Effects of a Nursing Literature Reading Course on Promoting Critical Thinking in Two-Year Nursing Program Students

Fang-Chiao Chen • Ming-Chen Lin

ABSTRACT: Critical thinking is an essential task for professional nurses in the new millennium to make effective and efficient judgments in fast-changing clinical situations. Fostering critical thinking ability in nursing students thus becomes one of the imperative tasks for nursing education. Nursing literature in recent years has reported this concern. In response to the need, applicable teaching strategies for cultivating critical thinking skills have been introduced and demonstrated. The effect of the educational strategies on students’ critical thinking ability is the current focus of studies in nursing.

Read and writing assignments are cited as effective for promoting critical thinking. The use of these strategies costs considerable time and effort. The effect of these strategies, however, is mainly indicated by comments about the strategies in the teaching project evaluation. They have not been empirically explored. In order to integrate critical thinking teaching strategies into curricula, the effect of the proposed effective strategies needs to be determined and collected for practical application. In addition, as literature indicates that the impact of nursing...
education on critical thinking is still inconclusive, more empirical evidence should be gathered (Daly, 2001). We have developed a reading course constructed of literature search, reading and writing and placed emphasis on critical reading of articles. The purposes of this study were: (1) to examine the effect of the course design and teaching strategies used in promoting students’ critical thinking ability and (2) to understand the learning experience and perceptions of nursing students as part of the course assessment plan. It was expected that the results would provide reference for teaching critical thinking in nurses’ education.

Literature Review

Critical Thinking

The concept of critical thinking was derived early in ancient Greece. It was regarded as thinking with rational, reflective, inquisitive, and autonomous character. Due to the different perspectives of contemporary philosophers and scholars, a single, widely accepted definition was not found until the result of Delphi research conducted by the American Philosophical Association (APA). Critical thinking was thus defined as “the process of purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference” (as cited in Daley, Shaw, & Balistreri, 1999, p. 43). Currently, there is consensus that cognitive skills and affective disposition are two major dimensions of critical thinking. Paul (1995) described the cognitive skills in critical thinking as “thinking that… frames a question or problem precisely;… carefully checks information for completeness and relevance;… is sensitive to ideas and concepts;… can trace implications and consequences;… can appreciate multiple perspectives and ways of looking at things” (p. 7). Dispositional skills of critical thinking include: truth-seeking, open-mindedness, analyticity, systematicity, inquisitiveness, and self-confidence. Critical thinking is inquisitive, well-informed, trustful of reason, open-minded, and clear about issues. They tend to be diligent, flexible, fair-minded, honest about personal biases, and prudent in judgment. Their thought processes are orderly, focused, and persistent (Simpson & Courtney, 2002).

There are four fundamental constituents of critical thinking: the prerequisite knowledge base, intellectual skills, disposition to use both knowledge and skills in scrutinizing and evaluating information, and intellectual standards to conform to such thinking (Daly, 2001). The variables of age, gender, prior work experience, course previously taken, level and stage of professional education, education in instution, nursing GPA, and critical thinking disposition have been studied for their effect on critical thinking ability. Little effect was found for the variables of level and stage of professional education (Daly, 2001). The findings for correlations of the variables of age, GPA, prior work experience, course previously taken with critical thinking were inconclusive. Critical thinking disposition was found to be positively related to critical thinking ability (Bethune & Jackling, 1997; Chau et al., 2001; Duphone, 2000; Sandor, Clark, Campbell, Rains, & Cascio, 1998).

Fostering Critical Thinking in Nursing Education

Numerous educational interventions have been proposed to develop and promote nursing students’ abilities in critical thinking. Reflective writing is the strategy commonly utilized in clinical and teaching. Other teaching strategies such as logic learning, repeated-observation problem-solving method, experiential learning, advanced questioning technique, teaching round, concept mapping, debate, video taped vignettes, group discussion and CAI programs were adopted in both didactic and clinical courses to improve critical thinking ability (Chau et al., 2001; Daley et al., 1999; Yeh, 2001).

