

International Development Cooperation Program Effects for Undergraduate Students

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Abstract

Purpose: This study analyzed the effects of a course on understanding international development cooperation in regards to critical thinking disposition and global leadership ability. **Methods:** A pre- and post-test design with a matched control group was used with a random sample. To measure critical thinking disposition and global leadership ability, an instrument developed by Yoon (2011) and Nam (2011) was used. The experimental group attended lectures on international development cooperation topics for 14 weeks. **Results:** There were 156 participants: 58 females (37.2%) and 18 males (11.5%) in the experimental group, and 49 females (31.4%) and 31 males (19.9%) in the control group. There were no significant differences between the two groups on in critical thinking disposition and global leadership ability. Global leadership ability ($t=-3.414$, $p<0.01$) and critical thinking disposition ($t=-2.038$, $p<0.05$) increased significantly for the experimental group. Moreover, global leadership ability in the experimental group demonstrated significant differences for females ($p<0.05$) and nursing major students ($p<0.01$). **Conclusion:** Further studies on critical thinking disposition and global leadership ability are required and more advanced educational programs for undergraduate students should be considered to increase global leadership ability.

Keywords: education, global leadership, critical thinking, effects

1. Introduction

1.1 The Necessity of the Research

Korea has received assistance from other developed countries to drive economic development plans since the Korean War in 1950. In December 1996, Korea became a member of the Organization for Economic Cooperation and Development (OECD) and allocated 0.7% of its national income, an amount of official development assistance recommended by the United Nations (UN). The UN has members of the Development Assistance Committee put forward a comparatively excessive amount of assistance in order to reach their Millennium Development Goals for human rights and ending poverty (United Nations Development Program, 2012). However, even though Korea has increased the amount from 0.09% of the national income in 2008 to 0.14% in 2014, it still ranks at the bottom of the Development Assistance Committee. Moreover, there are plans to keep increasing the government-wide official development assistance at the national level to reach the UN's target amount (Choi, 2013). Education performance is being emphasized for global health and the nursing work force in each specialization and is included in the curriculum for nursing accreditation certification. This competence is required by health and nursing undergraduates and should be included from the beginning of their educational programs and linked to international development cooperation, since graduates, as global citizens, will be required to have a background in multicultural and various societal structures that they will be encountering domestically and internationally in the workplace, along with the competence to carry out medical treatments according to global standards (Wilson et al., 2013; Bradbury-Jones, 2009; Callan & Lee, 2009; Riner, 2011). To provide systematic education for international development cooperation and global health standards at the university level, additional expenses are required for programs such as external internships.

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Hence, few institutions in Korea provide such programs (Kim & Lee, 2007; Kim, 2009; Kang & Kim, 2014). However, considering that the health care field takes a relatively large proportion of the official Korean development assistance, the development and application of education focused domestically and overseas are required to promote the global competence of health and nursing students (International Council of Nurses, 2008; Brown, Cueto, & Fee, 2006; Lee, 2012). Since 2009, the Korea International Cooperation Agency (KOICA) has been selecting 30 universities each year to provide state subsidy for global competence development issues to allow undergraduate students to be engaged in international development cooperation and link it to their major fields. An analysis of the trend of research results regarding the effects of global competence programs for undergraduate students showed that there has been significant positive changes in students' cultural attitudes (Jones, Neubrandner, & Huff, 2012; Harrowing, Gregory, Sullivan, & Doolittle, 2012), increases in cultural sensitivity (Ruddock & Turner, 2007; Giger et al., 2007; Long, 2014; Wood & Atkins, 2006), and considerable personal and professional growth (Wros & Archer, 2010). However, there has been a dearth of domestic research on global health abilities (Kang & Piao, 2014) and it is difficult to find research evaluating the critical thinking disposition for solving health problems in developing countries and the global leadership ability of students with and without access to courses on understanding international development cooperation (Facione, Facione, & Sanchez, 1994). Thus, this study aims to verify the effects of a course on understanding global health competence related to international development cooperation for health and nursing undergraduate students. The results of this study can be used as a foundation for developing various in-depth educational programs to allow students in the healthcare field to fully exhibit their competence in international development cooperation.

