

Changes in Student Evaluations of a Medical Ethics Class 3 Years Later

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Abstract

Aims: The present study investigated changes in the student evaluations of a medical ethics class after studying in dental school for an additional 3 years. **Materials and Methods:** A problem-based learning medical ethics class in which students discuss the “right to death with dignity” using video material as a trigger was offered to third-year students at the School of Dentistry. At the end of the class, each student submitted a report describing their own opinions of the ethical questions raised as well as their impression of the class. Three years later, the same students were surveyed regarding cognitive changes in class evaluations. The changes in class evaluations were statistically analyzed with reference to the contents of the initial report ($P < 0.05$). **Results:** Student evaluations of the class rose 3 years later. One reason for the evaluation rise was considered to be the growth in their reflection capacity during additional years of learning experience in the dental school. Students whose report demonstrated that they were engaged by the ethical dilemma tended to raise their evaluation of the class. On the other hand, students who mentioned the difficulty of the task or the shocking images in the video material in their initial report did not raise their evaluation later. Thus, students’ perception of the task or setting in the class appeared to have a continuing effect on their evaluation. **Conclusion:** The results confirmed that student evaluations of a class would change after additional years of learning experience.

Keywords: Medical ethics, professionalism, reflection

INTRODUCTION

In recent years, class evaluation by students has become one of the important activities of faculty development in medical education. Several reports have pointed out the usefulness of student evaluations for improving teaching quality^[1-5] while differences in perception between students and faculties have also been noted.^[6,7] A few reports have suggested that student evaluations do not reflect the overall teaching quality because they are influenced by factors such as the student’s attitude toward his or her teacher and the student’s interest in the subject.^[8,9] In other studies, “rigor” such as students’ effort, involvement, workload, and the difficulty of the material showed a negative association with the class evaluation.^[10-13] Kordts–Freudinger and Geithner^[14] indicated that the situation surrounding the evaluation also affected the student’s evaluation. In his review, Clayson^[13] indicated that student evaluations related positively to perceptions of their own learning and negatively to perceptions of rigor. Thus, student evaluations are not a simple reflection of teaching quality or students’ learning since they may also be affected by numerous other factors.

At the School of Dentistry in the University, a medical ethics class using video material was held for the third-year dental students. In this class, students discussed an ethical issue that is difficult to resolve. As indicated above, the difficulty of a class influences the student’s evaluation of the class. On the other hand, it has also been reported that students’ capacity for reflection increases with their experiential knowledge.^[15-17] Such professional development might change the student’s perception of “rigor” in the class. Therefore, it can be hypothesized that the student’s evaluation of the class would rise after additional years of the clinical practice in dental school. However, few reports have investigated changes in student evaluations years after the class was taken. To elucidate the hypothesis, the present study examined students’ writings

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during the medical ethics class and changes in their evaluations of the class 3 years later.

MATERIALS AND METHODS

Ethical approval

The present study was approved by the ethical committee of the Faculty of Dentistry (No 1190).

Problem-based learning class in medical ethics

A problem-based learning (PBL) class in medical ethics was offered to third-year dental students in 2004. Sixty-six students were attended. The class consisted of five periods. One period lasted 90 min and the class was conducted once a week. During the first period, a documentary movie, “Dax’s Case” was shown to all students. The movie depicted events that occurred in 1970 in the USA. A man named Donald Cowart, nicknamed Dax, was severely injured in a gas explosion. Because of the agony of burn treatment and its after effects, Dax despaired and desired death with dignity. Despite his desire to die, he was forced to remain alive and undergo contemporary burn treatment. After the video presentation, the main question posed to the class was: “Was the autonomy of Dax violated or not?” Then, the students were asked what kinds of knowledge or information would be needed to consider the question. Each student wrote his or her answer on a card and the cards were then collected. Three tutors analyzed the stack of cards and categorized the responses into eight topics. Then, the students were divided into eight groups and each group was assigned one of the eight topics. Students investigated the assigned topic individually at home. In the second and third periods, the main question was discussed in each group from standpoint of the assigned topic, and the group formed a conclusion on the main question (violated/not violated). The fourth and fifth periods were a plenary session in which representatives of each group gave an oral presentation of their conclusions and reasoning on the main question using PowerPoint. After these presentations were completed, each student submitted an individual written report consisting of two sections; an essay discussing the main question (their own conclusion and reasoning) and a section describing their impression of the class.

