

Completion Report

Universiti Teknologi Malaysia
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Subject of Research Project :

***Monozukuri* Assimilation in Higher Education Institutions Beyond Japan: Comparative Studies from The Perspective of Educators and Students**

The concept of *Monozukuri* has been integrated into educational institutions outside Japan, particularly in institutions that adopt Japanese-style education. In this project, Malaysia and Egypt were examined. While *Monozukuri* is deeply embedded in Japanese institutions, its explicit recognition varies elsewhere. Some institutions outside Japan are well-acquainted with the concept and actively embed it into their teaching and learning approaches. Others, while unfamiliar with the term itself, have incorporated its values indirectly through pedagogies such as problem-based learning and project-based learning, which emphasize hands-on practice, teamwork, and continuous improvement. Despite these efforts, a key issue identified is the absence of a structured and contextualized framework for implementing *Monozukuri* outside Japan. Although its principles are often reflected in classroom practices and student projects, the lack of formal recognition and intentional design may limit its deeper integration into curricula. Furthermore, cultural and institutional differences, including educational priorities, resource availability, and teaching philosophies, may influence how *Monozukuri* is understood and applied, resulting in inconsistencies. These variations highlight the need for more deliberate strategies to support the assimilation of *Monozukuri* across diverse educational environments beyond Japan.

Moving forward, the implementation of *Monozukuri* in educational institutions outside Japan can be enhanced through a deliberate and structured approach that adapts its core principles to local educational contexts. While the philosophy of *Monozukuri* is rooted in Japanese culture, its values such as craftsmanship, continuous improvement, and problem-solving are universally relevant and can be meaningfully applied through existing pedagogical methods like problem-based learning and project-based learning. To support this, institutions outside Japan should embed *Monozukuri* into both fundamental and advanced courses by incorporating hands-on activities, iterative design processes, and reflection practices tailored to their curricula. Introducing structured problem-based and project-based learning modules that use real-world scenarios and emphasize incremental improvement will help students internalize *Monozukuri* values in a practical way. Additionally, organizing project showcases across institutions can serve not only to evaluate student learning but also to promote cross-institutional collaboration and the exchange of ideas. These showcases can highlight how *Monozukuri* is interpreted and applied in diverse cultural and institutional settings, providing a basis for refining teaching practices and assessment tools. Establishing collaborative platforms for sharing teaching materials, problem-based and project-based learning case studies, and evaluation rubrics can further support the consistent implementation of *Monozukuri* outside Japan.

This project outcomes were disseminated through academic conferences, enabling engagement with the wider academic community and encouraging further discussion on the assimilation of *Monozukuri* in higher education institutions beyond Japan. The project also supported students' projects, providing early exposure to *Monozukuri* principles and helping cultivate students' awareness and understanding of its values. At the same time, discussion was conducted with subject matter expert in education to explore the way forward and to identify strategies for strengthening the implementation of *Monozukuri* in educational institutions outside Japan, specifically in Malaysia.

Publication of the Results of Research Project:

<p>Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)</p> <p>Date: 09 – 11 Sept 2025</p> <p>Venue: Kuching, Sarawak, MALAYSIA</p> <p>Conference: 2025 IEEE 14th International Conference on Engineering Education (ICEED2025)</p> <p>Title: MONOZUKURI ASSIMILATION IN HIGHER EDUCATION INSTITUTIONS BEYOND JAPAN: COMPARATIVE STUDIES FROM THE PERSPECTIVE OF EDUCATORS</p> <p>Date: 15 – 16 Dec 2025</p> <p>Venue: Bali, INDONESIA</p> <p>Conference: 2025 EdTec – International Conference on Education & Learning Technology</p> <p>Title:</p> <ol style="list-style-type: none">1. Monozukuri Assimilation in Higher Education Institutions Beyond Japan: Comparative Studies from the Perspective of Students on Course-Level Implementation2. Monozukuri Assimilation in Higher Education Institutions Beyond Japan: Comparative Studies from the Perspective of Students on the Effectiveness of Monozukuri Values
<p>Conference Proceeding (Name of Journal and its Date, Title and Author of Thesis, etc.)</p> <p>2025 IEEE 14th International Conference on Engineering Education (ICEED), Kuching, Sarawak, Malaysia, 2025 <i>"Monozukuri Assimilation in Higher Education Institutions Beyond Japan: Comparative Studies from the Perspective of Educators"</i></p> <p>S. R. Aid, P. Tamunaidu, O. C. Yee, N. Ismail, U. Khairuddin and F. L. M. Redzuan, DOI: 10.1109/ICEED66794.2025.11400285.</p>
<p>Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)</p> <p><i>NIL</i></p>
<p>Book (Publisher and Date of the Book, Title and Author of the Book, etc.)</p> <p><i>NIL</i></p>