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Implementing Program-Level Learning Outcomes in Japanese Higher Education: Insights from Quality Assurance Approaches Adopted by the United Kingdom

Satoshi Ozeki¹, Toru Hayashi², Patrick Shorb³, Maureen McLaughlin⁴, Christopher W. Hughes⁵

¹ Asahikawa Medical University, Hokkaido, Japan ² Kanazawa University, Ishikawa, Japan ³ Kansai University of International Studies, Hyogo, Japan ⁴ Northumbria University, Newcastle, United Kingdom ⁵ The University of Warwick, Coventry, United Kingdom sozeki@asahikawa-med.ac.jp, toru-h@staff.kanazawa-u.ac.jp, p-shorb@kuins.ac.jp, maureen.mclaughlin@northumbria.ac.uk, C.W.Hughes@warwick.ac.uk

Abstract

Despite global trends in quality assurance emphasizing degree-specific learning outcomes, Japanese higher education has yet to develop a comprehensive evaluation system at the program level. This paper argues that defining program-level learning outcomes is a necessary step in advancing education quality in Japan. This paper analyzes recent policy trends and survey results related to Japanese quality assurance. It explores the development and implementation of program-level evaluation practices, internal quality enhancement processes and external quality assurance mechanisms. In a potentially important shift within the country's overall approach to quality assurance, this paper examines the parallels between its recent reforms and the policies implemented by the United Kingdom. These comparative analyses will elucidate the benefits and challenges of articulating program-level internal and external quality assurance frameworks.

Keywords: Quality Assurance in Higher Education, Educational Program Evaluation, Internal Quality Assurance, Cross-Cultural Comparison

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1 Overview of Quality Assurance in Japanese Higher Education

In recent years, Japanese higher education has paid increasing attention to the practices of and interrelationship between internal and external quality assurance. Internal quality assurance refers to a set of "policies and practices whereby academic institutions themselves monitor and improve the quality of their education provision," while, external quality assurance "refers to supra-institutional policies and practices whereby the quality of higher education institutions and programs are assured." [1]. In line with global trends, creating a meaningful link and closer coordination between external and internal quality assurance has become an important issue with significant implications for quality enhancement [2]. Particularly at the level of the academic program –with its inevitable prioritization of teaching and learning quality—higher education systems around the world have found it necessary to differentiate between, but also closely align with, the interrelated domains of internal quality practice and external quality assessment. This trend has been further strengthened in Japanese universities as program-level quality has been emphasized in recent years.

1.1 Recent Developments in Japanese Quality Evaluation and Accreditation

The self-conscious differentiation and alignment of internal and external quality processes is itself relatively new in Japan. Under the influence of American higher education models during the Occupation era (1945-1952), independent quality assurance organizations such as the Japanese University Accreditation Association originally created a system of self-evaluation that focused on various activities in higher education such as teaching, research, organization, and management. Recent revisions of the School Education Law of 2002, however, mandated that universities receive evaluation and accreditation from organizations certified by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) once every seven years. Now in its third cycle, this accreditation process is evaluating quality at all Japanese higher education institutions (HEIs).

As the evaluation of Japanese higher education quality has become explicitly entrusted with external processes, there has been a corresponding prioritization of internal enhancement at the program level. Given the need for academic programs to deliver sufficient learning to students, this emphasis on education is unsurprising. One of the focuses of the third round of MEXT-certified accreditation, for example, is the creation and management of internal quality assurance procedures, specifically the coordination of teaching practices with program-level learning outcomes [3]. The National Institution for Academic Degrees and Quality Enhancement of Higher Education (NIAD-QE), an accrediting body that evaluates more than one hundred primarily national and public HEIs, requires the evaluation of quality in six main areas: 1) Standards for Basic Organizations for Education and Research, 2) Standards for Internal Quality Assurance, 3) Standards for Financial Management, Administrative Management, and Publication of Information, 4) Standards for Facilities and Equipment, and Student Support, 5) Standards for Student Admissions, and 6) Standards for Academic Programs and Learning Outcomes. Despite NIAD-QE being an external quality assurance body, it is noteworthy that it places significant emphasis on the strengthening of HEIs' internal quality processes. Area #2, for instance, is entirely devoted to internal quality assurance, with the three "priority items" of Area #2 (Standards 2-1 to 2-5 listed below) all requiring the detailed and concrete elaboration of internal quality systems and processes [4]:

