# Outcome-Based Education in ASEAN Design Education Programs: Implementation, Practices, and Challenges

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## Abstract

Outcome-Based Education (OBE) has become a central framework shaping curriculum design and quality assurance in ASEAN higher education, particularly in professionally oriented fields such as design education. This paper examines how OBE is implemented across design-related programs in ASEAN, identifying prevailing practices, key challenges, and innovative approaches. Drawing on regional policy analysis and selected institutional examples from Indonesia, Malaysia, the Philippines, and Vietnam, the study highlights the influence of national qualification frameworks and ASEAN University Network–Quality Assurance (AUN-QA) standards on learning outcomes, teaching strategies, and assessment practices. An in-depth case study of the Design Innovation Program (DIP) at King Mongkut's University of Technology Thonburi (KMUTT) illustrates a distinctive model of OBE implementation through long-term work-integrated learning and industry co-creation. The findings suggest that while OBE enhances transparency, graduate readiness, and industry alignment, its effectiveness depends on sustained collaboration, faculty capacity, and coherent assessment systems.

*Keywords:* outcome-based education, design education, ASEAN, work-integrated learning, quality assurance

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## Introduction

Outcome-Based Education (OBE) emphasizes the clear articulation of intended learning outcomes and the systematic alignment of curriculum, teaching, and assessment to ensure that learners achieve demonstrable competencies (Spady, 1994). It has been widely adopted across ASEAN higher education as a mechanism for improving graduate quality, transparency, and international comparability. In design education, OBE is particularly relevant because programs are expected to develop complex combinations of creative, technical, professional, and interpersonal competencies. This paper explores the implementation of OBE across ASEAN design education programs and examines the opportunities and constraints associated with translating outcome frameworks into effective teaching, learning, and assessment practices.

## Methodology

This study adopts an empirical research approach through a qualitative case study methodology. It combines comparative analysis and in-depth documentation to explore the implementation of Outcome-Based Education (OBE) in design-related undergraduate programs within ASEAN. The first layer of inquiry involves a thematic analysis of OBE practices across regional institutions in Indonesia, Malaysia, the Philippines, and Vietnam, drawing from policy documents, academic literature, and quality assurance frameworks such as AUN-QA. The second layer presents an in-depth case study of the Design Innovation Program at School of Architecture and Design (KMUTT), focusing on its real-time implementation of OBE in collaboration with industry partners. This includes the co-development of learning outcomes, teaching strategies, and assessment rubrics with professionals from Jacob Jensen Design and 4digit Thailand. The case exemplifies both challenges and strengths of applying OBE through experiential learning and work-integrated education. This dual-layered, evidence-based qualitative approach allows the study to capture nuanced educational practices and contribute to grounded recommendations for improving OBE in design education across the ASEAN region.

## Current Status of OBE Adoption in Design Education Programs (ASEAN)

Across ASEAN, the adoption of OBE has been strongly influenced by the ASEAN University Network–Quality Assurance (AUN-QA) framework, which emphasizes outcome clarity, alignment, and continuous improvement (ASEAN University Network, 2016). In the Philippines, for example, the Commission on Higher Education (CHED) mandated a shift to OBE in 2012, prompting universities to redesign curricula around intended learning outcomes (Commission on Higher Education [CHED], 2012). By 2021, studies indicated that both accredited and non-accredited Philippine institutions were largely compliant with CHED's OBE framework, though they continued to face challenges in fully realizing effective outcome-based teaching. Malaysia has likewise embedded OBE into its national quality framework – all programs (including Art & Design degrees) are aligned with the Malaysian Qualifications Framework (MQF), which requires "a clear definition of the intended outcomes" for each program, supported by appropriate teaching methods and assessments (MQA,2024).

