

# Feldenkrais Method balance classes are based on principles of motor learning and postural control retraining: a qualitative research study

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## Abstract

**Background** Feldenkrais Method balance classes have been found to be effective in improving balance in recent studies, but there has been little research into possible mechanisms behind the effectiveness of these classes. Indeed, there has been little research into the content of any balance training classes.

**Objectives** To analyse the content of a series of Feldenkrais Method balance classes to gain an understanding of how the results in these studies may have been achieved and the principles through which the method may be effective.

**Design** Qualitative research approach (content analysis).

**Method** Feldenkrais Method Awareness Through Movement lessons were transcribed and the contents were analysed. An intercoder reliability study was undertaken.

**Results** The content analysis revealed that the classes used motor skill acquisition elements of internal feedback, repetition and variability of practice using an exploratory learning approach. Postural control skills of intersegmental coordination of ankle/hip/trunk synergies were practised, with control of the centre of mass over the base of support explored in anterior/posterior, medio/lateral, diagonal, rotational and circular directions. Key findings were the extensive involvement of trunk flexibility and control in the balance activities, and also the intensive attention to internal feedback which was linked to body awareness training.

**Conclusion** The Awareness Through Movement lessons contained many elements consistent with current theories of motor skill acquisition and postural control, providing a sound theoretical basis for the effectiveness of the Feldenkrais approach in improving balance. The methodology used in this study may provide a useful model for similar investigations into other balance training approaches.

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**Keywords:** Feldenkrais; Aged; Balance; Exercise therapy; Qualitative research

## Introduction

There has been increasing interest in strategies/approaches to improve balance, with particular attention paid to reducing falls in older people [1]. Interventions using balance training have been found to be more beneficial than programmes based on strengthening, flexibility or walking [2]. The Feldenkrais Method was developed over several decades by Dr Moshe Feldenkrais (1904–1984), an Israeli scientist and Judo mas-

ter with a pioneering interest in human movement from a dynamic systems perspective. The Feldenkrais Method Awareness Through Movement lessons are an approach to movement learning in which participants are verbally guided through movement sequences aimed at improvement of body awareness and movement organisation [3]. Stephens *et al.* [4] have proposed that ‘this process facilitates the learning of strategies for improving organisation and coordination of body movement by developing spatial and kinaesthetic awareness of body-segment relationships’ (p. 1642).

Among the hundreds of lessons that Dr Feldenkrais created [5], many are suitable for balance retraining. There is evidence of the effectiveness of the Feldenkrais Method for this purpose [6–12]. Awareness Through Movement lessons

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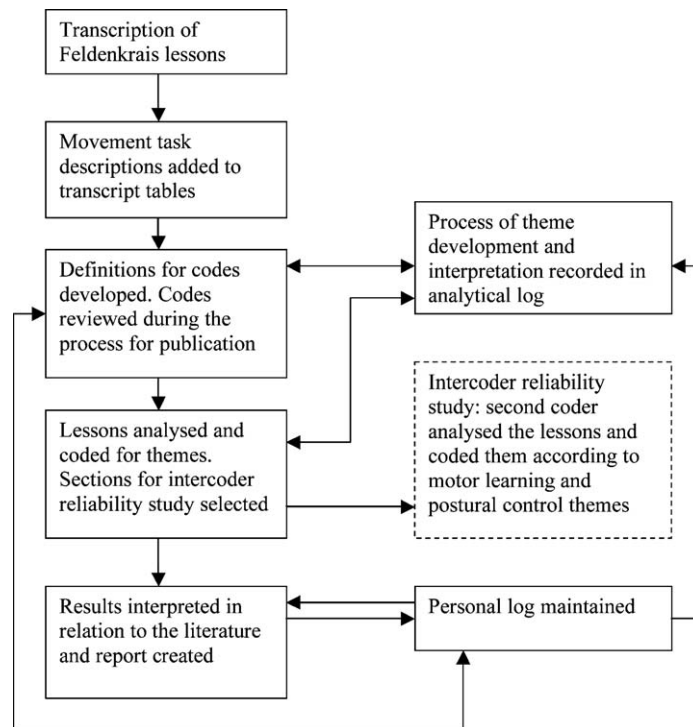


Fig. 1. Methodology of content analysis.

have been found to improve balance measures and balance confidence in older adults [6–9], and also in individuals with multiple sclerosis [12] and chronic neurological deficits following stroke [10]. Older adults attending Awareness Through Movement lessons made significant improvements in activities-specific balance confidence questionnaire scores ( $P=0.005$ ), gait speed ( $P=0.017$ ) and four square step test time ( $P=0.022$ ) compared with a control group [11]. However, no systematic analysis of the content of the lessons has been performed to date. Indeed, there has been very little systematic analysis of the content of any balance retraining approach described in the literature. The purpose of this paper is to provide such an analysis, and to gain an understanding of how the results in these studies may have been achieved and the principles through which this method may be effective. The research question was: Can the mechanisms by which Awareness Through Movement lessons improve balance be identified using content analysis? A further research question was: Is this methodology suitable for investigating the content of other approaches to balance retraining?

## Methods

A qualitative research approach was adopted, and content analysis, which is a form of document analysis specifically about communication that has already been captured [13], was identified as being the most suitable analytical approach

for this study. The flow chart in Fig. 1 illustrates the methodology used to conduct this investigation. The left-hand column describes the activities that were undertaken, and the reflective process of the first author is described in the right-hand column.

### *Transcription of lessons*

The 16 lessons of the Getting Grounded Gracefully [14] series of Awareness Through Movement lessons have been recorded on CD and formed the data for this study. Each lesson was different and consisted principally of verbal movement instructions to the participants, interspersed with instructions of what to pay attention to during the movements. A summary of the lessons is presented in Table 1. Transcription resulted in 160 pages of data for analysis.

### *Description of movement tasks*

Each instruction in each lesson was then described as a movement task, so that the actual content of the lessons was clear in terms of movement analysis. For example, the instruction: 'Imagine you're standing on a clock—12 at toes, 6 at heels, 3 to the right, 9 to the left. Tilt from 3 o'clock to 9 o'clock' was described as 'Weight shift from left to right in standing' in a column marked 'Movement task'. This process is illustrated by the excerpt from a lesson transcription displayed in Table 2.

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