

THE LIFE SCIENCES, BIOSECURITY AND DUAL-USE RESEARCH

A ROLE PLAY OF AN INTERACTIVE SEMINAR

TEACHING NOTE

INTRODUCTION

Enclosed here is a complete set of instructions and data that will allow you to carry out a life science 'dual-use' seminar. The role play is designed to replicate, with some modifications, a set of seminars that were conducted in Europe, South Africa and the United States in 2005-2006. The goal of the seminars, and this role play, is to encourage an interactive discussion amongst practising researchers, students and others about the possible malign use of the life sciences. The 'dual-use' problem has been the subject of two major recent US National Academies reports—the Fink and Lemon Committees and discussions about how to address it are currently taking place within policy circles around the world.

This role play documentation consists of three files:

1. A set of Powerpoint slides with elaborating notes and links;
2. Role instructions for 11 different participants; and
3. This teaching note.

Minimally, you will need 11 participants in the group, in addition to the presenter and, if possible, a person that we call the seminar organizer to introduce the exercise. The ideal number of participants is 25-30. The role play may be expanded to larger groups with several people playing the same role. With very large groups individual participation will be more limited.

We would, of course, appreciate any feedback from you on the simulation. This is intended to be a contribution to awareness raising and education for life scientists of all ages and experience and, while we have given the simulation extensive trials, we are sure that it can be developed further as more people like you use it.

OVERVIEW OF THE SIMULATION

Introduce the purpose of the role play, emphasize the importance of participants trying to stay within roles (at least initially) and remind them at the end of the role play they will be able to return to their real identities.

Distribute the roles for the participants. This can be done ahead of time if feasible. Allow 5 minutes for the participants to read through the instructions. The roles are designed to elicit a range of responses to the questions at the end of each issue area in the Powerpoint presentation. In addition, some roles are designed to probe the responses from other participants and encourage the exchange of different views. Depending on the class you are leading, you may wish to select certain roles. For instance, undergraduates might struggle to play some of the roles that assume knowledge about how the research process works. As another point of caution, many of the role descriptions are based on the US research system (for instance, degrees and professional job titles). We did this because we thought the US terms would be the most well known. Yet, some of the roles might require minor changes to reflect your own country.

Begin the Powerpoint slide presentation which covers three major issues:

- communication of results of dual use research;
- funding of research; and
- oversight of research.

Up to three slides are presented on each issue and several slides culminate in a discussion question. When you judge that there has been sufficient discussion from the participants introduce the next slide. In a 90 minute seminar, you should complete the role play portion of the exercise in about 50-60 minutes.

It is important for everyone to return to their real-life identities at the end of the simulation, to debrief the exercise and take part in a short discussion on the implications of the simulation of the dual-use issue for their own work. There is one Powerpoint slide with suggested questions for the debrief.

After the final discussion we typically thanked the participants for engaging in the exercise and provide references for further information. The total time for the seminars is approximately one and a half hours.

THE RESPONSIBILITIES OF THE PRESENTER

The Presenter's task is to introduce the information on the slides and to ask the questions of the participants. We suggest that you familiarize yourself with the content of the Powerpoint slides. The slides have been constructed to be self-explanatory for the participants. You are free to use the text accompanying the slides, but doing so is not necessary.

Suggestions for discussion leaders. Presenters who are unfamiliar with directing interactive discussions may find the following suggestions helpful. In order to keep the conversation going you need to give people time to think. Do not rush on to the next slide if there is an initial silence after the question is put. Scan the audience to see if anyone is preparing to speak and be prepared to wait a little. Also use devices such as summarising what a person has said and asking if that is a correct interpretation. This gives other people time to consider what has been said and to formulate questions about it. In addition, look around the room frequently and ask what others think.

It is essential that you as the presenter provide an environment that is conducive to open discussion. A fairly formulaic method can be useful in keeping the discussion going. In responding to answers given to the slides you can:

1. Paraphrase what is said;
2. State what you understand this to mean;
3. State any suggested implications that you think follow from the response;
4. Put a question back to the participants to confirm accuracy;
5. Ask what others think.

Through this way of testing and asking questions, you can illustrate your commitment to open questioning.

