

Evaluation of the Effect of Assessment Method Reform in “Nursing Research” Course

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Abstract: *Objective:* This paper aims to evaluate the implementation effect of the diversified course assessment method reform. *Methods:* A diversified assessment method was implemented for 196 undergraduate nursing students. Students’ mastery of key knowledge in “Nursing Research” was assessed through group reports on topic selection and literature retrieval, as well as the proposition level of the final examination. *Results:* 81.6% of the students agreed with the course assessment method, and 97.9% believed studying “Nursing Research” would be helpful for future scientific research applications. *Conclusion:* Diversified assessment methods can help improve undergraduate nursing students’ scientific research skills and comprehensive quality.

Keywords: Nursing Research; Proposition assessment; Undergraduate nursing students; Topic selection; Literature retrieval

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1. Introduction

Examination is an activity that consciously measures differences between individuals or groups. It is an important part of teaching work and an effective means to test the effects of teaching and learning^[1,2]. Scientific and objective assessment methods are an essential driving force to promote students’ learning and are conducive to sorting out and consolidating knowledge^[3]. However, the assessment method of the “Nursing Research” course is still mainly based on the closed-book examination at the end of the semester, which makes it difficult to make a scientific and objective evaluation of students’ learning effects and comprehensive qualities and is inconducive to the cultivation of students’ innovative spirit and scientific research skills. At present, the assessment methods for nursing research courses mainly include writing papers^[4], paper evaluations^[5], writing proposal reports and research reports^[6], etc. However, writing research reports is challenging and unsuitable for all undergraduate and college students^[7]. Therefore, this study chose the method of topic selection and literature retrieval report and final exam proposition practice to comprehensively evaluate students’ learning effects to improve students’ learning enthusiasm and promote the improvement of undergraduate nursing students’ scientific research skills and innovation ability.

2. Research subjects and methods

2.1. Research subjects

196 undergraduate nursing students in the 2021 class were selected as the research subjects, and the researchers completed all teaching tasks independently. The “Nursing Research” course is offered in the fifth semester and has 30 credit hours.

2.2. Methods

Firstly, students were informed of the assessment method for the first course and allowed to form study groups according to their wishes, with five to six people in each group. Each group was instructed to complete three assessments: a topic selection report, a literature retrieval report, and a final examination paper.

In the topic selection report and assessment, each team member determined their topic selection by consulting the literature based on their internship experience or interests and stated the source of the topic, research purpose, research objectives, research hypothesis, PICO (population, intervention, control, and outcomes) of the topic, independent variables, dependent variables, confounding variables, the importance, feasibility, and researchability of the topic. Then, the group leader selected and reported on the best three topics. During the group report, the teachers and leaders of other groups made a comprehensive evaluation based on the advancement, feasibility, and practicality of the topic selection, the fluency of the report, time control, and the aesthetics of the courseware.

In the assessment of literature retrieval, students determined the topic based on their topic selection or interest to conduct literature retrieval and ultimately retrieved 30 to 50 target documents. Students then submitted the title of the literature search, Chinese and English search terms, the name of the selected database, the search strategy, screenshots of the initial search results, and screenshots of the final search results. At the same time, the group leader selected a literature search topic for on-site demonstration. Other group leaders and teachers evaluated whether the search terms, databases, and search strategies selected by the group were appropriate and accurate by giving scores.

In the proposition assessment of the final exam, each group made propositions based on the question types and amounts required by the teacher, combined with their understanding and grasp of the key knowledge in each chapter. The teacher then evaluated the topic regarding the difficulty, coverage of knowledge points, and whether it aligned with the key points taught in class.

The score composition of the assessments mentioned above is slightly different. Among them, student evaluation accounts for 30%, and teacher evaluation accounts for 70% of the results of the topic selection and literature retrieval reports. The performance evaluation of the proposition assessment in the final examination is completed independently by the teachers. The results of the three assessments account for 50% of the total grade, the final theoretical examination accounts for 40% of the total grade, and class attendance accounts for 10% of the total grade.

3. Results

3.1. Students’ evaluation of the “Nursing Research” course

162 (82.66%) students thought it was necessary to offer the course, 25 (12.75%) students felt it was not required, and 9 (4.59%) students said they did not know whether it was essential to offer the “Nursing Research” course.

3.2. Students' evaluation of topic selection, literature retrieval, and proposition assessment of final exam as assessment methods

Among 192 undergraduate nursing students, 160 (81.63%) of them agreed with the assessment methods; 4 (2.04%) of them disagreed while 32 (16.33%) of them were neutral about the assessment methods, as shown in **Figure 1**.

