INSTRUCTIONAL DESIGN AND ASSESSMENT

Using Debate to Teach Pharmacy Students About Ethical Issues

Lezley-Anne Hanna, PhD, Johanne Barry, BSc, Ryan Donnelly, PhD, Fiona Hughes, MPharm, David Jones, DSc, Garry Laverty, PhD, Carole Parsons, PhD, Cristin Ryan, PhD

School of Pharmacy, Queen's University Belfast, County Antrim, United Kingdom

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Objective. To create, implement, and evaluate debate as a method of teaching pharmacy undergraduate students about ethical issues.

Design. Debate workshops with 5 hours of contact with student peers and facilitators and 5 hours of self-study were developed for second-year pharmacy students. Student development of various skills and understanding of the topic were assessed by staff members and student peers.

Assessment. One hundred fifty students completed the workshops. The mean score for debating was 25.9 out of 30, with scores ranging from 23.2 to 28.7. Seventy percent of students agreed that the debates were a useful teaching method in the degree program.

Conclusion. A series of workshops using debates effectively delivered course content on ethical issues and resulted in pharmacy students developing skills such as teamwork, peer assessment, communication, and critical evaluation. These findings suggest that pharmacy students respond favorably to a program using debates as a teaching tool.

Keywords: communication skills, critical evaluation, debate, ethics, team-based learning

INTRODUCTION

Ethics is the application of values and moral rules to human activities and involves moral duty and obligation. The study of ethics aims to discover what factors determine whether actions are good or bad and right or wrong, both for individuals and for social groups.¹ Various core principles may be considered by medical professionals when making decisions, including nonmaleficence, beneficence, and respecting autonomy.¹ These are relevant to a range of healthcare professionals, including pharmacists. Pharmacists in the United Kingdom (UK), United States (US), and other parts of the world, such as Canada and New Zealand, are bound by codes of ethics, which are designed to protect the health and well-being of the public and to ensure ethical behavior among members of the profession.²⁻⁷ The General Pharmaceutical Council (GPhC), the accrediting body for the master of pharmacy (MPharm) degree programs in the United Kingdom, requires pharmacy students to "recognize ethical dilemmas and respond in accordance with relevant codes of conduct."⁸ Similarly, in relation to the professional doctorate program in pharmacy (PharmD) in the United States, the Accreditation Council for Pharmacy Education (ACPE) states that "the college or

school must ensure that the curriculum fosters the development of professional judgment and a commitment to uphold ethical standards and abide by practice regulations."⁹ Further, the Center for the Advancement of Pharmaceutical Education (CAPE) requires that pharmaceutical care be provided based upon "sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, economic, and professional issues."¹⁰ Learning about ethics and ethical dilemmas is a fundamental part of UK and US pharmacy curricula.^{8,9}

An internal review of the MPharm degree program at Queen's University Belfast (QUB) in 2012 in preparation for an accreditation visit revealed that ethics was not being directly taught to second-year pharmacy students. In first-year studies, students are taught about the GPhC Code of Conduct for pharmacy students¹¹ and its relation to codes of ethics for pharmacists.^{2,6} In the third and fourth years, pharmacy students learn about ethical issues during experiential placements and in other compulsory elements of the program; they also have an opportunity to participate in an interprofessional ethics workshop.

A key consideration when developing program material is the emphasis of the UK accrediting body, GPhC, on outcomes, competencies, and integrated learning.⁸ Passive learning through lectures has been complemented by case studies, role-playing, observed structured clinical examinations (OSCEs), critical literature reviews, poster presentations, and workshops. These are analogous to

Corresponding Author: Lezley-Anne Hanna, PhD, Queen's University, 97 Lisburn Road, Belfast, County Antrim, BT9 7BL, United Kingdom. Tel: 0044-2890-972731. E-mail: l.hanna@qub.ac.uk

PharmD degree requirements in the United States, where core skills to be developed using integrated teaching and learning methods include effective communication, problem-solving, critical thinking, autonomous learning, and teamwork.⁹