Case study are widely adopted to foster students’ clinical analytical skills. The case study design encourages students to work through problem situations, generate hypotheses, and test these hypotheses against relevant literature and personal experience within the context of a clinical framework. It offers students opportunities to ties to discuss real-life situations and nursing students challenge langes in a safe environment and stimulate students to think critically since these situations offer no concrete answers (Jones & Sheridan, 1999; Malloy & DeNatale, 2001; Neill, Lachat, & Taylor-Panek, 1997).

Use of Information, Reading and Writing Assignments

The current literature is considered an essential reference for safe and effective nursing care. To cope with ever-changing clinical situations, Beeson (1996) and Wen & Duh (1999) suggested health professional practitioners should be able to utilize information resources and absorb clinical experience from literature to promote personal growth. They tended that stu-
Evaluation of Critical Thinking Ability

The change in crit i cal thinking ability as a result of nursing education was the current focus of nursing research. Strong support for a pos i tive effect of nurs ing use ful view points that pro mote learning, to assoc i ate personal experi ence with the liter ature that makes sense to her/him, and to use re flec tive think ing that ini tiates in-depth exploration (Beeson, 1996).

The writ ing pro cess and crit i cal think ing are con si dered to be mu tutally depend ent (Rus sel, 1998). Writ ing helps stu dents make sense of infor ma tion and learn new con cepts; it encour ages stu dents to think in abstr act ion, to conceptual ize, elabo rate, substanti ate, ana lyze, gen er al ize, and inter pret; and pro vides oppor tu nities for stu dents to reflect on their own thoughts, and to orga nize their thoughts log ically and con clu sively (Broussard & Oberleitner, 1997; Hodges, 1996; Rus sel, 1998).

dents should learn to use information resources to advance their intrin sic learn ing abil ity and lay the basis for life long learn ing.

Read ing and writ ing assign ments are strat e gies that fos ter crit i cal think ing skills and induce active learn ing (Davidhizar, Bechtel, & Tiller, 1999; Fopma-Loy & Ulrich, 1999; Hsieh, 1999; Oermann, 1997; Pullen, Reed, & Os lar, 2001). Read ing and writ ing can assist the learner in select ing use ful view points that pro mote learn ing, to as so ci ate per sonal experi ence with the liter ature that makes sense to her/him, and to use re fle c tive think ing that ini ti ates in-depth explora tion (Beeson, 1996).

The effect of var i ous teach ing strat e gies on pro mot ing crit i cal think ing abil ity has been exper i men tally evalu ated. In con trast, the effect of read ing and writ ing assign ments as teach ing strat e gies has rarely been stud ied. There are pos itive com ments regard ing the strat e gies. The com ments were mainly qual i ta tive data pro duced from teach ing proj ects or course eval u a tions.

Fopma-Loy and Ulrich (1999) used crit i cal think ing prompts to assist stu dents in extend ing their think ing into analy s is and syn the sis in their read ing assign ments. The prompts were implemented in both the begin ning and advanced nurs ing courses. Stu dents were given weekly read ing assign ments and were requested to use prompts to respond to the read ings. Ini tially, they found that stu dents’ level of prep a ra tion for class and engage ment in class dis cu sion of read ings had increased. By the end of the semes ter, stu dents responded that the prompts helped them to under stand and ana lyze the required read ings. All stu dents dem on strated improve ment in their abil ity to react to read ing assign ments in a crit i cal and re fle c tive man ner.

