



静岡理工科大学 2026  
Shizuoka Institute of Science & Technology

Contribution ID: 68

Type: 一般講演 / General Presentation

## Building a Fully Offline Moodle Ecosystem: Designing Local-Network Learning for Connectivity-Restricted Environments

*Sunday, 1 March 2026 15:30 (25 minutes)*

Many learning environments worldwide face significant barriers to digital education due to unreliable or absent Internet connectivity. This study presents the development of a fully offline Moodle ecosystem hosted on a local server and shared with multiple client computers via a standalone network. Learners access course content, activities, and assessments through a local web address, enabling full interaction within the offline environment.

The system preserves core Moodle capabilities, including activity completion tracking, assessments, progress monitoring, and structured course pathways, ensuring that both learners and facilitators can engage effectively without Internet access. This offline model is applicable in diverse contexts such as remote rural schools, disaster-response or evacuation learning centers, community hubs, temporary field classrooms, and island or mountain communities.

By detailing the deployment design, operational challenges, and implementation strategies, this study offers a practical and replicable blueprint for expanding digital learning opportunities in connectivity-restricted environments. The approach demonstrates how offline Moodle can sustain high-quality educational experiences, bridging gaps in access and supporting inclusive learning practices.

### 発表日の希望 / Preferred Day

いずれの日でも結構です / Either day is fine

### MAJ R&D Grant

いいえ

**Authors:** LACTUAN, Lei Kristoffer (University of the Philippines Open University); PUGOY, Reinald Adrian (University of the Philippines - Open University)

**Co-authors:** Mr ROXAS, Eriberto (University of the Philippine Open University); Mr PULMANO, Dan Zakai (University of the Philippine Open University); Mr RACELIS, Nikko Paolo (University of the Philippine Open University); Mr ALARCON, Adriane Jennel (University of the Philippine Open University); Mr MAGSINO, Renz Jemil (University of the Philippine Open University)

**Presenter:** LACTUAN, Lei Kristoffer (University of the Philippines Open University)

**Session Classification:** SUN AFTERNOON ROOM A

**Track Classification:** 授業実践と教材開発 / Practices and Materials in Classroom