Informed Consent Form

Effect of AI Critical Appraisal Training on Critical Thinking in Nursing Students

April 2nd, 2026

Principal Investigator: Xi Cao, Lecturer, School of Nursing, Chengdu Medical College

Study Title: Effect of AI Critical Appraisal Training on Critical Thinking in Nursing Students

Introduction

You are being invited to participate in a research study. This study, titled "A Cluster Randomized Controlled Trial on How AI Critical Appraisal Training Enhances Critical Thinking in Nursing Students" is being conducted by Xi Cao from the School of Nursing, Chengdu Medical College. The purpose of the research is to evaluate the effectiveness of a novel teaching method on developing core competencies in nursing students. You are being asked to participate because you are an undergraduate nursing student at Chengdu Medical College.

This consent form provides important information about the study to help you decide whether to participate. Your participation is entirely voluntary. This study has been reviewed and approved by the **Biomedical Ethics Committee of Chengdu Medical College**.

Please read this form carefully. Ask the researcher to explain anything you do not understand before you decide.

Purpose of the Study

The primary purpose of this study is to evaluate the effect of a teaching method that combines artificial intelligence (AI) analysis and critical appraisal, compared to traditional teaching methods, on improving critical thinking skills, AI literacy, and clinical reasoning ability among nursing undergraduates.

Study Procedures and Duration

If you agree to participate, you will be assigned to a teaching class that has been randomly allocated to one of two groups. The total duration of the study intervention and data collection will be approximately 8 weeks.

1. **Pre-Intervention (Baseline):** You will be asked to complete a set of pre-test questionnaires. These will collect basic demographic information and assess

your disposition toward critical thinking, your AI literacy, and your self-rated clinical reasoning ability. This will take about 10 minutes.

2. **Intervention Phase (Weeks 1-8):**
    - **If assigned to the Experimental Group:** You will experience the "AI Critical Appraisal Training" method. Every two weeks, you will receive a surgical nursing case study. Your task will be to: a) Use an AI tool (e.g., ChatGPT, Wenxin Yiyan) to analyze the case, b) Take a complete screenshot of your dialogue with the AI, and c) In a provided Word document, critically annotate the AI's responses. This involves identifying factual errors, logical flaws, or insufficient considerations; providing corrected or improved answers based on textbooks and evidence; and explaining your reasoning. You will submit this document as an assignment. Each assignment is expected to take about 60 minutes.
    - **If assigned to the Control Group:** You will experience the traditional case-based learning method. You will study the same series of case studies but through traditional learning method such as group discussions and instructor lectures, without specialized training in critically appraising AI output. You will also complete corresponding case analysis assignments.
3. **Post-Intervention (Week 8):** All participants will be asked to complete a post-test questionnaire identical to the pre-test (approx. 10 minutes). Additionally, you will complete a final case analysis assessment (involving 2 new cases), which is a standard part of your course evaluation.

Total Time Commitment: Completing all research-related questionnaires will require about 20 minutes total. The case assignments are integrated into your normal coursework. The estimated additional time specifically for the research components is approximately 1 to 1.5 hours over the 8-week period.

Potential Benefits

You may benefit from experiencing an innovative teaching method, which could

potentially enhance your critical thinking, AI application skills, and clinical case analysis abilities. The data you provide will contribute valuable evidence for optimizing nursing education methods.

Potential Risks and Discomforts

This is an educational intervention study. All activities are integrated into the standard curriculum and do not involve any invasive medical procedures. The primary foreseeable risk is the investment of your time (approx. 1-1.5 hours over 8 weeks) to complete the research components. If you experience any discomfort or undue burden during participation, you may pause or withdraw immediately without penalty.

Confidentiality

Your privacy is of utmost importance. All data collected (questionnaires, assignments) will be de-identified. Your name will be replaced with a unique, random code. Only members of the research team will have access to the de-identified data for analysis purposes. All electronic data will be stored on password-protected and encrypted devices; physical documents will be kept in locked cabinets. The data will be retained for 5 years after the study's completion, after which it will be securely destroyed. No personally identifiable information will be published or presented in any research outputs (e.g., journal articles, conference presentations).

Voluntary Participation and Right to Withdraw

Your participation is completely voluntary. You may refuse to participate or withdraw from the study at any time, for any reason, without any negative consequences to your academic standing, grades, or relationship with the School of Nursing. If you choose to withdraw, any data you have provided will be destroyed and not included in the final analysis.

Contacts for Questions

If you have questions about the study, experience any problems related to participation, or have concerns about your rights as a research participant, you may contact:

- **The Principal Investigator:** Xi Cao, Phone: +86-13808033721
- **The Ethics Committee:** Biomedical Ethics Committee of Chengdu Medical

College. Contact: Ms. Wang, Phone: +862862739158

Sharing of Results

Upon completion of the study, we will share a summary of the overall findings and conclusions with all participants, for example, through a course announcement or a brief report.

Statement of Consent

Participant's Statement:

I have read this informed consent form, or it has been read to me. The researcher has explained the purpose, procedures, risks, and benefits of this study to me in detail and has answered all my questions. I understand my rights as a participant. I voluntarily agree to take part in this research study.

Printed Name of Participant: _____

Signature of Participant: _____

Date: _____ / _____ / _____

(DD / MM / YYYY)

Investigator's Statement:

I, the undersigned, have fully explained the relevant details of this research study to the participant named above.

Printed Name of Investigator: _____

Signature of Investigator: _____

Date: _____ / _____ / _____

(DD / MM / YYYY)