**TEACHER RESOURCE: Managing classroom discussions**

When well managed, class discussion can help students examine, evaluate and share knowledge about a subject, providing opportunities for students to think critically and creatively, consider different perspectives and improve communication and expression skills.

Discussions around ethics in science can be used to engage students in science and associated issues; develop their argumentation, critical thinking and decision-making skills; and make them more ethically aware, knowledgeable and discerning in science.

For the classroom discussion to be successful, it needs to be well facilitated and managed by the teacher in a positive, safe atmosphere.

**Some suggestions to help with a successful discussion**

1. [Know and understand the content of the discussion](#one)
2. [Set the room to enhance discussion](#two)
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11. ***Know and understand the content of the discussion***
* Understand the science and the issues involved.
* Make sure students have researched the science and the issues and key terms have been introduced.
* Focus on the subject matter. Bring students back to the topic if they deviate.
* Encourage students to back up arguments with scientific evidence
1. ***Set the room to enhance discussion***
* Sit in a circle so that students are comfortable, can see each other and communicate directly to each other.
* This may be difficult with a large class – you may need to form smaller groups and then, after discussion, a group speaker shares the group’s ideas to the whole class.
* You may wish to sit outside the group to observe and direct.
1. ***Choose an appropriate format or strategy for the discussion***
* Pair talk – one listens, one talks, then swap.
* Think-pair-share – students think about question for 20 seconds, then take turns to listen to each other’s ideas for 1–2 minutes, then several or all pairs share ideas to the class, leaving out any repetitions. (They could say ‘ditto’ if their ideas are the same.)
* Small groups.
* Student presentations to whole class after small group discussion.
* Readings and/or research in small groups followed by summaries presented to the class and class discussion.
* Buzz groups – small groups discuss an issue for a short time and then feed back to the whole class (for example, noisy round robin activity using a PMI for recording ideas).
* Class values continuum followed by class discussion.
* Debate.
* Role-play (teacher-in-role, students take on stakeholder roles).
1. ***Create a positive climate for facilitation***
* State the rules of engagement:
* Listen carefully to one another.
* One person speaking at a time – hands up or a signal you choose for a turn to speak.
* Polite language – speaking with respect.
* Value everyone’s contributions – no put-downs.
* Challenge one another’s ideas, not each other personally.
* Work as a team to find the best possible answers we can.
* Encourage one another and share speaking time.
* State your expectation and goal (for example, at the end of this discussion, you will make a decision about…).
* Give students sufficient ‘wait time’ following a question to process the question and think about their response.
* Make sure there is sufficient time for the discussion or that it doesn’t go too long so that students become restless and lose interest. The students should be aware of the time allotted for discussion.
* [Develop a sense of trust](#eight).
* Once your class becomes familiar with ethics in science discussions, the rules involved and your expectations, a positive climate should develop so future discussions become easier.
1. ***Encourage participation***
* Have some prepared questions that will stimulate discussion between students. You could write some of these out and place them in the centre of the discussion circle for all students to see.
* Call on students that you know might provide interesting viewpoints.
* Call on appropriate students to summarise the issue that has been discussed.
* Call on quieter students by name.
1. ***Guide the discussion***
* Think carefully about your role. Model respect and make it explicit in discussion that there is no ‘right’ answer. There are various approaches teachers can take:
* Keep impartial. Be neutral, giving multiple views.
* Share your view with the class, but let them know “this is my view and other people see things differently”. You could opt to sit with the students (and put a student in your position at the front to lead the discussion) when you give your view so it is clear to the students that you are not giving your view from a position of authority but rather as a personal opinion just as the students are.
* Play the devil’s advocate to stimulate further discussion.
* Comment positively on contributions from the students.
* Try to minimise students from monopolising the discussion.
* Summarise ideas being discussed from time to time and emphasise key points.
* Clarify students’ ideas and ask for comments on them.
* Try to prevent the discussion from becoming heated (refer to [class/group rules](#four)).
* Keep the students on topic.
1. ***Move from teacher-centred to student-centred discussion***
* Ask open-ended questions.
* Step back and encourage conversation to develop between students (not just teacher-student dialogue). Deliberately increase the frequency of student-to-student dialogue.
* Try not to evaluate student responses – rather than responding with “good answer”, ask a non-evaluative question that might lead the conversation on and stretch their thinking, for example, “Can you give me an example of what you mean?”
* Follow up responses with a probing question, for example, “So if that happened, what would be the consequences?”
* Ask students to explain and challenge each other’s responses.
1. ***Develop a sense of trust***
* Care – talk about how people can have different opinions but can be friends. We can agree to disagree, but care about each other.
* Respect – explain to students that we all come from different families who may have different views from us. We must respect each other, each other’s families and their views.
* Trust – for some discussions that may be controversial (for example, vaccinations), explain that students can talk generally about the topic but shouldn’t put down what individuals have shared about their view outside the classroom.
* Some controversial discussions may need a debriefing session at the end to bring students back to a sense of normal classroom routine and relationships. This is particularly important when using role-play. Students need to be taken from their role and brought back to who they really are. You could ask the students to wear a badge with their ‘in-role’ name on it. At the end of the session, they remove their badges to be themselves again and you welcome them back to their room before discussing the role-play.
1. ***Some helpful questions***
* Why do you think that?
* Do you mean…?
* What reasons do you have?
* Can you explain that a bit more?
* Can you give me an example of what you mean?
* Do we have any evidence for thinking that?
* How could we know if that was true?
* What would the consequences of that be?
* If that’s true, what does that mean about…?
* What does that tell us?
* Is that a good enough reason?
* Is that different from…?
* What does that mean?
* What have you based your idea on?
* When wouldn’t that happen?
* How else could we think about this?
* How might that have happened?
* Where have we got to?
* What have we decided?
* Is that the same as what you said before, or have you changed your mind?
1. ***Helpful research***
* Rosaen, C., Lundeberg, M., Terpstra, M., Cooper, M., Niu, R. and Fu, J. (2010). Constructing videocases to help novices learn to facilitate discussions in science and English: how does subject matter matter? *Teachers and Teaching: Theory and Practice*, *16*(4), 507–524. [www.informaworld.com/smpp/content~content=a923154220~db=all~jumptype=rss](http://www.informaworld.com/smpp/content~content%3Da923154220~db%3Dall~jumptype%3Drss)
* Sharp, A.M. (1987). What is a ‘community of inquiry’? *Journal of Moral Education,* *16*(1), 37–45.