Neill et al. (1997) incor po rated anal y sis of case study into the writ ten assign ments of a clin i cal deci sion- mak ing nurs ing course to develop stu dents’ clin i cal think ing, re search ers with this inter est tried dif fer ent eva lu a tion instru ments for mea sur ing crit i cal think ing and appro pri ate instru ments for mea sur ing crit i cal think ing within nurs ing con text had not been devel oped (Niedringhaus, 2001). Although stan dardized instru ments, the Cali for nia Critical Thinking Skills Tests (CCTST), Cali for nia Critical Think ing Dis position Inventory (CCTDI) and Wat son-Glaser Crit i cal Think ing Appraisal (WGCTA) were prev a lently used, re search ers ex pressed that the instru ments are not suf fi ciently domain-specific (Stone, Davidson, Evans, & Hansen, 2001). While the empir i cal evi dence does not sup port using a gen er al mea sure of crit i cal think ing to evalu ate nurs ing stu dents’ crit i cal think ing, re search ers with this inter est tried dif fer ent research meth o dolo gies and turned to de vel op ing or using a wide array of out come assess ments such as course exams, clin i cal eval u a tion tools and NCLEX results (Daly, 2001; Niedringhaus, 2001; Thomp son & Rebeschi, 1999).

The effect of vari ous teaching strat e gies on pro mot ing crit i cal think ing abil ity has been exper i men tally evalu ated. In con trast, the effect of read ing and writ ing assign ments as teach ing strat e gies has rarely been stud ied. There are posi tive com ments regard ing the strat e gies. The com ments were mainly qual i ta tive data pro duced from teach ing proj ects or course eval u a tions.
case study and to answer questions about the nursing process in writing with reference to that particular case. Then with group discussion and class room peer critique of the written assignment, students learned critical thinking skills in terms of comparing points of view, interpreting and judging. In the course evaluation, students responded positively regarding the case studies and group discussions.Faculty members believed the strategy could facilitate the development of critical thinking skills along with increased knowledge of nursing process.

The effect of writing on critical thinking has been explored with a qualitative approach. Whitehead (2002) found that students became analytical after an academic writing course. The analysis demonstrated that students’ contact with literature increased the students’ analytical skills. They were able to assess information instead of accepting what they read. Besides the sense of growth, Whitehead reported that students had internalized what they learned in academic writing and automatically applied the writing style to clinical practice.

In summary, developing and advancing students’ critical thinking ability is an imperative task for nurse educators. Though reading and writing assignments are cited as effective strategies, the effect of this teaching design remains unknown. Further empirical exploration with quantitative data may be needed. As literature suggested, writing can be used to differentiate critical thinking ability instead of accepting what they read. Besides the sense of growth, Whitehead reported that students had internalized what they learned in academic writing and automatically applied the writing style to clinical practice.

Methods

Design & Sample

The authors adopted a quasi-experimental design and purposive sampling technique to conduct this study during one semester. All first-year nursing students of a 2-year nursing program at one college were invited to participate in the study. Students were grouped into an experimental or a control group based on whether or not they had enrolled for the course. All students had graduated from junior nursing schools and had clinical experience. They had completed the course “Introduction to Professional Nursing” and were taking professional nursing courses such as Nursing II, pediatric, psychiatric, and physiology concurrently. Students would start clinical practicum in which writing a literature review report or case report was required at the end of the semester.

Research Framework

For the purpose of the study, critical thinking as defined by APA and Paul was adopted as the operational definition for the study. It was hypothesized that students in the experimental group would develop and advance their critical thinking skills through working on the course assignments. They would also demonstrate the improvement of cognitive skills over the learning process and in the test of article critique. The performance on the article critique test along with the analytical results of learning experience and peer evaluation were used to indicate the excellence of the course on critical thinking ability. Performance on the article critique test was used to differentiate critical thinking ability between the two groups. The research hypothesis was that the ability of critical thinking in the experimental group would be enhanced and that the group members would perform better in the critique test of a case report than the control group. The research framework work was as shown in Figure 1.

Education Intervention

The education intervention was a 32-hour course in which students experienced the processes of literature searching, reading, and writing. There were three assignments for the course: (1) complete a reference list of literature search written in APA format after data base search according to the key words assigned; (2) present a literature critique of current nursing journal articles including literature critique and critique report; (3) write a literature article summary card that records the critical content and source of the article.