The hypothesis of this study was that debates, which were not used anywhere in our program at the time of this study, could be employed as a method of introducing ethical issues to second-year students. Debates are defined as a “formal discussion on a particular matter in a public meeting or legislative assembly, in which opposing arguments are put forward and which usually ends with a vote.”¹² Debates have been used in numerous university subject areas, including economics, education, engineering, marketing, psychology, and various healthcare-related programs such as dentistry, medicine, nursing, occupational therapy, and pharmacy.¹³⁻²⁹ However, the reported use of debates in pharmacy education is limited, particularly in the United Kingdom.^{19,26,27,30} Many studies report positively on this method of teaching, showing that debates are an effective way to introduce complex and controversial issues into teaching,^{22,31,32} to enhance learning and understanding of course content,^{16,19,21,23,29,30,33} and to enable active engagement in learning.^{20,34} They have also been associated with improving communication^{17-19,26,32,34} and empathy,³⁵ critical-thinking ability,^{14,15,17,19,23,27,28,36-39} literature searching, and application of evidence,^{14,20,24,25} teamwork,^{15,19,26,18} and self-directed learning.^{24,40}

The aim of the current project was to create, implement, and evaluate debate as a method of teaching pharmacy students about ethical issues. The specific learning objectives for the students were that, on completion of both workshops, they would (1) have an appreciation of various ethical issues relevant to pharmacy practice and the pharmaceutical industry, and (2) develop debating skills, including formulation of arguments and evaluation of evidence.

DESIGN

According to Bloom’s Taxonomy of Learning, lower-order thinking skills of knowledge, comprehension, and application focus on *rote learning* or *what* students should think, whereas the higher-order thinking skills of analysis, synthesis, and evaluation focus on *how* to think.⁴¹ Debates involve higher-level thinking skills. From a healthcare educational perspective, 1 model used to assess clinical skills, competence, and performance is Miller’s triangle,⁴² which is referred to throughout the MPharm accreditation standards.⁸ In this model, there are 4 categories: knows (lowest level), knows how, shows how, and does (highest level). Whereas written

examination questions might test knowledge (knows) or application of knowledge (knows how), role-playing, OSCEs, and debates are all considered to be at the higher (shows-how) level. The highest level required for the MPharm degree program is typically the shows-how level.⁸

Debates encourage the consideration of numerous viewpoints before arriving at a judgment or decision. This sequence coincides with the ethical requirements that pharmacists should consider fully the options available; evaluate the risks and benefits associated with possible courses of action, and respect diversity in the cultural differences, beliefs, and value systems of others.² These standards enable students to take responsibility for their own learning³² and require them to think on their feet.⁴³ Debate promotes communication and social interaction skills and also gives students a chance to engage in discussions and shared-learning opportunities.⁴⁴ All of these skills and competencies are necessary when working in practice as part of a healthcare team, as using evidence, problem-solving, communicating, and negotiating with colleagues and patients are fundamental to professional life. These skills and competencies were particularly suitable in the context of this study, given that ethical issues can be complex with no obvious correct answer, and in some circumstances, discussion is needed to reach a conclusion.

The pharmacist authors, who were also members of the academic staff, met on several occasions in 2012 and 2013 to discuss the development of the debates, in addition to perusing pertinent literature.^{19,24,26,27,44-46} Although ethical approval was not needed for implementation and evaluation of the debates, as was the case with a similar study,⁴⁷ the debates were discussed at relevant school educational subgroups, and necessary documentation was completed. These steps are standard practice before changes to teaching in the degree program can be introduced.

The project involved all second-year students enrolled in the MPharm degree program (n=151). Debate workshops with 5 hours contact with student peers and facilitators (2.5 hours for each of the 2 workshops) and 5 hours self-study were developed. As with many elements of the degree program, workshop attendance was compulsory. The debates related to 4 different ethical issues (Table 1). Each of the 2 workshops included 2 debates. Given that the integration of science and practice is a central focus of accreditation, these ethical debate titles (also known as debate motions) were specifically developed to integrate pharmacy-practice issues, such as providing a needle-exchange service, with issues affecting the pharmaceutical industry, such as animal testing and patents.⁸

Table 1. Debate Titles in Workshops Using Debates to Teach Ethics and Ethical Dilemmas

Team A	It is unethical for pharmacies to sell over-the-counter weight-loss products or slimming aids.
Team B	It is unethical for pharmacies to be involved in needle-exchange programs for drug users.
Team C	It is unethical to conduct research about medicines on animals.
Team D	It is unethical for pharmaceutical companies not to make cheaper HIV (antiretroviral) drugs available to developing countries.

