# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

07 Nov 2026

## The comparison of the effectiveness of sensory-motor integration and cognitive rehabilitation on executive functions (attention, working memory and inhibition), fine motor skills, and reading of slow learner students

## Protocol summary

**Study aim**
Determining effectiveness of sensory-motor integration and cognitive rehabilitation on executive functions, fine motor skills and reading of slow learner students

**Design**
A clinical trial with a controlled group & 2 experimental groups, single-blind, randomized, Phase 3, conducted on 15 slow learner students for each group. Using SPSS software for analysis

**Settings and conduct**
After determining the samples and placing them in two intervention groups and a control group, 14 individual sessions are conducted for each member of each intervention group at the Rezvan Center for Students with Special Learning Disabilities (the researcher's workplace) in Sari. Given the random placement of the samples in each group, members of each group are only provided with information related to the rehabilitation method related to their group.

**Participants/Inclusion and exclusion criteria**
Inclusion criteria: Attendance at primary school except first grade, having a slow learning intelligence Exclusion criteria: Having a comorbid disorder, concurrent rehabilitation

**Intervention groups**
The samples are randomly placed into 3 groups (two experimental groups and one control group) and the relevant rehabilitation training packages are given to each member of the three groups over 14 sessions.

**Main outcome variables**
Improving the quality of life of slow learner students and their families; Developing effective education programs for slow learner students in schools and centers for Specific Learning Disabilities; Preventing long-term social and behavioral problems of slow learner students; Strengthening and facilitating relationships between students and peers and educational staff with slow learner students in schools

## General information

**Reason for update**

**Acronym**

**IRCT registration information**
IRCT registration number: **IRCT20250306064948N1**
Registration date: **2025-05-06, 1404/02/16**
Registration timing: **prospective**

Last update: **2025-05-06, 1404/02/16**
Update count: **0**

**Registration date**
2025-05-06, 1404/02/16

**Registrant information**

**Name**
MARYAM FAZELMASAELI

**Name of organization / entity**
Islamic Azad University, Ahvaz Branch

**Country**
Iran (Islamic Republic of)

**Phone**
+98 11 3370 1579

**Email address**
maryamfazelmasaeli@au.ir

**Recruitment status**
**Recruitment complete**

**Funding source**

**Expected recruitment start date**
2025-05-21, 1404/02/31

**Expected recruitment end date**
2025-09-22, 1404/06/31

**Actual recruitment start date**
empty
**Actual recruitment end date**
empty
**Trial completion date**
empty

**Scientific title**
The comparison of the effectiveness of sensory-motor integration and cognitive rehabilitation on executive functions (attention, working memory and inhibition), fine motor skills, and reading of slow learner students

**Public title**
The comparison of the effectiveness of sensory-motor integration and cognitive rehabilitation on slow learner students
**Purpose**
Supportive
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
Attendance in primary education except for the first grade Having a borderline intellectual functioning
**Exclusion criteria:**
Having potential comorbid disorders Receiving simultaneous rehabilitation
**Age**
From **8 years** old to **13 years** old
**Gender**
Both

**Phase**
N/A
**Groups that have been masked**

- Participant

**Sample size**
Target sample size: **45**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
The statistical population includes all borderline intellectual functioning students in Sari. The sampling method is purposive; the sample consists of elementary school students (except for first grade) in the 2024–2025 academic year in Sari. These students may have a record in the SANAD system, a school referral letter, or may have visited the city's Special Learning Disability Centers at their parents' request. From this group, 45 students will be selected using a purposive sampling method. After administering specialized tests, they will be randomly assigned to three groups.
**Blinding (investigator's opinion)**
Single blinded
**Blinding description**
Since the placement of participants in each of the three groups is random, only the rehabilitation method used in each group will be explained.
**Placebo**
Not used
**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
Ethics Committee of Islamic Azad University – Ahvaz Branch
**Street address**
Faculty of Nursing and Midwifery, Ahvaz Branch, Islamic Azad University, Farhang Shahr
**City**
Ahvaz
**Province**
Khouzestan
**Postal code**
۶۱۳۴۹-۳۷۳۳۳
**Approval date**
2025-01-03, 1403/10/14
**Ethics committee reference number**
IR.IAU.AHVAZ.REC.1403.377

## Health conditions studied

### 1

**Description of health condition studied**
Weaknesses in Executive Functions (Attention, Working Memory, Inhibition) of Slow Learner Students, Weaknesses in Fine Motor Skills of Slow Learner Students, Weaknesses in Reading Skills of Slow Learner Students
**ICD-10 code**
**ICD-10 code description**

## Primary outcomes

### 1

**Description**
Executive Functions (attention, working memory ,inhibition) of slow learner students
**Timepoint**
Measuring Executive Functions (Attention, Working Memory, Inhibition) of slow learner students at the beginning of the study (before the intervention) and after 14 sessions of implementing two rehabilitation methods for each participant in two intervention groups
**Method of measurement**
Measurement of Executive Functions (Attention with the Stroop Test, Working Memory with the WMTB-C Test, Inhibition with the Go-No Go Test)

