Effects of constructivist teaching methods on bioethics education for nursing students: A quasi-experimental study

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SUMMARY

Background: In order to help nurses advocate for the patient’s human rights and ensure respect for life in clinical situations, it is of utmost importance to improve nursing students’ capacity to make ethical decisions.

Objectives: This study compares the effects of two constructivist teaching strategies (action learning and cross-examination debate) on nursing students’ recognition of bioethical issues, experience of bioethical issues, and attainment of ethical competence.

Design: This study used a quasi-experimental (two-group pretest–posttest) design.

Setting: A nursing college in South Korea.

Participants: A total of 93 Korean nursing students participated in the study (46 in the action learning group and 47 in the cross-examination debate group).

Methods: Participants took a bioethics class employing one or the other of the strategies mentioned, 2 h a week for 15 weeks. All participants responded twice to a set of questionnaires, at the beginning of the first session and at the end of the last session.

Results: After their bioethics education, the students’ recognition of bioethical issues improved for both classes; however, the knowledge of students who had participated in action learning improved more than that of the students in the debate-based class. Students in both groups reported more experience of bioethics and exposure to better-quality instruction in bioethics after their classes than previously. Students in both groups also reported improved ethical competency after this education.

Conclusion: Positive effects of action learning and cross-examination debate implemented as teaching strategies on nursing students’ understanding of bioethical issues and their ethical competency were identified; these findings will be important in the essential task of teaching bioethics to nursing students in order to foster more ethical decision-making and other ethical behavior.

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Introduction

Advances in medical technology and biotechnology have led to the emergence of complex new bioethical issues globally. It will be increasingly important for nursing students as well as practicing nurses to have the capacity to make ethical decisions and the ability to focus on the ethical dimension of care (Goethals et al., 2010) in order to advocate for the patient’s human rights and ensure respect for life in clinical situations. Bioethical issues commonly experienced by nursing students include seeing nurses and doctors violating patients’ autonomy (e.g., the patient’s right to know), privacy, and confidentiality; refusal by patients’ significant persons to allow the patient to receive treatment, and a hospital atmosphere that gives preferential treatment to VIP patients (Solum et al., 2012). In these situations, nursing students have often experienced ethical dilemmas (Hamric, 2010; Pauly et al., 2009; Solum et al., 2012). If they do not have a rational and effective way of dealing with their ethical concerns, they will experience frustration and ethical distress, which may lead to low job satisfaction (Cavaliere et al., 2010; Corley et al., 2005; Gutierrez, 2005).

In order to improve nursing students’ ability to deal with ethical issues, it is necessary to foster their professional ethical competency, along with their own personal morals, within the nursing curriculum (Fry, 2004; Lin et al., 2010). Ethics education has a positive influence on students’ ability to make decisions about ethical issues (Hosmer, 1998; Pinch & Graves, 2000) and to adopt ethical behaviors (Callister et al., 2009; Grady et al., 2008). The effects of bioethics education depend on the teaching strategies used to implement it: the most effective teaching method for bioethics education is known as student-centered group discussion (as opposed to teacher-centered lecture; Park et al., 2012; Smith et al., 2004).
In the South Korean context, until recently, bioethics has been considered a subcategory of general nursing ethics, and most teaching methods have been teacher-centered and lecture-based. As the education paradigm shifts from teacher-to-student-centered, new teaching strategies for bioethics education in nursing are emerging from the perspective of constructivism. Constructivism is currently the dominant educational theory emphasizing student-centered learning; its fundamental assumptions are that there are various ways of conceptualizing knowledge and that knowledge comes from one's personal interpretation of one's interactions with the world (Kala et al., 2010). Under a constructivist perspective, each student builds his or her own body of knowledge based on individual experience.

Action learning and problem-based learning are examples of constructivist teaching and learning methods. Both these approaches help students find the most optimal solution for a problem through activities in small groups of five or six persons. The difference between action learning and problem-based learning lies in the type of case scenario adopted. In action learning, students solve real problems from real situations, while in problem-based learning, they solve artificial, model problems developed by the teacher.

