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How Do Credit Hours Assure the Quality of Higher Education?

Time-Based vs. Competency-Based Debate

Ayaka Noda

National Institution for Academic Degrees and Quality
Enhancement of Higher Education (NIAD-QE)
CEAFJP Visiting Researcher

April 2016

Abstract

University credit hours have traditionally been used as a time-based proxy of student learning outcomes, and they eventually contribute to a value of an academic degree, diploma, or certificate of higher education. Following the American model, Japanese higher education introduced a credit hour system after World War II to promote student self-directed learning outside of classes, however, this system has not functioned as well as originally intended: Japanese university students study for much fewer hours than that is required by law and that of their cohorts in other countries. Additionally, the overwhelming amount of in-class study is one of the factors impeding out-of-class study. In the U.S., credit hours have been used as a means of deciding federal funding allocations, but some institutions have indulged in malpractice such as credit hour abuse, fraud, and inflation. In response to the problem of misuse of federal financial aid based on credit hours or the need for greater accountability for student learning outcomes, the federal government has recently redefined credit hours as well as encouraged institutions to seek federal approval for their competency-based programs that decouple learning from the credit hour. There have been discussions on what the credit hour system demonstrates with respect to academic activities and learning outcomes, and how it should be evaluated quantitatively and qualitatively in terms of both external accreditation and internal quality assurance. If credit hours are regarded as common currency, the recent U.S. movement in rethinking its system can bring major changes in the manner of interpreting and assuring quality of this currency. Based on document analysis regarding government policy, university efforts, and quality assurance (accreditation) in Japan and the U.S., this study addresses time-based vs. competency-based debate and helps us rethink how the credit hour could assure the quality of higher education.

Introduction

University credit hour, which plays a key role in demonstrating students' academic progress or completion of their courses or degrees, has traditionally been used as a time-based proxy of student learning outcomes. The credit hour system has been implemented for multiple purposes in many nations. The U.S., which invented the credit hour system, has originally implemented it as a standard measure in assessing university faculty pension. In Europe, the credit hour system has been introduced for the innovation of higher education, including facilitating academic mobility across countries and integrating European higher education areas. In Japan, following the U.S. model, the credit hour system has been applied to higher education with the expectation to encourage student proactive learning. Since then, some questions have been raised: How can we assure the quality of the credit hour system?, or how can we know whether the credit hour system substantially functions as well as intended? There have been discussions on the function and importance of the credit hour system in promoting academic activities and learning, and how it should be evaluated in terms of external accreditation as well as internal quality assurance. This study particularly focuses on Japan and the U.S., where credit hour issues have recently been a topic of political discussion, and examines and compares challenges faced by governments, universities, and accreditors in implementing and evaluating the credit hour system.

Context and Problem

Japanese universities have been often described, such as “*difficult to be admitted, but easy to graduate.*” Japanese higher education has struggled with the traditional problem of awarding credits to university students in spite of their inadequate amount of study time. For instance, Japanese university students are supposed to study at least for 8 hours per day (including in-class and out-of-class study hours) on average to meet the graduation standard defined by law. However, several studies (Kaneko, 2011; MEXT, 2012; Yamada, 2011) revealed that students study only for 4.6 hours on average, about half of the required hours. Yamada's study (2011) showed that the average student studies less than 1 hour a day out of class, while he/she is required to spend 5.2 hours on out-of-class study to receive the credits. In particular, this phenomenon has been frequently observed in the fields of human and social sciences. Additionally, in every academic discipline a certain percentage of students who never spend out-of-class time studying is found (Cabinet Office, 2001; Kaneko, 2011; Yamada, 2011).

Until recently, credits were often awarded based only on final exams or papers without careful assessment of performance in other academic activities such as class attendance, participation, course preparation, and review. Additionally, the unrestricted number of class enrollment, i.e., the number of classes students enroll in, in a four-year academic program has contributed to limiting student's study hours outside of classes. Studies showed that the majority of Japanese university students spend much more time in class than their cohorts in the U.S. or Europe, thereby lessening the time available to Japanese students for studying outside of class (Kaneko, 2012; Yamada, 2012a; Yoshida, 2012). This phenomenon has contributed to the traditional problem that the credit hour system is not being used and interpreted as intended by the Japanese higher education and that university students do not spend a sufficient amount of time compared to their counterparts in other nations (MEXT, 2008).

In the U.S., higher education sector has faced some dilemmas in the application of the credit hour system; credit hours have been used as means of deciding federal funding allocations, but some institutions have indulged in malpractices such as credit hour abuse, fraud, and inflation (Schrock, 2010). Problems of diploma mills and accreditation mills over credit hours have also been observed. Despite tremendous amount of the federal investment in higher

education funding, there was no clear standard or consistent definition of credit hours (i.e., the number of hours that should be spent in or outside of class). In 2011, a new federal rule over credit hours was implemented to increase the accountability for federal aid (U.S. Department of Education, 2012) by requiring higher education institutions to follow the federal standard, and accreditors to rigidly monitor institutions' credit hour policies and activities.

