

Efforts to Develop Disaster Nursing Program Teaching Materials



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The authors declare no conflicts of interest related to this study.

Aims & Conclusions

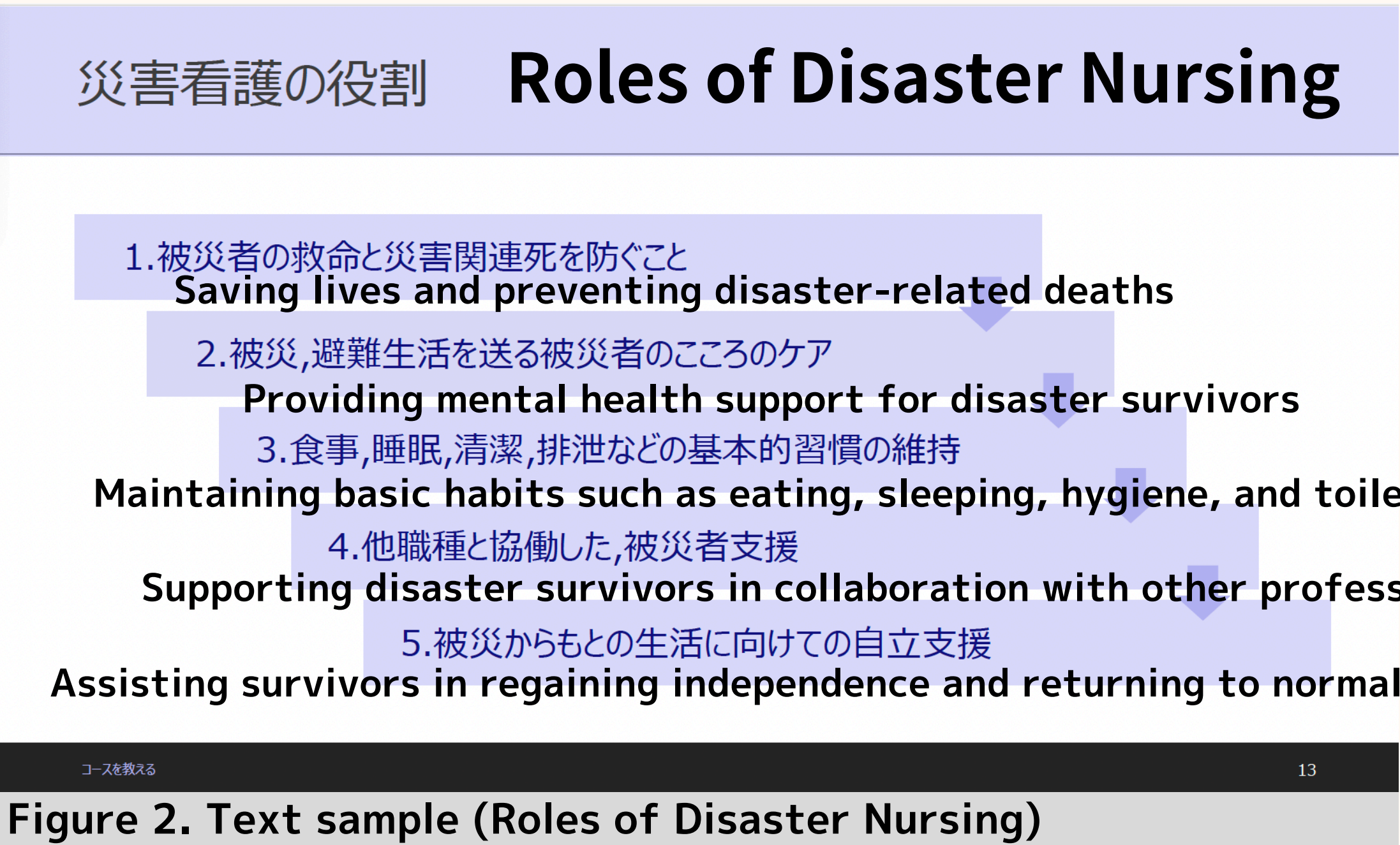
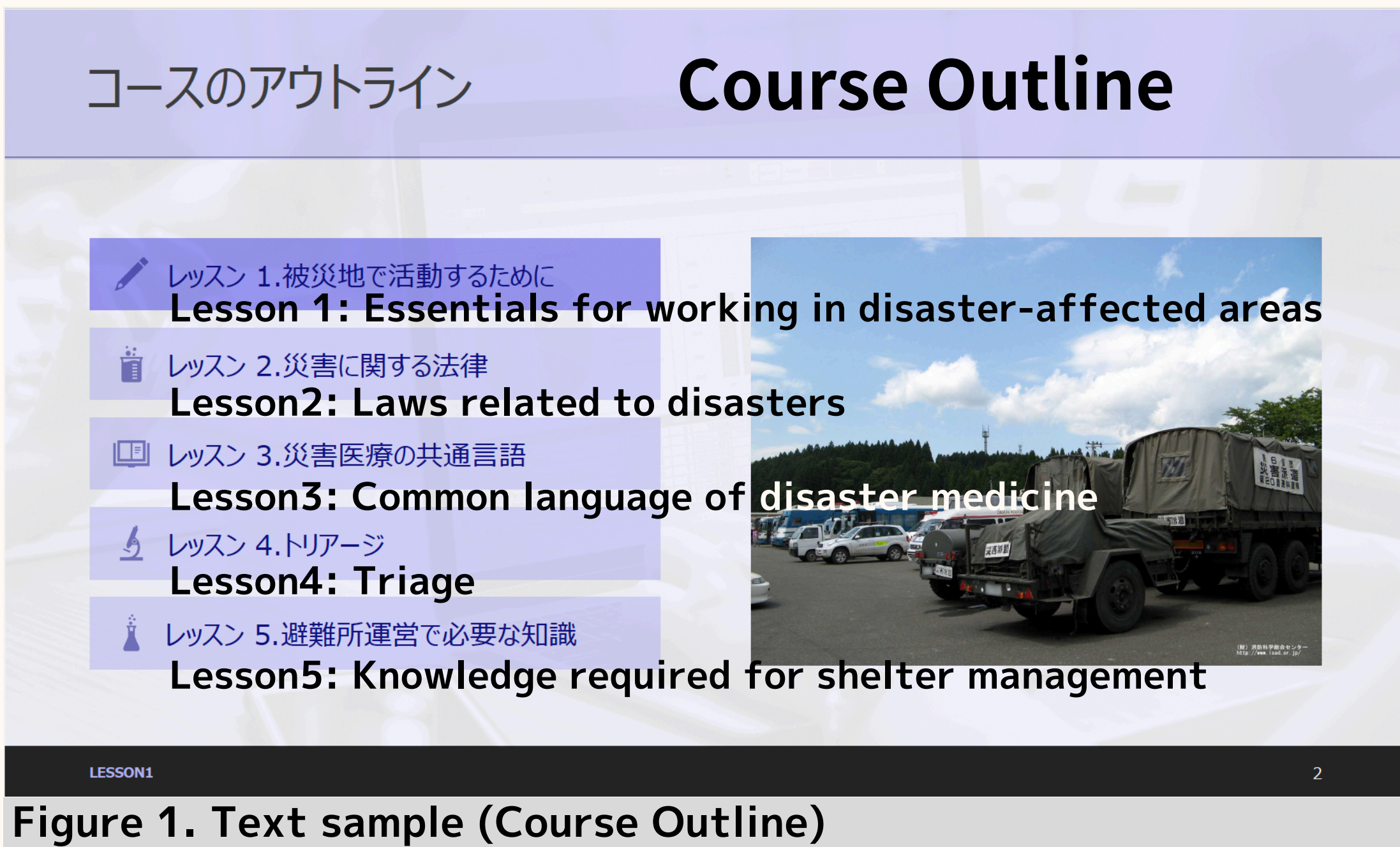
- ✓ The purpose of this study is **to develop practical teaching materials** that enable nursing students to actively learn about the operations and considerations in a disaster shelter, and **to examine the effectiveness of these materials**.
- ✓ **The developed teaching materials improved learner motivation and engagement**, as the experimental group scored higher than the control group in the IMMS*.
- ✓ To fully evaluate their quality, multiple educational effectiveness measurement methods are required.