1.2 Research Goals

This study aims to verify the effects of an education program for understanding international development cooperation on the critical thinking disposition and global leadership ability of students, compared with students who did not participate in the program.

1.3 Research Hypotheses

Hypothesis 1. The group who has taken the course on understanding international development cooperation will have a higher critical thinking score than the group who has not.

Hypothesis 2. The group who has taken the course on understanding international development cooperation will have a higher global leadership ability score than the group who has not.

Hypothesis 3. There will be a difference in critical thinking disposition and global leadership ability according to general characteristics, even within the group who has taken the course on understanding international development cooperation.

2. Research Methodology

2.1 Research Design

This study implemented a pre- and post-test experimental design with matched groups to verify the differences in critical thinking disposition and global leadership ability between the experimental group who participated in the course on understanding international development cooperation for health and nursing undergraduates and the control group who did not participate (Table 1).

Table 1: Research Design

| Variable | Pre-test | Treatment | Post-test |
|--------------------|----------|-----------|-----------|
| Experimental Group | C1, G1 | X | C2, G2 |
| Control Group | C1, G1 | | C2, G2 |

C1, C2: Critical Thinking Disposition

G1, G2: Global Leadership Ability

X: Course on Introduction to International Development Cooperation for one semester

2.2 Research Subjects and Data Collection Methodology

This study used convenience sampling of students who took the course on understanding international development cooperation as the experimental group and students who did not take the course as the control group.

Both the experimental and control groups were informed regarding the research purposes and procedures and provided written consent to participate in the study. In addition, the researcher provided an overview introduction to the experimental group on the first day of the course. The data collection period was from March 10–14, 2014 and June 9–13, 2014.

2.3 Research Procedures

2.3.1 Research Assistant Training, Education Content, and Environment

To select the control group, a survey of teaching assistants was conducted along with an explanation of the research purposes, survey period, and collection procedure at the beginning of the semester so that the major, year, and sex ratios of the students in the control group would be identical to those of the experimental group. The content of the program on understanding international development cooperation included topics from the mandatory special lectures designated by the KOICA, and the educational content was evaluated by the KOICA operation committee of the university as appropriate for the educational purposes. The program was conducted in an emergency medicine education hall separated from the regular university lecture rooms.

2.3.2 Preliminary Investigation

On the first day of classes in the first semester of 2014, the research administrator explained to the students the reasons the course on understanding international development cooperation was created and the purpose of the survey. Then a preliminary investigation of general characteristics, critical thinking disposition, and global leadership ability was conducted. The same method was used by the research assistants who were teaching assistants for students in the control group.

2.3.3 Research Conditions

The experimental group took a course on the “understanding of international development cooperation” over 15 weeks from March 7–June 13, 2014. The education program included 2 hours of special lectures and discussion each week and the control group students were not given a chance to participate in or audit the course.

2.3.4 Post Investigation

On the last day of first semester classes, data were collected using the same procedure and survey as in the preliminary investigation.

2.4 Research Tools

2.4.1 Critical Thinking Disposition

An assessment tool developed by Yoon (2004), comprising 27 questions using a 5-point Likert-type scale, was administered to nursing students to evaluate their critical thinking disposition. The 27 questions encompassed seven domains: healthy skepticism (4 questions), intellectual fairness (4 questions), objectivity (3 questions), systemicity (3 questions), prudence (4 questions), intellectual eagerness/curiosity (5 questions), and self-confidence (4 questions). This study only investigated the differences in the total scores, with higher scores signifying higher critical thinking dispositions. The reliability of the assessment tool at the time of development was indicated by a Cronbach's α of .84, which was similar in this study.

