

The aim of this section is to expand and accelerate advances in methods of teaching bioethics.

Bioethicsing

Medical Students Engaged in Bioethics

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Abstract: This article describes the components of a unique 9 month required course in bioethics for 3rd year medical students at the American University of Beirut. The blended (hybrid) learning format emphasizes three innovative learning activities: the bioethics documentary, edutainment games, and the bioethics log book. Sample student responses are included as well as an outline of limitations.

Keywords: medical students; bioethics; learning activities; documentary; log book; games

Today, physicians find themselves facing more controversial issues than ever before; consequently, it has become indispensable for medical students to receive adequate training in medical ethics throughout their medical school years. At the American University of Beirut (AUB) Faculty of Medicine, 3rd year medical students complete a 9 month course in bioethics that aims, through unique components, to help them become healers and not only healthcare practitioners. In this article, we highlight the features of the blended learning format used for this course and emphasize three innovative learning activities: 1) bioethics documentary, 2) edutainment games, and 3) bioethics log, which proved to be effective tools for achieving the course outcomes.

Blended (Hybrid) Learning

The course relies on both face-to-face (F2F) and online instruction, which is otherwise known as the blended or hybrid delivery mode, whereby five

units are given online and the remaining eight units are F2F. All of the course material is placed on the course page on Moodle, the learning management system (LMS) used at the American University of Beirut, for the students to access. The students, approximately 95 in number, are divided into two groups, Group A and Group B, and in order to ensure a better flow of discussion, each topic is covered over a period of 2 weeks, one group at a time. Thus each student has a medical ethics session once every 2 weeks.

The teaching methods and tools used across the entire course include:

- 1) Live synchronous discussions (F2F): These are the in-class discussions that take place following each lecture.
- 2) Live synchronous discussions via Elluminate Live! (EM): When certain topics require the participation of speakers who cannot be physically present in class (e.g., they reside abroad), a live online module

web conferencing session is held, which students can attend as well as any interested faculty members. The two-way interaction allows the speaker/lecturer and students to engage in discussions as if they were in a traditional classroom.

3) Self-paced asynchronous component:

- *Discussion forums.* There are optional and required discussion forums for each topic addressed in the course. In the required discussions, students are expected to make at least one entry answering the question or discussing the issue posted by the course coordinator corresponding to each unit. The discussion forum has an expiry date before which the students must make their posts. The students are also encouraged to partake in additional “optional forum discussions” on other ethical issues of concern to them, particularly ones that they face on the wards. At the end of the course, the students are given a cumulative grade for all their discussion forum contributions, which can make up 10 percent of their final course grade.
- *Online self-paced learning readings.* The course has no assigned textbooks; however, to ensure that the most updated bioethics materials are conveyed and discussed, it does include selections from books, journals, and Internet texts posted on Moodle, for the students to read. Additional references and optional readings are also posted for those interested in exploring certain issues further.
- *Audiovisual material.* Some units are supplemented with videos that are relevant to the topics under discussion. The audiovisual item, which can be a clip from a medical drama

series, a documentary, or a news report, is posted online for students to watch and then comment on (in a discussion forum). This way of thinking through a case permits students to appreciate some particulars of the case that are often lost in a simple case vignette. It also gives rise to moral imagination, critical thinking, and empathy in a deeper way than is possible in a more unidimensional reading of a case narrative. Students agree that seeing and interacting with events provides a more powerful experience. In comparing the use of a case vignette versus the use of a video as an entrance activity, we found that the video garnered a higher number of replies from the students (96 vs. 126), more debate, and more changes of opinion as the story unfolded.¹

The blended learning model provides students with greater time flexibility and better learning outcomes. This model teaches them how to be independent and responsible learners as well as critical thinkers. At the same time, however, it does require the students to manage their time properly and to take greater responsibility for their own learning.

“Bioethics Live” Activity

In an attempt to diversify methods in assessing students’ knowledge, skills, and attitudes in ethics for this course, two innovative activities were created to replace the classically chosen term paper/essay. Student groups could choose between two options (accounting for 20 percent of the course grade): to create (1) a short documentary or (2) an educational game (“edutainment game”). Both options focus on a controversial bioethical issue of their choice (such as medical malpractice, stem cell

research, cloning of humans, organ donation, or genetic engineering) and are due on the last day of the course.

Bioethics Documentary

The bioethics documentary activity encourages students to play the role of patient advocates who make the concerns of the patients their own and who can think “outside the box” for effective ways of promoting awareness on bioethics issues. This activity requires students to prepare a 3–5 minute long documentary on the ethical controversy of their choice, after approval of, and discussion with, the course coordinator. The video would need to address the Arab audience in correct classical Arabic, as the best videos will be used as teaching tools or references in conferences and educational activities and might be chosen to be broadcasted on YouTube and on TV for public awareness.