In terms of U.S. student study time, recent data showed that average out-of-class study hours for four-year university full time students per week has dropped by about 10 hours from 24.4 hours in 1961 to 14.7 hours in 2010 (National Survey of Student Engagement, 2013; McCormick, 2011; Babcock & Marks, 2010). This is less than half of that is defined by Carnegie Unit (30 hours), a standard measure of credit hours. Yet, there have been mixed perceptions about the time-based measurement for learning, and there has been debate over an alternative approach to measuring student learning, called Competency-Based Education.

Following these challenges in Japan and the U.S., quality assurance institutions have been increasingly expected to play a role to assure the “quality” of credit hours; how credit hour system functions in universities as well as intended, or how credit hours assure the quality of higher education, or student learning. Previous studies on the credit hour system often discussed credit transferability, policies and procedures of credit hour systems across nations, and development of a common framework such as the European Community Action Scheme for the Mobility of University Students and the Bologna Process in Europe, and the ASEAN Universities Network (AUN; Asia) (Ministry of Science, Technology, and Innovation, 2005). However, little research has focused on the challenges or problems of the credit hour system, and the interactions among government policies, accreditation, and universities: How government credit hour policies have been transformed, how universities have reacted to them, and what role quality assurance institutions (accreditors) are expected to have to effectively evaluate the credit hour system. Time-based vs. competency-based debate over credit hour is a key to further discuss what credit hour system should function to assure and enhance the quality of higher education, or student learning.

Purpose of the Study

This study examines Japanese and U.S. approaches to deal with issues in the credit hour system, focusing on three stakeholders: government policymakers, higher education institutions, and accreditors. This comparative study reviews the history, policies, problems, and discussions related to the credit hour system. It analyzes recent government requirements, efforts by higher education institutions, the expected role of accreditation entities, and their responses and interactions in Japan and the U.S. In particular, this study intends to focus on recently emerged time-based vs. competency-based debate in enhancing the quality of higher education, that is, student learning, and what dilemmas and challenges exist in implementing and evaluating the credit hour system.

Methodology

This study relies on descriptive approach based on document analysis, including academic literatures, government policy reports and data, national data about university initiatives, and accreditation guidelines and reports related to credit hours. In terms of quality assurance of credit hours, this study analyzes how and what university accreditation institutions review university efforts to make the credit hour system effective; based on federal government resources and accreditation protocols, it examines how U.S. accreditors respond to governmental requirements regarding credit hour issue; this study also shows the trends of

university accreditation and nature of universities' efforts in Japan to enhance the credit hour system's effectiveness by analyzing data on accreditation reports.

Credit Hour Issues in Japan

History and Challenges of Credit Hours

Guided by the U.S. after World War II, Japanese higher education originally introduced the credit hour system as part of the university reform. This new system was expected to encourage students to study independently, shifting from the cramming and passive learning styles prevalent under the old university regime (Shimizu, 1998). It required 124 minimum credit hours for graduation. Yet, the original intention of introducing the credit hour system has not been correctly interpreted nor substantiated by universities (MEXT, 2008). A national survey in 1951 revealed that around 60% of university departments required over 124 minimum credit hours for graduation (Tada, 1951, as cited in Shimizu, 1998). Since then, the problem of over-requirement in the number of credit hours for graduation continued until the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) limited the number of required credit hours to a maximum of 140.

The credit hour framework Japan has applied is the American Carnegie Unit, requiring 45 hours of study for one credit, including both in-class instruction and study outside class. The unit was clearly defined by a Japanese regulation called the Standards for Establishment of Universities (1955). A more detailed regulation was defined for teaching style: (1) a lecture involves an hour of class instruction and two hours of preparation outside of class; therefore, 15 hours of lecture (an hour per week, 15 weeks per semester) earns one credit hour; (2) course exercises involve two hours of in-class exercises and an hour of preparation outside of class; therefore, 30 hours of exercises earns one credit hour; and (3) laboratory, practical training, or performance involves 45 hours of practice and earns one credit hour. This new system was supposed to promote university's diversity, flexibility, and students' self-directed learning; however, it ended up emphasizing a uniformity and control from the central government.

In 1998, the University Establishment Standards was amended to emphasize more freedom, flexibility, diversity, public openness, and competition. Under the amended regulation, the credit hour rule for teaching style was revised for flexibility, requiring 15-30 hours of lecture or practice to earn one credit hour and 30-45 hours of laboratory/practical training or performance to earn one credit hour. Although the new rule still emphasizes the importance of students' devotion to self-directed learning outside classes, the majority of universities has paid an attention to their liberty of deciding in-class time allocation, but has still put aside out-of-class study matters.

