International Conference on
TEACHING, LEARNING and EDUCATION

2 - 4 July 2026 Zurich , Switzerland

Neuroscience Literacy among Japanese College Students in Teacher Training and Non-Teacher Training Programmes

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Abstract

Since the early 1990s, advances in brain imaging technologies such as functional magnetic resonance imaging (fMRI), positron emission tomography (PET), and magnetic resonance imaging (MRI) have enabled the real-time observation of brain activity, significantly enhancing understanding of brain structure and function, including processes related to language, reasoning, and learning. These developments have positioned neuroscience as a valuable resource for informing educational practice. At the same time, the widespread availability of the Internet, social media, and popular science publications has facilitated the dissemination of misconceptions and misleading claims about the brain, commonly referred to as neuromyths.

This study examines neuroscience literacy among Japanese college students enrolled in teacher training and non-teacher training programmes. Data were collected using a 30-item survey administered to 141 participants. The findings indicate the presence of misconceptions in both groups. The study underscores the importance of addressing educational neuromyths among young adults, particularly pre-service teachers, as the persistence of erroneous beliefs may negatively influence teaching practices.

Keywords: Educational Neuroscience, Neuroscience Literacy, Neuromyths, Teacher Training