The teachers involved were two experienced instructors who designed the course. Initially, the processes of literature search, critical thinking, and writing were introduced and demonstrated through lecture and guided on how to read and analyze the articles. Students would demonstrate the improvement of critical thinking skills such as: identifying the key content, strengths, and weaknesses of the article, rea soning the good and bad points, the key issues to consider, and suggesting ways of refining content, writing more coherently and in APA format. Students practiced three report critiques on a small group basis and presented their critiques orally to the entire class. Students were encouraged to express different viewpoints.
Measurement Tool

This study adopted an approach that reflects nursing process to measure students’ critical thinking skills. A test in critiquing case study report was designed. The N3 case report accreditation form constructed on the basis of nursing process and developed by the Taiwan Nurses Association was used to collect data. In this form, critical inquiry points were listed under each step of nursing process. For example, in the step of nursing assessment, questions were asked on the depth and breadth of data collection for formulating nursing problems. An N3 nursing case report accepted by the Taiwan Nurses Association was selected as the article for critique. To establish the measurement criteria, five case report reviewers of the Taiwan Nurses Association were invited to review this article utilizing the N3 case report accreditation criteria. Their viewpoints were aggregated and integrated into 45 criteria (including 36 strengths and nine weaknesses). The critique test score is determined based on the criteria. The total score for the critique ranged from 0 to 45. The inter-rater reliability was .893 (Pearson r). The internal consistency of the scores was .79 (KR-20 coefficient). The test-retest reliability was .32 (p < .001) at 16-week intervals.

Data Collection

Case Report Critique Test

After a face-to-face explanation and obtaining consent from the students, students in both groups were first asked to read the N3 case report article and then to critique this report in terms of its strengths and weaknesses within 80 minutes before and after the course. Students’ comments were later contrasted with the 45 criteria to determine the score in the case report critique test.

Learning Experience and Perception

The learning experience and perception specific to the assignment of literature search, critical reading and summary writing were collected with self-report. Examples of questions are as follows: What have you learned in the “literature search” section? To what degree were you satisfied with what you have learned? Experience and perception related to this section.

Data Analysis

Responses of each student in the critique test were contrasted with the criteria to determine the scores. Frequencies, percentages, and $\chi^2$ were used to portray the characteristics of students. Paired t-test, and two-factor analyses of variance with repeated measures were utilized to compare the differences in group mean and time mean of the critique scores. Content analysis technique was used to analyze data about the experience and perception of learning. The principle for analysis was that comments within the data that illustrate critical thinking were aggregated and integrated to formulate core themes. The characteristics of each theme were delineated.

Results

Characteristics of Samples

The students in the final sample number 168 (94 in experimental group and 74 in control group). 149 (88.7%) students were without working experience while 19 (11.3%) students had one month to two years experience working as a nurse. 112 (67%) students had written a literature...
ture review report, and 133 (79%) students had written a case study report. There was no significant difference in either experience of working or experience of writing reports between the two groups (Table 1).

Performance on Report Critique Test

1. Critique Pretest

The scores for the critique pretest ranged from 0 to 13 (total = 45) with a mean of 4.79. Though 79.2% of the students wrote case reports while in junior nursing school, they were not able to tell the strengths and weaknesses of others’ reports. t-test analysis showed that there was no significant difference in the scores for the critique pretest between the experimental and control group (Table 1). Students with experience of either working as a nurse or writing nursing reports of any kind did not score significantly higher in the critique pretest than those without experience (Table 2).

2. Comparison of the Score of Critique Pretest and Posttest by Group

The mean scores of the experimental group (n = 94) on the critique pretest and posttest were 5.11 and 11.32 respectfully. There was a significant difference in score for the critiques between the pretest and posttest, paired-t =