Struggles with Increasing Student Self-Directed Study Time

Although having introduced U.S. credit hour model, Japanese higher education has struggled with appropriately employing the system due to its different teaching methodology. The U.S. Carnegie Unit is applicable to courses that emphasize student-faculty dialogues and that highly require students' devotion to class preparations outside of classes, whereas the majority of Japanese university courses rely on faculty's one-way instruction without adequate interactions with students. Japanese faculty members have not been well trained to offer extra assignments that enhance students' active learning outside of classes. As revealed by multiple studies (Benesse Education Research and Development Institute, 2012; Kaneko, 2011; National Federation of University Co-operative Associations, 2013; Yamada, 2011), this reflects the reality that Japanese students' average weekly study time outside class is about

2.37-6 hours, significantly less than that is required by the Standards for Establishment of Universities (approximately 30 hours per week).

The fact also indicates that Japanese university students study for fewer hours compared with students from other nations. International studies have found that average out-of-class study time of full-time students is 14.7 hours in the U.S. (McCormick, 2011) and 14.4 hours in the U.K. (Bekhradia, 2012), suggesting that they study outside class 2.5–6 times more than Japanese university students. In contrary, studies showed that the majority of Japanese university students spend much more time in class than their cohorts in the U.S. or Europe, thereby lessening the time available to Japanese students for studying outside of class (Kaneko, 2012; Yamada, 2012a; Yoshida, 2012).

Additionally, the unrestricted number of class enrollment, i.e., the number of classes students enroll in, in a four-year academic program has contributed to limiting student's study hours outside of classes. Studies showed that the majority of Japanese university students spend much more time in class than their cohorts in the U.S. or Europe, thereby lessening the time available to Japanese students for studying outside of class (Kaneko, 2012; Yamada, 2012a; Yoshida, 2012). This phenomenon has contributed to the traditional problem that the credit hour system is not being used and interpreted as intended by the Japanese higher education and that university students do not spend a sufficient amount of time compared to their counterparts in other nations (MEXT, 2008). The overwhelming amount of in-class study has been a distinctive feature of Japanese university students' learning style. And it must be recognized that this is one of the factors impeding out-of-class study.

Emphasis on Out-of-Class Study Time by the Japanese Government

Along with the recent global trend that emphasizes quality assurance in higher education, the MEXT has repeatedly proposed that the credit hour system should function substantially to encourage students to be more engaged to study especially outside of class, and consequently, to enhance their learning outcomes. “International trust,” “international standards,” and “compatibility,” frequently emerged terms in the government policy reports, are key motivations for the government to increase student independent study time.

In 1998, the government introduced a system to ensure students' out-of-class study time by defining the maximum number of class enrollments per academic semester and year. It is called CAP system. Continuously, the MEXT policy report of 2008 insisted that study hours for university students meet the international standards of quality by setting a certain amount of study time for students. The government reaffirmed the regulation that hour-long lectures for 15 weeks are needed at least to meet one credit hour standard. Since then, “15-week courses” became a key measure for showing the substantialization of credit hours among universities, as well as in the review of accreditation. The MEXT also suggested universities grasp a picture of how many hours students study: it expected each institution to review the required number of credit hours for graduation, credit hour allocation for each course, academic advising and supports, and to consider setting a certain number of study hours for self-evaluation criteria.

The MEXT policy report of 2008 has also encouraged faculty to innovate pedagogies to motivate students to spend more time on preparation and review between classes by integrating the syllabus, the grade point average (GPA) system, course evaluation, and the CAP system. In particular, the MEXT proposed that the syllabus clearly include not only course objectives, what student should learn, what they need to prepare for, the grading policies, and grading criteria, but also detailed instruction as well as estimated study hours for

course preparation. These tools and initiatives were influenced by U.S. higher education and imported to Japanese universities.

In 2012, the MEXT repeatedly emphasized substantial efforts to increase and ensure study time, stating that universities are expected to demonstrate “international compatibility” as essential institutions in society. Also, the MEXT (2012) insisted that tertiary education values students’ independence toward learning, including preparation, class instruction, and reviews, by devoting themselves to a certain amount of time for study. Such a systematic process ensures that the students receive “credit.” The policy report particularly focused on improvement of class contents and methods as well as integration and cooperation among the subjects. It added that study hours should balance the quantity and quality of learning and it is an international indicator demonstrating “trusts.”

University Efforts

Universities have put efforts in response to the government requirements and expectations above. For example, a 2015 national survey by the Japanese government found that 99% of higher education institutions had implemented the syllabus system by FY2013 (Figure 1). Among them, 66% provided detailed contents for study preparation in their syllabi, which has largely increased since 2008 (34%), whereas only 11 % (7% in 2008) articulated a specific number of study hours as a standard (MEXT, 2010; 2015). Meanwhile, the number of institutions applying the CAP system has been increasing, reaching 84% by FY2013 (68% in 2008). Yet, there has been little research investigating how these tools or efforts contribute to increasing study hours. A nationwide survey (Nishigaki & Yabe, 2008) examining the Deans’ perceptions found that the CAP system has not helped in increasing students’ out-of-class study time. Further research would need to examine how these tools have impact on the increase in student study time or improvement of student learning.