Analysis of individual reports

The contents of the students’ essays were examined and classified into three groups based on the conclusion regarding the main question: “Dax’s autonomy was violated,” was “not violated,” or “neither.” Their impressions of the class were also examined based on whether or not the following three items were described. These items were “positive evaluation of the class,” “difficulty with the main question,” and “feeling shocked by the video contents.”

Survey of the students 3 years later

Three years after the class, the students’ perception of the “importance of the class” was surveyed using a self-administered questionnaire in December 2007. Sixty-two

students participated in the survey. At that time, the students were in their sixth-year curriculum and had just finished a clinical training course. In the questionnaire, the students indicated their evaluation of the “importance of the class” using two four-level Likert scales (1: Not important at all, 2: Slightly important, 3: Important, and 4: Very important). One scale indicated their recent evaluation and the other indicated their evaluation at the time of class was conducted (reflective evaluation).

Statistical analysis

We analyzed the responses of 62 students who submitted both the initial report and responded to the survey. The difference between recent and reflective evaluation was regarded as a cognitive change in evaluation and was analyzed using Wilcoxon signed-rank test ($P < 0.05$). To investigate the relationship between students’ reports and their evaluations of the class after 3 years, cognitive changes for each item extracted from the report were also statistically analyzed.

RESULTS

Contents of the reports

In the essay section of the initial report, 28 students concluded that the autonomy of Dax was violated, 29 considered that it was not violated, and the other five responded “neither.” In their initial impressions of the class, 44 students wrote positive comments about the class. Twenty-three students claimed that the main question was difficult and 16 students mentioned being shocked by the video material.

Result of survey

The students’ evaluation of the “importance of the class” increased overall after 3 years. The difference between recent and reflective evaluation (cognitive change) was statistically significant [$P < 0.05$, Table 1].

Relationship between the contents of the initial report and cognitive change in evaluation

Significant cognitive changes were found in students who had concluded in the initial report that the patient’s autonomy was “violated” [$P < 0.05$, Table 1]. Students who did not initially have a positive evaluation of the class, those who did not focus on the difficulty of the main question and those who did not report being shocked by the video material also showed significant cognitive changes on the statistical analysis [$P < 0.05$, Table 2].

DISCUSSIONS

This medical ethics class was conducted as PBL in which the initial problem was presented, and then students discussed the problem in small groups. However, unlike the more familiar style of PBL, the small group discussions were not held in individual rooms assigned to each group but in a large hall shared by all groups in this class. There were three tutors circulating among the eight groups to facilitate students’ discussions. Namely, the setting of the class was modified

Table 1: Change of student's evaluation of "importance of class" and contents of their initial report essay section, *n* (%)

Report Survey		Total*	Conclusion of essay section		
Occation of evaluation	Student's evaluation		Dax's autonomy was violated*	Dax's autonomy was not violated	Neither
At time of class (Reflective evaluation)	Very important	16 (26)	7 (25)	8 (28)	1 (20)
	Important	35 (56)	16 (57)	15 (52)	4 (80)
	Little important	9 (15)	4 (14)	5 (17)	0 (0)
	Not important at all	2 (3)	1 (4)	1 (3)	0 (0)
Three years later (Recent evaluation)	Very important	23 (37)	12 (43)	10 (34)	1 (20)
	Important	32 (52)	13 (46)	16 (55)	3 (60)
	Little important	6 (10)	2 (7)	3 (10)	1 (20)
	Not important at all	1 (2)	1 (4)	0 (0)	0 (0)
Total		62 (100)	28 (100)	29 (100)	5 (100)

* : Difference of evaluation between "At time of class" and "Three years later" was statistically significant by Wilcoxon Signed-rank Test ($P < 0.05$)

Table 2: Change of student's evaluation of "importance of class" and contents of their initial report impression section, *n* (%)

