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

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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

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