Recently, debate-based learning has risen in prominence as a teaching method in bioethics education (Lee, 2009). Specifically, cross-examination debate (CED) has been suggested (by the Cross-Examination Debate Association, CEDA) to be suitable for bioethics education, since this debate-based teaching method enables students to engage actively in class, improving their moral awareness through self-directed learning (Jung et al., 2012; Lee, 2009).

Various student-centered teaching strategies, including action learning, problem-based learning, and debate-based learning, have been implemented in ethics education (Evanoff, 2004; Jung et al., 2012; Lin et al., 2010). However, studies to explore the effects of these teaching strategies in this context have been few. Although we have identified one study examining the effects of problem-based learning on bioethics education (Lin et al., 2010), it is difficult to find studies exploring the effects of action learning or debate-based learning.

Therefore, the present study was conducted to compare the effects of action learning and cross-examination debate on bioethics education for nursing students, specifically on their recognition of bioethical issues, experience of bioethics, and ethical competence in making practical ethical decisions. The results of this study should thereby enable nursing educators and researchers to better consider which education strategies will be most effective in bioethics education for nursing students.

Method

Research Design

This study used a quasi-experimental (two-group pretest–posttest) design to compare the effects of action learning and cross-examination debate as teaching strategies in nursing bioethics education.

Participants

The participants were 93 undergraduate students attending a nursing college located in South Korea. Of the students, 83 (89.2%) were freshmen, 9 (8.6%) were sophomores, and 2 (2.2%) were juniors. Institutional Review Board approval was obtained from the Kunsan National University Human Subjects Committee. The purpose and procedures of the study were explained to the participants before the study took place, and signed consent forms were retained.

Instruments

Recognition of Bioethical Issues Questionnaire

To study the recognition of bioethical issues, we used a set of questionnaires developed by Choe et al. (2013b). The assessment consisted of two parts: (a) self-rating of knowledge of bioethics and (b) seriousness of bioethical issues. First, knowledge of bioethics was assessed on a one-item, four-point Likert-type scale (‘do not know at all’ to ‘know very well’). Next, to assess students’ perspectives on the seriousness of bioethical issues, two questionnaires were used: (a) one-item, four-point Likert-type questionnaire on general recognition of the seriousness of bioethical issues (“not serious at all” to “very serious”; and (b) a 17-item questionnaire on the recognition of specific bioethical issues. Regarding the reliability of the 17-item scale, in a previous study (Choe et al., 2013b), Cronbach’s α for nursing students was .86 and that for nursing faculty was .91. In this study, for the reliability of the 17-item scale, Cronbach’s α was .84.

Bioethics Education Questionnaires

The Experience of Bioethics Education, Need of Bioethics Education, and Quality of Bioethics Education tools developed by Choe et al. (2013a) were used. These three scales have 24 items each, corresponding to 24 key topics in bioethics education (Choe et al., 2013a). For the 24 topics of bioethics, each questionnaire asked the quality, quantity, and need of bioethics education.

The Experience of Bioethics Education questionnaire assesses the extent to which the respondent has been educated in bioethics; Need for Bioethics Education examines the student’s need for bioethics education; and Quality of Bioethics Education measures the adequacy of the bioethics education the student has already received. Each item was rated on a five-point Likert-type scale (“not at all” or “disagree greatly” to “extremely” or “agree greatly.”) across 24 items, yielding a score ranging from 24 to 120. Regarding the reliability of the three scales, a previous study (Choe et al., 2013a) showed the same Cronbach’s score (α = .96) for Experience of Bioethics Education in both nursing students and faculty; for Quality of Bioethics Education, Cronbach’s α in students was .99 and that in faculty was .94, and for Need of Bioethics Education, Cronbach’s α in students was .96 and that in faculty was .95. In the present study, the same Cronbach’s score was achieved (that is, α = .95).

Finally, participants were asked to rank by priority what in their opinion needs to be changed most urgently to improve the quality of bioethics education in the nursing curriculum, from the following list: (1) improvement of the competence and qualifications of educators, (2) development of better textbooks, (3) improvement of teaching strategies, (4) implementation of a compulsory course in bioethics in the nursing curriculum, (5) character education for nursing students, (6) the emergence of a broad social consensus on bioethics, or (7) the adoption of an interdisciplinary approach. To rate these priorities statistically, the first priority was given a score of 7, and the least priority was given a score of 1, yielding a score ranging from 1 to 7. On this basis, the mean score of each item was calculated and compared.