- Standard 2-1 [Priority item] An organizational structure for internal quality assurance is clearly defined.
- Standard 2-2 [Priority item] Procedural rules for internal quality assurance are clearly defined.
- Standard 2-3 [Priority item] The internal quality assurance system functions effectively.

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- Standard 2-4 A system for the verification of the appropriateness of the inauguration and of changes to the basic organizations for education and research is installed.
- Standard 2-5 A system for the maintenance and improvement of the quality of teaching and its support staff is in place.

Moreover, these requirements also imply a more detailed evaluation of learning and teaching. Evaluation Area #6 focuses on the management of a degree program's so-called "Three Policies." Recently promoted by the Japanese government, these policies could be seen as organizing frameworks to articulate basic internal quality principles. MEXT, for example, asks Japanese HEIs to devise 1) a "Diploma Policy" which specifies the learning outcomes of a program, 2) a "Curriculum Policy" which indicates the educational content and methods of a program, and 3) an "Admissions Policy" which refers to the admissions criteria and student preparation of a program. Finally, Evaluation Area #2 requires HEIs to think through its teaching and learning enhancement from a systemic standpoint and through practical management. The other four accrediting bodies besides NAID-QE emphasize similar internal quality assurance standards. Thus, the beginnings of a program-level teaching and learning framework have been catalyzed by the simultaneous expansion of Japan's institutional-level external and internal quality assurance systems.

1.2 Educational Policies and the New Demands of Japanese Quality Assurance

Japan's new approach towards quality became further accelerated when the government advisory panel, the Central Council for Education's Subdivision on Universities published its "Guidelines for the Management of Teaching and Learning" in January 2020. This document described the specific structures of internal quality assurance at the institutional, degree program, and course levels. (Refer to Figure 1.)



Figure 1: Three Levels of Teaching & Learning Management

It required HEIs to evaluate and improve teaching and learning at these three levels based on the enhanced collection of student learning outcomes data that institutions were also expected to begin collecting [5]. The guidelines further asked HEIs to monitor and review programs based on the Three

Policies --specifically the "Diploma Policy" and "Curriculum Policy" -- mentioned above. More broadly, the guidelines made clear that higher education learning must be well-defined, actively supported and based on the education aims of all three levels: be it at the highest level of institutional Mission and Vision, the intermediate level of program Learning Outcomes, or at the classroom-level of individual course Learning Goals. As a result, Japanese universities have been put under increasing pressure to evaluate the appropriateness and success rate of their degree students' learning outcomes. They must verify the curricular quality of their education programs through evidence-based, increasingly quantitative, means. In practical terms, the new demands of external quality have meant that HEIs have concrete motivations to develop effective internal procedures to enhance the learning of students. But as higher education systems in other countries have realized, it is difficult to simultaneously carry out a good-faith, sincere campaign of internal enhancement with a high-stakes, broadly publicized external audit of quality. Particularly at the program-level, this coordination of internal and external quality assurance has therefore become both urgent and increasingly fraught.

2 Educational Program Evaluation and its Challenges in Japan

Attempts to improve learning outcomes is not entirely new to Japanese higher education. Fieldspecific accreditation, for example, has existed within certain academic areas for many years. The Japan Accreditation Board for Engineering Education has evaluated and accredited educational programs in engineering, agriculture, and science since 1999. In terms of learning outcomes, it has set up nine skills and abilities required for engineering education. Similarly, the Japan Accreditation Council for Medical Education was established in 2015 to evaluate medical schools. This body pays particular attention to whether medical programs meet international criteria for equivalent medical education. As a result, medical programs for physicians are now required to articulate and assess learning outcomes, and then work backwards to make improvements based on these evaluation results [6]. Beyond these specialized academic fields, however, program-level external evaluation mechanisms have remained relatively rare.

