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A multilevel analysis of Japan's professional university system: Gaps and alignment across policy, institutional practice, and student experiences

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ABSTRACT

In response to Japan's demographic decline and evolving labor market needs, the country's government established professional universities in 2019 as hybrid institutions that integrate academic legitimacy with vocational orientation. This study analyzes the professional university system through a three-level analytical framework that encompasses the macro national policy, meso institutional practice, and micro student experience dimensions, utilizing the Tokyo Information Design Professional University (TID) as a representative case. At the macro level, professional universities were institutionalized under *The School Education Act* and *The Professional University Establishment Standards*, characterized by distinctive requirements such as degree conferral, practice-oriented curricula, and faculty with dual qualifications. At the meso level, TID demonstrates a strong implementation of these mandates through extensive internships, project-based learning, and a high proportion of practice-oriented faculty, thus indicating that national policy goals have been effectively achieved and, in certain aspects, exceeded. At the micro level, students acknowledge the university's distinctive, career-focused education; however, their overall satisfaction remains moderate, thereby revealing a gap between institutional distinctiveness and student experience. At the cross-level, there is a strong alignment between national policy and institutional practice macro-meso, whereas the connection between institutional practice and student perception meso-micro remains partial. This study conceptualizes alignment as a dynamic analytical dimension that clarifies how institutional innovation mediates between policy design and educational outcomes. The findings provide theoretical insights into institutional effectiveness and practical implications for advancing vocational higher education reform in Japan and beyond.

Key words: Japan, professional university, macro-meso-micro framework, alignment

INTRODUCTION

Higher education in Japan is facing increasing pressure to adapt to demographic decline, industrial restructuring, and the rising demand for practice-oriented learning. The number of 18-year-olds has fallen from about 1.37 million in 2005 to roughly 1.10 million today, and is expected to decline to around 960,000 by 2035 and 740,000 by 2040 (MEXT, 2024). Although rising university enrollment rates have so far offset this decline, the total number of entrants is expected to decrease even if rates continue to rise. This demographic pressure is driving higher education institutions to rethink their program structures and enrollment

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strategies. At the same time, digitalization and the growth of knowledge and technology-intensive sectors have heightened expectations for universities to produce graduates who possess both advanced practical expertise and the creative capacity to drive innovation in response to societal and industrial change (MEXT, 2019). For decades, the system has been characterized by a binary divide: Universities primarily focused on academic research and general education, while vocational institutions concentrated on occupational skills (Kaneko, 2016). This divide limits how society values vocational education and restricts how institutions respond to labor market needs. To tackle these issues, the Japanese government amended *The School Education Act* in 2017 and established the first professional university system in 2019 (MEXT, 2017). This reform aims to merge academic legitimacy with vocational practicality by awarding bachelor's degrees, requiring practice-based courses, and employing faculty with both academic and industry experience (Kaneko, 2017).

Internationally, the integration of academic and vocational education has become a growing trend. Hybrid models in countries such as Germany, Austria, and Switzerland reveal how higher education can combine theoretical knowledge with practical training (Graf, 2013; Witte, 2006). UNESCO's recent strategy on technical and vocational education and training also emphasizes aligning education with evolving labor markets and fostering lifelong learning (Huang, 2024). Within the context of the abovementioned goal, Japan's professional universities represent not only a domestic policy innovation but are also a part of a global movement toward hybridization in higher education.

However, it is unclear whether these universities are successfully meeting national policy goals through their activities and student experiences. This study employs a macro-meso-micro framework to examine Japan's evolving professional university system. Using national policy texts, institutional case studies, and student survey data, the analysis traces how policy provisions are applied and understood. The remainder of this paper is organized in the following manner: The next section reviews the existing literature, followed by a section that outlines the research methodology and theoretical framework. Subsequent sections present the analyses at the macro, meso, and micro levels and the final part evaluates the degree of alignment among these three levels. Finally, the paper concludes with the main findings, a discussion of the implications, and suggestions for possible directions for future research.

LITERATURE REVIEW

Research on professional universities in Japan is still relatively new, but it has begun to develop around several recurring themes. A few studies have argued that these institutions were introduced in response to demographic changes and shifts in the job market (Takeda, 2018). Other analyses emphasize that the establishment of these institutions resulted from complex negotiations among the Ministry of Education, Science, and Technology (MEXT), industry leaders, and educational institutions (Terada, 2018).

Beyond the institutional background, researchers have focused on the challenge of balancing faculty members between academia and industry, a problem closely linked to government regulations (Ogata *et al.*, 2022). Fu's study utilizes the "dual triple helix theory" to explain how system design structures the collaboration among government, universities, and industry (Fu & Liu, 2025). A survey of 19 specialized universities further revealed three prevalent models—program clustering, dual-qualified faculty, and industry-education integration (Hu *et al.*, 2023). These models emphasize the shared operational logic among institutions.

In terms of educational practice, studies reveal that practice-based courses and internships improve student engagement, while long-term placements develop communication and problem-solving skills, although challenges with curriculum integration and university-industry collaboration remain (Isonishi *et al.*, 2024; Ogata *et al.*, 2023). Beyond education, professional universities are also viewed as potential talent hubs for regional revitalization through industry-education partnerships (Fukuda, 2023).

As the above review of existing studies indicates, previous research has addressed issues such as system design, institutional functioning, student experiences, and regional impacts. However, these studies tend to focus on only one level of analysis at a time, rather than adopting integrated macro-meso-micro analysis. To bridge these gaps, this study introduces alignment as a conceptual lens that connects the multiple layers of policy and practice. In organizational theory, alignment refers to the coherence among strategy, structure, and behavior across various levels of a system, for example, the alignment between national-level goals, institutional governance arrangements, and the actions of frontline members (Kathuria *et al.*, 2007; Alagaraja *et al.*, 2015). In educational research, alignment highlights the need for balance and coherence among policy standards, curricula, and assessments within complex systems (Looney, 2011; Wijngaards-de Meij & Merx, 2018).

Building on these insights, alignment provides a unifying theoretical framework for examining how universities translate national policy goals into institutional practices and student learning experiences. The following section outlines how this concept is operationalized as the analytical framework that guides this study.