Across the region, many universities have embraced OBE as part of quality assurance and accreditation initiatives. The ASEAN University Network – Quality Assurance (AUN-QA) system, in particular, has been a driver of OBE adoption. AUN-QA assessments focus on clearly defined learning outcomes aligned to program objectives, using these outcomes to

evaluate program effectiveness and ensure students attain the desired competencies (Pham & Vu Nguyen, 2023). In Vietnam, for instance, national standards for program accreditation were essentially "borrowed" from AUN-QA, and since 2009 a number of Vietnamese universities have had their programs (including design majors) assessed under the AUN-QA criteria (Pham & Vu Nguyen, 2023). This trend continues as of 2024, reflecting a broad regional move toward outcomes-based quality standards. Still, OBE implementation is at varying stages across ASEAN: some countries and institutions have fully integrated an outcomes-based approach, while others are still strengthening faculty capacity and understanding of OBE principles. In general, however, the trajectory is clear – outcome-based curricula are now a central feature of design education programs in the region, intended to improve graduate competencies and international comparability.

**Notable Examples of OBE Implementation in Design Programs**

Numerous ASEAN universities have pioneered notable OBE practices in their design degree programs. A common hallmark is seeking AUN-QA accreditation or similar outcome-focused certifications for these programs:

- Indonesia – Universitas Multimedia Nusantara (UMN): UMN's Visual Communication Design program underwent an AUN-QA international assessment in 2021 and achieved a successful rating. AUN-QA is explicitly an OBE-oriented quality standard, and UMN's program met 11 evaluation criteria covering curriculum design, teaching/learning processes, learning outcomes, resources, and continuous improvement – all centered on outcomes-based education governance (*Universitas Multimedia Nusantara, 2021*). This indicates that the program's curriculum and management were on par with ASEAN OBE standards.
- Philippines – University of the Philippines (UP): At UP Diliman (and its extension in Baguio), several Bachelor of Fine Arts (BFA) programs in design have undergone external quality reviews aligned with AUN-QA. In late 2024, UP subjected its BFA in *Industrial Design* and BFA in *Visual Communication* (among others) to an AUN-QA formatted assessment, examining how well these programs achieve their stated outcomes (Sazon, E. & Ramos, 2025). This reflects a strong institutional commitment to OBE – the design programs are explicitly framing their curricula around expected learning outcomes and having them vetted against regional standards.
- Vietnam – Hoa Sen University (HSU): Hoa Sen University has actively pursued AUN-QA accreditation for its design majors. By mid-2021, HSU's Interior Design bachelor's program had been certified as meeting AUN-QA outcome standards, and in 2022 its Graphic Design program was likewise accredited (Hoa Sen University. (n.d.). Students in these programs benefit from curricula that are transparently aligned to learning outcomes and rigorously evaluated. Such accreditation signifies that teaching, learning, and assessment in those design courses are structured to achieve the intended competencies, and the degrees are more regionally recognized as outcome-based qualifications.
- Malaysia: All public and private universities in Malaysia implement OBE in design programs by requirement of national policy. For instance, a typical Malaysian Art & Design degree program is designed in constructive alignment with program learning outcomes defined under the MQF clusters (e.g. knowledge, cognitive skills, practical and interpersonal skills, etc.) (MQA,2024). As a result, universities like Universiti Teknologi MARA or Universiti Sains Malaysia have mapped their visual arts, industrial design, and related curricula to ensure each course contributes to the graduate outcomes specified in the Malaysian Programme Standards for Art & Design. This systematic

adoption makes Malaysian design degrees a regional model for outcome-based curriculum structure.

These examples illustrate that OBE is not just a theoretical ideal but is actively shaping program design and delivery. Design faculties across ASEAN are revising syllabi, course content, and program objectives to align with outcome frameworks, often guided by AUN-QA or national QA agencies. The result is a growing list of design programs – from visual communication and multimedia design to product/industrial design and design innovation – that explicitly state their expected learning outcomes (ELOs) and continuously assess whether those outcomes are achieved, thereby closing the quality loop.