Ethical Competence Questionnaire

To assess the ethical competence of nursing students, we used a questionnaire developed by Choe et al. (2013b) containing five themes related to ethical competence—respect for others, respect for self, ethical emotions, ethical knowledge, and ethical behavior. This questionnaire consisted of two parts: (1) rating the five ethical competencies by general priority, and (2) self-rating of the student’s own ethical competencies. For the priority rating, a score of 5 was given to the first priority and a score of 1 to the last priority, and mean scores were calculated for each ethical competence. For the self-rating, a five-point Likert-type scale (“not at all enough” to “definitely enough”) with a range of 5 to 25, was used, and its Cronbach’s α was .69 in this study.

Data Collection

Data were collected during the fall semester of 2011. Any nursing students attending nursing bioethics courses (all elective) were eligible. No specific exclusion criteria were identified. Without being given any information about teaching strategies for nursing bioethics, students
were asked to select one of two classes on nursing bioethics. In the first session, the students were given information on the teaching strategy (AL or CED, depending on the class), that would be implemented in that class \( n = 46 \) \([\text{AL}], 47 \) \([\text{CED}]\), 2 h a week for the 15 weeks of the course. All participants responded to the set of questionnaires twice: at the beginning of the first class session and at the end of the last class session.

The Implementation of the Action Learning Method

In the action learning (AL) class, groups consisted of five to six students; each group visited a clinical practice site, such as an intensive care unit, VIP patient ward, medical and surgical department, emergency room, psychiatry department, or eldercare hospital. At these sites, students met with nurses and listened to their descriptions of cases involving ethical issues that they had experienced. Then, each group selected two to four cases and attempted to come up with solutions autonomously by researching relevant data, gathering information, and engaging in several group discussions.

The following ethical issues were discussed in the AL class: terminal cancer patients’ requests for confidentiality surrounding their decision to discontinue care; physicians’ truthfulness regarding errors; patient refusal of mechanical ventilation; the human rights of psychiatric patients and the use of restraints; forced treatment of psychiatric patients refusing care; DNR (do-not-resuscitate) orders and related issues; patient refusal of examination or treatment in emergency situations; conflicting patient and caregiver opinions related to care; privacy of elderly patients and situations where caregiver opinion is considered to supersede that of the elderly patient; conflict between doctors’ and nurses’ opinions; and situations where infection control is inadequate.

The Implementation of the Cross-Examination Debate Method

In the cross-examination debate (CED) class, students preparing for a debate were asked to prepare arguments for both sides (for and against a given topic). On the day of the debate, they drew lots to decide who would be on which side. Each team had four members and took one of the two sides. The debate topics were selected from a comprehensive review of the literature about bioethical issues (Table 1), and the format of the debate is presented in Table 2.

Data Analysis

SPSS version 19.0 was used for the data analysis. Descriptive statistics were calculated to summarize the sample characteristics and the subjects’ answers. One-way ANOVA and \( t \)-test were conducted to explore demographic differences in education experience, quality, and need. To assess mean differences between pre- and post-education scores for each class and between AL and CED classes, we used a paired \( t \)-test. For all analyses, \( p < .05 \) was considered statistically significant.

Results

Sample Characteristics

A total of 93 college students participated in this study, 46 in the AL class, and 47 in the CED class. Average age was 19.32 ± 2.0 years, and there were no significant differences between learning groups in gender, grade, age, or pre-test study variables (Table 3).

Recognition of Bioethical Issues

Both groups were found to have increased overall knowledge of bioethics after taking their respective classes \((t = -6.448, p < .001\) and \( t = -3.149, p = .003\) for the AL and CED groups, respectively). The students who participated in the AL class had more knowledge about bioethics after the end of the class compared with the CED students (i.e., their knowledge had increased more), and this difference was statistically significant \((t = -3.31, p = .001\). There were no statistically significant changes in the perceived gravity of bioethical issues before and after the classes, either between or within groups, for either subscale of the seriousness of bioethical issues (Table 4).