METHODOLOGY

Research framework

Building on Coleman's argument that macro-level social structures must be linked to micro-level behaviors (Coleman, 1990), and Easton's systems theory, which emphasizes feedback loops between inputs and outputs (Easton, 1965), this study adopts a macro-meso-micro framework to analyze professional universities. In the educational context, the macro level refers to national policy design and institutional frameworks; the meso level is concerned with how individual universities operate and involves curriculum design, faculty composition, and industry partnerships; and the micro level addresses student experiences, such as learning processes and career development.

Educational effectiveness depends on how policymakers, institutions, and students align their actions and expectations across the three levels. In this study, alignment is understood as a dynamic, cyclical process of feedback and coordination, rather than a static match between policy and practice. Drawing on organizational and educational research, alignment is conceptualized as an interactive mechanism in which top-down policy goals and bottom-up feedback continuously inform one another, thereby fostering mutual adaptation and learning. Consistent with the theoretical perspectives introduced in the literature review, alignment is understood here as an iterative process that maintains coherence between intent and practice, while providing room for contextual adaptation. In education, alignment further represents a continuous effort to sustain balance and coherence among policy, curriculum, and assessment through collaborative reflection and shared accountability.

As illustrated in Figure 1, this framework visualizes how national policy macro level, institutional practice meso level, and student experience micro level are interconnected through dynamic alignment and feedback. The solid arrows represent intended or strong vertical alignment and indicate how policy intentions are transmitted downward to institutional and pedagogical practices ideal outcomes. The upward arrows depict bottom-up feedback loops and illustrate how universities and students provide information on implementation outcomes to higher levels, thereby enabling continuous evaluation and adjustment.

Research questions (RQs)

Building on this framework, this study addresses the following RQs to examine the linkage mechanisms across the macro, meso, and micro levels. Through bottom-up empirical verification, this study investigates whether the top-down policy orientations and objectives at each level are effectively reflected and implemented in subsequent levels, thereby revealing the dynamic alignment relationships among policy, institutional practice, and student experience within Japan's professional university system.

RQ1 (macro level): How do professional universities set themselves apart from traditional higher education institutions in terms of national-level policy design? RQ2 (meso level): To what extent do institutional practices—curriculum, faculty, and industry collaboration—reflect and fulfill national policy goals? RQ3 (micro level): How do students perceive and experience the distinctive features of professional universities in their learning and career development? RQ4 (cross-level dynamics): Do policy, practice, and experience dynamically align and reinforce one another to support the effective operation of the professional university sector?

Data sources and analytical methods

Macro level (RQ1)

This study examined the policy intent underlying the establishment of specialized universities at the macro level through a comprehensive analysis of key national policy documents, including the 2017 amendment to *The School Education Act* and *The Professional University Establishment Standards*. The study focused on how the policy discourse led to the development of new expectations for institutions and students, thereby identifying the intended direction of alignment at the national level.

Meso level (RQ2)

A case study was conducted on Tokyo Information Design Professional University (TID). The analysis focused on institutional documents, curriculum design (including over 660 h of internships and PBL), faculty composition, and industry collaboration initiatives. These data enabled an assessment of how well national policy goals have been implemented.

Micro level (RQ3)

To address RQ3, this study utilized secondary data from the 2025 wave of the GPS-Academic survey, an online assessment administered by Benesse i-Career Co., Ltd. (https://www.benesse-i-career.co.jp/gps_academic) among university students in Japan. Approximately 210 universities participate in the assessment annually and represent diverse disciplines and regions, thus providing a broad overview of the generic skills and learning outcomes of Japanese universities. TID also participated in this survey. The data collected in April 2025 included 102 valid third-year respondents (100% response rate). Since the GPS-Academic dataset is unweighted and institutional participation is voluntary, with annual variations, the national averages are treated as a benchmarking reference rather than a statistically represen-

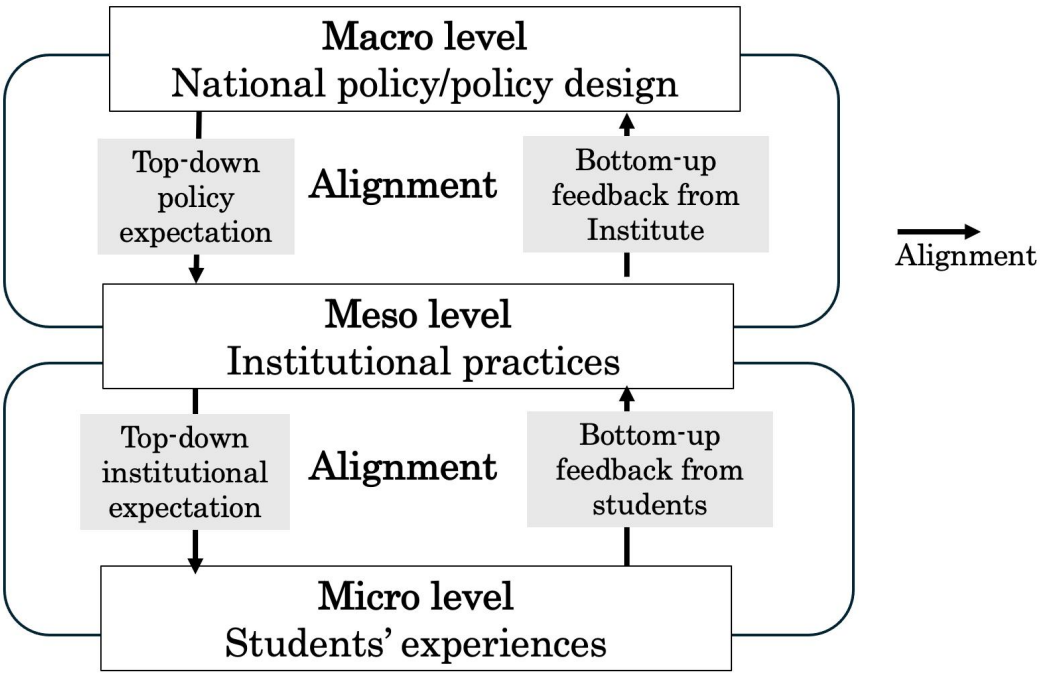

Figure 1. The macro-meso-micro analytical framework for examining professional universities.

tative baseline. Accordingly, the findings are interpreted as descriptive contrasts that illustrate relative alignment patterns, not as causal or population-level estimates. It must be noted that the analysis relied solely on secondary survey data and did not include document analysis, interviews, or fieldwork.

