Clinical Trial Protocol
Iranian Registry of Clinical Trials

31 Oct 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
Khouzestan
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) Questionnare

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
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
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Phone
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Email
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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 updating data

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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