Abbreviation: HIV=human immunodeficiency virus.

Topics that encompass evidence of effectiveness, nutritional supplements, service provision, bringing a drug to market, and cost and availability of medicines were all necessary content for the degree program.

Because of the large number of students (n=151), they were separated into 4 groups: n=38; n= 38; n=38 and n=37, and a facilitator was assigned to each group. Once in groups, they were further divided into 1 of 4 teams (A, B, C, and D) and each team was given a motion (Table 1). There were between 8 and 10 students in each team. Finally, within each team, students were assigned to a particular side ie, the proposition or the opposition. Students had to develop arguments to support the view to which they were assigned. Allocation of students to teams was based on alphabetical order, as is the case for many group allocations in the school of pharmacy. In all but 1 of the cases, there was an even number of students on each team and the sides were balanced, ie, 4 vs 4 or 5 vs 5.

The debates occurred over the course of 2 workshops, each of which lasted 2.5 hours and involved 2 debates. Team A and Team B debates were conducted in the first workshop; Team C and Team D debates were in the second. Students who were not debating in a given workshop formed the audience. On completion of the 2 workshops, students had both debated and acted as members of the audience, and learned about all 4 ethical issues.

Students were informed about the workshops 4 months before they took place (ie, January 2013). As this was a new concept for students in terms of teaching methods within the degree program, they received verbal information in a lecture, which was further supplemented by an information booklet. The information booklet was available in print as well as electronically on a shared site. The booklet outlined the definition of ethics, context of the debates within the degree program, intended outcomes, topics, group and team allocations, resources, format of the session, debate structure (Table 2), assessment and feedback, required preparation, and debate workshop dates and venues. All students received a reminder e-mail

Table 2. Debate Structure in Workshops Using Debates to Teach Ethics and Ethical Dilemmas

Opening Statement: The captain of each side defines the motion and briefly summarizes why they are arguing for or against the motion. The proposition goes first, followed by the opposition. (1-2 minutes/side)
Main Arguments: Team members present their main arguments either for or against the motion. The proposition goes first, followed by the opposition. (15-20 minutes per side; 30-40 minutes total)
Cross-Examination: The teams now have a chance to question each other. The audience (the Floor) can also ask questions to either side at this stage. The opposition goes first, followed by the proposition. (15 minutes total)
Closing Statement: Each side sums up their arguments. In this closing statement, appeal to the audience and explain why they should vote for your side. The opposition goes first, followed by the proposition. (1-2 minutes/side)
Voting: This is conducted before and after the debate to ascertain whether opinions have changed as a result of arguments presented. On each occasion, the audience can support or oppose the motion, or abstain.

in April 2013 about the pending debates with a strong recommendation that they organize a meeting with their peers if they had not already done so. Facilitators received a packet containing all necessary paperwork and additional guidance on each topic, including specific questions to ask each team. Examples of facilitator questions relating to debate A (proposition: It is unethical for pharmacies to sell over-the-counter weight-loss products or slimming aids) included: "Is it better that people can buy slimming aids/weight loss products from pharmacies rather than other outlets?" and "Does having these products available in a pharmacy damage our reputation as healthcare professionals (ie, do you think that other healthcare professionals see community pharmacists primarily as shopkeepers)?" The facilitator's packet contained documents such as a cover sheet of contents, the information booklet that the students received, the Code of Ethics,² model answers for each debate including facilitator questions, assessment sheets for staff and students, voting cards, a sheet for recording the votes, and student attendance sign-in sheets.