2.4.2 Global Leadership Ability

To evaluate changes in the students' global leadership, this study used an assessment tool based on Song's (2011) five required and detailed global leadership abilities, which was modified by Nam (2011), who also verified the validity for students who have taken a global leadership education program. It includes 18 questions in seven domains: global mind (3 questions), open attitude toward diversity (4 questions), global network (3 questions), performance improvement skill (3 questions), and basic attitude ability (4 questions). A 5-point Likert-type scale was used to investigate the differences between total scores and a higher score indicates higher global leadership ability. Each domain of the measure had a Cronbach's α coefficient value ranging from .70 to .83, and the Cronbach's α value for the overall measurement tool was .88.

2.5 Data Analysis Methodology

The collected data was analyzed using SPSS 20.0. The frequency and percentage of the subjects' general characteristics was determined. A Fisher's exact test was used to analyze the preliminary homogeneity. Differences in critical thinking disposition and global leadership pre- and post-test were examined using paired t-tests. Kolmogorov-Smirnov tests and t-tests were used to verify the normal distribution and preliminary homogeneity of critical thinking disposition and global leadership for the experimental and control groups. Independent t-tests were used to verify the hypotheses for the critical thinking disposition and global leadership ability of the experimental and control groups after the education program.

2.6 Limitations of the Study

This research was conducted with students in the health and nursing fields of one university, so caution should be taken in generalizing the results.

3. Research Results

3.1 Homogeneity Verification

A total of 156 subjects participated in this study: 76 (48.7%) were in the global study course and 80 (51.3%) were not, as shown in Table 4. In terms of the demographics of students who participated in the course, there were 58 females (37.2%), 18 males (11.5%); 44 students majored in nursing (27.7%), 9 in physical therapy (5.8%), 1 in radiology (0.6%), 6 in health administration (3.8%), 8 in emergency medical services (5.2%), and 8 in occupational therapy (5.8%). For those who did not take the course, there were 49 females (31.4%) and 31 males (19.9%); 50 students majored in nursing (32.3%), 12 in physical therapy (7.7%), 8 in health administration (5.2%), 2 in clinical laboratory (1.3%), and 8 in occupational therapy (5.2%). There were no significant differences between the experimental and control groups, confirming homogeneity ($p > .05$). Moreover, critical thinking disposition and global leadership ability scores for both groups showed a normal distribution, confirming homogeneity ($p > .05$).

Table 2: Homogeneity of Participants' Characteristics between the Two Groups

(N = 156)

| Variables | | Experimental group (n=76) | | Control group (n=80) | | χ^2 | p |
|-----------|-------------|---------------------------|------|----------------------|------|----------|------|
| | | Number | % | Number | % | | |
| Sex | Female | 58 | 37.2 | 49 | 31.4 | -0.74* | .435 |
| | Male | 18 | 11.5 | 31 | 19.9 | | |
| Major | Nursing | 44 | 27.7 | 50 | 32.3 | 0.21* | .813 |
| | Non-nursing | 32 | 20.6 | 30 | 19.4 | | |

*Fisher's exact test

Table 3: Homogeneity of Critical Thinking Disposition and Global Leadership on Pre-test

(N = 156)

| Variables | Experimental group (n=76) | | Control group (n=80) | | t | p |
|-------------------------------|---------------------------|----|----------------------|----|-------|------|
| | Mean | SD | Mean | SD | | |
| Critical thinking disposition | 93.9 | 15 | 94.1 | 15 | -0.51 | .503 |
| Global leadership ability | 58.9 | 10 | 57.9 | 10 | 0.53 | .591 |

