An Exercise in Leadership Training for Veterinary Students Aiming for Careers In Biomedical Research

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ABSTRACT

A group discussion on the theme of "leadership" has been a central event in the annual Cornell Leadership Program for Veterinary Students since 1990. However, these discussions were often unfocused and did not readily demonstrate the leadership skills of distinguished guests who were invited to participate. Since 1998, a new format for this session has been developed in which students and guests are assigned individual roles in a scenario that is unfolded by a moderator over two to three hours. This role-playing exercise ensures that every student is obliged to participate and has an opportunity to practice such leadership skills as critical thinking, verbal communication, and decision making under pressure and with inadequate information. The distinguished guests, in their assigned roles, are able to interact freely with the student fellows and thus demonstrate their expertise as experienced leaders. This challenging experience has become an enjoyable part of the 10-week Leadership Program and one that shows the importance of leadership skills for those who aspire to careers in the biomedical sciences.

The goal of the annual Cornell Leadership Program for Veterinary Students is to facilitate the career progression of individuals who have the ability and motivation to become independent research scientists and, hence, leaders in veterinary research.¹ The program includes a series of formal and informal group activities together with extensive experience in individual research projects. Because of the central theme of "leadership," one of the key events each year, over the past 12 years, has been a group discussion session about leadership, in which the student fellows were joined by several distinguished guests whose careers had demonstrated strong leadership characteristics. These sessions, chaired by a moderator, aimed to encourage the students to confront their ideas about the concept of leadership and to explore how they themselves might take on leadership roles in their future careers. To prepare for this interactive event, the participants (both guests and students) were asked to read a book about leadership,² from which it was expected that they would derive ideas and questions to bring to the discussion.

The guest participants held prominent leadership roles in universities, research organizations, industry, and the general community. By drawing on the experience and wisdom of these guests, it was hoped, the students would recognize the diversity of ways in which leadership can be expressed and would begin to see how they might be called on to act as leaders in veterinary research.

Although the discussions were stimulating and enjoyable, a number of problems with this format became evident. Firstly, the sessions were largely unfocused and roamed from topic to topic, regardless of any plan that the different moderators might have had. Secondly, the speakers frequently became distracted by side issues that, while interesting and important, had little to do with leadership. Thirdly, the style of interaction between guests and students tended to be stiff and formal rather than free-flowing and collegial. Instead of being a collective attempt to resolve issues and draw conclusions, the sessions tended to become question-and-answer exercises between the students and the distinguished guests, with little participation by those students who were hesitant to speak in public.

After conducting this exercise each year for seven years as a more or less random discussion, it was decided that a new approach was needed to address its imperfections. Although the students enjoyed meeting and learning from the guests, it was apparent at the end of the discussion, from informal interviews with both students and guests, that the relevance of the concept of leadership was still unclear. Therefore, it was concluded that to be successful, a module on the theme of "leadership" should achieve three goals:

1. to assist highly talented students to understand what leadership means, why it is important, and how leaders develop
2. to provide good opportunities for expert guests to demonstrate their leadership qualities directly
3. to ensure that every student in the program gained the benefit of active participation in the challenging exchange of ideas

THE IMPORTANCE OF LEADERSHIP

From its inception, the leadership module had been rooted in Gardner's *On Leadership*.² The 17 chapters of this book contain a multitude of anecdotes and examples of leadership in action, drawn from the author's own extensive experience in government and higher education. While something of relevance in this text could invariably be found to demonstrate leadership in any situation, it was difficult for both the students and the guest facilitators to find a logical sequence of ideas that could form the basis for discussion. Perhaps, also, for veterinary students (who, in studying science, get little experience in forming and expressing opinions from structured discussion), the challenge of exploring the concepts of this book over a two-hour session was over-ambitious.

Nevertheless, much of what Gardner says is applicable to those interested in research-based careers. In particular, four chapters (13 through 16) provide guidance appropriate for veterinary students who contemplate careers other than private practice (see Table 1). Reading and then discussing these four chapters made it possible for the students to resolve interactively such pertinent questions as, Why are leaders necessary? What characteristics do leaders have?