With respect to assessment, each debate team side rather than each individual student, received an overall score (maximum score of 30), which comprised both peer (audience) and staff member (facilitator) contributions. Each debate team side was scored against the criteria outlined in Table 3. A top score of 5 to the lowest score of 0 was awarded for each criterion. These integers (0, 1, 2, 3, 4 and 5) were provided within the scoring table so that

Table 3. Assessment Criteria for Scoring Debate Performance in Workshops Using Debates to Teach Ethics and Ethical Dilemmas

Criteria	Mean Staff Score ^a
The speakers' statements appeared to be well-researched.	4.5
The speakers' statements definitely supported their position in the debate.	4.2
Arguments were presented coherently.	4.1
Rebuttals were specific to opposing arguments and expressed with clarity.	3.9
Rebuttals showed evidence of good listening skills.	3.9
Concluding statements were convincing.	4.2

^aScoring options for each criterion ranged from a minimum of 0 to a maximum of 5.

staff members and students could circle their designated scores for each criterion. Staff members discussed how each criterion would be scored when developing the assessment form. Both peers and staff members used the same assessment criteria. Once the completed peer-assessment forms were collected from the audience, the scores were totaled and a mean score was calculated. Peer scores contributed 40% and staff member scores contributed 60% to the overall score. Therefore, the overall score for each debate team side was derived as follows: (mean audience score x 0.4) + (facilitator score x 0.6) = team score. The assessment forms also provided a section for written feedback. Verbal feedback was provided in the workshop by the facilitator. Students received their score (showing the breakdown of staff and peer contributions) and written feedback (from both peers and staff members) shortly after completion of both sessions. Team debates including peer assessment met the school's requirement that students should "contribute to the education and training of other members of the team, including peer review and assessment."⁸ Debate scores did not contribute to students' grades for the course. Given that the debates were new to both staff and students, this was considered to be the fairest option.

Voting was conducted before and after each debate to ascertain whether opinions had changed as a result of the arguments presented. On each occasion, the audience held up laminated cards to indicate whether they supported or opposed the motion. Those not holding up cards were recorded as abstaining. The voting was recorded and discussed by the facilitators with their respective groups but did not influence the overall score. As is the case with many aspects of teaching in the study institution, students were invited to complete an anonymous evaluation at the

end of the second workshop and post it in a ballot box placed in the classroom.

EVALUATION AND ASSESSMENT

One hundred fifty students (99.3%) satisfactorily completed the workshops. The mean score for the students was 25.9 ± 1.6 out of 30 and a range of 23.2 to 28.7. The scores were further analyzed by individual team (A, B, C, and D) and side (proposition and opposition) across the 4 groups of students who participated. Mean scores (based on a maximum score of 30) were as follows: Team A proposition, 25.4; Team A opposition, 24.7; Team B proposition 27.1; Team B opposition, 26.5; Team C proposition, 25.8; Team C opposition 25.0; Team D proposition 25.8; and Team D opposition, 26.6. An *a priori* level of less than 0.05 ($p < 0.05$) was set as significant; there was no significant difference among any of these results.

To ascertain skills development from the perspective of academic staff members, the mean staff score for each assessment criterion was calculated (Table 3). Research skills scored highest and rebuttal skills lowest. At the end of the second workshop, students were asked to complete an 8-question evaluation questionnaire (available on request from the corresponding author). Most of the quantitative data were collected using questions with pre-formulated responses, including a 5-point Likert scale ranging from 1 = strongly agree to 5 = strongly disagree. The open-response questions ($n = 4$) were examined using thematic analysis.⁴⁸ No identifiable data were collected. The evaluation instrument had a response rate of 91% ($n = 136$). Seventy-seven percent of student respondents strongly agreed or agreed that debate participation either as a debater or as part of the audience changed their opinion of the issue. Many students (70%) strongly agreed or agreed that debates were a useful teaching method within the MPharm program, and 49% strongly agreed or agreed that debates should be used more frequently in the program. In the section regarding skills they developed because of the debate experience, students were provided with a list of skills and asked to check all that applied: 84% indicated they developed research skills; 81%, communication skills; 81%, teamwork skills; 53%, critical-thinking skills; and 50%, rebuttal skills.