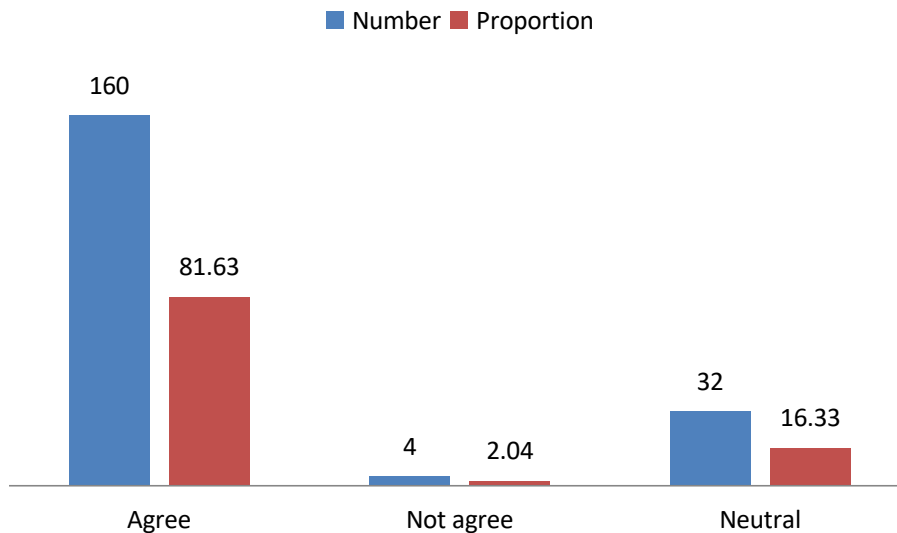


Figure 1. Students' evaluation of the assessment methods

3.3. Subjective impact of the “Nursing Research” course reform on scientific research skills

192 undergraduate nursing students believed that studying “Nursing Research” would be helpful for future scientific research applications, accounting for 97.9%. Among them, 61.2% of students thought it was very helpful.

3.4. Students' sources of topic selection

As displayed in **Figure 2**, half (50%) of the sources of students' topic selection were journal literature; 25% came from textbooks, 15% from clinical internships, 9% from the Internet, and 1% from guidance by others.

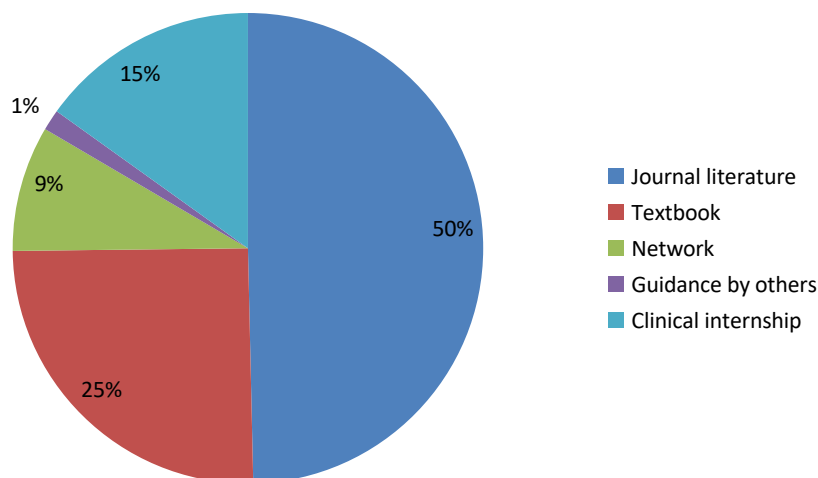


Figure 2. Sources of students' topic selection

3.5. Nursing students' understanding of nursing research

The research results showed that only 3.57% of students thought offering the “Nursing Research” course is unnecessary. The primary motivation for learning “Nursing Research” is the school’s curriculum arrangement. 10% of students thought learning “Nursing Research” is impractical, and the most notable difficulty for students studying “Nursing Research” is the lack of clinical practice, which is challenging for students to find and choose suitable topics for relevant nursing research.

4. Discussion

4.1. Topic selection and literature retrieval report assessments improve students' scientific research skills and comprehensive quality

The topic selection and literature retrieval report assessments can test whether students have scientific research thinking and basic scientific research skills. Through the topic selection report, we can understand students' ability to master the knowledge related to topic selection, such as the source of the topic selection and evaluation of the topic selection. Moreover, while reviewing literature to determine topic selection, students also learned about cutting-edge knowledge in related fields, which helps cultivate students' scientific research skills and innovative thinking. Literature retrieval is a step throughout nursing research. Strong literature retrieval ability is the basis for carrying out nursing research. Through on-site demonstrations of literature retrieval, teachers can honestly and accurately understand students' literature retrieval levels and promptly provide guidance to improve their skills. Students' literature retrieval ability lays the foundation for future nursing research. Secondly, group reporting can improve students' coursework and speech, thereby improving students' overall quality^[8]. A common problem in group reporting is that students tend to stare at the computer screen or projection when reporting and have almost no eye contact with the students in the audience. Through teacher guidance and continuous practice, students' reporting has been significantly improved. Lastly, the assessment form of group cooperation helps cultivate students' team awareness. Group members learn from each other, share resources, brainstorm for a common goal, and cooperate to achieve excellent results.

