

References

Textbook

Chapter 3 pages 32-39

Specification9.3 Medical Ethics
Reproduction.12.5d, 12.5f Decisions
about Science and
Technology.

Resources

PC, projection screen or
PC monitor or OHP.
ICSI - Sex in the Age of
Mechanical Reproduction,
Carl Djerassi,
Deutscher Theaterverlag,
2002
ISBN 3-7695-0297-3
Book with audiovisual CD.
Obtainable from Nuffield
Curriculum Centre while
stocks last. Email
curriculum@nuffieldfoundation.org.

Medical Ethics

ICSI — Sex in the Age of Mechanical Reproduction

A pedagogic wordplay for two voices with audiovisuals

Set up as (semi-)rehearsed reading, this exercise avoids many of the technical difficulties involved in role play while still encouraging the students to explore the motivation of those involved in a scientific development and its subsequent (ethical) technical use.

You need:

ICSI — Sex in the Age of Mechanical Reproduction, Carl Djerassi and the accompanying CD. You will need at least three copies of the script and may also wish to copy the CD or items from it onto another disk or your network.



In his introduction Carl Djerassi, describing the ‘pedagogic function’ of this play, writes that it is for classroom use in lieu of a conventional 50-minute lecture and is envisaged as a staged reading by two persons using audiovisuals.

The book contains the script for a dialogue in a TV Studio between a smart young female presenter who is a ‘not too subtle critic of science and technology’ and the infertility specialist who developed ICSI. (If you’ve just opened the book and it’s all in German, don’t panic! The English introduction and script follows the German in the second half of the book.) The set is simply two chairs either side of a table with a screen behind. It represents a typical TV studio documentary interview layout. Supplied with the book is a CD containing slide images and a video which are used to explain points at various stages during the play. Ideally the screen will be large and the images, both still and moving, projected via a PC. However, with a smallish class it would be perfectly possible to simply arrange the set in front of a PC monitor. Alternately the still images can be printed on to ohp slides, and the CD contains a sequence of individual slides which can be similarly printed out as an alternative to the video sequence. If you possibly can it is preferable to use the video — no still image on an OHP can quite match seeing sperm wriggle as they are ‘caught’.

There are clearly a range of possible ways to use this resource ranging from reading round the class unseen to employing two professional actors to rehearse and perform in your school/college theatre. Here is a suggestion...

Semi-rehearsed staged reading

First decide how you can most easily stage a reading in your classroom.

- Where will your audience sit?
- Do you have a suitable projector or are you going to use a monitor or OHP slides?
- You need three copies of the script.

You are going to ask two of your students to present the reading. They will need a week or so to give them time to read through the script and work together on their characters. A third student will be their stage manager, making sure the pictures and video appear at the right times.

You might ask for volunteers, but it is perhaps more likely that you will choose the students to ask to take these roles. You are probably not a drama teacher but it is highly likely that your class contains some students who will know what they are doing. Do you have students who are studying Theatre Studies, or did so at GCSE? Do you have students studying English who will be used to preparing short readings when they study dramatic works? Do you have someone who was in the school play last year? Do you have students who are always ‘performing’ for the others whether you want them to or not?... For these three students this is their week’s homework and they will not have to do the homework you set the others (textbook questions/essay task/etc. There are some suitable tasks in Chapter 3).

You need to stress that this is a **READING**. They will have the script in their hand, but you do expect them to have read the play through and arrange some rehearsal for themselves. It is a good idea to charge one individual with making sure that happens and you might specify that if they manage nothing else together the stage manager needs to make sure they have a ‘technical rehearsal’ to go through the slides/video.

The two actors get the script. The stage manager gets the script and the slides/video in the format in which they are to be used.

You tell them briefly and clearly what the ‘set’ will look like and that they do not need to worry about other props or costume unless they find something easily available that they want to use.

At the class when they are to perform, have the room laid out with the ‘set’ in front of chairs for the rest of the class as audience. Let them start as soon as they are ready with no long introduction — all the science and issues are explained/described by the characters in the play.

Your students take over.

When the performance is finished with suitable applause, thanks and a glass of water for the performers...

Method

Some basics of role play - timing and structure

It is important when using role play to include each of the following elements unless there is a VERY good reason not to. You must make very clear to the students where the transition points are so that they know when they are supposed to be acting in role and when they are themselves. Role play is a very good way to explore other viewpoints but it can be difficult for students if others associate attitudes or behaviour in role with their own opinions.