Table 1: Ideas from chapters 13–16 of Gardner, *On Leadership*²

Theme	Concepts and principles
Sharing of leadership tasks	Are leaders necessary?
	Hostility to the idea of leadership
	Participation
	The leadership team
Leadership development—the early years	Leadership and accountability
	Obstacles to leadership
	Benefits of a liberal arts education
	Communication
Leadership development—lifelong growth	The role of mentors and mentoring
	Selecting and recruiting potential leaders
	Learning leadership in the workplace
	Formal leadership training
Motivating	Political leadership
	Women as leaders
	Making people aware of their leadership potential
	The leader as motivator
	The need people have for leaders
	Difficulties in finding common purposes
	Commitment of leaders to a community
	Commitment—giving meaning to life

Can leadership be learned? Are leadership and teamwork compatible? This discussion worked best in a relaxed, informal setting, in the absence of formidable guests, where even the reticent felt confident in expressing their views.

However, the challenge remained of involving both guests and students in some practical exercise that demonstrated principles of leadership and allowed students to see what is required in leadership roles. Gardner himself suggests that, in training for leadership, students need to gain five particular experiences:

1. The opportunity to experience the shared responsibilities of group action and to learn the skills required to make a group function effectively.
4. The opportunity to test one's judgment under pressure, in the face of opposition, and in the fluid, swiftly changing circumstances characteristic of action.

5. The opportunity to test and sharpen one's intuitive gifts and to judge the impact of these on others.
6. Exposure to new situations in new constituencies.
7. Exposure to the "untidy world," where decisions must be made on inadequate information; where the soundest argument does not always prevail; and where problems are rarely fully solved or, once solved, surface anew in another form.

One mechanism for providing such opportunities would be to ask the students and guests to act out roles in which leadership skills are required. A model for such an exercise was provided by a US Public Broadcasting television series, created by Fred W. Friendly, called *Ethics in America*. The principle of these programs was to confront a team of professionals and experts with a series of interconnected dilemmas. Using the Socratic method of question-and-answer discourse, the team members were required, without any preparation, to wrestle with tough problems that became progressively more complex. As each member in turn was compelled to think out aloud about how he or she would make a critical decision, the program moderator used their responses to develop an even more difficult challenge.

Role playing to develop decision-making skills has been described as an educational tool, particularly in the training of health professionals.³ The presentation of real-life problems in the form of a scenario is reported to be a challenging way of giving students authentic learning experiences beyond those of a traditional curriculum.⁴ The scenario in such educational exercises could be a well-known historical event, such as World War I or the Russian Revolution, where the outcomes are established historical facts.^{5, 6} However, by allocating the roles of key historical figures to students in a group and challenging them to make decisions about the problems of a bygone era, it is possible to create an increased awareness of the difficulties these people faced. Real problems are complex. Important decisions need to be made with inadequate information. The consequences that follow if one decision is made, compared to the consequences if an alternative path is taken, can be very different and unpredictable.

Could this type of experiential role playing be merged with that of the television ethics discussion to create a means of helping veterinary students in the Cornell Program develop leadership skills?

ADAPTATION OF AN "ETHICS IN AMERICA" FORMAT FOR LEADERSHIP TRAINING

A number of features of the *Ethics in America* programs are relevant to leadership:

1. Team members each brought special expertise or professional skills to the discussion.
2. There was no prior thought or preparation in dealing with the problems presented by the moderator. The essence of the exercise was the challenge of "thinking on one's feet."
3. The problems presented to each team member were interconnected.

4. The moderator developed the complex links between the problems, depending on the spontaneous responses of the team members.
5. The moderator had not only to plan in advance the sequential details of the discussion, without the knowledge of any of the participants, but had also to unfold the interconnected dilemmas with humor and in a stimulating, thought-provoking style.
6. The time frame for the discussion had to be tightly controlled, and not just because of the limits of a television time slot. The quality of the discussion came from (a) the speedy and spontaneous responses of each individual team member, (b) the very real difficulty of making the best decisions "on the run" as the complexities increased, and (c) ultimately, the arrival at a satisfactory resolution within the limited time available.

It was decided that adaptation of this format to give leadership experience would require (1) a moderator, (2) an interactive scenario of challenging problems, (3) the allocation of individual leadership roles to both students and guests, and (4) a suitable venue for the event.

The Moderator

Although the role-playing students face difficulties in having to deal with complex problems without preparation, the moderator also has a challenge: not only to devise and memorize an interesting, relevant scenario and allocate leadership roles to up to 30 individuals, but also to adapt all these elements, during the course of the discussion, according to the responses of the participants. It would probably be useful for the moderator to have some special qualifications in leadership development. However, the success of this exercise depends more on the inherent skills of the role players than on any specialist skills of the moderator.