Cross-level integration (RQ4)

The findings from the three levels were integrated to examine how policy intentions, institutional practices, and student experiences dynamically align across the system. In this analysis, alignment was identified through the interaction of top-down correspondence policy enactment and bottom-up feedback reflection and adjustment. This synthesis captures alignment as an evolving coordination process that enhances coherence and reinforces the effective operation of Japan's professional university sector.

RESULTS

Macro-level analysis: System design and uniqueness

External environment and internal contradictions

Since the early 2000s, Japan has faced two major societal pressures. First, Japan's rapidly aging population has sharply reduced the proportion of the working-age population, thus creating severe labor shortages. Second, the Fourth Industrial Revolution has created an urgent need for a new kind of workforce—one that combines deep theoretical knowledge with practical skills (Terada, 2016). However, Japan's higher education system has long been divided into two tracks—traditional universities that focus on academic research and general education, and professional training colleges that specialize in teaching students specific job skills. This strict separation has resulted in a gap—not only in academic status but also in social recognition—between the two types of institutions (Terada, 2018). To address this, MEXT revised *The School Education Act* in 2017. This led to the creation of a new category of higher education—called the professional university—with official standards established in 2019. A professional university aims to bridge the long-standing gap between academic and vocational education, thereby providing a more integrated model that prepares students for the needs of the modern workforce. This integrated model is realized through features such as awarding bachelor's degrees, combining theory-based coursework with extensive practice-based training, and requiring faculty who possess both academic qualifications and substantial industry experience.

Institutional distinctiveness of professional universities

As presented in Table 1, this study compares and analyzes the institutional roles, degrees, study durations, objectives, curricula, and faculty structures of traditional universities, professional universities, and vocational training colleges. Professional universities have the following four characteristics.

Table 1: Traditional *vs.* professional universities and professional training colleges

Element	Traditional university	Professional university	Professional training colleges
Institutional role	Academic centers for broad knowledge and research	Cultivating practical and applied professional skills	Training for specific technical jobs
Degree	Bachelor's degree	Bachelor's degree	No degree (titles only)
Study length	4 years, minimum 124 credits	4 years, minimum 124 credits	1-3 years, credits not standardized
Objectives	Academic literacy and research competence	"Job-ready" human resources, integrating theory and practice	Technical human resources
Curriculum	Theory-focused; practice ratio not mandated	⩾ 1/3 practice-based courses incl. long-term internships	Practice-oriented, but narrow in scope
Faculty	Research-oriented scholars	⩾ 40% with industry experience; balance of research and practice	Mainly practitioners, limited research

Source: Based on data from Regarding the Professional University Establishment Standards (MEXT, 2018b).

Institutional positioning and degree conferral: Integrating vocational education into the core of higher education

Professional universities became an official part of Japan's university system via the implementation Articles 83-2 and 108-4 of *The School Education Act* (MEXT, 2017). These articles state that professional universities are responsible for both the teaching and research of specialized academic subjects, while also developing students' practical and applied skills for professional careers. This mandate is operationalized in several concrete ways. First, students are required to complete at least 60 credits in professional vocational subjects, designed to cultivate both theoretical foundations and practice-oriented competencies necessary for specific occupational fields. Second, the faculty structure must include a substantial proportion of professionally experienced instructors: At least half of the required full-time practical-skills faculty must also demonstrate research competence. This requirement ensures that professional universities maintain academic rigor comparable to traditional universities while providing education grounded in real-world professional expertise. Graduates of these institutions receive bachelor's degrees that are equivalent to those granted by traditional universities. In contrast, professional training colleges established under Article 124 are permitted to confer only the titles of diploma (*senmonshi*) or advanced diploma (*koto senmonshi*) neither of which carries the same academic weight as university degrees. These qualifications certify that the holder has completed a prescribed vocational curriculum and possesses occupational skills, but they do not provide an academic degree, do not grant eligibility for graduate school admission in many cases, and do not offer the same level of social or professional mobility associated with bachelor's degrees. The formal recognition of professional universities marks the first integration of vocational education into the mainstream university system. This reform effectively reverses how vocational education has been marginalized because it lacks degree-granting authority. It not only elevates the legal standing of vocational education in Japan but also aligns with the global trend of the "degree-based" development of vocational education.

Duration of study and academic depth: Avoiding short-cycle education

Under Article 29 of the Establishment Standards, professional universities must offer programs that last at least four years and require a minimum of 124 credits for graduation, which is just like traditional universities. In contrast, professional training colleges usually offer shorter programs that span one to three years. To ensure quality, Article 17 of *the Professional University Establishment Standards* also sets a guideline that limits class sizes to no more than 40 students per course. This helps maintain high standards in both classroom instruction and hands-on practice-based learning. Policymakers designed these regulations to move vocational education beyond its short cycle and improve its often-disjointed structure, which was found in many professional training colleges. The goal is to provide a more comprehensive and academically rigorous pathway for students who pursue practical, career-oriented education at the university level.

Educational goals and curriculum structure: Rigid requirements for practice-oriented learning

Article 13 of *The Professional University Establishment Standards* (MEXT, 2018a), lay out a clear structure for professional university curricula, dividing courses into four key categories: (1) Foundational subjects focus on developing lifelong learning skills and civic responsibility. (2) Professional subjects combine theoretical knowledge with hands-on skills tailored to specific career paths. (3) Developmental subjects promote adapta-bility and the ability to apply knowledge across multiple disciplines. (4) Integrative subjects enable students to bring together all the knowledge, with an emphasis on practical and real-world applications.

Most notably, Article 29 stipulates that practical instruction must constitute at least one-third of the total teaching time. This includes extended internships or other workplace placements such as project-based collaborations with companies, fieldwork in relevant industries, or on-site training in professional settings. These stringent requirements ensure that practical training functions not as a supplement but as a central pillar of the educational model. Such a curriculum aims to meet society's growing demand for "job-ready" graduates while also maintaining a balance between academic theory and vocational training, which is a challenge faced by traditional higher education systems. The term job-ready does not refer to a single fixed definition. Rather, it reflects the expectations articulated by MEXT regarding the type of graduates that professional universities are intended to cultivate. These institutions aim to develop individuals who possess both the specialized technical and practical competencies required for their respective professions and the capacity to respond to societal and industrial changes, such as by planning and developing new services. In fields like IT, this refers to graduates who can not only apply advanced technical skills but also integrate related disciplinary knowledge to propose and implement solutions that meet emerging social needs (MEXT, 2019).