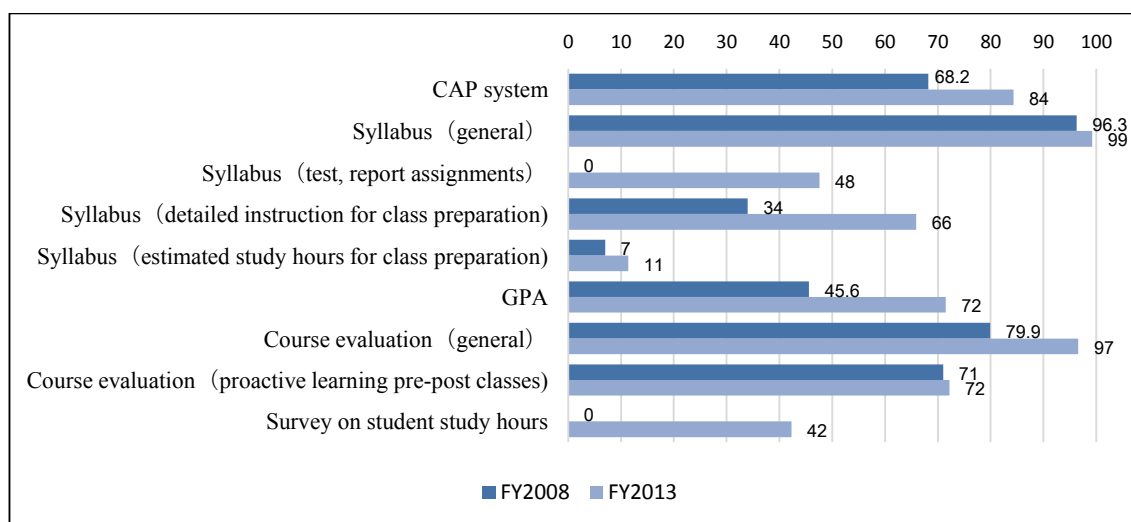


Figure 1. Tools and Efforts in University to Increase Student Out-of-Class Study Hours
Source: MEXT 2010 (n=747); 2015(n=771)

It must also be noted that there have been some traditional obstacles that impede the reforms of Japanese university education to substantialize the credit hour system. First, absence of

consistency and cooperation across the subjects as well as excessive number of segmentalized courses are challenges to effectively implement the CAP system and to encourage students to spend adequate study time outside of classes. Because class contents and levels heavily rely on the faculty members' own interests or decisions, curricula are less systematically structured in the majority of Japanese universities. Faculty members hesitate to require students to devote a great deal of time outside of classes to assignments and homework for every single class (Noda & Shibui, 2016). In order to develop consistency and transparency of the curricula, curriculum policy and mapping has recently been increasingly emphasized by the government to design at each department or program.

Second, student job hunting (“syushoku-katsudo”), which is starting earlier and taking a longer period of time during the undergraduate programs, impedes adequate study time. Generally, Japanese undergraduates attempt to complete their required courses to receive the credits they need for graduation as early as possible during the first three years, and devote the final year to their job hunting. Finding a job, which is perceived as the most important event to determine student lives, is a time-consuming process that even leads students to skip university classes. Moreover, the labor market does not pay close attention to student grades in hiring. Hence, the majority of students are almost forced to finish four-year university education within three years. To respond to this issue, the Japanese business foundation Keidanren proposed delaying the start of the job-hunting period and finishing hiring procedures in a shorter amount of time to ensure students have adequate study hours (Keidanren, 2013).

Quality Assurance for Credit Hour System: Meeting Compliance Requirement or Enhancing Learning Outcomes.

Quality assurance institutions have been increasingly expected to play a role to rigidly assure university compliance as well as to enhance student learning outcomes. In Japan, the accreditation is still new. It was only in 2004 that accreditation became a legal requirement defined by Basic Act on Education. All four-year universities must receive external accreditation every (within) seven years from one of the three official accreditation agencies—the Japan University Accreditation Association (JUAA), National Institution for Academic Degrees and Quality Enhancement of Higher Education (NIAD-QE) (former National Institution for Academic Degrees and University Evaluation: NIAD-UE), and the Japan Institution for Higher Education Evaluation (JIHEE). The university accreditation process is basically similar across the three agencies. Based on the institutions' self-evaluation, document analysis and site visit are conducted through peer-review. After the interactions between institutions and accreditors, final evaluation reports are released to the public. This section examines how the credit hour system is evaluated in the context of quality assurance in higher education.

Based on text-analysis of NIAD-QE's final evaluation reports with 126 universities for the first cycle (2005-2011), the author and her colleague examined how the accreditor in Japan assesses university efforts to enhance the effective use and interpretation of the system. The findings showed that each university applied multiple approaches to achieve substantialization of credit hours such as the CAP system, enrollment guidance, teaching methods, the GPA system, student-faculty interactions, syllabus, 15-week courses (which is required by law), and course evaluations. It is important to note that about a half of the universities did not mention about “teaching methods” as an effective indicator to enhance student self-directed learning outside of classes (Noda & Shibui, 2013; 2016).

The continuous analysis revealed that more universities in the second cycle of the accreditation (2012-) have reported that they paid more attention to effective teaching methods (e.g., active learning, group projects) and used syllabus and course evaluation, which are expected to be more directly connected to increases in study hours (Figure 2).