| Table 1 | Demographic Data and Scores on Critique Pretest in Two Groups (N = 168) |
|---|---|---|---|---|---|---|
| Variables | Experimental group (n = 94) | | Control group (n = 74) | | Total (n = 168) | Statistics |
| | n | % | n | % | n | % | value | p |
| Working Experience | | | | | | | χ² = 1.351 | .180 |
| No | 81 | 86.2 | 68 | 91.9 | 149 | 88.7 |
| Yes | 13 | 13.8 | 6 | 8.1 | 19 | 11.3 |
| Writing Experience | | | | | | | χ² = .566 | .279 |
| Literature review | | | | | | | χ² = 1.868 | .121 |
| No | 29 | 30.9 | 27 | 36.5 | 56 | 33.3 |
| Yes | 65 | 69.1 | 47 | 63.5 | 112 | 66.7 |
| Case study | | | | | | | χ² = 1.868 | .121 |
| No | 16 | 17 | 19 | 25.7 | 35 | 20.8 |
| Yes | 78 | 83 | 55 | 74.3 | 133 | 79.2 |
| Scores on Critique Pretest (M ± SD) | 5.11 ± 3.00 | 4.39 ± 2.59 | 4.79 ± 2.84 | t = -1.625 | .106 |

| Table 2. Differences Between Demographic Variables and Scores of Critique Pretest (N = 168) |
|---|---|---|---|---|---|
| Demographic variable | n | % | Scores on critique pretest | M | SD | t | p |
| Working Experience | | | | | | | | |
| No | 149 | 88.7 | 4.76 | 2.87 | -.424 | .672 |
| Yes | 19 | 11.3 | 5.05 | 2.72 |
| Writing Literature Review Report | | | | | | | | |
| No | 56 | 33.3 | 4.65 | 3.00 | -.422 | .674 |
| Yes | 112 | 66.7 | 4.85 | 2.79 |
| Writing Case Report | | | | | | | | |
| No | 35 | 20.8 | 4.39 | 2.95 | -.874 | .383 |
| Yes | 133 | 79.2 | 4.88 | 2.83 |
11.334, p < .001 (Table 3). A similar progress was found in the control group. The mean score (6.59) for the critique posttest of the control group was significantly higher than the mean score (4.39) for the pre test.

3. Comparison of Critique Scores Between Groups

Two-factor analysis of variance with repeated measures showed main effects for group, time and the interaction between the time and group (Table 4). There was a significant group effect, $F = 33.67$, p < .001, for critique scores. The experimental group scored significantly higher than the control group. There was also a significant time effect, $F = 133.09$, p < .001, for scores in pre-test and posttest. The scores for the posttest were significantly higher than for the pre test. There was also a significant interaction effect, $F = 29.90$, p < .001, for differences in the scores for the pre test and posttest between the two groups. The improvement in score of the experimental group was significantly higher than the control group.

Learning Experience and Perception of the Course

Findings of students’ learning experiences and perceptions relevant to critical thinking are presented below:

1. Literature search: check in for information for completeness and relevance

Students recognized that literature review was essential for a scholarly report and that literature search was the first step in literature review. They realized that collecting references should be extensive enough to include the different perspectives and searching could be efficient if they made good use of key words, data base, library resources and computer. They got acquainted with the Index to Chinese Periodical Literature, CINAHL and nursing related periodicals and were able to select relevant material appropriate to the topic of search. “I’m now more oriented to literature search and know how to screen the literature collected and decide which article may be relevant to my search”.

2. Critical reading: be reflective, sensitive to ideas and concepts, appreciate multiple perspectives and trace implications

Articles that attracted students were those delining real clinical situations. Besides being impressed by the story, students were initiated to self-reflect and self-explore in the process of critical reading. “The experience of others helps me clarify the ambiguities in clinical situations and promote my professional growth”. “I learn to examine how I am used to taking care of patients and

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Table 3.
Scores on Critique Pretest and Posttest of the Experimental Group and Control Group (N = 168)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Critique pretest</th>
<th></th>
<th>Critique posttest</th>
<th></th>
<th>Statistics value</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>paired t</td>
</tr>
<tr>
<td>Experimental Group (n = 94)</td>
<td>5.11</td>
<td>3.00</td>
<td>11.32</td>
<td>5.13</td>
<td>-11.334</td>
</tr>
<tr>
<td>Control Group (n = 74)</td>
<td>4.39</td>
<td>2.59</td>
<td>6.59</td>
<td>3.89</td>
<td>- 5.006</td>
</tr>
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</table>