Bioethics Education

Experience of Bioethics Education

Both groups perceived bioethics education more positively after the classes \((t = -7.88, p < .001\); \( t = -8.30, p < .001\), respectively). There were no statistically significant differences between the groups in this regard (Table 4).

Need for Bioethics Education

There was a significantly greater increase in the perception of the need for bioethics education in the AL class at posttest \((t = -2.46, p = .018\) than in the CED class \((t = .533, p = .596\). There was no statistically significant change in need in the CED class (Table 4).
Quality of Bioethics Education

At posttest, after one semester, more students in the AL class than in the CED class responded that they had received sufficient bioethics education. However, this difference was not significant (Table 4).

Areas in Need of Improvement to Better the Quality of Bioethics Education

At posttest, AL students responded that the following areas (in order of importance) most needed addressing in order to improve the quality of bioethics education: character education for nursing students, social consensus on bioethics, teaching strategies, compulsory classes in bioethics, textbook development, and competence and qualifications of educators (Table 5).

Ethical Competence

All of the students who participated in the classes showed an increase in ethical competence scores after the class compared with their baseline scores ($t = 3.95, p < .001$; $t = -2.33, p = .024$, respectively); there were no significant differences between the two groups (Table 4). When asked to rank ethical competencies in order of importance at posttest, students in the AL group responded as follows (in order): ethical behavior, respect for others, ethical knowledge, respect for self, and ethical emotions; students in the CED group, in contrast, responded as follows: respect for others, ethical behavior, respect for self, ethical knowledge, and ethical emotions. At posttest, however, the two groups’ priorities had become identical, as follows: respect for others, ethical behavior, ethical knowledge, respect for self, and ethical emotions (Table 6).

Discussion

This study has shown that students’ perception of bioethics education became more positive after their classes, across groups. This is consistent with the previous finding that students’ perception of bioethics education became more positive after discussion-based classes (Pinch & Graves, 2000). This is perhaps because it is difficult to teach modern-day ethical dilemmas, which encompass complex interests and conflicting factors, through rote memorization methods (Lee, 2009). In the present study, the 15 weeks of two-hour classes moved beyond simple lectures to allow students to proactively debate and argue over various topics related to bioethics, and the more assertive teaching strategies, compulsory classes in bioethics, textbook development, and competence and qualifications of educators (Table 5).

Table 3

<table>
<thead>
<tr>
<th>Variables</th>
<th>Categories</th>
<th>n (%)</th>
<th>AL</th>
<th>CED</th>
<th>$\chi^2$ or $t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>10 (10.8)</td>
<td>6 (13.0)</td>
<td>4 (8.5)</td>
<td>.498*</td>
<td>.523</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>83 (89.2)</td>
<td>40 (87.0)</td>
<td>43 (91.5)</td>
<td>.631</td>
<td>.508</td>
</tr>
<tr>
<td>Grade</td>
<td>Freshman</td>
<td>83 (89.2)</td>
<td>40 (87.0)</td>
<td>43 (91.5)</td>
<td>.4098</td>
<td>.129</td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
<td>9 (8.6)</td>
<td>6 (13.0)</td>
<td>2 (4.3)</td>
<td>.846</td>
<td>.401</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>2 (2.2)</td>
<td>0</td>
<td>2 (4.3)</td>
<td>.845</td>
<td>.401</td>
</tr>
<tr>
<td>Age (in years)</td>
<td></td>
<td>19.32 ± 2.0</td>
<td>19.32 ± 2.0</td>
<td>19.32 ± 2.0</td>
<td>.846</td>
<td>.401</td>
</tr>
<tr>
<td>General knowledge of bioethics</td>
<td></td>
<td>2.70 ± 0.55</td>
<td>2.87 ± 0.40</td>
<td>2.87 ± 0.40</td>
<td>1.756</td>
<td>.081</td>
</tr>
<tr>
<td>General perception of seriousness of bioethics</td>
<td></td>
<td>2.83 ± 0.44</td>
<td>2.94 ± 0.32</td>
<td>2.94 ± 0.32</td>
<td>1.378</td>
<td>.172</td>
</tr>
<tr>
<td>Seriousness of bioethical issues</td>
<td></td>
<td>60.08 ± 4.67</td>
<td>61.19 ± 6.13</td>
<td>61.19 ± 6.13</td>
<td>.975</td>
<td>.332</td>
</tr>
<tr>
<td>Experience of bioethics education</td>
<td></td>
<td>65.08 ± 14.23</td>
<td>63.91 ± 13.49</td>
<td>63.91 ± 13.49</td>
<td>1.06 ± 13.54</td>
<td>.322</td>
</tr>
<tr>
<td>Need of bioethics education</td>
<td></td>
<td>96.78 ± 10.81</td>
<td>95.38 ± 9.99</td>
<td>95.38 ± 9.99</td>
<td>.548</td>
<td>.518</td>
</tr>
<tr>
<td>Ethical competence</td>
<td></td>
<td>16.28 ± 2.54</td>
<td>16.17 ± 2.45</td>
<td>16.17 ± 2.45</td>
<td>.217</td>
<td>.829</td>
</tr>
</tbody>
</table>