Faculty composition and teaching model: Ensuring a "dual-qualified" structure

Articles 31-42 of *The Professional University Establishment Standards* detail faculty requirements for professional universities, which must adhere to staffing rules similar to those of traditional universities. Specifically, Article 35-1 states that professors must comprise at least half of the full-time faculty. However, what distinguishes profes-sional universities is Article 35-2, which requires that at least 40% of full-time faculty members have five or more years of industry experience. Additionally, over half of the industry-experienced faculty must also possess research credentials. This creates a unique group of instructors known as "practitioner-researchers".

This dual-qualification model, where faculty are both academically competent and have practical experience, is a key development. It clearly sets professional universities apart from both traditional universities, which tend to focus on academic credentials, and professional training colleges, which often lack research capacity.

Response to RQ1

Based on the above analysis, it is evident that professional universities in Japan have been formally established through *The School Education Act* and align with *The Professional University Establishment Standards* in four key areas: Degree-granting authority, program duration and academic rigor, curriculum design, and faculty organization. Together, these elements create a unique institutional model that strengthens the legitimacy of vocational education while addressing demographic decline and industrial change. From the perspective of policy design, the distinctiveness of professional universities has been clearly articulated, thus providing a definitive answer to RQ1: At the macro level, professional universities exhibit significant differences from traditional higher education institutions.

Meso-level analysis: Case study of TID

While macro-level policies have established the legal status and a unique role for professional universities in Japan's higher education system, the main question at the meso level is whether individual universities can actually put these policies into practice. Factors such as the authority to grant degrees, the requirement that a large proportion of courses be practice-based, the four-part curriculum structure, and the "dual-competence" faculty model only become meaningful when they are successfully implemented in actual institutions.

Case selection and institutional profile

Since 2019, Japan has established 19 professional universities in fields such as information technology, healthcare, tourism, and the arts (MEXT, 2025). These institutions were mainly developed by major vocational education groups, thus bringing extensive expertise in applied training and industry collaboration. One representative example is the TID, which was founded by the Jikei Group in 2023. This university, located in Edogawa Ward as the area's first four-year university, enrolls 160 students annually. It focuses on the interdisciplinary field of information design, thereby aligning closely with Japan's broader push for digital transformation and the increasing demand for skills in artificial intelligence (AI). Notably, the president of the university, Ryoji Nakabachi, previously served as president of Sony Corporation and chairman of the National Institute of Advanced Industrial Science and Technology, thus bringing extensive experience in both multinational corporate management and leadership of research institutions. Under his leadership, students are exposed to cutting-edge technologies and encouraged to turn their technical skills into meaningful societal contributions. Moreover, his network has helped assemble a faculty team of specialists in AI, robotics, network engineering, computer graphics, and game development. Therefore, selecting this university as a case study not only reveals the excellent realization of the professional university system but also highlights the alignment between policy goals and institutional practices.

Characteristics of institutional practice

Based on the TID case study, the university has not only fulfilled but also expanded upon national policy requirements; it has achieved notable progress in four core

areas: Degree conferral, curriculum design, faculty composition, and social responsibility. Table 2 outlines these defining elements and reveals how the university translates policy goals into institutional practice; these elements are examined in detail below.

Legitimization of the professional university system

At the macro level, the amended *School Education Act* granted professional universities the authority to award bachelor's degrees with the aim of improving the social status of vocational education. TID explicitly awards the "Bachelor of Information Science (Professional Degree)" and emphasizes its equivalence to regular university degrees through promotional efforts and institutional design. This initiative addresses the long-standing legitimacy gap in vocational education and improves societal recognition. Compared to the "Specialist" or "Advanced Specialist" titles exclusive to the Professional Training College, the degree system provides graduates a more potent competitive edge in employment and further education, thus effectively fulfilling the institutional goal of "enhancing social recognition".

Curriculum structure and teaching model

TID's curriculum centers on the two major domains of "information" and "design", thereby systematically integrating knowledge and skills from the "business" domain. The curriculum comprises five modules: Information design courses, foundational courses, expanded courses, professional career courses, and integrated courses. Students can also pursue cross-disciplinary specializations in six areas: System design, Internet of Things design, AI design, cybersecurity design, computer graphics design, and digital entertainment design. Additionally, the university greatly surpasses the requirement of "practical/technical courses must constitute over one-third of total curriculum" requirement outlined in *The Professional University Establishment Standards* as it offers over 660 h of practical internships during the third and fourth years. Compared to traditional universities, TID has a higher proportion of practical training, and unlike professional training colleges, it combines academic rigor with interdisciplinary elements. This practice of exceeding the minimum requirements reveals that professional universities aim not merely to meet baseline standards but actively work to develop a sustainable industry-academia integration model through expanded practical training.

Faculty composition and dual-qualified faculty ratio

Faculty structure is a crucial aspect of the institution that sets professional universities apart from both existing universities and professional training colleges. According to *The Professional University Establishment Standards*, at least 40.0% of the faculty must have industry experience to ensure that teaching is closely related to real-world workplaces. TID's faculty composition focuses on combining research-oriented and practice-oriented instructors to create a "dual-qualified" system. As of May 2025, the university had a total of 28 full-time faculty members, with 20 of them from practitioner backgrounds, thus accounting for 71.4% of the total; among these practitioners, nine also have research achievements. Compared to the standards, the university not only "exceeds requirements" but also emphasizes and ensures quality. Its practitioners come from diverse industry backgrounds and combine academic accomplishments with practical experience, truly embodying the "dual-qualified" characteristic. This faculty structure enables students to receive both academic theoretical training and practical knowledge of corporate case studies and operational standards, thereby effectively reducing the "education-to-employment" transition period. President Ryoji Nakabachi has dual high-level experience in both industry and academia. Under his leadership, TID effectively integrates industry and academic resources and translates them into educational practice.