This general approach of probing and questioning is important to avoid the seminar discussion being more than just a series of flat evaluations of each question. Instead, rich discussion requires the reasoning for particular evaluations to be publicly elaborated and

made topics of discussion. The roles have been written in such a manner that individuals may well share the same conclusion, but do so for different reasons. See the Appendix to these Teaching Notes for examples of types of questions to ask. You may wish to print this sheet off and keep it in front of you during the seminar.

Unless you are asked directly, do not put your own views forward as the aim is to elicit those of the role-playing participants. If you are asked for your views directly make sure you give the reasons for any evaluation, are clear about the implications of your argument, and ask what others think. It is important to set a good example in how to respond. Remember that the best way to stop the conversation is for someone in an authority position to simply assert an answer. Participants may not easily disagree with you so little discussion might be generated once you have made that mistake.

THE PARTICIPANT ROLES

There are role instructions for sixteen distinct participants. Each sheet contains general instructions and a description of the background and concerns of each role. The roles have been constructed to reflect a wide range of views on the questions asked. Several of the roles are written so that the person who plays that role will hopefully ask clarifying questions of the other participants, or challenge the views of others. However, as the presenter you cannot necessarily rely on this happening. Each role description has a short quote that tends to sum up the attitude of that role.

1. Undergraduate Student – “Science will continue to improve the world.”
2. Graduate Student – “We need to do more and run faster to stay ahead of any threats”
3. 1st Year Post Doc – “Every minute out of the lab is a minute wasted.”
4. Faculty Scientist – “If I am not promoted I will be out of a job.”
5. Eminent Professor – “It is the scientists’ job to do the science well, and society’s job to take care of its implications”
6. Greenpeace Scientist – “Good science requires attention to what is good for society.”
7. Government Scientist – “If you knew what I know you’d take the threat more seriously.”
8. Scientific Reporter – “The public has a right to know.”
9. Public Health Official – “I got into research to prevent so many people a year dying from TB.”
10. National Police Official – “I don’t understand all the science, but I am the one that has to implement the law and it is my responsibility to protect the public.”
11. Senior Scientist – “I see where you’re going with your argument, but it is complicated...on the one hand... and on the other hand....”
12. University Public Relations Officer “We have to get the good news out to keep the money flowing in.”
13. Biotechnology Representative “Nothing should inhibit our research for promising medicines and treatments for disease.”
14. John Q. Public, A Concerned Citizen “I don’t want too much scientific and technological information available to potential terrorists.”
15. Jane Q. Public, A Concerned Citizen “This hysteria over bioterrorism has got to stop.”
16. Student in Forensic Science “Better intelligence is the way to defeat terrorism.”

The roles do not tell people what to say: rather, they have to reflect on the roles and the concerns that have been expressed by people in previous seminars. Participants in the role play have to think their way into positions that may or may not be those they really hold.

THE DEBRIEF

A debriefing of the role play is essential for several reasons. First, participants need an opportunity to get out of the roles they were playing and discuss the implications of the issues in the role play. The presenter may have to emphasize more than once to put the roles aside and discuss any additional views the participants might hold that were not brought to light in the role play. The questions in the debrief slide are suggestions that encourage participants to reflect on their experiences playing the role and their reactions to presenting views that may be quite dissimilar to their own

Participants might find it useful to be asked to make a brief note of anything particularly interesting to them during the role play and to write up a short assessment of the simulation and the ideas discussed after the session.

APPENDIX: AN AIDE MEMOIR REGARDING RESPONSES THAT HELP KEEP THE CONVERSATION GOING

Purpose	Possible Response
<i>Probing Reasoning</i>	<ul style="list-style-type: none"> * Because we are interested in the reasons why people hold certain positions, can you say why you think that is the case? * What if I said x, would that change anything? * What follows from that?
<i>Checking Understanding</i>	<ul style="list-style-type: none"> * Do I hear you to mean that X? * OK, by that I hear you saying X? Is that right?
<i>Public testing</i>	<ul style="list-style-type: none"> * What do others think? * Does anyone wish to offer up similar or contrasting thoughts?
<i>Getting More Specific</i>	<ul style="list-style-type: none"> * Could you give me an instance of how X? * Could you be a bit more concrete by giving me an example of what you are saying?