Table 4

Difference between pre- and posttest in bioethics education.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group</th>
<th>Pretest M ± SD</th>
<th>Posttest M ± SD</th>
<th>Paired $t$ or $t$</th>
<th>$p$</th>
<th>Mean difference M ± SD</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>General knowledge of bioethics</td>
<td>AL</td>
<td>2.70 ± 0.55</td>
<td>3.28 ± 0.46</td>
<td>-6.448</td>
<td>&lt;.001</td>
<td>0.59 ± 0.62</td>
<td>-3.31</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>CED</td>
<td>2.87 ± 0.40</td>
<td>3.09 ± 0.46</td>
<td>-3.149</td>
<td>.003</td>
<td>0.21 ± 0.46</td>
<td>-1.378</td>
<td>.172</td>
</tr>
<tr>
<td>General perception of seriousness of bioethics</td>
<td>AL</td>
<td>2.83 ± 0.44</td>
<td>2.96 ± 0.42</td>
<td>-1.722</td>
<td>.083</td>
<td>0.13 ± 0.71</td>
<td>-1.30</td>
<td>.196</td>
</tr>
<tr>
<td></td>
<td>CED</td>
<td>2.94 ± 0.32</td>
<td>2.94 ± 0.44</td>
<td>0.00</td>
<td>1.000</td>
<td>0.00 ± 0.47</td>
<td>1.06 ± 13.54</td>
<td>.332</td>
</tr>
<tr>
<td>Seriousness of bioethical issues</td>
<td>AL</td>
<td>60.08 ± 4.67</td>
<td>61.61 ± 6.62</td>
<td>-1.674</td>
<td>.101</td>
<td>1.54 ± 6.12</td>
<td>-446</td>
<td>.657</td>
</tr>
<tr>
<td></td>
<td>CED</td>
<td>61.19 ± 6.13</td>
<td>62.33 ± 7.03</td>
<td>-0.688</td>
<td>.508</td>
<td>0.844 ± 8.48</td>
<td>.001</td>
<td>.938</td>
</tr>
<tr>
<td>Experience of bioethics education</td>
<td>AL</td>
<td>65.08 ± 14.23</td>
<td>83.74 ± 14.70</td>
<td>-7.879</td>
<td>&lt;.001</td>
<td>19.58 ± 16.29</td>
<td>16.60 ± 13.56</td>
<td>.351</td>
</tr>
<tr>
<td></td>
<td>CED</td>
<td>63.91 ± 13.49</td>
<td>80.15 ± 11.32</td>
<td>-8.302</td>
<td>&lt;.001</td>
<td>16.60 ± 13.56</td>
<td>16.60 ± 13.56</td>
<td>.351</td>
</tr>
<tr>
<td>Need of bioethics education</td>
<td>AL</td>
<td>96.78 ± 10.81</td>
<td>100.40 ± 11.45</td>
<td>-2.457</td>
<td>.018</td>
<td>3.36 ± 9.08</td>
<td>-1.829</td>
<td>.071</td>
</tr>
<tr>
<td></td>
<td>CED</td>
<td>95.38 ± 9.99</td>
<td>94.32 ± 11.96</td>
<td>0.533</td>
<td>.596</td>
<td>1.06 ± 13.54</td>
<td>.001</td>
<td>.938</td>
</tr>
<tr>
<td>Quality of bioethics education</td>
<td>AL</td>
<td>76.11 ± 14.09</td>
<td>1.977</td>
<td>1.977</td>
<td>1.051</td>
<td>0.93 ± 2.75</td>
<td>.001</td>
<td>.938</td>
</tr>
<tr>
<td></td>
<td>CED</td>
<td>70.28 ± 13.88</td>
<td>1.977</td>
<td>1.977</td>
<td>1.051</td>
<td>0.93 ± 2.75</td>
<td>.001</td>
<td>.938</td>
</tr>
<tr>
<td>Ethical competence</td>
<td>AL</td>
<td>16.28 ± 2.54</td>
<td>17.54 ± 2.67</td>
<td>-3.95</td>
<td>&lt;.001</td>
<td>1.26 ± 2.16</td>
<td>-0.631</td>
<td>.529</td>
</tr>
<tr>
<td></td>
<td>CED</td>
<td>16.17 ± 2.45</td>
<td>17.01 ± 2.42</td>
<td>-2.331</td>
<td>.024</td>
<td>0.93 ± 2.75</td>
<td>.001</td>
<td>.938</td>
</tr>
</tbody>
</table>