Corporate collaboration mechanisms and educational practice

Industry-academia collaboration is another core pillar of the professional university system. Since its establishment, TID has defined this partnership as a key educational component, establishing collaborations with various enterprises and regional organizations. Through 660 h of hands-on internships, students work as team members in real corporate operations, thus gaining direct experience in problem-solving workflows. At the same time, in PBL courses such as Information Design Internships, students analyze, design, and present solutions to real-world challenges provided by businesses or communities. Furthermore, through a comprehensive cooperation agreement with Edogawa Ward, TID engages in local digital transformation projects that guide students to tackle regional issues. This creates an educational ecosystem in which the classroom, workplace, and community interact in a synergistic manner. This approach not only aligns with Japan's recent focus on higher education, emphasizing regional collaboration and social contribution, but also broadens the functional scope of professional universities as "intermediate-type universities". In other words, the university reveals a proactive exploration of its social responsibility that goes beyond the original policy intent.

Response to RQ2: Connection between macro and micro levels

The case of TID provides a clear answer with regard to

Table 2: Institutional practice status at TID

Element	Institutional practice at TID	National policy requirement	Evaluation of compatibility
Degree conferral	Confers Bachelor of Information Studies (Professional Degree)	Authorization to confer bachelor's degrees (2017 School Education Act revision)	Enhances legitimacy and recognition of vocational education
Curriculum structure	Five-course clusters, six applied tracks, 660 h of internships, PBL	At least 40% practice-oriented courses	Exceeds requirements; interdisciplinary, practice-based model
Faculty composition	71.4% practice-oriented; 32.1% also active in research	⩾ 40% practice-oriented faculty	Surpasses requirements; strong dual-qualified model
Social responsibility	Comprehensive cooperation with Edogawa Ward, Digital Transformation projects	Contribution to regional revitalization	Extends policy goals; demonstrates proactive social engagement

Source: Based on data from the 2026 Academic Year Main School Guide Brochure of TID (TID, 2025). TID, Tokyo Information Design Professional University.

RQ2—"To what extent do institutional practices in curriculum, faculty, and industry collaboration reflect and fulfill national policy goals?". Professional universities have translated the macro-level framework into meso-level actions through a well-structured curriculum, a faculty team that combines academic and industry expertise, and multi-level collaborations with industry and regional stakeholders. Overall, these practices demonstrate a strong link between policy goals and institutional efforts.

Micro-level analysis: Students' experiences and feedback

While meso-level alignment demonstrates institutional responsiveness to national policy goals, it does not automatically ensure the overall effectiveness of the professional university system. To explore how these features are perceived and experienced by students, this section benchmarks TID's third-year respondents (April 2025) against the national third-year dataset from the same GPS-Academic wave. The focus is on the following four key indicators: Perceptions of university distinctiveness, participation in and experiences with internships, alignment between academic majors and career goals, and changes in overall impressions of university after enrollment. Given the unweighted nature of the dataset, the results are interpreted as descriptive contrasts rather than inferential or causal estimates.

Perceptions of the uniqueness of universities

As reported in Table 3, students at TID consistently demonstrated higher recognition of institutional distinctiveness compared to the national average. Almost 10.0% of TID students identified the "practicality of educational content and methods" as a defining feature, which is more than double the national percentage of 3.8%. Likewise, 10.0% of TID students emphasized a strict and demanding educational environment compared with the national 1.3%, and 10.8% highlighted close teacher guidance compared with the national 5.7%. Each of these items exceeds the national average by five percentage points or more. Taken together, three characteristics of TID's educational approach stand out: Practice-based learning, a rigorous academic environment, and close faculty-student relationships. These correspond directly to the system's policy emphasis on practicality, discipline, and a dual-qualified faculty.

These findings suggest that institutional features have been effectively communicated to and internalized by students, thus indicating alignment between institutional practices and student-level perceptions. According to the expectancy-value theory (Eccles, 1983), student engagement is strongly affected by how they perceive the value of the task. When students understand that their courses are directly relevant to their future careers, their motivation and commitment increase considerably. Consequently, the recognition of practice-oriented learning among TID students not only reflects institutional practice but also emphasizes the system's role in fostering motivation for learning.

Internship participation and experiences

Internship participation patterns further demonstrate this alignment. Table 4 reveals that while 84.3% of TID students reported no internship experience, this is a lower proportion than the national average 88.1%. This evidence reveals that most TID students have not yet begun their internships, which is likely because the survey mainly encompassed third-year students who are still in the preparatory phase. The most striking difference appears in internships that last over two weeks, with 10.8% of TID students participating compared with 1.9% nationwide—a gap of almost nine percentage points. Conversely, short-term internships of one or two days were rare among TID students (2.0% *vs.* 4.7%).

It is evident from the table above that internship experiences at TID are characterized by a polarized pattern, with low participation in brief internships but high involvement in extended ones. This pattern aligns with the institutional mandate of professional universities: Boost employability through extended, structured, and meaningful workplace experiences. Satisfaction models (Bean & Bradley, 1986) help explain this trend. For

Table 3: Perceptions of university distinctiveness (TID *vs.* national average)

Item	TID (%)	National average (%)	Difference (pp)	Key observation
Practicality of educational content and methods	9.8	3.8	+6.0	Strong emphasis on practice-based learning
Strict environment and curriculum that foster discipline	10.0	1.3	+8.7	Highly rigorous learning atmosphere
Detailed faculty guidance and close teacher-student relationships	10.8	5.7	+5.1	Active faculty involvement and mentorship culture

Only items that have differences ⩾ 5 percentage points are displayed. Source: GPS-Academic (Benesse i-Career Co., Ltd., 2025, TID: n = 102). TID, Tokyo Information Design Professional University.