Table 4.
Repeated Measures ANOVA Summary Table of Scores for Critique Pretest and Posttest (N = 168)

<table>
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<tr>
<th>Source of Variance</th>
<th>Type III sum of squares</th>
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<th>Mean Square</th>
<th>F</th>
<th>p</th>
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<tr>
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<td>620.27</td>
<td>1</td>
<td>620.27</td>
<td>33.67</td>
<td>.000</td>
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<tr>
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<td>165</td>
<td>18.43</td>
<td></td>
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<tr>
<td>Within Subjects</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Time of measure</td>
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<td>1</td>
<td>1445.15</td>
<td>133.09</td>
<td>.000</td>
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<tr>
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<td>165</td>
<td>10.86</td>
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<tr>
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<td>324.64</td>
<td>1</td>
<td>324.64</td>
<td>29.90</td>
<td>.000</td>
</tr>
</tbody>
</table>
review what my draw backs are”. Reading also led students to see different dimensions of nursing. “Experience of others leads me to sense that nursing care is a work of creativity and ideas”. “Reading arti cles made me realize that there is more to nursing practice than patient care. It can be applied to different aspects of one’s life and keep one will ing to change”. “I was enlightened and inspired to see a situation from different perspectives and to consider different angles of nursing as a skill in the process of article critique”.

3. Critical reading: be able to interpret, analyze and evaluate literature materials

Students were provided with a critique guide to read the articles. They learned the writing for mat and essential content of various research papers, were able to understand the perspectives of authors, appreciate authors’ writing techniques, make comments as to how authors organize and present the report, and more over, identify the strengths and weaknesses of each section. “I’m more aware of what the article is all about”. “I used to accept what ever is written in the article, but now I learn to examine the content and recognize the worth of articles”.

4. Literature summary writing: be able to conceptualize, substantiate, integrate and organize information in writing

Writing a literature summary requires the ability of analysis, interpretation, integration of content of articles and organizing key information clearly and thoroughly. Students took the writing assignment as a important task for fostering thinking. “This practice helps me in writing. It promotes thinking and guides me to integrate knowledge”. “I learned to organize the material and present it systematically”.

Students per ceived the learning experience as a process for growth. In the literature article reading and critique session, students learned from the variety of clinical situations and relevant nursing care described in articles. “Reading case reports helps me fur ther understand the nursing process and learn the skills for nursing process”. “The experiences of others helps me clarify if the ambiguities in clinical situations and facilitate professional growth”. They discovered the merit of reading and became interested in reading. “Articles that describes others’ experiences provide references for clinical practice. That helps me prepare myself for the coming practicum”. “Reading nursing literature not only expands my knowledge but also helps me integrate knowledge in nursing”. “I learn a lot from articles. I think I’ll tell myself to read journal articles regularly”.

Literature summary writing includes works on literature search ing, reading and writing. Students expressed that they were muddled when first introduced to this assignment. Finally, they recognized that effort made for the assignment was worth while and their writing ability would be enhanced with more practice. “Writing the summary card is easier than I imagined”. “The key points of an article can be readily identified if you read attentively”. “I become more oriented as to what to write than I was in junior high school. And what was written is more meaningful than before. I think it will be even better with more practice.” Lastly, students per ceived the assignments as an essential training and felt a great sense of growth.