MEXT has been aware of Japanese HEIs' lack of program-level evaluation and internal enhancement. It continues to press universities to define clear learning outcomes for their degree offerings. To better judge degree program quality, for example, the government asked Japan's higher education community to establish academic standards for student learning. In 2008, MEXT asked the Science Council of Japan (SCJ) --the representative body of Japanese research academics in the humanities, social sciences, life sciences, natural sciences, and engineering-- to state its opinions on how educational program evaluation should take place [7]. This initiative subsequently led to the creation of discipline-specific reference standards for quality assurance at the tertiary level. As of 2021, the SCJ has created reference standards for 33 academic disciplines. Each discipline community has created a definition of its field, enumerated its key disciplinary learning outcomes, and recommended the field's most relevant or important learning methods and assessment approaches.

Even with these advancements in program-level learning assessment, however, issues remain. The reference standards of the SCJ are not statutory, and thus are used for benchmarking purposes only. To preserve the voluntary and autonomous nature of this process, the SCJ project purposefully avoided creating guidelines specifying how to implement standards and curricula. As a result, this attempt to support the improvement of HEIs' internal quality processes has proven unable to integrate effectively with wider external quality frameworks. The actual impact of the SCJ effort has therefore proven disappointing. Although SCJ reference standards' use was encouraged in policy papers [3][5], a recent survey revealed that only one fifth (19.9%) of Japanese HEIs actually referred to the guidelines when organizing curriculum [8]. Furthermore, there remains differing opinions on whether such standards are needed in academia to begin with. For some academic fields, standardizing learning outcomes is not ideal: it risks reducing the diversity of educational content. With such a basic lack of agreement over

program-level evaluation methods and approaches, it remain unlikely that any external organization will be able to investigate individual academic programs based solely on SCJ reference standards in the near future. At this stage, it seems more likely that Japanese HEI program evaluation will be incorporated into an expanded internal quality assurance system [9]. How such quality enhancement initiatives will relate to and be held accountable by external stakeholders, however, remains in need of clarification.

3 Insights from UK Approaches to Program Evaluation

3.1 The UK Quality Assurance System and its Focus on Educational Program Evaluation

The recent actions by MEXT and the SCJ suggest that developing robust program-level quality mechanisms through an effective coordination of internal and external processes are increasingly important to Japanese higher education. Earlier frameworks that borrowed on an ad-hoc basis from American institutional accreditation models appear no longer to be sufficient. Thus, while Japanese higher education's attempt to assess general student competencies at the institutional level might draw from U.S. practices (e.g., the Value Rubrics of the Association of American Colleges and Universities); efforts to bolster quality assurance at the program-level remain unsettled and not yet successful. The European Higher Education Area, specifically its quality framework of the European Standards and Guidelines (ESG), might provide one potential alternative template. It is a system that places particular emphasis on the distinct but aligned relationship of internal and external quality processes. As the ESG states: "external quality assurance should address the effectiveness of the internal quality assurance processes" [10]. In particular, the flexibility of the UK higher education quality framework, particularly at the program-level, might be one possible reference for Japanese HEIs moving forward.

The United Kingdom (UK) has established internal quality assurance approaches in tandem with, and in response to, their external quality assurance framework under the ESG. Although the statutory responsibility for the registration and regulation of higher education providers remains within each nation of the UK, the non-governmental Quality Assurance Agency for Higher Education (QAA) influences internal and external quality assurance within the UK. In the spirit of co-regulation within the sector, for example, the QAA took the lead in developing the UK Quality Code. This has come to serve as a key reference guide for improving the management of HEI quality and has helped safeguard public and student interest in the higher education sector. UK universities are now expected to conform to the Quality Code, thus allowing it to help monitor and advise on standards and quality across nations.