Table 4: Characteristics of Participants

(N = 156)

| Variables | | Total | | Experimental group | | Control group | | χ^2 | <i>p</i> |
|-----------|----------------------------|--------|------|--------------------|------|---------------|------|----------|----------|
| | | Number | % | Number | % | Number | % | | |
| Sex | Female | 107 | 68.6 | 58 | 37.2 | 49 | 31.4 | 4.106 | 0.057 |
| | Male | 49 | 31.4 | 18 | 11.5 | 31 | 19.9 | | |
| Major | Nursing | 94 | 60.0 | 44 | 27.7 | 50 | 32.3 | 12.092 | 0.060 |
| | Physical Therapy | 21 | 13.5 | 9 | 5.8 | 12 | 7.7 | | |
| | Radiology | 1 | 0.6 | 1 | 0.6 | 0 | 0.0 | | |
| | Health Administration | 14 | 9.0 | 6 | 3.8 | 8 | 5.2 | | |
| | Emergency Medical Services | 8 | 5.2 | 8 | 5.2 | 0 | 0.0 | | |
| | Clinical Laboratory | 2 | 1.3 | 0 | 0.0 | 2 | 1.3 | | |
| | Occupational Therapy | 16 | 10.4 | 8 | 5.2 | 8 | 5.2 | | |

3.2 Testing of Hypotheses

3.2.1 First Hypothesis

For the first hypothesis, the group who has taken the course on understanding international development cooperation will have a higher critical thinking score than the group who has not taken the course, the results of the analyses showed that there was no significant difference comparing the change in the average scores of the experimental (95.9) and control (95.3) groups before and after the educational program ($t=-1.038$, $p=0.754$). Therefore, the first hypothesis was not supported.

3.2.2 Second Hypothesis

The results of testing the second hypothesis, the group who has taken the course on understanding international development cooperation will have a higher global leadership ability score than the group who has not, showed that there was no significant difference ($t=-2.914$, $p=0.718$) between the change in average scores of the experimental (61.6) and the control groups (60.9) before and after the experiment. Therefore, the second hypothesis was not supported.

3.2.3. Third Hypothesis

The results indicated that there were significant differences in the critical thinking and global leadership ability of students who took the course on global topics before and after the program (Table 5). The average score for critical thinking increased from 93.9 before the program to 94.9 after the program, which was statistically significant ($t=-2.038$, $p<0.05$). The average score for global leadership ability also increased from 58.9 before the program to 61.6 after the program, showing a statistically significant difference ($t=-3.414$, $p<0.01$).

Table 5: Comparison of Pre-and Post-tests on Critical Thinking Disposition and Global Leadership Ability

(N=76)

| Variable | Pre-test | Post-test | t | <i>p</i> |
|-------------------------------|-----------|-----------|--------|----------|
| | M±SD | M±SD | | |
| Critical Thinking Disposition | 93.9±11.5 | 95.9±12.5 | -2.038 | 0.043 |
| Global Leadership Ability | 58.9±10.0 | 61.6±9.2 | -3.414 | 0.001 |

Critical thinking and global leadership were compared based on the general characteristics of the subjects before and after the program. There were no significant differences in critical thinking before and after the program. There was a significant difference in global leadership for females ($p < 0.05$) and students in nursing ($p < 0.01$) before and after the program (Table 6). The comparisons of average scores and standard deviations in critical thinking disposition and global leadership ability before and after the program for students who participated in the course are shown in Tables 7 and 8, respectively.

Table 6: Comparison of Critical Thinking Disposition and Global Leadership Ability by General Characteristics

(N=76)