4.2. Student participation in assessment improves teaching effects and cultivates students' team spirit

Students' participation in assessment and evaluation can fully mobilize their enthusiasm for learning, improve their interest in education, and enhance their sense of responsibility^[9]. The traditional way in which teachers complete assessment and evaluation independently may affect their fairness and impartiality. For example, students who are more active in class or class committee members who often keep in touch with the teacher can quickly get the teacher's attention compared to other students, and it is easier for them to obtain high scores in daily performance evaluations. This will lead to some students who are introverted but study hard still obtaining lower grades as they do not receive adequate attention from the teachers to notice their efforts and excellence. This will not only affect the fairness of teaching evaluation but also reduce the learning enthusiasm and initiative of certain students because other students can still achieve good results even if they do not work hard. In contrast, students who study hard have not achieved ideal results. In addition, during group mutual evaluation and competition, students can also reflect on their problems promptly, learn the strengths of other group members, improve their capabilities, enhance unity and collaboration among group members, and stimulate their learning enthusiasm and improve teaching effect^[10].

4.3. Proposition assessment method improves students' learning effects and initiative

Proposition training is a favorite form of assessment among students. To achieve good group results, students need to master the critical knowledge of each chapter. This can well improve students' initiative and participation in learning. It can also enhance students' ability to apply the knowledge they have learned. In addition, proposition assessment can fully evaluate students' learning effects, and the quality of their propositions can more objectively judge whether students truly understand and master critical knowledge. At the same time, the final exam questions will be randomly selected from the questions raised by students, which will increase students' sense of accomplishment. Students will be more impressed by the questions raised and deepen their mastery of relevant knowledge. Lastly, the propositional assessment method will reduce the incidence of cheating in the final exam because students virtually increase their understanding and mastery of pertinent knowledge when asking questions. The exams are based on knowledge they are familiar with, which makes it easier for them to achieve good results and better ensure the fairness of the exams.

5. Existing problems

Although the assessment form of group assignments helps to improve students' overall quality and cultivate students' team spirit, there will be situations where individual group members do not carry out their tasks, and the group assignments are completed independently by the group leader, which not only affects the fairness of the assessment but also students' learning motivation. In addition, students reported that most of the core courses this semester adopted the assessment form of group assignments. There are about 20 group assignments in one semester. The heavy group assignments consume much of students' time and experience, causing students to muddle through and cope with the tasks. As a result, the quality of group assignments and students' learning enthusiasm are reduced. Students will also be more resistant to the assessment form of group assignments, lowering the effect of course assessment reform. The problems in the proposition assessment are mainly concentrated in the high repetition rate of the questions asked by each group, and plagiarism also exists. In addition, although the question types are prescribed for students, there may be situations where students have inconsistent numbers of options in the multiple-choice question settings. In the future, the relevant content of the proposition assessment will be improved to ensure the fairness and impartiality of the evaluation.

As students lack sufficient clinical experience, their topic selection mainly comes from literature reading, resulting in students' topic selection being seriously deviated from the actual clinical situation, affecting students' effectiveness and enthusiasm for learning "Nursing Research." In the future, training programs should be continuously improved, with enriched teaching methods, students should be given more opportunities for clinical practice, and "Nursing Research" teaching should be carried out based on specific problems in clinical nursing so that students can apply what they have learned, discover and solve problems in practice, and continuously improve their scientific research capabilities. In addition, students are guided to search for the diseases or nursing problems they are interested in during the learning process of core nursing courses and use the knowledge they have learned to carry out nursing research. At the same time, schools should encourage teachers who teach core courses to intersperse the latest research content on diseases during the teaching process and use the evaluation of innovation and scientific research capabilities as one of the regular assessment indicators to continuously cultivate students' scientific research thinking.

6. Summary

Scientific research skills are an essential indicator of the quality of talent training^[11]. Still, a single assessment

model cannot fully evaluate students' learning effects and comprehensive qualities and it affects students' learning enthusiasm and subjective initiative. Therefore, teachers need to choose appropriate assessment methods according to the characteristics of each course and local conditions to improve students' learning effects and enthusiasm and enhance students' core competitiveness.

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Disclosure statement

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