In England, a new regulator was founded in 2017 and superseded the role of the QAA: the Office for Students (OfS), which was established by the Higher Education and Research Act of that same year. It now provides the Regulatory Framework for quality assurance in English higher education. The Quality and Standards Review, conducted mainly in the form of self-evaluation and peer-review, functions as external quality assurance. The primary focus of the review is to investigate internal quality assurance systems and to ensure that universities in England satisfy the requirements set by the Conditions of Registration, which at the time of writing, were closely aligned to the Quality Code. Therefore, the key factor in both internal and external quality assurance is demonstrable engagement with the Code. The Quality Code sets out expectations and standards for various aspects of quality assurance in UK higher education, such as admission, teaching and learning, course design, and student engagement. Additionally, educational program evaluation of UK HEIs' are also informed by their stated program specifications, and their use of subject benchmark statements designed, developed, and reviewed by the QAA.

According to the Regulatory Framework, "A degree awarding organisation maintains a definitive record of each programme and qualification that it approves (and of subsequent changes to it) which constitutes the reference point for delivery and assessment of the programme, its monitoring and review, and for the provision of records of study to students and alumni" [11]. UK universities clarify the characteristics of their programs in their program specifications. The QAA recommends referring to several reference points to describe program-level learning outcomes. Some of the reference points are summarized below [12].

- The development of general skills, such as communication, problem-solving, critical thinking, reflected in institutional mission statements and any institutional policies
- Subject benchmark statements
- Current research or other advanced scholarship carried out by academic staff
- Requirements of professional, statutory, and regulatory bodies
- Occupational standards in fields where these are relevant
- Qualification descriptors used in the national qualifications frameworks
- Relevant European or international reference points

In addition to internal reference points such as institutional mission statements and policies, use of external reference points such as subject benchmark statements and requirements of professional, statutory, and regulatory bodies are recommended. The subject benchmark statements define learning outcomes expected of a degree graduate in a subject area. There are 77 individual subject statements, covering both undergraduate and masters' levels study. Each subject benchmark statement provides general guidance specifying learning outcomes of a subject, including subject knowledge, and understanding, as well as subject-specific skills and cognitive abilities. As with the SCJ's discipline-based standards, they are meant to function as reference points. At the same time, the QAA recommends additional layers of quality confirmation such as incorporating the feedback of external reviewers, professional bodies, students, and employers into this internal process. Thus, there are a wide variety of sources for articulating program-specific learning outcomes that reinforce the assurance of quality. UK universities are thus operating autonomous improvement and enhancement mechanisms, while incorporating students' and other external stakeholders' perspectives into the assessment plans of each educational program.

At the time of writing, the outcomes of a recent OfS consultation^{*} related to revisions of the Quality Code and Conditions of Registration have yet to be released. It is possible that the distinctiveness of the English HE system might be enhanced further. Regardless, HEIs across the rest of the UK continue to adhere to the Quality Code as the main locus for guidance on quality assurance and enhancement approaches.

3.2 Insights from the UK System on Issues of the Japan System

The initiatives now being pursued by Japan higher education could benefit from studying the quality models found in the UK. First, the UK's use of both the QAA's Quality Code and the OfS-supervised Regulatory Framework could be one possible way for the Japanese system to encourage a hybrid system of internal enhancement and external quality accountability. The UK's concept of quality "co-regulation" nicely captures this balancing of institutional, regulatory and community stakeholder interests [13]. Until now, Japanese HEI programs have struggled to effectively coordinate between the internalist need for autonomy, experimentation, and innovation with the externalist imperative to hold programs

^{*} OfS Consultation on quality and standards conditions (officeforstudents.org.uk)

accountable for students' educational outcomes. The quality mechanisms established by an independent and respected 3rd party provider such as the QAA allows for internal and external processes to be kept distinct, while still maintaining a general alignment of interests among stakeholders around the achievement of a broad set educational goals. Particularly at the program level --where teaching and learning issues take preeminence—the reliance of independent 3rd parties such as the QAA could be one way to build trust among relevant stakeholders to assure better classroom outcomes. With some modification, current accreditation bodies such as the NIAD-QE might be one possible candidate for taking on this coordinating role.