## Teaching and Learning Strategies Aligned With OBE in Design Education

In OBE-aligned design programs, student-centered and experiential learning strategies are emphasized to ensure students achieve the targeted outcomes. Rather than relying solely on traditional lectures, instructors employ methods that actively engage students in applying design concepts and skills. Common teaching and learning strategies in design under OBE include:

- Studio-Based Learning and Projects: The design studio model – where students learn by doing design projects under instructor guidance – is a core pedagogy aligned with OBE. Students tackle practical design briefs (e.g. creating a product prototype or visual campaign), allowing them to demonstrate outcomes like creative problem-solving, technical proficiency, and project management. Program guidelines in the region list *"practical workshop/studio work"* as primary learning activities in art and design fields. This confirms the premise of Dewey that Experiential learning in design education draws on longstanding educational theory that positions learning as emerging through experience, reflection, and interaction with real-world contexts (1938). Through iterative studio projects and critiques, learners progressively attain the intended outcomes (for example, an outcome on *"ability to integrate form and function in product design"* is developed via successive studio assignments).
- Problem-Based and Collaborative Learning: OBE encourages design students to engage in problem-based learning (PBL) – tackling real-world design challenges in teams – to achieve outcomes related to critical thinking, teamwork, and communication. Many ASEAN design programs incorporate collaborative projects (sometimes interdisciplinary) where students must apply design thinking to solve a problem for a "client" or community. This student-centered approach aligns with outcomes on innovation and user-centered design. This supports learning through design and production, not just theory. As Papert discusses, learning through design and production aligns with constructionist perspectives, which emphasize knowledge construction through the creation of meaningful artefacts (1980). It shifts the classroom dynamic from teacher-led to learner-driven, as students must research, ideate, and prototype solutions (with the teacher as a facilitator). Such active learning ensures that by the end of the course, students can "demonstrate…skills" rather than just recall content.
- Industry Engagement and Work-Based Learning: To make outcomes more career-relevant, programs integrate industry-based learning experiences. This can include internships, apprenticeship-style projects, or industry-sponsored studio problems. For instance, some curricula have a required industrial training or fieldwork component in a relevant design industry, which maps to outcomes like professional practice and entrepreneurship. Notably, the Malaysian design program standards highlight Work-Based Learning (WBL) as part of teaching methods. Guest lectures from industry

practitioners and field visits are also utilized to expose students to current industry standards, thereby supporting outcomes related to industry knowledge and networking.

- Constructive Alignment in Teaching: Educators in OBE design programs that consciously align each learning activity with specific course learning outcomes. This principle of constructive alignment means, for example, if an outcome is *"ability to communicate design ideas effectively,"* the course will include activities like design presentations or critiques to build that ability. AUN-QA assessments have in fact helped universities adopt these practices – driving faculty to ensure that curriculum design, teaching approaches, and assessment methods all reinforce the stated outcomes (Pham & Vu Nguyen, 2023). In practice, design lecturers might use scaffolding: early in the term they introduce fundamental skills (drawing, software, theory) via demonstrations and exercises, and later require students to integrate those skills in complex projects, thereby aligning weekly learning tasks with the progressive attainment of outcomes.

Overall, teaching in an OBE context tends to be learner-centric. There is greater use of formative feedback (e.g. weekly critique sessions in studio) so students understand how to improve relative to outcome criteria. The learning environment is often flexible and creative, allowing different students to achieve outcomes through varied means (recognizing that design problems can have multiple valid solutions). By involving students in active creation and reflection, these strategies ensure that by graduation, design students have not only covered the syllabus but have demonstrably achieved the competencies (creative, technical, cognitive, and professional) that the program promises.

