

Clinical Trial Protocol

Iranian Registry of Clinical Trials

03 Jun 2026

Comparison of the effect of web-based learning and problem-solving based learning on the critical thinking of nursing students in Islamic Azad University (2021)

Protocol summary

Study aim

Comparing the efficacy of web-based learning vs. problem-solving based learning on critical thinking of nursing students in Islamic Azad University (2021)

Design

An Experimental study with control group, with parallel groups, randomized. The website <https://www.randomize.net> was used for randomization.

Settings and conduct

The location of this study is Azad University of Golestan province. The problem-solving-based learning group is presented for 8 sessions in 90-minute, with a scenario for each session. The researcher proposed problems that could engage the students with the subject in each lesson, and the students discussed with each other face-to-face in groups of 5-6 people. Then the design of a comprehensive nursing process up until planning stage is carried out based on North American Nursing Diagnosis Association (NANDA) for the scenario proposed by the students. In the network-based group, this is done in WhatsApp groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: The student must be studying in the last year of nursing, must be studying at the Islamic Azad University of Golestan province. exclusion criteria: The student must not have a history of failed courses.

Intervention groups

Problem base learning Group and Web based learning Group

Main outcome variables

Critical thinking

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20181208041889N2**

Registration date: **2022-10-19, 1401/07/27**

Registration timing: **registered_while_recruiting**

Last update: **2022-10-19, 1401/07/27**

Update count: **0**

Registration date

2022-10-19, 1401/07/27

Registrant information

Name

Hamid Hojjati

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 17 3222 5207

Email address

h_hojjati1362@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-10-02, 1401/07/10

Expected recruitment end date

2022-12-01, 1401/09/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effect of web-based learning and problem-solving based learning on the critical thinking of nursing students in Islamic Azad University (2021)

Public title

Comparison of the effect of web-based learning and problem-solving based learning on the critical thinking of nursing students

Purpose

Education/Guidance

Inclusion/Exclusion criteria**Inclusion criteria:**

Studying in the last year of nursing Studying in Islamic Azad University

Exclusion criteria:

Guest and transfer to another province History of failed units

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 75

Randomization (investigator's opinion)

Randomized

Randomization description

The randomization method in this study is simple by using the website. The web based randomization performed by www.randomize.net and the randomization sequence in 3 groups between 75 person consisted problem base learning, Net based learning and control group. In this way, 3 groups were entered in the number of groups section, and 75 were entered in the number of people section, and the website randomly assigned people in each group. Concealment was done using sealed envelopes.

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Dezful Islamic Azad University

Street address

Daneshjoo Blvd

City

Dezful

Province

Khuzestan

Postal code

646145169

Approval date

2022-03-13, 1400/12/22

Ethics committee reference number

IR.IAU.D.REC.1401.007

Health conditions studied**1****Description of health condition studied**

Students

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Critical thinking

Timepoint

Pretest and 8 session after start of training sessions

Method of measurement

CCTST (California Critical Thinking Skills Test)
Questionnaire

Secondary outcomes

empty

Intervention groups**1****Description**

First Intervention group: The problem-solving-based learning group is presented for 8 sessions in 90-minute, with a scenario for each session. The researcher proposed a problem in each lesson, and the students discussed with each other face-to-face in groups of 5-6 people to assess and Hypothesized. Then they design a comprehensive nursing process until planning stage by the students

Category

Behavior

2**Description**

The second Intervention group: In the network-based group, in each 90-minute session, the lecturer taught nursing subjects using real examples through the virtual network, and the nursing process is written to planning stage by the students in groups of 5- 6 persons and presented in WhatsApp groups.

Category

Behavior

3

Description

Control group: Nursing students performed routine interventions such as completing a logbook.

Category

Behavior

Recruitment centers

1

Recruitment center

Name of recruitment center

Golestan Islamic Azad University

Full name of responsible person

Nafiseh Hekmati Pour

Street address

Daneshjoo Blvd

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Postal code

4579163931

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Email

N_hekmati68@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University

Full name of responsible person

Nafiseh Hekmati pour

Street address

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Province

Golestan

Postal code

45791631

Phone

+98 17 3423 7933

Email

N_hekmati68@yahoo.com

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Islamic Azad University

Proportion provided by this source

100

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Hamid Hojjati

Position

Associate

Latest degree

Ph.D.

Other areas of specialty/work

Nursery

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Person responsible for scientific inquiries

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Position

Associate professor

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Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

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Fax**Email**

h_hojjati1362@yahoo.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All data is potentially shareable after de-identifying individuals

When the data will become available and for how long

After publish the extracted articles

To whom data/document is available

Researchers working in academic institutions

Under which criteria data/document could be used

Aliabad katul Islamic Azad University

From where data/document is obtainable

Aliabad katul Islamic Azad University

What processes are involved for a request to access data/document

Submitting the request through the researcher's university to the Research Unit of Islamic Azad University of Aliabad Katul

Comments