*: Instructional Materials Motivation Survey

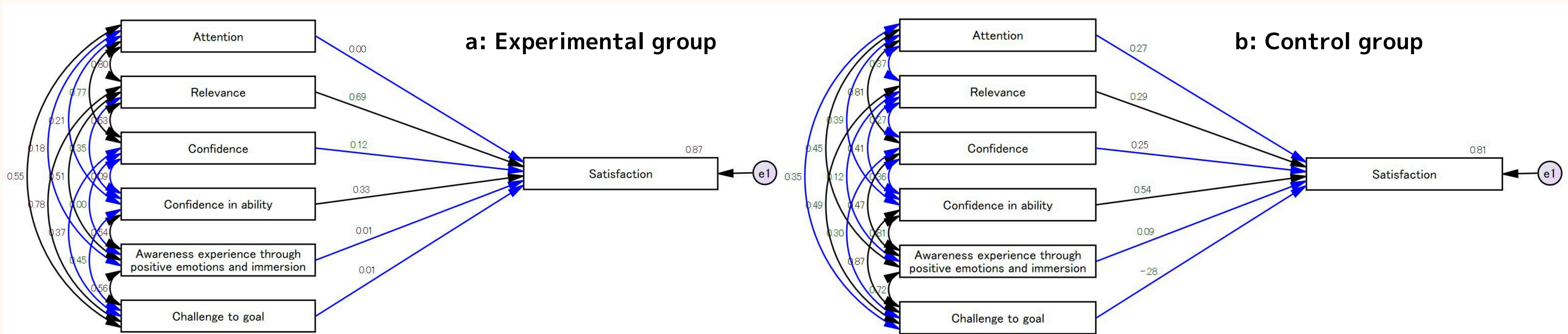
Methods

- ✓ **Participants:**
 - Students who had completed disaster nursing were divided into two groups: an **experimental group(n=27)** and a **control group(n=22)**.
- ✓ **Intervention:**
 - Created slides with synthesized **voice content, animations, and embedded video playback** for basic knowledge of disaster nursing (covering hyperacute to chronic phases).
 - Used **motion graphics techniques**, including:
 - Text and illustrations with movement and sound.
 - Ticker functions and timeline panels to help students track lecture progress.
- ✓ **Duration:**
 - Lecture Length:** Each 60-minute session covered Lessons 1 to 5(Figure 1).
 - Session period:** November 1, 2023, to August 31, 2024.
- ✓ **Measurement:**
 - IMMS Subscales:** confidence, satisfaction, relatedness
 - Each IMMS subscale was scored on a 5-point Likert scale, with higher scores indicating greater levels of the corresponding motivation aspect.
- ✓ **Statistical Analysis:**
 - Simultaneous multi-group analysis was conducted to examine the relationships between 'relatedness,' 'confidence in ability,' and 'satisfaction' across study groups (All analyses were conducted using IBM SPSS Statistics 29.0.2 and IBM SPSS Amos 29 Graphics).

This study was approved by the Graduate School of Health Sciences, University A Ethics Committee (Approval No. 2023-011).



Results



Key Findings

1. Simultaneous Multi-group Analysis (Figure 3):

- Satisfaction in the experimental group was strongly influenced by **“Relevance”** and **“Confidence in Ability”**.
- In the control group, **“Confidence in Ability”** was the main factor, with a negative impact observed from **“Challenge to Goal”**.

2. Correspondence Analysis (Figure 4):

- The experimental group was associated with keywords **reflecting practical and visual learning** (e.g., **“Knowledge,” “Pictures”**).
- The control group focused on foundational and theoretical concepts (e.g., **“Teaching materials,” “Disaster”**).