The students are guided through the activity by a series of tasks divided along four deadlines. Different samples of short documentaries are posted onto the online course module on Moodle to give the students an idea of what an awareness documentary can be like and to inspire their own creative ideas. Students begin by deciding on their topic and discussing it with the course coordinator. Each group is expected to prepare a short description that explains the intended plan of execution of the documentary and mentions all the elements and sources to be included as well as the individuals to be interviewed. Students are given a self-assessment list to keep them on track. Next, they work on developing the skeleton of their documentary, consisting of a detailed script, including the dialogue and technical direction of the entire video. Following the submission of the script, the students commence

the production of their documentary, to finalize filming and submit the video by the end of the course. Students are reminded to make sure that all participants being recorded or filmed sign a consent form required by the university, which they are also required to submit with the final video.

The student videos are assessed by a committee (including the course coordinator who is a clinical bioethicist and a physician) for both content and execution, taking into account the accuracy of the information, the clarity of the message, the creativity in the concept, and the use of techniques. Most importantly, the committee evaluates whether the bioethics topic and surrounding controversies highlighted in the video would be successful in raising public awareness. The intended outcome is such that all components of the documentary fit together to provide an appealing, clear, and successful product that achieves its overall purpose of informing the public about the importance of the issue being discussed and its ethical implications.

Edutainment Game

Students are expected to produce an interactive computer game on a specific ethical issue of their choice, which can be used as teaching tool for students and professionals. For this activity, they must first submit a short description of the plan of execution, specifying the ethical issue, the stakeholders, the types of references that will be included (such as statistical data, news articles) and the technical components of the game (images, music, voiceovers). This outline is presented to the course instructor for initial approval. Next, the students prepare a skeleton of the game describing the different stages of the game, the characters, and the different scenarios/choices that the player will have to go

through. The students are provided with samples to view and can consult with the university's Information Technology (IT) Academic Core Processes and Systems Department for technical guidance. Finally, the students move forward to translate their detailed storyboard into a prototype game using Microsoft PowerPoint, which is submitted on a CD in an editable format. The student edutainment games are similarly assessed as with the documentaries for both content and execution, focusing on the accuracy of the information, the game flow, and the clarity of the message, as well as the overall teaching value of the game. The best storyboard and game are later considered for possible professional production and development.

At the completion of the projects—both documentaries and edutainment games—three are chosen as award recipients and the winning group members are invited to give a grand round on the topic of their project. Ultimately, such interactive learning activities will help them become “not just excellent clinicians, but humane professionals with a broad cultural outlook,”² which falls in line with the AUB's mission statement that states: “The Medical School and Center are committed to educate and train the best physicians and biomedical research leaders to meet future health care needs in the region, advocating for the community's well-being and access to care by providing quality patient care, cost effectiveness, and patient satisfaction and performing premier clinical research and education.”³

Log Book

The third innovative learning activity that was newly initiated is the student “Bioethics Log Book.” It consists of a notebook that 3rd year medical students carry with them at all times during their clerkship rotations, in which they record

notes on incidents, ethical dilemmas, specific cases, or anything they have encountered on the wards relevant to medical ethics and professionalism. Before the end of each rotation, the students are expected to write two log entries (according to the log sheet provided to them) and submit them on Moodle to the course coordinator for review and grading. This activity contributes to 40 percent of the student's final course grade.

In the first log entry, the students choose two cases illustrating ethical dilemmas that they have encountered on that rotation. Students provide the main points of the issue and in brief bullet points, they identify the ethical principles, values involved, and their own reflections on the case. It is crucial to note the importance of authenticity in the cases presented, as the students are held accountable for what they report, and they may be called by the clinical bioethicist to discuss the details of a case. This is clearly explained to the students in the course syllabus and during the first session of the course.

In the second log entry, students are asked to report a minimum of two instances of negative role modeling and two instances of positive role modeling per rotation. As with the cases of ethical dilemmas in the first log entry, the students must indicate which rotation they are covering. Without stipulating names, students specify whether each chosen role model is a resident (R) or an attending physician (A). Students are asked to describe the occurrence on the ward and the behaviors exhibited by the role model, and to identify the character traits and virtues that such behaviors reflect. Therefore, by the end of course, the students would have submitted a total of 10 log entries, 5 on ethical dilemmas and 5 on role models.

As an ongoing activity, the bioethics log prompts students to be constantly attentive to the occurrences on the

hospital wards, from physician–patient interactions to medical procedures, and to be aware of, and sensitive to, the ethical issues that arise in the medical care setting. It also teaches them to identify admirable professional characteristics in physicians, their peers, and themselves, as well as unfavorable traits to be avoided.

Although the exercise does not instruct students to reflect onto their own behaviors, many students used the log book as an opportunity to become more sensitive to unethical acts of their own. They reflect on how they should have acted and what such an incident taught them for the future. This shows that by allowing students room for introspection, questioning, and criticism, the log book can be an effective self-teaching tool in bioethics education.

In addition to its educational benefits, this activity can be of value to the medical institution if it leads to corrective measures. In several cases of severe unethical conduct documented by students in their log book entries, a meeting was scheduled between the student and the bioethicist to discuss the case further. With the consent of the student, the incidents were reported to the relevant faculty (chairperson and/or chief of staff), while maintaining confidentiality of the student's names, and the matter was addressed directly. As a result, not only is the administration alerted to issues that may have gone "under the radar," but the concerned faculty and physicians become aware that their actions are constantly under the scrutiny of their own students, and thus they are forced to monitor their own behavior and to take ethical matters more seriously. In this way, the student becomes the teacher.

Disadvantages/Limitations

Although the adopted methods discussed above were innovative and effective

in teaching 3rd year medical students important concepts in bioethics and professionalism, there remain some disadvantages and limitations to the blended learning method and to the inclusion of such interactive activities. When asked for feedback on their course experience, a few students expressed some dissatisfaction with the strictly online units in which they watched a recording of the lecture online and read the supplementary material. They commented that it did not allow the same interaction and opportunity for debate found in a F2F lecture. Others expressed a different perspective, "I liked the way the lecture was presented, even though it was a video it was interactive since the doctor asked questions and allowed us to think." One student argued that in discussions of such critical ethical topics, it is "important to see how others react and what their viewpoints and justifications are to be able to view the issue from different angles." Simona Giordano raises this issue in her article and adds that "the absence of face-to-face interaction can negatively affect the students' ability to relate successfully with their patients in the long term."⁴

Another disadvantage of relying on online lectures and course material is the possibility of technological problems. Many students related frustrations in that they had experienced such problems particularly with Internet connections. There is also the issue of procrastination on behalf of the students, whereby a number of students failed to participate in the online discussion forums as required or failed to meet the deadlines assigned for the bioethics log book entries. However, because the full requirements of the course and deadlines are fully detailed in the syllabus provided at the beginning of the course, this becomes more of an issue of the student's individual responsibility rather than a problem in the course itself.

The final disadvantage of a course having such a complex structure is its demanding nature for the course coordinator and participating instructors/faculty. Preparing the course material and following up with the students on the discussion forums and other assignments, although refreshing and challenging, proved to be time consuming, especially when the class held a large number of students. The faculty, however, concluded that their own added responsibilities were more than justified by the satisfactory results in students' achievements.

Conclusion

The bioethics course proved to be a great addition to the medical curriculum, particularly with the introduction of the documentary, edutainment game, and the bioethics log book. Students felt more engaged, and understood that bioethics is an integral part of what it means to be a physician in training. They came to see medicine as an art as much as a science and, above all, they appreciated the fact that medicine is, above all, a moral endeavor. As students noted in an anonymous course evaluation, some of the strengths of this course were that it had "a variety of topics and real case examples," "it showed us and made us

aware of ethical issues and rules that we were unaware of and could not read in any textbook," and "the evaluation system was diverse: movie, edutainment, patient log, exam." Perhaps the experience of this course can be summarized by the word of one student: "As the Med III year progressed, I found that it is intimately related to our daily lives in the hospital. We encountered so many cases that raised many of the ethical dilemmas we were discussing during the sessions." Making bioethics an *active*, rather than a *passive*, experience has been the primary goal of the course, and both students and faculty concur that with these innovations to the curriculum, with students actually "bioethicsing," that goal is being realized.

Notes

1. Arawi T. Using medical drama to teach biomedical ethics to medical students. *Medical Teacher*. 2010;32(5):e205–10.
2. Giordano S. Medical humanities: an e-module at the University of Manchester. *Cambridge Quarterly of Healthcare Ethics* 2010;19:454.
3. American University of Beirut Faculty of Medicine [Internet]. Beirut: American University of Beirut; [cited 2013 Apr 30]. About Us: Mission and Vision [first paragraph]. Available from: http://www.aub.edu.lb/fm/fm_home/about/Pages/mission.aspx
4. See note 2 See note 2, Giordano 2010:454.