Second, the QAA's subject benchmark statements provide a template for how Japanese higher education could improve program-specific quality assurance through the clearer definition of disciplinebased domains [7]. Japanese HEIs are moving away from a traditional teacher-oriented education model based on teaching inputs towards a student-oriented one focused on commonly agreed upon learning outcomes [14]. To advance program-level evaluation, therefore, the first step is to define commonly agreed upon disciplinary learning outcomes. The articulation of learning standards from a respected quality assurance provider such as the QAA could be one way to promote such a learning outcomes approach across many fields. Indeed, discipline-specific standards have already attracted some interest among Japanese HEIs: 84.1% of Japanese universities indicate that they would attempt to align their Diploma Policies and human resources development goals with their curricular organization [8]. A strengthened SCJ framework based on a UK subject benchmark model could therefore inject new life into the "Three Policy" approach already advocated by MEXT. Currently, the push for an outcomesbased learning is flagging. As of the 2019 academic year, only 56.7% of all universities in Japan have formulated degree-level assessment plans based on educational outcomes, and only 60.4% reported assessing student learning outcomes through its degree programs [8]. Such figures need to be higher, and recent program-level surveys indicate the continuing difficulty of assessing Diploma Policy-based outcomes both at the degree- and course-levels [15]. A coordinated learning outcomes approach based on universally agreed-upon subject standards might be one way to accomplish this.

Third, the Quality Code's use of multiple reference points of learning evaluation simultaneously provides a flexible way to ensure that all Japanese diploma programs can participate meaningfully in these enhancement reform. As useful as a standards-oriented approach may be in some instances, it might also prove unsuitable for a diverse range of program types. As noted above, institutional-level usage of discipline-specific quality standards still hover at 19.9%. Regardless, the continuing lack of assessment of learning outcomes among many Japanese HEI programs risks undercutting the systemwide effort to improve quality. A specifications-oriented framework that can help externally vouch for a program's basic education quality provides an adaptable, multi-layered way of incentivizing learning enhancement and reform. Otherwise, less educationally committed programs could continue to attract prospective students simply by "free-riding" -i.e. relying on their institution's overall reputation and admissions selectivity. In such a vicious-cycle, direct improvements to program-level teaching and learning innovation risk being neglected as effective programs are not properly recognized. Recent examples of innovative assessment approaches within Japanese tertiary education, such as the Pivotal Embedded Performance Assessment [16], wherein program-level assessment is assessed through course-embedded, case-based performance tasks, show the potential dynamism of Japanese higher education learning. Nonetheless, without a super-institutional mechanism assuring programlevel learning, such beneficial classroom reforms will likely remain isolated, underappreciated and lacking the ability to effect broader change.

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4 Conclusion

Over the last of couple decades, the UK has implemented and formulated many useful quality assurance practices, particularly with regards to the coordination of internal and external processes at the program level. UK universities have managed to implement autonomous and case-specific learning improvements and innovations, while also incorporating students' and other external stakeholders' perspectives into the program evaluation process. Japan has also worked towards establishing an effective framework for educational program evaluation over the last two decades. Nonetheless, several challenges remain. Japanese HEIs remain hesitant to embrace the full potential implied by the "Three Policies" reform, and the corresponding rewards for teaching and learning innovation that could be realized from such an adoption. One solution to this hesitancy might be to develop UK-like programlevel quality mechanisms that effectively blend the strengths of internal and external quality processes. With the better coordination of internal and external quality functions, Japanese HEI degree programs could dramatically improve quality in many ways, including through the establishment of clearer discipline-based learning outcomes and more robust feedback processes from a wider array of relevant stakeholders. The Japanese system undoubtedly would first need to customize and adapt any foreign model to its own unique regulatory and institutional context. Nonetheless, the UK practices and structures introduced in this article could serve as a useful, initial touchstone towards a broader rethinking in this area.