**Assessment Methods Supporting Learning Outcomes in OBE-Based Curricula**

Assessment in OBE-aligned design programs is designed as a feedback and measurement tool to verify that students are attaining the learning outcomes. Key features of assessment practices in this context include:

- Outcomes-Aligned Assessment Criteria: Instead of grading on a curve or simply comparing students against each other, OBE assessments explicitly measure each student's work against the predefined outcomes or criteria. Rubrics are widely used – for every major design assignment or project, instructors develop rubrics listing the expected learning outcomes (or related performance indicators) and assess the level of achievement for each. For example, a project in an industrial design course might be assessed on criteria like *"functional innovation," "aesthetic resolution," "user-centered research,"* each tied to course outcomes. A student's grade thus reflects how well they met each outcome area. ASEAN quality standards emphasize this alignment; Malaysia's accreditation guidelines state that assessment methods *"must clearly measure the achievement of the intended learning outcomes"* (MQA,2024).
- Mix of Formative and Summative Assessments: In line with OBE principles, design programs use both continuous (formative) assessments throughout the term and summative assessments at the end. Continuous assessments may include design exercises, process work (sketchbooks, prototypes), quizzes on theory, and mid-term project milestones. Summative assessments often take the form of final design projects, portfolios, or capstone exhibitions. Importantly, students are typically required to pass both the continuous and final assessment components of a course to ensure they have steadily achieved outcomes and can demonstrate them in a culminating work (Universiti Malaysia Pahang Al-Sultan Abdullah [UMPSA], n.d.). This prevents a scenario where a student crams at the end to pass an exam without having consistently developed the skills. For instance, a Final Year Project (thesis project) in a design

program is a common summative assessment that evaluates a range of program outcomes (from conceptualization and technical execution to presentation and reflection), and it is usually supported by earlier project work and mentorship (formative) leading up to it.

- Authentic and Performance-Based Assessments: Because design is a practice-oriented field, assessments are often performance-based, meaning students must produce artefacts or perform tasks that an entry-level designer would. *Assignments, design projects, presentations, portfolios, and exhibitions* are favored over traditional pen-and-paper exams for assessing higher-order skills. For example, students might be assessed by mounting an exhibition of their design prototypes or by presenting a branding campaign to a panel. These methods are authentic – they simulate real design scenarios – and they directly measure outcomes such as creativity, technical competence, communication, and client responsiveness. A survey of suggested assessment forms for design programs shows a variety ranging from quizzes and observations (for foundational knowledge) to portfolio reviews, peer assessments, case studies, and final exhibitions for integrated skills (Williams & Askland, 2012). The variety ensures each learning outcome (cognitive, practical, interpersonal, etc.) is appropriately evaluated.
- Use of Feedback and Reflection: OBE assessment is often used not just for grading but to support learning. In many ASEAN design courses, after a project is evaluated, students receive structured feedback referencing the learning outcomes (e.g. "your work met the outcome of effective visual communication, but to fully achieve the outcome on research-backed design, more user testing was needed"). Students might be asked to reflect on this feedback and outline how they will improve. This practice helps close the loop – it aligns with the notion that assessment should *"support students' opportunity to learn important things"* and encourage improvement. Thus, assessment becomes part of the learning process in OBE, guiding students toward outcome mastery.
- Quality Assurance of Assessment: Institutions also put mechanisms in place to ensure assessments remain fair and outcome-focused. Many ASEAN universities have assessment moderation or validation processes (often required by QA agencies). For instance, if a design course's learning outcome is *"proficiency in digital modeling software,"* the department might review whether the assignments and grading in that course truly measure that skill. According to regional QA guidelines, assessments should be reliable, consistent, and free of bias. Some programs involve external examiners or industry experts to review capstone projects, ensuring that the assessment of outcomes like industry-readiness is impartial and benchmarked to external standards. Work-based learning outcomes may even be assessed in part by industry mentors (e.g. internship supervisors contributing evaluations of students' performance), as allowed in Malaysian OBE practices.

In summary, assessment in OBE-driven design education is deliberately crafted to *support* the attainment of learning outcomes. Students are continually measured against the outcomes through diverse and practical tasks, and they must demonstrate achievement of each intended outcome to successfully progress. This approach not only upholds academic standards but also gives students clarity on what skills and knowledge they are expected to have at each stage of the program.

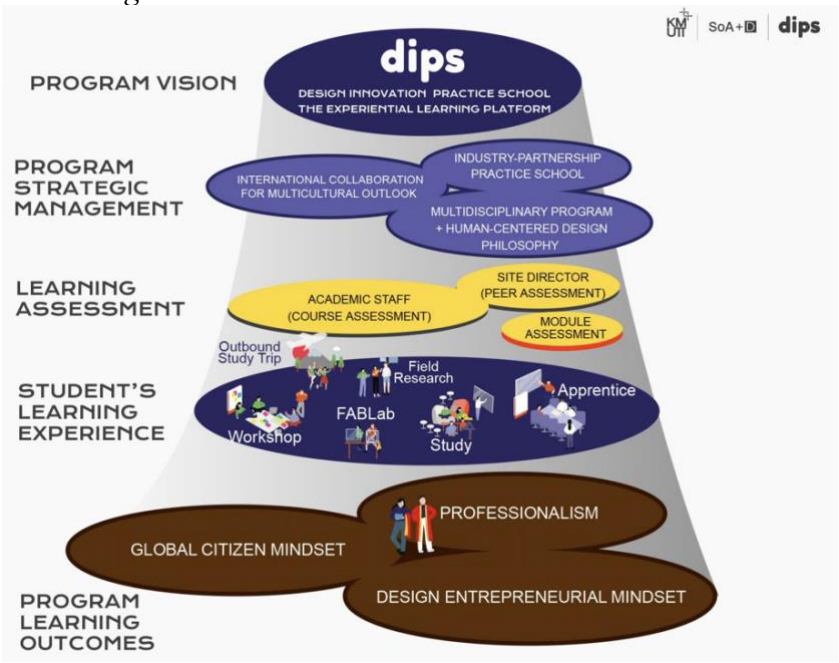
# KMUTT Bachelor of Fine and Applied Art in Design Innovation Program (DIP): A Case Study of Challenging OBE Implementation

## Program Overview and OBE Alignment

The Design Innovation Program at the School of Architecture and Design, KMUTT, aims to produce graduates who integrate knowledge across arts, social sciences, management, entrepreneurship, science and technology, specifically applying innovative design thinking to enhance quality of life. This multidisciplinary approach provides a strong foundation aligned with clearly defined Program Learning Outcomes (PLOs), ensuring that students attain knowledge, practical skills, ethical values, and personal attributes required by contemporary professional practices (Figure 1).

**Figure 1**

*DIPS Program Overview*




## Program Learning Outcomes (PLOs)

DIP curriculum strategically integrates OBE practices through well-defined program educational objectives, focusing on six program learning outcomes aligned with Thailand's National Higher Education Qualification Standards.

### *Design Entrepreneurial Mindset (PLO 1–3)*

- PLO 1 Able to design product, service, or system by human-centered-design philosophy.
- PLO 2 Able to produce novel and useful ideas as appropriate responses during a creative task.
- PLO 3 Able to refine ideas to represent value among aspects of business or social impact.

***Professionalism (PLO 4–5)***

- PLO 4 Posses self-discipline, self initiative.
- PLO 5 Able to communicate and collaborate effectively in workplace.

***Global Citizen Mindset (PLO 6)***

- PLO 6 Aware of and understand the wider world in similarity or difference of cultural contexts through hands-on experience.

**Teaching and Learning Strategies**

DIP employs diverse teaching methodologies directly linked to program learning outcomes (PLOs), fostering both academic and professional competencies. This alignment reflects the principle of constructive alignment, in which learning activities and assessment tasks are deliberately designed to support the achievement of intended learning outcomes (Biggs & Tang, 2011).

***Foundation Courses***

Foundation Courses are designed to prepare first-year students as ready learners by equipping them with essential soft skills, teamwork and self-directed learning capabilities, and a foundational understanding of STEAM disciplines. These courses integrate project-based bootcamps and a book club component, the latter combining English language learning with the development of critical thinking and reflective learning habits. This foundation lays the groundwork for outcomes across PLO 1–6.

***Experiential Learning (Work-integration Learning, WiL)***

Experiential Learning (Work-integrated Learning, WiL) is implemented through industry partnerships with organizations such as Jacob Jensen Design Bangkok, 4digit Thailand, and Whatnot Start-up Studio. These collaborations emphasize professionalism, technical skills, and real-world design practice aligned with PLOs 1–5. In Wegner's work, he emphasized that work-integrated learning environments function as communities of practice, where students develop professional identity and competence through legitimate participation in authentic design activities (1998).

***International Collaborations***

International Collaborations, such as the Asia Link Workshop with institutions across Asia, enrich students' global perspectives and foster cross-cultural competencies (PLO 6).

***Customized Learning Pathways***

Customized Learning Pathways, introduced from the second year onward, enable students to pursue tailored experiences aligned with their personal interests and career goals. These are supported by specialized research labs and innovation centers, including Fablab Bangkok @KX and the Social Design Institute.

**Assessment and Evaluation Practices**

The program employs a comprehensive assessment approach, including:

- Course-based assessments using KMUTT's Learning Environment version B2 (LEB2) system to systematically track learning outcomes.
- Work-integrated assessments, where student performance is continually monitored by industry supervisors, supplemented by academic feedback through formal presentations and final project evaluations (portfolios or thesis projects).

The rubrics developed through collaboration with 4digit Thailand and JJD focus on three overarching competency clusters.

***Performance & Professionalism***

- Ability to complete assigned tasks
- Discipline and reliability (meeting deadlines, following processes)
- Collaboration and team coordination

***Design & Technical Capabilities***

- Human-centered design: Evaluation of how well designs address real user needs
- Creativity and originality: Innovative thinking aligned with project objectives
- Manufacturing feasibility: Understanding production constraints
- Technical and design skills: CAD, 3D modeling, UX/UI principles
- Quality and detail-orientation: Visual refinement, consistency, attention to detail

***Soft Skills & Professional Growth***

- Presentation and communication: Clarity and persuasiveness in presenting ideas
- Empathy, openness to feedback, and adaptability
- Self-directed learning and research depth

***Unique Features***

- Dynamic, longitudinal feedback**:** Evaluations occur monthly, tracking student improvement over time.
- Role-based rubric application**:** Differentiated expectations for junior, support, and lead roles in project teams.
- Industry co-supervision: Project leads and industry mentors co-score students and provide narrative feedback.

## Quality Management for OBE

Quality assurance is reinforced through a structured **Steering Committee**, which includes academic staff and industry supervisors. This committee regularly reviews and ensures alignment of teaching strategies, learning experiences, and assessment practices with defined outcomes, intervening proactively whenever students face challenges in achieving the outcomes in their work-integrated placements.

## Feedback and Continuous Improvement

Feedback from DIP students, collected via surveys and interviews (in 2023), indicates strong satisfaction, particularly with lecturers (4.45/5), teaching and learning methods (4.20/5), and measurement and evaluation processes (4.39/5). This positive feedback validates effective OBE implementation while highlighting areas for continuous improvement, especially regarding the learning environment and curriculum structure transition towards experiential and work-based learning.

## Challenges and Implementation Insights

Despite the structured frameworks, DIP faced challenges in achieving seamless integration, notably in communication, synchronization between academic and industry timelines, and foundational skill preparedness among students. Continuous feedback from industry partners emphasized the need for stronger fundamental training, improved scheduling, and better knowledge management to enhance student adaptability to professional environments.

From the academic staff perspective, assessing learning outcomes from design project deliverables—especially in real-client projects—requires a balanced approach that considers not only the quality and completeness of project outputs but also client satisfaction, professional conduct, and learning progression. This dual consideration, combining feedback from both academic evaluators and industry supervisors, ensures holistic evaluation. Moreover, structured reflection activities, where students review client feedback and assess their own work, are critical in helping them not only learn but relearn—a key to cultivating adaptability and professional growth in design innovation.

An important insight from ongoing implementation is that a prolonged period of Work-Integrated Learning—spanning two out of three academic years in DIP's curriculum. It offers significant benefits in terms of professional growth, but may present trade-offs**.** Students gain deeper exposure to real industry settings, cultivate long-term professional connections, and develop habits aligned with workplace culture. However, this often comes at the expense of typical campus life experiences and peer-based learning in traditional academic settings. Striking the right balance between academic community engagement and professional immersion remains an ongoing concern in the program's design.

## Effectiveness and Continuous Improvement

The co-created assessment frameworks significantly enhanced students' professional readiness, practical expertise, and industry adaptability. Continuous improvement efforts, facilitated by frequent communication and structured feedback loops, have fostered ongoing refinement in assessment methodologies and teaching approaches, thereby aligning effectively with industry expectations.

## Comparative Analysis of OBE Implementation: ASEAN Design-Related Program Examples vs. KMUTT's DIP

- Expected Learning Outcomes: DIP shares the ASEAN norm of outcome clarity but explicitly focuses on design entrepreneurship and global citizenship, reflecting a more targeted emphasis on innovation, entrepreneurship, and professional readiness.
- Teaching and Learning Strategies: DIP's distinctive element is the depth and extent of its WiL strategy, covering two-thirds of the academic experience, surpassing typical ASEAN examples that usually integrate internships and real-world projects as shorter-term components. The foundational first-year experience in DIP uniquely emphasizes self-learning and essential soft skills through integrated modules and bootcamps.
- Assessment of Student Learning Outcomes: While ASEAN peers use outcome-aligned assessments commonly, DIP demonstrates a highly proactive and co-creative approach. DIP's joint academic-industry assessment, rubric development, and continuous, structured feedback loops offer deeper professional integration and more personalized student learning journeys compared to typical regional practices.

## Discussion and Conclusion

This study identifies academic-industry collaboration through experiential Work-integrated Learning (WiL) as a key learning approach to effectively achieve career readiness in design education. KMUTT's Design Innovation Program exemplifies this by actively involving industry partners in the co-creation of learning outcomes, curriculum, and assessment rubrics. The deep integration of professional contexts within the academic journey helps students develop competencies directly relevant to the workplace, reflecting actual industry expectations, and preparing them for immediate professional contributions upon graduation.

Furthermore, the role of higher education institutions extends beyond immediate industry needs by preparing students for emerging future skills. The analysis suggests that higher education must proactively engage in future-skills foresight, ensuring that curricula address evolving competencies, particularly soft skills (communication, collaboration, critical thinking), digital literacies, and adaptability to evolving professional trends. These capabilities empower graduates not only to enter current labor markets but also to thrive amidst future uncertainties and technological transformations.

Lastly, the insights gathered point to the importance of flexible personalized learning approaches within OBE frameworks. Offering tailored educational experiences that respond to individual learner goals and industry demands is crucial in maximizing the potential and quality of graduates. Personalized pathways, supported by robust mentoring and reflective practices, optimize educational outcomes by aligning student interests, skillsets, and professional objectives, thereby directly enhancing graduate quality and employability.

Overall, the effective implementation of OBE in ASEAN’s design-related programs, particularly through strategic industry collaboration and future-focused, personalized learning, sets the foundation for delivering high-quality graduates capable of meaningful professional contributions in a rapidly evolving global landscape.

## Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The authors declare that ChatGPT (OpenAI), an AI-assisted writing tool, was used to support English language refinement and structural editing of the manuscript. The use was limited to improving clarity, coherence, and academic phrasing. The ideas, design, procedures, findings, analyses, and discussion are based on the authors’ research activities and project documentation, and the authors reviewed and finalized all content.

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