Report Survey		Total*	Positive evaluation of the class		Difficulty of the main question		Shocked by video contents	
Occation of evaluation	Student's evaluation		Described	Not described*	Described	Not described*	Described	Not described*
At time of class (Reflective evaluation)	Very important	16 (26)	12 (27)	4 (22)	3 (13)	13 (33)	4 (25)	12 (26)
	Important	35 (56)	25 (57)	10 (56)	15 (65)	20 (51)	9 (56)	26 (57)
	Little important	9 (15)	5 (11)	4 (22)	3 (13)	6 (15)	3 (19)	6 (13)
	Not important at all	2 (3)	2 (5)	0 (0)	2 (9)	0 (0)	0 (0)	2 (4)
Three years later (Recent evaluation)	Very important	23 (37)	17 (39)	6 (33)	5 (22)	18 (46)	6 (38)	17 (37)
	Important	32 (52)	22 (50)	10 (56)	15 (65)	17 (44)	8 (50)	24 (52)
	Little important	6 (10)	4 (9)	2 (11)	2 (9)	4 (10)	2 (13)	4 (9)
	Not important at all	1 (2)	1 (2)	0 (0)	1 (4)	0 (0)	0 (0)	1 (2)
Total		62 (100)	44 (100)	18 (100)	23 (100)	39 (100)	16 (100)	46 (100)

* : Difference of evaluation between "At time of class" and "Three years later" was statistically significant by Wilcoxon Signed-rank Test ($P < 0.05$)

to reduce the cost of resources compared to that required for conventional PBL.

The trigger video, "Dax's case" is a documentary movie made in 1984, which raises issues related to the right to death with dignity. These issues remain highly controversial in the 21st century. For example, in recent years, an opinion piece written by Brittany Maynard, "My right to death with dignity at 29" was posted as a column on CNN.com and resulted in thousands of comments from readers.^[18] In addition to the controversial nature of the topic, the video "Dax's case" contains vivid visual images of the treatment of Dax's burn injuries. Such graphic detail has been said to increase the sense of reality among viewers and functions as an effective trigger to promote students' active learning.^[19-21] In the present study, 16 students commented that they were shocked by the movie. Therefore, the video material not only worked as a trigger but also would be perceived as rigor by students, forcing them to confront the mental burden.

In the survey responses 3 years later, the students as a whole had raised their evaluations of the class. Focusing on the relationship between the impressions described in the initial reports and the cognitive changes shown on the survey, students who had not written positive comments about the

class in the initial report showed a significant increase in their evaluations 3 years later, whereas those who had made positive comments initially did not show a significant change. That is, the overall rise in evaluations depended not on changes in the students who had praised the class at the time, but on those who had initially been negative. In the essay section of the initial reports, students who concluded that "Dax's autonomy was violated" significantly raised their evaluations 3 years later, but the other students did not. The perspective of those who considered the patient "violated" is seemingly more empathetic toward Dax, but acceptance of Dax's desire for death is a contradiction to the ethical code of medical care providers. Consequently, being empathetic toward Dax and simultaneously being a medical care provider could induce an ethical dilemma. That is, students who concluded that the patient was "violated" and experienced a medical ethics dilemma in the class subsequently raised their evaluation of the class 3 years later. Seeking answers to an ethical dilemma is a challenging task and might be rigor for the students. Therefore, the stress of such a task could negatively affect student evaluations. Despite such rigor characteristics of the task, students' subsequent evaluations showed an overall rise in the present study. Experiencing ethical dilemma is an essential process for the professional development.^[17] There

is a possibility that years later, students would recognize that their experience of considering an ethical dilemma was more meaningful than they had thought at the time of the class. Such improvement of reflection capacity has been reported to grow with professional experience.^[15-17] In the present study, clinical training, which was conducted just before the survey, would have been one of the sources of such experience. On the other hand, students who did not indicate any difficulty with the main question and did not mention being shocked by the video material significantly raised their evaluation of the class after 3 years, whereas those who described their difficulty or their shock did not raise their evaluation. Students who pointed out the difficulty or felt shock at the graphic images were conscious of rigor at the time of the class. Being conscious of rigor may inhibit a rise in the evaluation even 3 years later.

CONCLUSION

The results of the present study confirmed our hypothesis that student evaluations of a class might rise after additional years of learning experience in the dental school. Because student evaluations of a class are affected by the reflection capacity of students in the process of developing, students' learning stage should be considered when student evaluations are used for the faculty development.

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Conflicts of interest

There are no conflicts of interest.

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