Table 4: Internship participation and experiences (TID *vs.* national average)

Item	TID (%)	National average (%)	Difference (pp)	Key observation
Never participated in an internship	84.3	88.1	-3.8	Slightly fewer non-participants than average but still a majority
Participated in an internship of one or two days	2.0	4.7	-2.7	Limited interest in brief programs
Participated in an internship longer than two weeks	10.8	1.9	+8.9	High engagement in long-term placements

Only items that differences ⩾ 2 percentage points are displayed. Source: GPS-Academic (Benesse i-Career Co., Ltd., 2025, TID: n = 102). TID, Tokyo Information Design Professional University.

example, students engage more deeply when they see learning activities as valuable and helpful, and they experience greater satisfaction. Likewise, Astin's Input-Environment-Outcome (I-E-O) framework highlights that educational environments such as structured, long-term internships play a central role in shaping student development (Feldman, 1994). These perspectives suggest that high-quality practical experiences enhance both professional identity and ongoing engagement with learning. Thus, TID students' unique pattern of internship participation not only supports the institutional focus on practice but also reveals that systemic benefits are effectively transmitted to the students.

Alignment between academic major and career aspirations

As presented in Table 5, TID students displayed a clear career focus on major-career alignment. Approximately 48.0% selected "prefer direct correspondence but open to other careers", which is 13.9 points higher than the national average of 34.1%. This suggests that most students strongly expect their studies to align with their careers, but they still maintain a certain amount of flexibility in their employment choices. In contrast, 23.5% of TID students selected "indifferent to whether they correspond", which is lower than the national average of 29.9%, thus indicating a greater emphasis on the relevance of their studies to their careers. Meanwhile, only 2.9% of TID students responded "uncertain" compared to 10.9% nationally, thereby revealing that they have greater clarity regarding their career goals.

The findings presented above indicate that TID students show a stronger awareness of the link between their majors and careers. This aligns with the university's goal to produce "work-ready" graduates: Students gain practical experience through coursework and internships while also developing clearer career paths. Compared to their national peers, TID students not only place more importance on connecting their studies with career goals but are also more decisive regarding their future plans. This demonstrates that the practice-focused design of professional universities influenced students' career identities and planning.

Changes in overall impressions after enrollment

Despite these positive patterns, students' overall evaluations of their university experience are less favorable than the national average. As presented in Table 6, only 18.6% of TID students believed their impression was "better than before enrollment", which is 12.6 points below the national average of 31.2%. Conversely, 24.5% reported a "worse" impression—more than double the national rate of 10.1%, thus representing a gap exceeding 14 points. The majority (56.9%) reported no change. This pattern suggests that, compared with the national average, TID students hold more mixed or even critical views of their overall university experience.

While quantitative data do not enable causal inference, one possible interpretation is that certain aspects of the demanding, practice-oriented curriculum may have created unexpected challenges for students. According

Table 5: Relationship between academic major and career aspirations (TID *vs.* national average)

Item	TID (%)	National average (%)	Difference (pp)	Key observation
Prefer a directly related career but open to other fields	48.0	34.1	+13.9	High career relevance with flexibility
Indifferent to whether the career is related or not	23.5	29.9	-6.4	Lower indifference; greater career focus
Uncertain	2.9	10.9	-8.0	Higher clarity of career goals

Only items that have differences ⩾ 5 percentage points are displayed. Source: GPS-Academic (Benesse i-Career Co., Ltd., 2025, TID: n = 102). TID, Tokyo Information Design Professional University.

Table 6: Changes in overall impressions of university after enrollment (TID *vs.* national average)

Item	TID (%)	National average (%)	Difference (pp)	Key observation
Impression improved	18.6	31.2	-12.6	Lower positive evaluations than average
Impression worsened	24.5	10.1	+14.4	Higher negative feedback post-enrollment

Only items that have differences ⩾ 5 percentage points are displayed. Source: GPS-Academic (Benesse i-Career Co., Ltd., 2025, TID: n = 102).

to the expectancy-discrepancy model, dissatisfaction occurs when there is a gap between expectations and actual experiences (Oliver, 1980). However, these explanations remain tentative because the present study solely relies on secondary survey data and does not include qualitative interviews or field observations. From a micro-level perspective, these results primarily serve to identify areas of potential misalignment between policy intentions and student experiences; therefore, deeper examination in this regard is warranted in future research.

Response to RQ3: Student perceptions and experiences

The analysis of TID students' learning experiences reveals that they clearly recognize and engage with the unique features of professional universities. Students are aware of the practical focus of the curriculum, actively participate in long-term internships, and emphasize the importance of aligning their majors with their career goals. However, their overall evaluation of the university is less positive than the national average, with a noticeably higher percentage of students reporting a negative impression. Rather than indicating a failure of the system, this pattern highlights a feedback signal from the student level: While professional universities successfully transmit their intended values of rigor and practicality, maintaining student satisfaction and well-being requires continued adaptation of institutional design and learning support. Therefore, RQ3—"How do students perceive and experience the distinctive features of professional universities in their learning and career development?"—can be answered in the following manner: Students generally acknowledge and support the practice-oriented and career-focused aspects of professional universities, but their overall satisfaction remains limited.

DISCUSSION: THREE-LEVEL ALIGNMENT ANALYSIS

This section combines the findings from the macro-level policy framework, meso-level institutional practices, and micro-level student experiences to answer RQs 1-3. It also addresses RQ4: "Do policy, practice, and experience align and reinforce one another to support the effective operation of the professional university sector?" Existing research reveals that educational effectiveness depends not only on system design but also on how institutional practices and individual engagement interact through feedback. Therefore, the relationship among policy, institute, and individuals should not be viewed as a linear chain of implementation but as a dynamic and cyclical process characterized by ongoing coordination, feedback, and readjustment. This study examined the operational logic of professional universities from this multilevel alignment perspective.

Alignment and tension between policy goals and institutional practices

The Professional University Establishment Standards—which emphasize a high proportion of practical courses, dual-qualified faculty, and extended internships—are enforced through strict requirements. This aims to differentiate the system from both existing universities and professional training colleges. A case analysis of TID reveals substantial vertical alignment between national policy goals and institutional practices. TID not only complies with these standards but also integrates innovative approaches, such as interdisciplinary PBL and a dual-qualified faculty structure that combines research and practical expertise. This finding implies that policy directives do not merely function as instruments of compliance but can function as drivers of organizational learning and educational innovation.