Table 5

Areas in need of improvement to better the quality of bioethics education.

<table>
<thead>
<tr>
<th></th>
<th>Action learning (AL)</th>
<th>Cross-examination debate (CED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (M ± SD)</td>
<td>Ranking</td>
<td>Mean (M ± SD)</td>
</tr>
<tr>
<td>Competence and qualifications of educators</td>
<td>2.11 (±1.30)</td>
<td>7 (2.47 ± 1.35)</td>
</tr>
<tr>
<td>Textbook development</td>
<td>3.48 (±1.77)</td>
<td>6 (3.15 ± 1.82)</td>
</tr>
<tr>
<td>Teaching strategies</td>
<td>3.98 (±1.81)</td>
<td>3 (3.83 ± 1.67)</td>
</tr>
<tr>
<td>Compulsory classes in bioethics</td>
<td>3.80 (±2.10)</td>
<td>4 (3.32 ± 1.99)</td>
</tr>
<tr>
<td>Character education for nursing students</td>
<td>5.63 (±1.60)</td>
<td>1 (5.45 ± 1.47)</td>
</tr>
<tr>
<td>Social consensus on bioethics</td>
<td>5.35 (±1.50)</td>
<td>2 (5.66 ± 1.63)</td>
</tr>
<tr>
<td>Interdisciplinary approach</td>
<td>3.67 (±1.61)</td>
<td>5 (4.13 ± 1.81)</td>
</tr>
</tbody>
</table>
the students’ participation in class, the more exposure they gained to these ethical issues. We believe that this is why participants’ perceptions of bioethics became more positive after the classes. Even students who do not directly encounter or need to negotiate bioethical issues can gain relevant experience in bioethics by engaging in active discussion on such issues. This supports previous findings indicating that bioethics education should be expanded and consistently enacted as part of nursing education (Solum et al., 2012; Woods, 2005).

The action learning (AL) method was more effective in increasing students’ knowledge of bioethics education than cross-examination debate (CED). However, there was no statistical difference between the two methods in terms of how much they improved students’ recognition of the importance of bioethics; thus, it cannot be concluded which method was more effective in this regard, and it can be said that both are desirable in terms of their effects on perceptions of bioethics education.

The perceived need for bioethics education at posttest was high only in students who had completed the class using the AL method, which required each five-member team to research the ethics topic given to them, brainstorm solutions, and present their ideas to the rest of the class. In other words, not all groups studied all topics deeply; some just listened to others’ topics without engaging with them in a sustained way. Students in the CED class, on the other hand, had to listen to debates on all of the topics and objectively evaluate the two sides of the debate after each class, even for topics they had not prepared. In other words, the CED class promoted active participation in each debate, as students had to pay close attention and evaluate the respective arguments. Reflecting these differences, it can be said that the CED students were more able to satisfy their need for education compared with the AL students, and therefore that CED is the most desirable bioethics teaching method for the cultivation of ethicality (Lee, 2009).