### 2

**Description**
Fine motor skills of slow learner students
**Timepoint**

Measuring Fine Motor Skills of slow learner students at the beginning of the study (before the intervention) and after 14 sessions of implementing two rehabilitation methods for each participant in two intervention groups

**Method of measurement**

Measurement of Fine Motor Skills with the Bruininks-Oseretsky Test

**3**

**Description**

Reading of slow learner students

**Timepoint**

Measuring Reading of slow learner students at the beginning of the study (before the intervention) and after 14 sessions of implementing two rehabilitation methods for each participant in two intervention groups

**Method of measurement**

Measurement of Reading Skills with the Nema Reading Test.

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**

The first intervention group with Sensory- Motor Integration Method: 15 eligible subjects were randomly assigned to this group and provided with a sensory - motor integration training package over 14 sessions (one session per week) along with related activities and homework that could be tracked by reviewing photos, short videos, or audio recordings of how homework was done at home, which were sent by parents every day between sessions.

**Category**

Rehabilitation

**2**

**Description**

The second intervention group with Cognitive Rehabilitation Method: 15 eligible subjects were randomly assigned to this group and provided with a cognitive rehabilitation training package over 14 sessions (one session per week) along with related activities and homework that could be tracked by reviewing photos, short videos, or audio recordings of how homework was done at home, which were sent by parents every day between sessions.

**Category**

Rehabilitation

**3**

**Description**

Control group: without any intervention

**Category**

N/A

## Recruitment centers

**1**

**Recruitment center**

**Name of recruitment center**

Rezvan Center for Students with Specific Learning Disabilities

**Full name of responsible person**

Maryam Fazel Masaeli

**Street address**

Beginning of Seyyed Razi Sadati Alley, Shahid Bahonar Alley, Western Beltway

**City**

Sari

**Province**

Mazandaran

**Postal code**

4816964434

**Phone**

+98 11 3321 6156

**Email**

maryamfm49@gmail.com

## Sponsors / Funding sources

**1**

**Sponsor**

**Name of organization / entity**

Islamic Azad University- Ahvaz Branch

**Full name of responsible person**

Marzieh Talebzadeh Shoushtari

**Street address**

Ahvaz Branch, Islamic Azad University, Farhang Shahr

**City**

Ahvaz

**Province**

Khouzestan

**Postal code**

۶۱۳۴۹-۳۷۳۳۳

**Phone**

+98 916 619 4772

**Email**

talebzadehmarzieh@gmail.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- Ahvaz Branch

**Proportion provided by this source**

100

**Public or private sector**

Public

**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, Ahvaz Branch

**Full name of responsible person**
Maryam Fazel Masaeli

**Position**
PhD student

**Latest degree**
Master

**Other areas of specialty/work**
Psychology

**Street address**
Beginning of Seyyed Razi Sadati Alley, Shahid Bahonar Alley, Western Beltway

**City**
Sari

**Province**
Mazandaran

**Postal code**
4816964434

**Phone**
+98 11 3321 6156

**Email**
Maryamfm49@gmail.com

## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**
Islamic Azad University, Ahvaz Branch

**Full name of responsible person**
Maryam Fazel Masaeli

**Position**
PhD Student

**Latest degree**
Master

**Other areas of specialty/work**
Psychology

**Street address**
Beginning of Seyyed Razi Sadati Alley, Shahid Bahonar Alley, Western Beltway

**City**
Sari

**Province**
Mazandaran

**Postal code**
4816964434

**Phone**
+98 11 3321 6156

**Email**
Maryamfm49@gmail.com

## Person responsible for updating data

**Contact**

**Name of organization / entity**
Islamic Azad University, Ahvaz Branch

**Full name of responsible person**
Maryam Fazel Masaeli

**Position**
PhD Student

**Latest degree**
Master

**Other areas of specialty/work**
Psychology

**Street address**
Beginning of Seyyed Razi Sadati Alley, Shahid Bahonar Alley, Western Beltway

**City**
Sari

**Province**
Mazandaran

**Postal code**
4816964434

**Phone**
+98 11 3321 6156

**Email**
Maryamfm49@gmail.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 anonymizing individuals

**When the data will become available and for how long**
The access period begins 6 months after the publication of the results

**To whom data/document is available**
All researchers working in academic and scientific institutions, specialists in psychology with fields related to the research topic, students, and researchers in this area

**Under which criteria data/document could be used**
The results and data of the research will be presented to improve the living and educational conditions of slow learner students

**From where data/document is obtainable**
Specialized websites, reputable related journals, and the researcher's email address

**What processes are involved for a request to access data/document**
After the completion of the research, final presentation of the results, and defense, the information will be published and, depending on the time required for

publication, it will be accessible from related credible sources

**Comments**