In the open-response portion of the questionnaire, students were asked to note what they liked most about preparing for and participating in the debates. Five main themes emerged: increased knowledge and understanding of issues, interesting and enjoyable way to learn, researching the topic, developing communication skills, and teamwork. Students were also asked to note what they disliked most about the debates. The most commonly reported

theme (mentioned by over 99% of students) related to when the debates were held (May), which they considered was too close to the written-examination period. Other themes centered on assessment and contribution of the debate to course grades. When asked to suggest other topics, students offered many possibilities, including contraception and abortion, genetics and personalized medicines, and euthanasia.

The debates were discussed at the school's staff/student consultative committee. One of the main purposes of this committee, as stipulated by the university, is to ensure that schools and departments receive evaluation and feedback from students on the quality of their academic provision.⁴⁹ This committee comprised student representatives and academic staff members, including the Director of Education. The second-year student representative reported the opinions (anonymously) and stated that students had largely positive opinions regarding the use of debates as a teaching method at the school. However, the second-year students were critical of the timing of the debates within the semester.

Staff members involved with the project reflected on the experience to ascertain whether it should be included in the program the following year. They considered the debates successful in that the desired learning outcomes were met (ie, students would have an appreciation for various ethical issues that have relevance for pharmacy practice and the pharmaceutical industry and also would develop debating skills, including the formulation of arguments and the evaluation of evidence). Had the students participating in these debates not gained knowledge of the subject matter through appraising the literature and had not been able to communicate this knowledge effectively, their performance scores would have been lower than the range of 23.2 to 28.7 achieved. Enhanced self-directed learning was a perceived benefit of this teaching method. Although staff members agreed that communication skills were developed, some reported that several students relied heavily on their notes while presenting. Based on positive feedback from staff members and students, the Director of Education approved the inclusion of the ethical debates for the second-year students the following year.

With respect to resources the debate workshops required, the team of staff members met to develop the debates, which largely involved discussing topics, assessment criteria, weighting of the student peer and staff member scores for the assessment, and the format of the sessions (12 hours). Other staff member duties included providing guidance on the topics and formulating questions to ask each debate team. This responsibility was shared among the staff members, 1 of whom then collated

the materials into a packet for facilitators (5 hours). One staff member verbally outlined what the debates involved to the students, prepared the information booklet and served as the point of contact (7 hours). Each of the 4 student groups required a pharmacist staff member to act as a facilitator for each 2.5-hour debate workshop. Additionally, separate venues were required for the 4 groups of students for each debate workshop. The venues did not need to have computer facilities, but they had to be large enough to accommodate 40 people and have flexible seating so that the debate team could sit at the front on their respective sides, facing the audience. A podium or lectern was also desirable. Staff facilitators scored the debates and provided written feedback (1.5 hours). Peer scores and feedback comments were collated for each side and the mean scores calculated (2 hours). Finally, overall marks and feedback comments were compiled in a Microsoft Word document and disseminated to each student (4 hours).

DISCUSSION

Debates are used as an educational tool in various subject areas at the university, including pharmacy. However, we believe this study is the first to report on their use within a MPharm course in the United Kingdom. Based on reflective staff member accounts, the discussion between staff members and students at the Student/Staff Consultative Committee, the assessment scores, and the results of the evaluation instrument, the debates appear to have been positively received by both staff members and students. The majority (approximately 80%) of students considered that they had developed communication, research, and teamwork skills. Further, students considered that their knowledge and understanding of various ethical issues had improved, that debating resulted in a change of opinion, and that it was an interesting way to learn. The high overall assessment scores (mean score 25.9/30) awarded by both staff members and peers provides further support for the development of knowledge and understanding of the subject area coupled with the ability to communicate this information to others. The results of this project are consistent with that of the wider literature relating to debates.¹³⁻³⁰ One researcher reported that observing students' debates was "like watching students spread their intellectual wings," without any real input needed from staff members.⁵⁰ About half of the students in the current study thought that their critical-thinking and rebuttal skills improved as a result of the debate experience. A widely documented benefit of debating is the enhancement of critical-thinking skills.^{14,15,17,19,23,27,28,36-39} Therefore, debates have the potential to develop professional competencies while ensuring the acquisition of knowledge and understanding of relevant topics.