We also investigated which areas most urgently need to be addressed in order to improve the quality of bioethics education. In the AL group, the need for character development was perceived to be the most urgent, followed by the need for a social consensus on bioethics. In the CED group, in contrast, the need for a social consensus on bioethics was most urgent, followed by the need for character development. The least urgent area for improvement according to both groups was the competence and qualifications of instructors. Furthermore, the survey of respondents’ ethical qualifications showed that in both groups, respect for others was considered most important, followed by ethical behavior. Ultimately, the character of student learners is the most important factor in improving the quality of bioethics education, and it is important to develop a positive ethical climate so that students can better engage in ethical behavior (Pauly et al., 2009). It is also important for nursing education to help students self-assess their attitudes and beliefs in order to help them develop a strong “ethical manner” to protect patients’ rights in clinical situations (Reif et al., 2009).

There are some limitations to the present study that should be addressed. This study was conducted among students from only one nursing department in only one region of South Korea, without a control group, so caution should be taken in generalizing these findings to other groups or regions. In a previous study examining the differences between freshmen and senior nursing students who had received bioethics education, the senior group was found to have achieved higher ethical development as a result of the difference in professional (nursing) experience between the groups, rather than as a result of education methods (Park et al., 2012). Since the present study did not control for year- or experience-related variables, a future study should investigate whether such a difference according to student year exists in a similar context to the present study.

Conclusion

In order to help nurses appropriately manage and resolve ethical dilemmas and conflicts in clinical practice, it is of utmost importance to improve the bioethics education they receive while they are still nursing students. Bioethics education increases students’ awareness of ethical controversies and dilemmas and fosters good ethical decision making. Since there is currently little nursing research on bioethics education, the current study has fruitful implications. Both the AL and CED learning methods showed the potential to enhance (future) nurses’ adaptability in clinical practice by increasing nursing students’ exposure to ethical issues and dilemmas of various kinds. The CED method enables active interaction among learners and has been shown to be an effective education method for this kind of “future-centric” ethics education. However, further research and discussion is needed to more definitively determine which of the method—AL or CED—is more appropriate for bioethics education among nursing students. Future studies should be conducted among nursing students from various years attending a variety of colleges in different regions and countries to see how the results compare with those of the present study. Research should also be conducted to identify the factors that can positively and negatively influence nursing students’ bioethics awareness and determine what efforts can be made towards improving this awareness.

Conflicts of Interest

No conflict of interest has been declared by the authors.

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References


Table 6

<table>
<thead>
<tr>
<th>Ethical competence</th>
<th>AL (pre)</th>
<th>AL (post)</th>
<th>CED (pre)</th>
<th>CED (post)</th>
</tr>
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<tbody>
<tr>
<td>M ± SD Ranking</td>
<td>M ± SD Ranking</td>
<td>M ± SD Ranking</td>
<td>M ± SD Ranking</td>
<td>M ± SD Ranking</td>
</tr>
<tr>
<td>Respect for others</td>
<td>3.62 ± 1.32</td>
<td>2</td>
<td>3.76 ± 1.30</td>
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<tr>
<td>Respect for self</td>
<td>2.65 ± 1.30</td>
<td>4</td>
<td>2.67 ± 1.51</td>
<td>4</td>
</tr>
<tr>
<td>Ethical emotions</td>
<td>2.06 ± 1.23</td>
<td>5</td>
<td>2.41 ± 1.15</td>
<td>3</td>
</tr>
<tr>
<td>Ethical knowledge</td>
<td>2.98 ± 1.37</td>
<td>3</td>
<td>2.93 ± 1.44</td>
<td>3</td>
</tr>
<tr>
<td>Ethical behavior</td>
<td>3.69 ± 1.23</td>
<td>1</td>
<td>3.22 ± 1.33</td>
<td>2</td>
</tr>
</tbody>
</table>


Woods, M., 2005. Nursing ethics education: are we really delivering the good(s)? Nurs. Ethics 12 (1), 5–18.