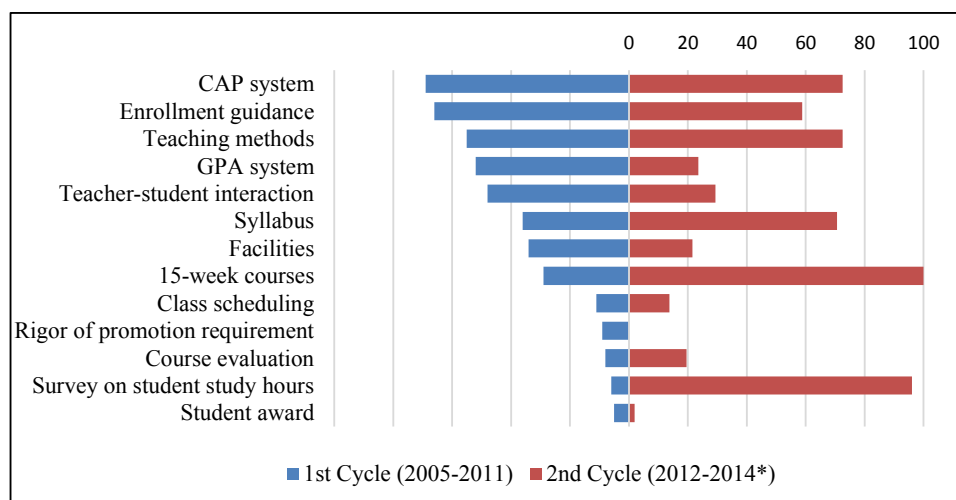


Figure 2. Changes in University Reactions to the Accreditation Based On Text-Analysis of NIAD-QE Accreditation Reports (1st cycle, n=126; *2nd cycle is ongoing, n=54).

In addition to offering 15-week courses as legitimated, most universities also reported that they conducted survey on student study time. It is likely that these reflected the government and accreditors' recent emphasis on submitting concrete evidences for quality assurance; however, these indicators did not necessarily directly refer to “how” and “how much” students actually learn in class. The current reviews do not regard whether or not the universities substantialize the credit hour system, but how universities make efforts to substantialize the credit hour system. One of challenges for accreditors is that they review university perceptions or interpretations of their efforts, but cannot prove that whether these are connected to actual increases in student study time, let alone enhancement of student learning outcomes. Having the accreditation review become a mere facade should be avoided; only judging whether or not the institution implements a particular system or tool does not help substantialize the credit hour system. Therefore, accreditors need to continuously update effective evaluation indicators which directly lead to enhancement of student learning quantitatively and qualitatively.

Credit Hour Issues in the U.S.

History and Challenges of Credit Hours

In the U.S., the credit hour system originally took the form of Carnegie Unit, developed to clarify high-school graduation and college admission requirements as well as to support a new pension system for college professors (Laitinen, 2012). The Carnegie Unit has been applied for multiple purposes, including measuring academic progress toward degrees, educational attainment, learning outcomes, funding allocations, and reporting (Wellman, 2003); however, the U.S. higher education sector has recently faced some dilemmas in the application of the credit hours system; credit hours have been used as a means of determining federal funding allocations, but some institutions have indulged in malpractices such as credit hour abuse,

fraud, and inflation (Schrock, 2010). Problems of diploma mills and accreditation mills using credit hours have also been observed. The federal investment in higher education funding is said to have reached \$187 billion as of 2012 (Laitinen, 2012).

Therefore, a new federal rule over credit hours was implemented in 2011 to increase the accountability for federal aid (U.S. Government Publishing Office, 2012). The U.S. Department of Education finalized higher education regulations, including the redefinition of the Carnegie Unit as a minimum standard for institutions. The new regulations state that a credit hour should consist of one credit per hour of faculty instruction and two hours of homework, on a weekly basis, over a 15-week semester. More importantly, the following condition was added: At least an equivalent amount of work should be required for other academic activities, such as laboratory work, internships, practicums, studio work, and other academic work, leading to the awarding of credit hours (U.S. Department of Education, 2010).