Discussion

The result of this study revealed that the course design and teaching strategies had a certain impact on students. In relation to the effect on students’ critical thinking skills, it was apparent that evidence in the students’ self-evaluation for learning the course. The experience students had in reading and writing was consistent with the findings of Fopma-Loy & Ulrich (1997), Neill et al. (1997) and Whitehead (2002). Students employed the cognitive thinking skills described by Paul (1995) and defined by the APA while working on the course assignments. In terms of performance on the critique test, since students in the two groups were status homogenous except for whether or not they took the reading course, the significance of the effect on students’ critical thinking skills was supported by Stone et al. (2001). The design for measuring critical thinking skills was sup ported by Stone et al. (2001), one might be concerned that the better performance on critique test might not be enough to represent better critical thinking skills. The better achievement of the experim ental group in the critique test implied the positive effect of the course. Although the design for measuring critical thinking skills was supported by Stone et al. (2001), one might be concerned that the better performance on critique test might not be enough to represent better critical thinking skills. The better achievement of the experimental group in the critique test implied the positive effect of the course. Therefore the improvement in critique score may well indicate their critical thinking ability rather than their critical thinking ability. Accordingly, the use of additional assessment methods such as the use of evidence to support the course effect.

With respect to the effect of the course in general, the assignment of critical reading produced two major
effects. First, it not only guides students to identify the critique and conclusions of an article but also enlightens their in-depth thinking. This result supports Fopma-Loy & Ulrich (1999) in their design of reading assignments. Second, the assignments of the course builds students’ ability in report writing. With the critique guides that highlight the essential content and accuracy, the ability of students to recognize the validity of the literature is improved. In terms of meeting both the requirements of the coming clinical practicum and advancedment in the clinical ladder in their careers.

The skills of collecting relevant literature and critical reading taught students learned are important to health professional practice and advancement of critical thinking abilities. The trainings help to foster students in terms of meeting both the requirements of the coming clinical practicum and advancedment in the clinical ladder in their careers.

Conclusions

Building student nurses’ critical thinking ability is an imperative for nurses engaged in education. In this study, the authors ascertained that reading and writing assignments could promote students’ thinking in the clinical setting and advancement of critical thinking abilities. The course design and teaching strategies also strengthened students’ literature critique and report writing abilities that will facilitate their professional practice and clinical ladder advancement. The results may add to evidence-based practice and help students to implement evidence-based nursing practice in the future.

The limitations of the study were the evaluation tool used to assess the change in critical thinking abilities. The single use of a critique test may not provide sufficient information. This issue is further addressed by the authors through the inclusion of qualitative methods. In the era of evidence-based practice, the abilities to use information resources and to assess the applicability of literature are considered one of the professional’s requirements. Students were oriented to use numerous cognitive processes including constant questioning, analysis of situations, and making inferences and evaluation should be developed into curricular goals. The positive learning experience and perception of students prove valuable information for implementing the course. The instructors were inspired to continue teaching critical thinking and learning activities, and they encourage students to use numerous cognitive processes including constant questioning, analysis of situations, and making inferences and evaluation should be developed into curricular goals.

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References


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批判性思考能力之成效

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摘要：面對複雜多變的現今醫療情境，批判性思考能力是護理人員必備的專業特質，協助護生發展與具備此項能力是護理教育之培育重點之一。文獻指出文章判讀與寫作是培養批判性思考的教學策略，本系為增進護生之批判性思考，設計一著重於判讀與書寫的課程，以訓練護生之思考技巧，本研究之目的是探討此課程對促進護生之批判性思考能力的效應，並藉由護生的修課經驗與心得了解其思考改變歷程與意見，以作為改進課程設計之依據。研究採類實驗性設計，以立意取樣收案，將 170 位護生依修課與否分為實驗組及對照組，兩組分別在課程實施前後，接受文章判讀測驗並以自行發展之評量工具，比較兩組批判性思考之差異，結果顯示課程實施後實驗組（n = 94）與對照組（n = 64）的判讀測驗得分均高於實施前，但實驗組得分的提昇顯著高於對照組。對修課護生之經驗與心得加以內容分析，發現護生經由啟發已開始運用批判性思考的技巧於修課中，並由原本被動接受轉為主動參予的學習，自覺從此課程收穫與成長許多，呈現有進步的思考歷程。本研究結果提供實證資料以支持讀寫訓練的策略對批判性思考能力之正向效應，並肯定本課程的教學設計。

關鍵詞：批判性思考、閱讀與寫作、教與學、護理教育、個案報告。