Nonetheless, maintaining alignment across policy and practice also introduces structural tension, and professional universities continue to face the challenge of balancing rigidity and flexibility. On the one hand, strict metrics support policy enforcement; on the other hand, institutions face practical challenges, such as limited resources, changing corporate partnerships, and heavy course loads during implementation (Kawame, 2022; Ogata *et al.*, 2024). This implies that while compliance is achieved, operational effectiveness can vary based on organizational strategies and external conditions such as regional labor market fluctuations, industry demand for specific skills, local economic cycles, and availability of partner companies for internships. This finding closely aligns with Meyer and Rowan's institutional theory (Meyer & Rowan, 1977), particularly their concept of "myth and ceremony" and the resulting decoupling, which explains how organizations formally follow external mandates while exercising discretion in practice.

Alignment and disconnection between institutional practices and student experiences

At the micro level, student survey data reveal that TID students exceed the national average with regard to how students perceive course quality and how often they participate in long-term internships. This indicates that institutional practices effectively turn policy requirements into positive student outcomes. At the same time, students reported clearer links between their majors and future careers, thus evidencing functional alignment in the strengths of specialized vocational universities in career orientation.

However, with regard to changes in overall impressions after enrollment, the percentage of negative feedback from students at the case institutions far exceeds the national average. This partial disconnect suggests that institutional alignment does not automatically generate identification at the individual level. This finding reinforces the theory of "decoupling", which indicates that external institutional compliance at the organizational level does not necessarily lead to internal acceptance or identification at the individual level. These findings emphasize that micro-level feedback plays a crucial role in the alignment process, thus indicating the need for further mixed-method approach. Quantitative data reveal alignment and disconnection but cannot explain why they occur. Qualitative methods, such as interviews or focus groups, are necessary to uncover underlying factors, including unmet expectations, learning environments, and the effectiveness of institutional support. Combining both types of data would provide a fuller understanding of how students interpret and internalize institutional practices.

Dynamic alignment and cross-level feedback (RQ4 synthesis)

By synthesizing the analyses of macro-level systems, meso-level practices, and micro-level experiences, we confirm the answer to RQ4: The professional university system exhibits overall alignment across these three levels; however, its operational logic reveals a dynamic interplay of alignment, tension, and feedback. Organizational structures translate institutional objectives into practice, shaping students' positive perceptions of practicality and career orientation. This demonstrates how policy "paper norms" can effectively evolve into individual learning experiences. However, student satisfaction has not increased in tandem with compliance, and negative feedback revealed an expectation-experience gap.

Thus, this study proposed that alignment operates as a feedback-driven and iterative process, in which system design, institutional practice, and student experience continuously inform and reshape one another. The micro-meso linkage—where students' experiential feedback interacts with institutional adaptation—plays a critical role in sustaining system coherence and renewal. As an "intermediate-type university" that integrates the theoretical foundations of traditional universities with the practical characteristics of professional training colleges, the long-term effectiveness of vocational institutions hinges on establishing a virtuous cycle among policy enactment, institutional practice, and student engagement.

CONCLUSION AND IMPLICATIONS

Main findings

This study examined Japan's professional university system through a case study of TID that applied a macro-meso-micro analytical framework. The integrated findings, summarized in Figure 2, synthesize the results across the three levels. The analysis reveals that alignment between national policy and institutional practice the macro-meso interface is strong—policy intentions are clearly and effectively translated into institutional structures and operations. In contrast, the alignment between institutional practices and student experiences meso-micro interface remains partial, as not all institutional efforts are fully reflected in students' learning processes and perceptions.

Simultaneously, building on the synthesis of RQ4, this study refined the initial analytical framework Figure 1 into a dynamic multilevel alignment and feedback-adjust cycle, as illustrated in Figure 2. This expanded model integrated the iterative plan-do-check-feedback-adjust process, thus demonstrating how coordination across macro, meso, and micro levels forms a continuous learning system. The model conceptualized alignment as a feedback-driven and recursive process, in which outcomes and perceptions at the micro level provide evidence for assessing whether top-down policy expecta-

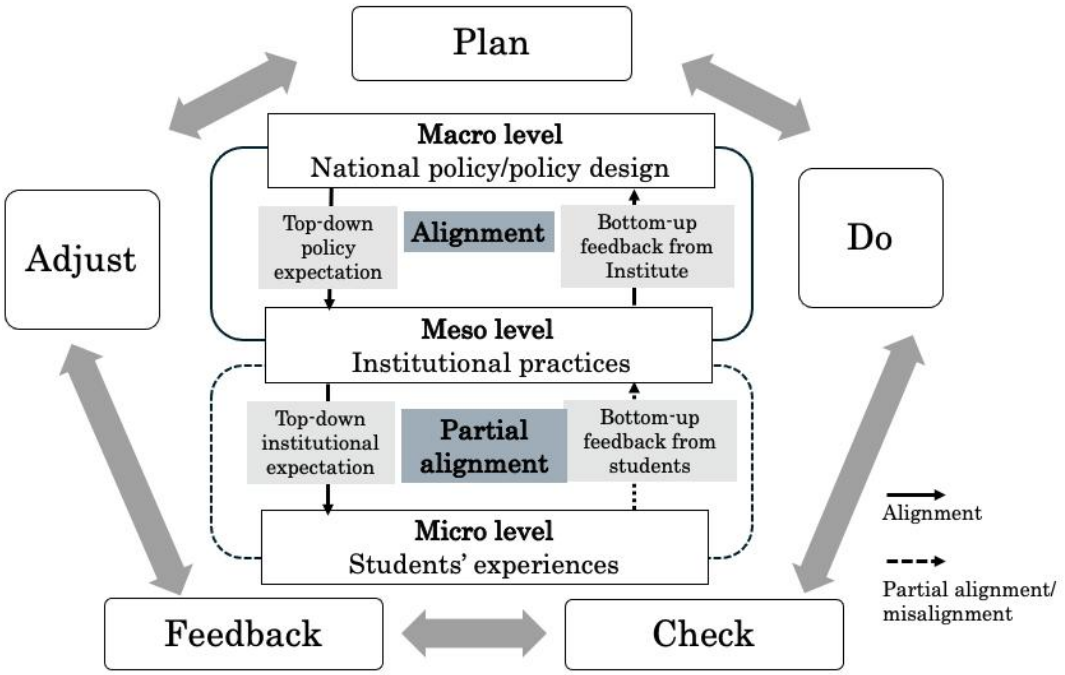

Figure 2. Dynamic alignment and feedback-adjust cycle across macro-meso-micro levels.

tions correspond to on-the-ground realities. The upward arrows in Figure 2 represent feedback flows through which universities and students communicate implementation outcomes to higher levels. When discrepancies arise, bottom-up feedback from institutions and students enables the bidirectional optimization of both institutional practices and policy design, thus completing new cycles of learning and adjustment. This recursive process promotes continuous evaluation and improvement, thereby transforming alignment from a static state into a dynamic, self-renewing cycle of planning, implementation, assessment, and reflection.