National Support for Competency-Based Education

Specifically, the latter federal definition is carefully worded in response to the recently emerged non-time-based learning approaches. Competency-Based Education (CBE), which measures learning rather than time, has recently become a popular topic in higher education as an alternative approach to measure student learning. CBE is defined as "an educational process or program that measures students' knowledge, skills, and experience through assessments instead of, or in addition to, measuring their credit or clock hours" in the Advancing Competency-Based Education Demonstration Project Act of 2014 (Library of Congress, 2014). Klein-Collins (2013) indicated that CBE programs do not assume that the completion of a series of courses results in the achievement of learning outcomes, rather, they ensure student learning by directly measuring their competencies. CBE is expected to directly assess what students know and are able to do and to reduce the required time and cost (Council for Adult and Experiential Learning, 2013). This approach has increasingly promoted the idea that "time doesn't matter, but competency does," not only into the higher education community, but also to the government and the President. On August 22, 2013, as one of national higher education strategies, President Obama indicated his support for CBE with the title "Award Credits Based on Learning, not Seat Time" in the report "Plan to Make College More Affordable" released by the White House (White House Office of the Press Secretary, 2013). The President desired to promote innovation and competition in higher education through effective initiatives. Secretary of Education, Arne Duncan (2011) also stated, "I want them (CBE programs) to be the norm" (Neal, 2015). As described later, the U.S. Department of Education developed a federal aid guideline targeting for higher education institutions which manage direct assessment (CBE) programs in 2013. To ensure that more Americans have access to high-quality, flexible higher education opportunities, a House Representatives bill in the U.S. Congress, the "Advancing Competency-Based Education Demonstration Project Act of 2014, H.R. 3136," was introduced in 2013 and will be considered by the House (Library of Congress, 2014).

Yet, tensions exist between pursuing innovation and complying with the regulations. The federal government previously implemented direct assessment programs (DAPs) in 2006, using direct assessment of student performance rather than credit and clock hours as a measure of learning; however, the DAPs still requires institutions to develop a methodology to equate the program to credit and clock hours for complying with regulatory requirements (U.S. Government Printing Office, 2008). The U.S. Department of Education is currently undertaking experimental site initiatives, in which institutions proposing an effective

competency-based approach to demonstrate student learning can obtain waivers from some financial aid regulations (U.S. Department of Education, 2013). In January 2014, a consortium of 17 institutions and two public systems serving 42 campuses that have promoted CBE submitted a concept paper to this experimental program (Competency-Based Education Network, 2016).

University Dilemmas between Time-Based and Competency-Based Approaches

In response to the federal redefinition of credit hours, higher education institutions in the U.S. have adjusted their credit hour policies and procedures, and their applications of these, in order to receive federal funds. Meanwhile, as noted above, there has been an emerging debate in the U.S. over CBE as an alternative approach to measure student learning. Although there have been concerns that declining amounts of study time can lead to inferior student learning (Figure 3), many observers have contended that time does not necessarily demonstrate what students have learned (Laitinen, 2012). According to the Lumina Foundation and Gallup survey (2013), 70% of respondents perceived that students can receive credit for a course in less time than the average course length as long as they demonstrate that they have mastered the material (Figure 4). The same poll revealed that 75% said if they could be evaluated and receive credit for what they already know; they would be more likely to enroll in college programs.

Supported by President Obama, Congress, and the U.S. Department of Education, the number of CBE programs has been increasing in recent years (Fain, 2012). Currently, estimated 586 institutions are operating or planning CBE programs (Leuba, 2016). Table 1 shows some characteristics of the current CPE programs in the U.S. in terms of curriculum design, defining competencies, treatments for students, assessment, transcripts, and faculty roles.

However, there have been some concerns about effective implementation of the CBE programs. First, some universities, researchers, and faculty members, in the fields of liberal education in particular, have shown concern that CBE’s overemphasis only on competency acquisition might deprive teachers and learners of opportunities for mutual academic interaction and dialogue, which is considered significant in university education (Neem, 2013).

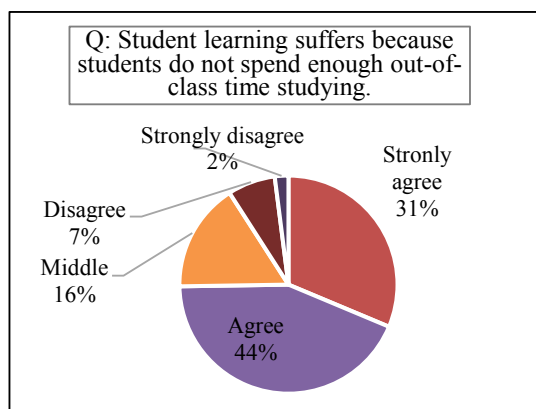


Figure 3. Chief Academic Officers’ Perceptions about Decline of Student Study Time
Source: Jaschik & Lederman, 2014 (n=842)

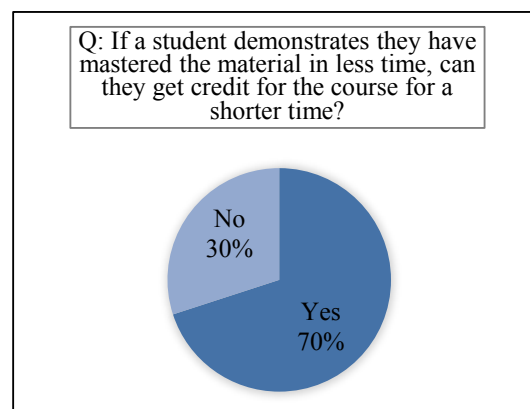


Figure 4. Public Perceptions about Time-Based Measurement for Learning
Source: Lumina Foundation & Gallup, 2013 (Over 18 year-old Americans, n=1,009)

Second, it is challenging to define what competencies should be offered in the program; some are concerned that CBE might only be applicable to vocational domains, but not to academic fields that are not directly linked to a particular occupation (Hill, 2013). Third, CBE program representatives found assessment to be extremely challenging, stating that rigorous assessments with corresponding clear and valid rubrics consistently measure the demonstration of learning across all learners and multiple contexts is challenging (Public Agenda, 2016). The fourth concern centers on a standard problem in CBE. For example, how could competencies acquired through online undergraduate programs be transferred to the competencies in face-to-face programs, or those of another college? How could the competencies be counted for admission to a traditional graduate program? The final concern about implementing a CBE program is how and when federal aid be paid. Should students be financially supported before or after they demonstrate competency acquisition? The U.S. continues to face challenges with respect to the appropriate implementation of both the credit hour and competency-based systems.