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References

- D. D. Dill, "Quality Assurance in Higher Education: Practices and Issues," International Encyclopedia of Education, Third Edition, P. P. Peterson, E. Baker, and B. McGaw eds., Oxford: Elsevier, 2010, pp.377-383.
- [2] UNESCO, "Linking External and Internal Quality Assurance,"2018; https://unesdoc.unesco.or g/ark:/48223/pf0000263247/PDF/263247eng.pdf.multi.
- [3] The Central Council for Education of Japan Subdivision on Universities, "Towards the Improvement of Evaluation and Accreditation Systems," 2016; https://www.mext.go.jp/b_men u/shingi/chukyo/chukyo4/houkoku/__icsFiles/afieldfile/2016/03/25/1368868_01.pdf.
- [4] National Institution for Academic Degrees and Quality Enhancement of Higher Education, "Institutional Certified Evaluation and Accreditation of Universities Standards for Evaluation and Accreditation of Universities: 2019-2026," 2018; http://www.niad.ac.jp/media/008/201901 /NIAD-Standards% 20for% 20Evaluation.pdf.
- [5] The Central Council for Education of Japan Subdivision on Universities, "Guidelines for the Management of Teaching and Learning," 2020; https://www.mhlw.go.jp/content/10800000/00 0683719.pdf.
- [6] The Japan Accreditation Council for Medical Education, "Basic Medical Education: Japanese Specifications WFME Global Standards for Quality Improvement (in Japanese)," 2020; https://www.jacme.or.jp/pdf/wfmf-jp_ver2.33.pdf.
- [7] The Science Council of Japan, "Regarding the Current State of Discipline-Specific Quality Assurance," 2021; https://www.scj.go.jp/ja/info/kohyo/pdf/kohyo-21-k100-1.pdf.

Implementing Program-Level Learning Outcomes in Japanese Higher Education: ... S. Ozek et al.

- [8] The Ministry of Education, Culture, Sports, Science and Technology, "Regarding the State of Reforms in Educational Contents at Universities in 2019," 2021; https://www.mext.go.jp/conte nt/20211104-mxt_daigakuc03-000018152_1.pdf.
- [9] T. Hayashi, "Twenty Years of University Evaluation in Japan," The Japanese Journal of Higher Education Research, vol. 23, 2020, pp.9-31.
- [10] Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). 2015. Brussels, Belgium.
- [11] The Office for Students, "Securing student success: Regulatory framework for higher education in England," 2018;https://www.officeforstudents.org.uk/media/1406/ofs2018_01.pd f.
- [12] The Quality Assurance Agency for Higher Education, "UK Quality Code for Higher Education, Part A: Setting and maintaining threshold Academic Standards, The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies," 2014; https://www.qaa. ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf?sfvrsn=170af78118.
- [13] D. Phoenix. "Higher Education co-regulation: Where do we go from here?" Higher Education Policy Institute, 28 August 2018. https://www.hepi.ac.uk/2018/08/28/6330/
- [14] The Central Council for Education of Japan Subdivision on Universities, "Grand Design for Higher Education toward 2040", 2020; https://www.mhlw.go.jp/content/10800000/000683719. pdf.
- [15] S. Ozeki, T. Hayashi, Y. Saito, M. Fukano, and S. Yamazaki, "An Investigation into Curriculum Management to Accomplish Learning Outcomes in Diploma Policy", Journal of Japan Association for College and University Education, vol. 43, no. 1, 2021, pp. 140-148.
- [16] K. Matsushita, K. Ono, and Y. Saito, "Combining course-and program-level outcomes assessments through embedded performance assessments at key courses: A proposal based on the experience from a Japanese dental education program," Tuning Journal for Higher Education, vol. 6 no.1, 2018, pp.111-142.