The proposed dynamic multilevel alignment and feedback cycle serves dual analytical and developmental purposes. Analytically, it provides a framework for researchers and policymakers to identify where strong alignment, partial alignment, or misalignment occurs across system levels. Developmentally, it emphasizes the importance of establishing robust feedback channels that connect student experiences with institutional adaptation and policy reform. Ultimately, the long-term effectiveness of Japan's professional universities depends on maintaining a virtuous feedback loop among policy enactment, institutional operation, and student engagement. Such a feedback-oriented system will transform alignment mechanisms from structural compliance into a living process of learning, adaptation, and innovation, thereby driving the sustainable evolution of the professional university sector.

Policy implications

This study views alignment as a separate analytical aspect of vocational higher education. Alignment is not merely about following national policies but is a dynamic process that connects policy design, institutional practices, and student experiences through continuous feedback. For professional universities that play the role of hybrid institutions, long-term success depends on their ability to turn compliance into ongoing student satisfaction and broader social trust. In the Japanese context, professional universities have gained institutional legitimacy through regulatory frameworks, but recognition among students and society remains incomplete. This highlights that successful institutional innovation requires more than strict structural rules; it relies on positive interactions between organizational practices and student experiences. Thus, future reforms should aim to balance demanding mandates with supportive measures—such as easing excessive curriculum requirements, strengthening student support services, and expanding career counseling and mental health resources. These efforts will likely reduce the risk of institutional overload while boosting the credibility and sustainability of professional universities. However, whether such reforms directly improve student recognition and strengthen university-student alignment warrants further empirical investigation.

Further, comparative insights can also be drawn from China's vocational undergraduate sector, which faces similar challenges. Despite rapid development,

challenges remain. For example, social recognition remains low; surveys reveal that vocational education is still widely considered a "second-best option", which undermines its legitimacy and discourages students and families from choosing these programs (Li *et al.*, 2025). Additionally, while the proportion of "dual-qualified" instructors at vocational institutions nationwide reached 58% in 2024 (Ministry of Education of the People's Republic of China, 2025), researchers caution that significant gaps still exist in training quality, practical experience, and long-term sustainability (Zhang *et al.*, 2025). These issues are similar to those faced by Japan's early professional colleges, thus indicating ongoing tension among system design, institutional practice, and societal recognition within vocational higher education.

In this context, Japan's experience may offer valuable insights for systems like China's vocational undergraduate education. First, identifying a degree-granting authority is crucial for gaining institutional legitimacy and social recognition. Without awarding bachelor's degrees, vocational undergraduate programs are unlikely to shake off the stigma of being considered "second-tier education". Second, maintaining a practice-oriented approach through formal requirements is essential. Establishing minimum proportions of practice-based courses and extended internships enables the prevention of "academic drift" and ensures that programs remain aligned with industry needs. Third, developing dual-qualified faculty and creating stable university-industry partnerships form the foundation of educational quality, thereby ensuring that classroom learning is effectively combined with professional practice. Ultimately, student satisfaction and learning experiences should be part of policy evaluation systems. However, following regulations alone does not guarantee positive student outcomes. It is only by earning genuine recognition from students that vocational undergraduate education can achieve lasting social prestige and sustainable growth.

However, these recommendations—while inspired by cross-national parallels—should not be interpreted as assuming complete equivalence between Japan's and China's vocational higher education systems, particularly at the meso and micro levels. Nonetheless, the present findings can contribute to international debates on hybrid and applied university models—such as Europe's universities of applied sciences and Singapore's polytechnic system—where institutional legitimacy similarly depends on aligning stakeholder interests and integrating feedback into continuous system improvement.

Theoretical contributions

This study marks a theoretical advancement by introducing "alignment" as a new analytical dimension in research on vocational higher education. Unlike previous studies that mainly focused on institutional compliance or organizational adaptation, the framework utilized in this study views alignment as a dynamic process that involves three interconnected relationships: (1) The link between national policy goals and institutional practices, (2) the connection between institutional practices and students' experiences, and (3) the feedback mechanisms that span hierarchical levels and establish links. The empirical findings revealed that external compliance does not necessarily foster internal identification, thereby extending the disengagement theory and exposing potential disconnects between formal legitimacy and experiential authenticity within professional universities in the higher education system. Simultaneously, the study emphasized feedback as a key mediating mechanism that connects policy goals, institutional practices, and students' experiences, thus enriching the macro-meso-micro explanatory chain in institutional theory. Together, these insights build a more comprehensive theoretical foundation for both higher education and vocational higher education research, particularly in the areas of educational governance and the evaluation of policy and institutional implementation.

Limitations and future research

Although this study primarily examined a single case institution based on student quantitative data, its findings provide valuable benchmarks for future comparative and longitudinal research. However, a single university may not entirely reflect the current state of Japanese vocational colleges. Future research should extend to multiple professional universities across various fields such as healthcare, nutrition, tourism, anime, and agriculture, incorporating qualitative research methods and field investigations to explore how these institutions sustain innovation and refine practice-oriented learning models. Such studies would help to build a more comprehensive understanding of the alignment dynamics that underpin hybrid higher education systems, thus contributing not only to Japan's policy development but also to broader comparative discussions on vocational and professional university reform worldwide.

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Author contributions

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Investigation, Resources. Katsuhara S: Data Curation, Formal Analysis, Visualization. All authors have read and approved the final version.

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The authors declare no additional conflicts of interest.

Use of large language models, AI and machine learning tools
During the preparation of this manuscript, the authors used OpenAI GPT-5.2 solely for limited language editing, including minor syntactic adjustments and grammatical proofreading. The authors developed all substantive content, interpretations, and conclusions. The authors reviewed and revised the manuscript in full and take complete responsibility for the final published version.

Data availability statement
Data used to support the findings of this study are available from the corresponding author upon request.

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