One of the main limitations of this study was that the method of teaching was not compared with any other methods. However, we consider that the aim of this project (to create, implement, and evaluate debating as a method of teaching pharmacy undergraduate students about ethical issues) was achieved. Having taught across the whole MPharm degree program for more than 5 years, we had extensive experience teaching and assessing students in various ways and received ample student feedback on the degree program and the quality of the academic provision. This enabled them, to a certain extent, to make evidence-based judgments about this teaching method. Another limitation was that while the debates were assessed, the scores did not contribute to course grades. We considered this to be the fairest option, considering that the concept was new to both staff members and students. From the development stage, we intended for students' debate performance to contribute to their course grade in future years, once the debate workshops had been trialed with this cohort of students. However, for this initial trial, we considered that the debates would still be valuable for formative learning purposes.⁴⁶ Students were aware from the outset that the debates would not influence their course grade. In the evaluation questionnaire, several students stated that their score should have contributed to the course grade as an incentive to prepare in advance, whereas others said that because there was no high-stakes assessment, the debating experience was less stressful than it could have been otherwise. Although we had concerns that students would not take the debates seriously, that was not an issue, perhaps because they were required to work in allocated groups rather than with friends and to do an oral presentation in front of peers and staff members. Failure to prepare would have let their peers down and may have caused embarrassment. Additionally, all students had to abide by a code of conduct, which required them to show respect and engage constructively with assessments.¹¹ It may be useful to provide further guidance and training to students prior to expecting them to assess their peers. Other limitations include the issue of reliability of scores when many different staff members are involved in assessment. We tried to minimize this effect by preparing extensive model answers that should be included in a comprehensive debate (ie, key points that the proposition and opposition should cover). We included questions for facilitators to ask and model answers to these questions. When preparing the assessment form at the development stage, we discussed each criterion and scoring completed. Having a formal teaching qualification (Postgraduate Certificate in Higher Education Teaching; PGCHET), we were familiar with the requirements for assessments to be reliable, valid,

authentic, and transparent.⁴⁶ At our school, the majority of authors (facilitators) used a scoring system like the one used in this study on a regular basis for other modules when assessing students' communication skills. Before scores were finalized and disseminated to students, there was further discussion among staff members about scoring, particularly with regard to students who relied heavily on their notes. Given that some of these criteria are more subjective than others; this aspect will need to be considered in more detail prior to the debates contributing to course grades in the future. Additionally, perhaps it would be easier to have a narrower scoring range and fewer staff members involved to minimize variation between assessors.

There was no significant difference in the mean scores, suggesting that the 4 debates and positions (proposition and opposition) were of equal difficulty, although some variation among assessors' scoring was also a possibility. However, the assessment criteria could be further developed to differentiate between students who heavily relied on notes and those who scarcely used them. Further guidance on using written notes could also be provided in the debates information booklet. Additionally, before subsequent years of the debate experience, the contribution of debate performance to course grade must be decided and a standard operating procedure developed for outlining the consequences of a student failing to attend or contribute to a debate in a meaningful way. At the time of this study, scores were awarded based solely on debate performance. It may be prudent to score audience participation as well to avoid this role being perceived as unimportant. We held the workshops at the same time for all 4 groups, which meant that we could use the same debate titles for all groups and compare scores across the groups. In future years, topics should vary to limit students passing on their work to groups in subsequent years. Finally, the students considered the timing of the debates too close to the written examination period. Thus, they are now provisionally planned for March rather than May.

SUMMARY

A compulsory series of workshops using debate to teach ethical issues delivered course content effectively. This method of teaching also developed student skills, such as evaluating literature, critical thinking, teamwork, and communication. Students in pharmacy degree programs as well as in other healthcare disciplines need to learn about ethics and ethical dilemmas, and healthcare professionals must be able to make evidence-based decisions and to communicate effectively with colleagues and patients. Debating may be a viable option to help meet these needs because it allows course content to be delivered

to students while they are developing professional skills and competencies. This work suggests that debates as a teaching tool are relatively straightforward to create and implement and that pharmacy students respond favorably to a program that uses them.

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