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Investigation of the effectiveness of different teaching methods regarding orthotic fabrication among occupational therapy students

Submission date 07/10/2025	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 09/10/2025	**Overall study status** Completed	
Last Edited 09/10/2025	**Condition category** Other	

Plain English summary of protocol

Background and study aims
This study aims to compare three different ways of teaching orthotic fabrication (also called splinting) to occupational therapy students. Orthotic fabrication involves designing and making custom-made splints that support or protect the hand and wrist. Because splinting is a practical skill that requires hands-on training, it can be challenging to teach online. The study will compare traditional face-to-face teaching, fully online classes, and a blended approach (a mix of both). The goal is to find out which method helps students perform better, feel more confident, and be more satisfied with their learning experience.

Who can participate?
Students currently enrolled in the occupational therapy program at Kuwait University who have no previous experience in splint or orthosis fabrication can take part. Students must be available for all sessions during the study period. Those who already have prior splinting experience or cannot attend all sessions will not be included.

What does the study involve?
Participants will be randomly divided into three groups:
• Group 1: Face-to-face instruction in the university laboratory.
• Group 2: Blended instruction (two online theory sessions and two in-person lab sessions).
• Group 3: Fully online learning through Zoom sessions.

Each group will complete four classes over two weeks, each lasting 60–90 minutes, focusing on making different types of splints. In the final week, each student will make a splint independently, which will be evaluated by two experts using a grading checklist. Students will also complete a short online survey about their confidence and satisfaction with the learning method.

What are the possible benefits and risks of participating?
Participants may gain new knowledge and hands-on experience in orthotic fabrication, which could improve their practical skills and confidence for clinical work. There are minimal risks, but students might experience minor discomfort such as hand fatigue . All activities will be supervised by experienced instructors to ensure safety.

Where is the study run from?
The study will be conducted at the Faculty of Allied Health Sciences, Kuwait University, in collaboration with the Occupational Therapy Department.

When is the study starting and how long is it expected to run for?
The study is expected to start in November 2025 and will run for approximately three weeks in total: two weeks of teaching, and one weeks for evaluation and data analysis.

Who is funding the study?
The study is funded and supported by the Faculty of Allied Health Sciences, Kuwait University.

Who is the main contact?
Ms Anfal H. Al-Huwaidi, anfal.alhuwaidi@ku.edu.kw

Contact information

Type(s)
Public, Scientific, Principal investigator

Contact name
Ms Anfal Alhuwaidi

ORCID ID
https://orcid.org/0009-0008-1315-0872

Contact details
Kuwait, Hatten
Kuwait
Kuwait
-
+965 51122435
anfal.alhuwaidi@ku.edu.kw

Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
Nil known

Study information

Scientific Title
Investigation of the effectiveness of different teaching methods regarding orthotic fabrication among occupational therapy students: a randomized controlled trial

Study objectives
Occupational therapy students who receive blended learning (a combination of online and face-to-face instruction) will demonstrate higher splint fabrication quality, confidence, and satisfaction compared to those in fully online or traditional face-to-face learning groups.

Ethics approval required
Ethics approval required

Ethics approval(s)
approved 28/04/2025, HSC Ethical Committee (Safat, Kuwait city, -, Kuwait; +965 25319504; HSC.ETHICALCOMMITEE@KU.EDU.KW), ref: VDR/EC -2025-95

Study design
Interventional randomized controlled trial

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Orthotic fabrication among occupational therapy students

Interventions
This study will evaluate the effectiveness of three different teaching methods using two primary outcome measures: 1. splint quality assessment and 2. student self-reported confidence and satisfaction. By integrating objective performance evaluation with subjective student perceptions, this study aims to provide a comprehensive analysis of the impact of face-to-face, blended, and fully online teaching methods on orthotic fabrication training.

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Intervention Type
Other

Primary outcome(s)
Splint Quality Assessment: this assessment will be used after the training period where each participant will fabricate a wrist cock-up splint independently, which will be assessed by two expert evaluators using a validated grading sheet.

Key secondary outcome(s))
Student Confidence and Satisfaction Survey: before the training program and after the independent splint fabrication, participants will complete an online self-assessment survey measuring:
1. Confidence in splint fabrication
2. Perceived preparedness for clinical practice
3. Overall satisfaction with their assigned learning method

Completion date
01/01/2026

Eligibility

Key inclusion criteria
1. Actively enrolled in the OT program
2. Available for the full duration of the training
3. No prior experience in splint fabrication

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Upper age limit
25 years

Sex
All

Key exclusion criteria
Students with previous training in orthotic fabrication or those unable to commit to all scheduled sessions

Date of first enrolment
01/11/2025

Date of final enrolment
10/11/2025

Locations

Countries of recruitment
Kuwait

Study participating centre
Kuwait University-Faculty of Allied Health Sciences
Jabreyah
Kuwait city
Kuwait
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Sponsor information

Organisation
Kuwait University

ROR
https://ror.org/021e5j056

Funder(s)

Funder type
University/education

Funder Name
Kuwait University

Alternative Name(s)
KU

Funding Body Type
Government organisation

Funding Body Subtype
Local government

Location
Kuwait

Results and Publications

Individual participant data (IPD) sharing plan

The dataset generated and or analyzed during the current study will be published as a supplementary data to the results published

IPD sharing plan summary

Published as a supplement to the results publication

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet			09/10/2025	No	Yes
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes