Developing critical thinking skills: importance of perspectives, dialogue and respectful conversations

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Introduction

Critical thinking is a fundamental aim of learning in Higher Education (Kuhn, 1999). Asking questions allows students to start thinking about concepts from different perspectives (Brown and Freeman 2000).

Conservation biology – BIOL 451 – is an optional course with about 100 registered students. Students tend to be in their third to fifth year. The lecture material covers theory and the more practical aspects; tutorials delve into philosophical and moral aspects of contemporary controversial issues. Conservation biology tutorials allows a space for students to discuss controversial issues that they may feel emotional about. In tutorials, students have to face their assumptions (Brookfield 1987) which can lead to critical self-appraisal (Nelson-Jones 1994).

Objectives

The overarching learning objective of tutorials is to develop critical thinking skills in students. Within that context, the specific learning objectives of this tutorial were to:

- Compare whether hunting practices help or hinder conservation efforts
- Verify the value of evidence on either side
- Recognize strengths and weaknesses of arguments

Methods

I provided students with readings and guiding questions a week before tutorial. In class, they were randomly assigned a specific perspective that they had to defend during the debate.

The overarching topic under discussion was 'Is hunting a good conservation strategy?'
Each table had four students, two 'for' and two 'against' hunting activities. Before beginning, I reminded everyone that they were randomly assigned their perspective. After the brief introduction, students held debates over the guiding questions provided in their groups of four.

Results

Before the tutorial, >70% of students were against hunting as a means for conservation. After the tutorial, about 30% of students changed their stance, some with caveats. Most students (~60%) liked having specified roles. Some students thought that the physical layout of the room wasn't the most conducive to having a good conversation with peers since they were sitting in blocks of four.

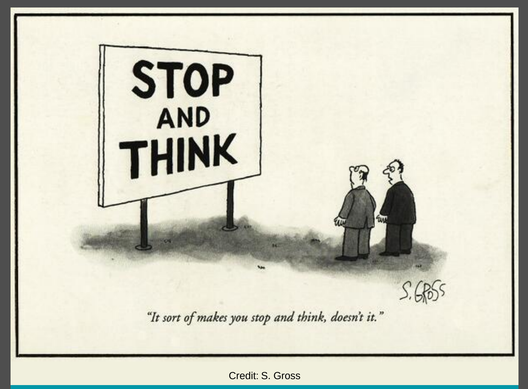
Few thought that the readings were long; however, most wanted more articles on both sides to flesh out the topic.
Students wanted to be able to switch sides at mid-point so they could argue both sides.
A key recommendation was to allow students to write out their ideas for 2-5 minutes before starting the debate

Table 1. Percentages of student responses to a series of statements provided regarding the topic, readings and the format of the tutorial

	The topic was appropriate and aroused my interest	The readings provided were engaging and kept my interest	The readings were essential to increasing my understanding on the topic	The information in the readings was difficult to understand	The debate format was easy to understand and follow	The debate format was engaging
Yes, definitely!	56	42	49		49	58
Somewhat	37	49	42		37	28
Neutral	7	9	5	2	12	12
Not really			5	37		2
Not at all!				60	2	

Table 2. Frequencies of student perspectives regarding hunting as a means for meeting conservation efforts

Previously against hunting but changed their mind after the tutorial	13
Previously against hunting and still against hunting	18
Previously for hunting but changed their mind after the tutorial	1
Previously for hunting and still for hunting	5
Neutral – was and still neither for or against hunting	2
Blank – I don't know	4
Total number of respondents	43



Credit: S. Gross

Discussion and self-reflection

Students showed a greater understanding for the change in the tutorial format than expected – they understood their own limits in only arguing one position. The reasons they changed their minds was related to exposure of materials and the willingness to accept that a view-point different to theirs could have validity.

Half the students who changed their perspective from being against the use of hunting still thought it was morally wrong, but that it could be an acceptable practice in some situations. Most students (68%) acknowledged that forcing them to defend a side that they did not necessarily agree with made them examine the subject more critically. Some students (~32%) did change their minds about the practice.

Some students mentioned a lack of convincing papers against hunting (there was one paper for and one against). It is possible that students wanted papers that backed up their initial position; however, it is also possible that my choices were biased due to my previous experience where more than 90% of the students were against hunting. In the future, that is something to keep in mind to minimize any potential bias from my end.

Because they had to present valid evidence for the questions asked and because they were forced into a perspective, it allowed students to explore the topic more thoroughly and increased participation and engagement by about 30% compared to previous tutorials. Some recommended using a similar format for other tutorials as well.

References

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