The Scenario

The circumstances in which students and guests would perform as leaders should meet the requirements identified by Gardner² as leadership training experiences. The scenario, therefore, should aim to provide roles where shared leader-

ship in groups would be needed; where decisions would have to be made under the pressure of changing circumstances; where full information would not be supplied; and where clear-cut solutions to the problems might not emerge. Furthermore, the moderator would need to adapt the scenario while it was unfolding, in the light of the unpredictable responses of the role-playing participants. It was decided that the components of the scenario should be selected from news stories of recent months that posed controversial scientific, public health, ethical, economic, and political dilemmas. These stories should allow wide scope to explore how leadership was required in complex situations that involve a variety of interrelated themes.

A large number of events and circumstances have now been used in the very different scenarios over four years. Some elements of past scenarios include the contrasting circumstances of people in poor and wealthy countries; the problems of universities; environmental problems; the role of the media; problems related to decrease in biodiversity; coping with unknown exotic diseases; the problems of food supply; population control; and genetic manipulation of plants and animals.

The Leadership Roles

A particular challenge for the session moderator was to create and allocate a large number of roles within the leadership training scenario. Typically, 25 students and four expert facilitators were each to be presented with individual roles, allowing the possibility for critical evaluation of information and instant decision making as the scenario developed. The allocation of roles to the facilitators was relatively easy. They could play parts compatible with their real-life experiences and through which their leadership skills could readily be demonstrated. On the other hand, the students would assume roles in which they had no experience and perhaps little knowledge of the nature of the tasks that people in those roles might face. The success of the exercise would depend, then, on the students' drawing on their general knowledge, their common sense, and, in particular, their creative imagination. The roles that were devised included those of local, national, and international politi-

Figure 1: Parliamentary-style amphitheater as the venue for the role-playing scenario providing experience in leadership

cians; senior officials in government and international agencies and in health and regulatory agencies; and influential positions in industry, commerce, the communication media, education, and academic research and teaching. Sometimes the roles were those of professional veterinarians or roles that drew on scientific veterinary knowledge. However, it was considered important that the diversity of leadership challenges reflect those of the wider community and not be limited to those circumstances in which veterinary qualifications were required.

The Venue

With a cast of about 30 role players, it is important that the moderator and the team of players can all see and hear each other. The seating format that has been found to provide these conditions is a semicircular tiered, parliamentary-style amphitheater in which the moderator can stand and move freely in a central pit (Figure 1). Each seated participant is able to have a dialogue with any other person, even if they are in a rear row. It is convenient for the moderator for a seating plan to be arranged in advance. This facilitates any predicted interactions between roles and allows ready identification of each person from place names.

APPLICATION OF THIS FORMAT FOR LEADERSHIP TRAINING

A scenario-based, interactive discussion module has now been run for four years as part of the Cornell Leadership Program. Although changes have been introduced with experience, the exercise has nevertheless been regarded as a success from the very beginning. Four aspects of the module were improved by evolutionary development:

1. time allocation for the module
2. the scenario
3. the denouement
4. formal assessment of leadership

For the first attempt at this module, an arbitrary time of two hours was allocated. However, with 23 students, four facilitators, and a scenario-unfolding moderator all having to hold the floor, this allowed less than four minutes' speaking time, on average, for each participant, and the session inevitably ran over time by at least 15 minutes. Nevertheless, it is necessary to put a time limit on the event, partly to maintain momentum and partly to ensure that a satisfactory end point is reached. As a compromise, the module is now run over a period of three hours and 15 minutes, but with a 15-minute break for refreshments midway through the exercise. In the first half-session, the moderator aims to have allocated 75% of the roles so that the second session can concentrate on scenario development and opportunities for demonstration of leadership as each person adapts to his or her role. To minimize the time required for settling into the allotted roles, students are now given 24 hours' notice of the broad category of the part they will be asked to play. Thus someone to be given the role of a university president or a vice-chancellor might be told that she would be a "senior academic"; someone asked to play the role of a journalist might be told that he would be a "communication expert." Such role definitions allow students to think, in advance, about the type of leadership that might be required while

still allowing ample scope for spontaneous and imaginative responses to the challenges of an unknown and unpredictable scenario.