Table 1. Characteristics of the Current CBE Programs in the U.S.

Curriculum Design/Defining Competences	<ul style="list-style-type: none"> • Cooperation with multiple stakeholders (e.g., employers) • Faculty members or curriculum design teams design comprehensive and overarching courses across academic fields • Sorting overlapped or unnecessary courses • Competencies should be measurable and assessable
Student Treatment	<ul style="list-style-type: none"> • Assessing the gap at the entrance between what students already know and can do and what they need to acquire through the program • Informing students of intended competencies to be acquired in the program • Sharing grading criteria with students • Monitoring student academic progress through assessment results
Assessment	<ul style="list-style-type: none"> • Linking assessment with learning contents • Direct assessment such as papers, tests, presentations, group assignments, projects, portfolio, observation
Transcripts	<ul style="list-style-type: none"> • Two different transcripts (traditional transcripts based on credit hours or descriptive transcripts based on acquired competencies) could be prepared
Faculty Roles	<ul style="list-style-type: none"> • Teaching faculty designing courses and assessments, and mentoring faculty taking care of student enrollment plans or consultation

Quality Assurance for Credit Hour System: Rigid Requirement for the Review

In the U.S., there are seven regional accrediting agencies for higher education institutions. Accredited institutions receive federal funds from Title IV funding. In order to be reliable authorities for assuring the quality of higher education institutions they accredit, accreditors need to be recognized by the Secretary of Education by meeting rigid recognition criteria. In 2009, the U.S. Department of Education's Office of Inspector General (OIG), which investigates potential misuse of Education Department funds, audited how three major regional accreditors define "credit hours" in determining the quality and rigor of the institutions they accredit. In 2010, the OIG criticized the Higher Learning Commission of the North Central Association of Colleges and Schools (HLC), the country's largest regional accreditor, for accrediting an institution that had significant problems with its assignment of credit hours. Although HLC peer reviewers identified that some courses were inflated in

credit at American Intercontinental University (AIU), they concluded that AIU met the criteria for accreditation. The OIG indicated that HLC did not define what constitutes a credit hour for a course or establish minimum requirements for program length or the assignment of credit hours (U.S Department of Education, Office of Inspector General, 2010). The OIG recommended that the Department of Education create a federal definition of the credit hour to ensure that federal student aid would be protected from potential abuse, fraud, and waste.

Particularly after this incident, the Department (2010) required all regional accreditors to review higher education institutions' policies and procedures regarding credit hours as well as their practical application. This review has become one of the government's recognition criteria for accreditors (U.S. Department of Education, 2010). The review is expected to pay particular attention to seat time (i.e., interaction with faculty, including online courses) allocation, program length, and tuition, which are linked with federal student aid allocations (Table 2).

More importantly, universities using nontraditional educational approaches without seat time (i.e., CBE) are required to show these methods' equivalence to credit and clock hours when they pursue financial aid eligibility. Although the Carnegie Unit based on federal redefinition includes it, study outside of classes is not a priority for the accreditation or the government. U.S. attention in the role of accreditors reviewing the credit hour system mainly emphasizes accountability, which is, how federal financial aid is effectively used, protecting it from potential abuse.

Table 2. U.S. Accreditors' Reviews about Universities' Credit Hour Policies and Practices

Accreditors	What the Accreditors Reviews
Middle States Commission on Higher Education (MSCHE)	(1) Written policies and procedures used to assign credit hours; (2) Evidence and analyses demonstrating that these policies and procedures are consistently applied across programs and courses, regardless of delivery mode or teaching/learning format; (3) An explanation of how the institution's assignment of credit hours conforms to commonly accepted standards of higher education.
Northwest Commission on Colleges and Universities (NWCCU)	(1) The adoption of a policy on credit hour for all courses and programs at the institution;(2) The processes the institution employs to review periodically the application of its policy on credit hour across the Institution to assure that credit hour assignments are accurate and reliable. (3) Any variations in the assignment of credit hours to assure that these variations conform to commonly accepted practices in higher education
North Central Association of Colleges and Schools The Higher Learning Commission (NCA-HLC)	(1) Review the worksheet completed by the institution, which provides information about an institution's academic calendar and credit hour assignments across institutional offerings and delivery formats as well as total credit hours generated in recent fall terms. (2) Review the institution's policy and procedures for awarding credit hours. Note that such policies may be at the institution or department level and may be differentiated by such distinctions as undergraduate or graduate, by delivery format, etc. (3) Identify the institution's principal degree levels and the number of credit hours for degrees at each level. The following minimum number of credit hours should apply at a semester institution.
Western Association of Schools and Colleges Accrediting (WASC)	(1) The adoption of a policy on credit hour for all courses and programs at the institution. (2) The processes the institution employs to review periodically the application of its policy on credit hour across the institution to assure that credit hour assignments are accurate and reliable. (3) Any variations in the assignment of credit hours to assure that they conform to commonly accepted practices in higher education.