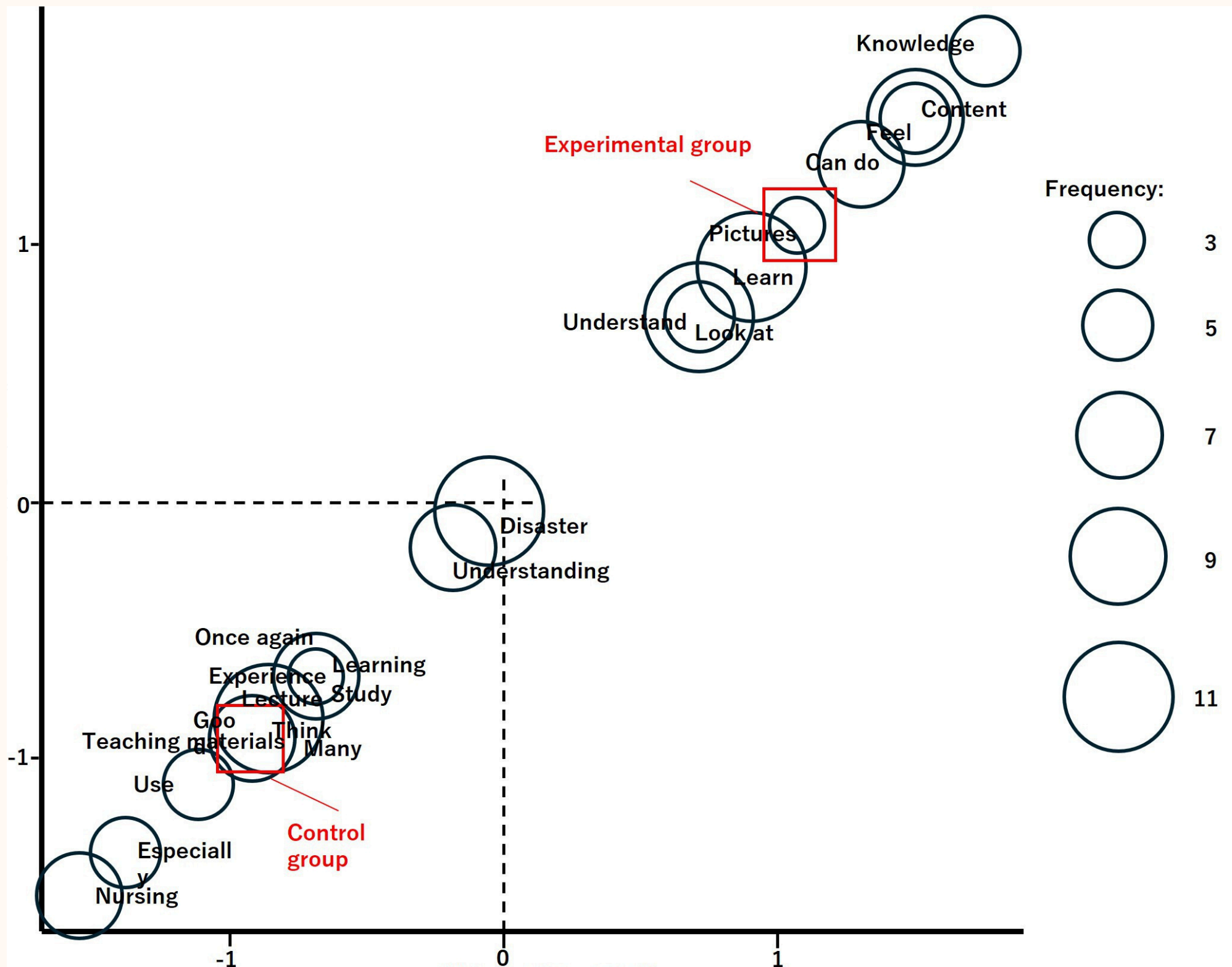


Figure 4. Correspondence Analysis of Keywords Reflecting Learning Outcomes in Experimental and Control Groups

Summary of Differences:

The experimental group emphasized experiential and applied learning, while the control group relied more on theoretical and confidence-driven approaches.