Each year the moderator devises a new scenario that remains completely unknown to all participants until it is unfolded during the leadership module. Although, to maintain the challenge of surprise, it is considered important for each new group to tackle a new scenario, some features of scenario design may be repeated from year to year. One stratagem is to set the scenario in the future and in mythical locations, so that present and historical circumstances do not constrain the manner in which participants might choose to deal with a specific problem. Another is to introduce an element of emergency or crisis that increases in severity and complexity, so that all participants are challenged to show cooperative leadership and to make quick decisions without knowledge of what is to come. The development of a crisis also allows the scenario to come to a natural end with the moderator encouraging the participants to find a resolution to the problem.

Like all good stories, the scenario needs a satisfying ending that gives the participants a feeling of achievement, even though there may still be many loose ends. One way of doing this is to identify principles of leadership that the role playing has revealed. This is now done by the moderator, at the beginning of the module, asking one student to take on the role of *rapporteur*, with the responsibility, at the end of the exercise, of explaining three principles of leadership that have emerged from the action. The moderator can then reveal a planned denouement in which some elements of mystery are given plausible explanations. This provides an opportunity for imaginative speculation about scientific aspects of the scenario, such as the cause of a disease.

One deficiency of this module is that it forces the participants into leadership roles without any formal preparation for the concept of "leadership." To attempt to remedy this, a preliminary discussion of leadership is now held a day or two before the scenario-based module. This discussion explores the ideas raised by Gardner² in the context of the different experiences and cultural backgrounds of the veterinary students. Ideas such as "Are leaders necessary?" and "What harm can bad leaders do?" are explored with increasing enthusiasm as the students reveal and review their own concepts rather than those of Gardner. Such an informal conversation is amenable to a workshop format where topics can be discussed in small groups, with conclusions being drawn in a subsequent plenary session. One of the benefits of this preliminary meeting is that it encourages the group to consider issues collectively, a facility that will be helpful in the later scenario-based module.

DISCUSSION

The aim of developing a scenario-based exercise to demonstrate leadership was to correct deficiencies in the former discussion format between student fellows and a panel of distinguished guests. These deficiencies included the random nature of the traditional discussion, a lack of constructive interaction between the guests and the student fellows, and the avoidance of active participation by some. The role-playing exercise described here successfully remedied all of these defects. Each year the guests and student participants have been invited to give their views on what has taken

place, how useful they found this event in demonstrating and providing experience in leadership, and what improvements they might suggest for this module in future years. As a result of these comments, modifications have been made that appear to enhance the benefits of the exercise for those taking part.

Aside from its value as a new exercise in critical thinking and communication, the revised module affords opportunities for the participating students to observe how experienced leaders make difficult decisions; to mimic the techniques employed by these individuals, and to engage them in collegial discourse. This demonstration of leadership in action is facilitated by ensuring that the guests are given their roles early in the proceedings. Thus the students have been able not only to interact with the guests from the beginning of the scenario but also to learn from the manner in which the guests dealt with the challenges posed by the session moderator.

The scenario design has allowed a large number of situations to be presented in which the students were obliged to face the problems of being a leader. Furthermore, the session is deliberately scheduled early in the 10-week program, with a view to highlighting issues that are to be developed further in subsequent program workshops. These included ethical issues related to the proper conduct of research, factors governing the discovery and marketing of pharmaceuticals, and the special considerations related to the emergence or re-emergence of infectious disease.

Although this role-playing exercise was devised specifically to demonstrate the principles of leadership to veterinary students aiming for careers in biomedical research, the technique could readily be adapted for other purposes in veterinary education. For example, strategies for dealing with exotic diseases, managing people with difficult personalities, or running large animal production enterprises could all be explored through role-playing scenarios. This exercise can be adapted for any educational purpose where the provision of experience in critical judgment under pressure would be of value.

Because the participants were not informed about the nature of the scenario in advance of the discussion, and had only a hint as to their role in the exercise, there was some apprehension among the students about how they would perform and the challenges they would face. However, the process did not embody judgment or assessment of individuals, so any worry soon disappeared, and the students' natural creative imagination made this activity stimulating and enjoyable as well as demonstrating the diverse faces of career leadership. It is concluded, from the informal views of students and guests, that this discussion format does indeed meet the goal of providing opportunities to practice and demonstrate leadership skills. In the future, however, a formal assessment questionnaire will be administered to all participants. The objective information obtained by this means will determine whether further changes and developments should be made to this annual event in the Cornell Leadership Program. ■

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