New England Association of Schools and Colleges (NEASC)	(1) The institution's policies and procedures for determining the credit hours that the institution awards for courses and programs. (2) How those policies and procedures are applied to the institution's programs and coursework.
Southern Association of Colleges and Schools Commission on Colleges (SACSCOC)	(1) Institutions' policies and procedures for determining credit hours, including clock to credit hour conversions, that the institution awards for coursework. (2) The application of its policies and procedures to its programs and coursework. Following the evaluation, the Commission is obligated to make a reasonable determination regarding the institution's assignment of credit hours and whether it conforms to commonly accepted practice in higher education

Conclusion

This study has presented dilemmas and challenges faced by governments, universities, and accreditors in implementing and evaluating the credit hour system in Japan and the U.S. Japan continues to emphasize increasing out-of-class time because of the need for legal compliance defined by the Standards for Establishment of Universities. Also, because of concerns for international comparability and compatibility, the inadequate amount of study time has created external pressure on Japanese higher education. Therefore, the substantialization of credit hours is intended to indicate an increase in the average number of out-of-class study hours. For the meantime, Japanese accreditation pays closer attention to reviewing how universities seek to increase study time outside the classroom, but the review does not (or cannot) cover how the universities' efforts have an impact on the increase in study hours, let alone on the improvement of learning outcomes. Ideally, a more rigorous review of the credit hour system would result in enhanced student learning outcomes, but ensuring learning achievement both quantitatively and qualitatively is challenging. Japan faces a dilemma between how study time should meet both the requirement for compliance and international standards in quantitative terms, and how to confirm that this study time leads to successful learning.

In the U.S., the government requires universities and accreditors to review institutions' credit hour policies and procedures, and their application. Accreditors are expected to pay particular attention to seat time (i.e., interaction with faculty) allocation, program length, and tuition because these measures are tied to federal student aid allocations. Moreover, universities using nontraditional educational approaches without seat time (i.e., CBE) are required to show these methods' equivalence to credit and clock hours when they pursue financial aid eligibility. The credit hour discussion in the U.S. mainly emphasizes accountability, which is, how federal financial aid is effectively used, how student learning is demonstrated, and how credit hour abuse and inflation can be resolved. Yet the Department of Education is undertaking experimental site initiatives to seek an effective way of allocating financial aid to student competencies, not study hours. The U.S. seems to be on the horns of a dilemma between retaining seat time counting methodologies under current regulations and encouraging innovations to directly demonstrate student competency (i.e., CBE). In any case, unlike in Japan, invisible out-of-class study time is not a top priority for government and accrediting reviews.

Future Prospect

Having discussed how two systems have tackled credit hour issues, I will conclude by highlighting three points on how each system can learn from the other. First, the debate over time-based vs. competency-based learning can change how credit hours are used. While

nontraditional educational approaches receive more attention from the government, universities, and accreditors in the U.S., there has been little discussion in Japan on how credit hours can function in different types of delivery methods. Furthermore, Japanese higher education can learn from the U.S. practice of involving government and accreditors in promoting CBE. Under the current system in Japan, credit hour compliance exerts broad control over universities' teaching and learning as well as accreditors' evaluation. The U.S. experiment might provide Japan with a space to publicly consider the possibilities of alternative methods to directly enhance student learning.

Second, at the same time, the time-based vs. competency-based discussion has posed some new challenges. Where credit hours are treated as common currency, the present study raises questions as to how the system should enable transferability and compatibility in higher education both nationally and internationally. There have been many variations in the interpretation of credit hours even within the U.S. As long as credit hours are expected to function as a tool facilitating transfers within and among institutions, and even between countries, these variations may result in a loss of compatibility. Future research should examine the potential problems associated with awarding credit based on competency, including the issue of its transferability.

Finally, this inquiry can contribute to reconsider the role of accreditors in examining credit hour issues as well as learning outcomes. In Japan, although learning outcomes are highlighted in accreditation standards, the review of credit hours focuses heavily on methods of increasing the number of study hours, without a clear linkage to learning enhancement. In the U.S., what the federal government currently requires accreditors to review (i.e., institutions' credit hour policies and procedures, and their application) does not necessarily refer directly to the enhancement of student learning outcomes. What should accreditors do about this? The expected roles for accreditors regarding credit hours vary between the two countries, but this inquiry suggests that they share similar problems of how to find an effective method to review credit hour issues that actually contribute to the promotion of learning outcomes.

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