If you are asking students to act in an unfamiliar way or follow an initially alien line of thought and behaviour it is important to ease in to the situation. If students are following an emotional line in role it can take a little time to bring themselves back.

- preparation
- set up (transition into role)
- action in role
- return (transition out of role)
- debrief

Debriefing is a (usually structured) way of recalling/rehearsing and consolidating what has been learnt in the experience of the role play.

As a general rule of thumb set up should be at least as long as the action in role.

Transitions need time. Allow at least four or five times the length of time in role for debriefing.

Note

Carl Djerassi, novelist, playwright and professor of chemistry emeritus at Stanford University, is one of the few American chemists to have been awarded both the National Medal of Science (for the first synthesis of an oral contraceptive) and the National Medal of Technology (for promoting new approaches to insect control). He has published short stories, poetry and five novels as well as an autobiography and a memoir. Recently he has focused on writing "science-in-theatre" plays that have been translated into several languages and produced around the world by the BBC World Service amongst others. His novels illustrate the human side of science and the personal conflicts faced by scientists.

Debrief

Begin by checking if there is any of the science/technical side of ICSI which students have not understood/followed. If there are any questions let your performers attempt an answer first (they have been through the pictures, read the words, etc.). It is probably not appropriate to have them attempt an answer in character, although this is often done in role play, unless you are sure that they have spent a lot of time (more than necessary) rehearsing and developing their characters and are obviously very confident. If there are technical questions that you cannot answer having read the play and its introduction then you simply need to say so. Remember the focus needs to be on Ideas about Science. Encourage anyone particularly interested to follow-up (via internet, etc.) in their own time — this would make a good Study of a Topical Issue for coursework, or the book could be used for the Account of Reading.

The performance will run 45 - 55 minutes. These clarifying questions may have taken five minutes or more. If you do not have a further hour this is where you should stop for now and carry on next time.

Now move on to look at the issues raised in turn. You need to keep in mind the Decisions about Science and Technology that are listed in the Specification.

It is not necessary, and probably distracting, to present these statements explicitly to the students, but you might want the list in front of you if you are relatively new to the specification. You want to be able to point out how student comments made in discussion are examples of these notions.

Take the issues raised by the play in three sections: the personal, society, and the practice of science. In each case begin with a small group method to raise ideas and allow students to practise their comments in front of just a few colleagues, then move on to share ideas with the whole group.

For example, you might:

Ask students to work in pairs to make two lists, one for Felix and one for Isabel, of reasons why they take the view of ICSI that they do (roughly for and against). Give them five minutes.

Go round the groups asking for Isabel's reasons taking one from the first group and summarising it on the board with a few words, a different one from the next group, and so on until you have all the available ideas listed. Then go round the other way doing the same for Felix's reasons.

There should be no discussion or question yet. This is simply a listing exercise to ensure that all the notions in the room are 'on the table'.

Now ask if anyone doesn't understand any of the reasons given. There may be some greater explanation of what is meant by one or two. Ask the pair who originated the point to clarify as necessary.

Go on to allow the two performers to comment on what has been said about the characters they played. Star the items on the list which these two would say were most important to Felix and Isabel.

Open things up to a general discussion in which your facilitation should allow students to add their own opinions.

12.5 Decisions about Science and Technology

Candidates should:

- a) • recognise how technologies based on science have been used in industry, commerce and medicine and how this has contributed greatly to the quality of life for many people;
- b) • recognise that technologies based on science may also have unintended and undesirable impacts on the quality of life and on the environment;
- c) • understand that technology, as the effort to find solutions to perceived human problems, both draws upon scientific understanding and facilitates its development;
- d) • understand that decisions about appropriate solutions to problems are influenced by a range of considerations (including technical feasibility economic cost, social and environmental impact, ethical implications, and political and religious commitments) and that these may lead to different solutions in different contexts;
- e) • be aware of some of the ways in which society seeks to control and regulate the development and application of scientific knowledge (from local pressure groups to official regulatory bodies);
- f) • be aware of the role of the mass media in providing information, setting the agenda and influencing opinion on issues involving science and technology;
- g) • distinguish between technical issues (what can be done) and ethical issues (what ought to be done) when considering issues involving science and technology;
- h) • recognise that a persons view on a controversial issue may stem from a more fundamental moral position which they hold;
- i) • recognise, and be able to discuss, the tension between the rights of individuals and groups, and of society to regulate activities and practices.