question the paper sparked in your mind

Think Pieces Exceeded Expectations

"Having to do think pieces ensured I had actually read and thought about the papers being discussed" —MEQ

Main Goal: ensure students read & think about papers

- Met and exceeded
- Think pieces actively enhance class discussion
 - ✧ Students often begin comments with "In my think piece, I..."
 - ✧ Students share ideas they identified as ones considered and discarded in favour of others for their think piece
 - ✧ Students discuss their thought process and insights gained in choosing a topic for their think piece

Additional Benefits

- Provided practice at critical thinking
- Enhanced creativity
- Enabled students to see their development

"I liked how I was able to see my think pieces improving week on week as I got more experience in them. Initially, I disliked them as a task but then I grew to see their merits and how actually they helped me with my creativity and ability to think outside the box!" —MEQ

"The think pieces also increased my confidence in critically analysing a piece of literature and thinking more deeply about it and how the findings in it could be furthered" —MEQ

"The think pieces were a great way of getting us to think critically about certain aspects within animal behaviour and to improve our abilities to convey thoughts." —MEQ

Evaluation

Figure 3. MEQ results. 2010: custom questions probed precisely think pieces, mean±SE for one class; 2014-2019 think pieces evaluated with other assessments, mean±SE of score over years.