| Variables | Category | Critical Thinking | | | | Global Leadership | | | |
|-----------|----------------------------|-------------------|-------|--------|----------|-------------------|------|--------|----------|
| | | Pre | Post | t | <i>p</i> | Pre | Post | t | <i>p</i> |
| Sex | Female | 98.0 | 97.9 | 0.079 | 0.938 | 61.0 | 63.8 | -2.084 | 0.042 |
| | Male | 94.3 | 99.7 | -1.481 | 0.157 | 60.0 | 64.7 | -1.951 | 0.068 |
| Major | Nursing | 97.0 | 100.0 | -1.413 | 0.165 | 60.2 | 65.6 | -3.592 | 0.001 |
| | Physical Therapy | 94.0 | 93.4 | 0.220 | 0.832 | 58.6 | 63.0 | -1.880 | 0.097 |
| | Radiology | 81.0 | 86.0 | - | - | 57.0 | 66.0 | - | - |
| | Health Administration | 88.7 | 86.3 | 0.791 | 0.465 | 53.0 | 55.2 | -0.806 | 0.457 |
| | Emergency Medical Services | 96.1 | 100.8 | -1.127 | 0.297 | 63.4 | 64.8 | -0.475 | 0.649 |
| | Clinical Laboratory | 110.4 | 102.4 | 1.741 | 0.125 | 69.6 | 62.3 | 1.497 | 0.178 |

4. Discussion

The global leadership ability of students increased significantly after participating in the educational program on understanding international development cooperation. Of the students who participated, females and students in nursing had a significantly greater increase in global leadership ability than males or students in other health field besides nursing. However, comparisons of critical thinking disposition and global leadership ability between the experimental and control groups showed no significant differences before and after the educational program. A discussion based on the implications of these results for the future development processes of global-related programs and use of the effects follows. The experimental group in this study comprised first-year students who registered in the course on understanding international development cooperation as part of their general program, and the control group consisted of students in the same year and majors who did not register for this course. In this study, there were no significant differences between the experimental and control groups in critical thinking disposition and global leadership ability before and after participating in the program on understanding international development cooperation. Considering that these students were not completely adjusted to college life since they had just entered the university from a student lifestyle focused around college entrance exams, and that the course on understanding international development cooperation was set up as a general education course in the first semester of their first year, the results are similar to preceding research that indicated that critical thinking disposition is enhanced through studies centered around problems in students' field of study (Cho, 2013).

Moreover, these results may be due to the fact that students heard about international development cooperation through promotional materials around the campus regarding the opening of the course on understanding international development cooperation or increasing interest from younger generations on the remarkable activities of global leaders of Korean descent, such as the UN secretary general, the World Bank president, and World Friends Korea, an international volunteer group of the KOICA.

There were significant differences for the experimental group before and after the educational program. This result is similar to the results found by Kang and Piao (2014) that there was an increase in the need for global competence development by students who participated in global educational programs. In reality, the global nursing courses need to be included in the program for the accreditation of nursing education and indicates increases in global health competence as one of the learning outcomes. However, the curriculum for emergency medical services among majors in health studies does not include courses to increase global competence (Kim & Lee, 2007; Kim, 2009; Kang & Kim, 2014; Paik, 2015). Thus, considering that Korea prioritizes the health field in its official development assistance, curriculum should include courses related to international development cooperation organically linked to students' major subjects as part of general education or major programs to enhance the global leadership abilities of enrolled students, or special educational programs outside of their subject should be created to implement a program that can increase global leadership ability, which has practical applications for students in the health and nursing field (Kang & Piao, 2014).

5. Conclusion and Suggestions

This research conducted a comparison analysis between students who took a course on understanding international development cooperation and those who did not to understand the critical thinking disposition and global leadership abilities of health and nursing undergraduate students. There was no significant difference in the critical thinking disposition scores between the two groups. In addition, there was no statistically significant difference in global leadership abilities before and after the program. However, in the pre- and post-test analysis based on the general characteristic of students who took the course on understanding international development cooperation, even though there was no significant difference in critical thinking disposition there was a significant difference in global leadership abilities after the program for females and nursing major students, compared to males and students in other health-related fields.

Based on our research, we would like to make the following suggestions:

First, there is a need for research verifying the effects of education before and after implementing courses on international development cooperation in the health/medical field that are more closely linked to students' majors, which can have an effect on critical thinking disposition that is specific to the major. Second, there is a need for replication studies on the development and effects of in-depth courses on international health or international development cooperation for the general education course curriculum to enhance global leadership abilities. Third, further research using a similar research design is needed to generalize the results.

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