

The Development of a Student Learning Outcomes Based Accreditation Model in Taiwan Higher Education

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ABSTRACT

Student learning is currently a central concern of higher education administration and accreditation. Many institutions, programs and accrediting organizations are hearing similar requests about student learning outcomes from a number of sources: they all want to be able to provide concrete evidence of student academic achievement in higher education and to report on this evidence in a manner that is readily understandable to the public at large. Hence, the public, the higher education community, policy makers and students are increasingly seeking to use such information as an integral part of making judgments about the quality of accredited institutions and programs. The main purpose of the paper is to examine recent educational policy trends that emphasize learning outcomes and quality assurance in many nations and Taiwan higher education and the role that the accrediting agencies play. Finally, the challenges that institutions and accrediting agencies are facing will be stated as a conclusion.

Keywords: *learning outcomes, quality assurance, higher education*

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Introduction

By the end of 20th century, global capitalism and free markets in higher education had a great impact on the policies of states and they also changed the relationship between governments and institutions. Pressured by social demand, as Chait (2002) observed, higher education in the 21st century is more controlled by external forces than ever before. A “market-oriented” mechanism and an administrative team has replaced the original “academic-oriented” mode resulting in different decision-making strategies and execution, so that “the shift of power is not towards the executive branch nor is it towards the board. Power has been released to those who are able to provide resources off campus, for example students, government officials, corporate sponsors, or individual donors” (Chait, 2002, p. 302).

On the other hand, as higher education institutions continue to be marketized and pressured to respond to the growing popularity of the concept “accountability”, they are expected to be more responsible to their stakeholders by disclosing assessment outcomes in public. Zumeat pointed out that “colleges and universities face unprecedented external demands and this shift in states’ expectations and relations with colleges and universities is significant not only for academe’s own interests but for important societal values” (Schmidtlein & Berdahl, 2005, p.74).

Today, however, the rapid expansion of higher education institutions throughout the world and its increasingly market-based orientation has led students, parents, higher education, employers and governments to have a much greater interest in the actual academic quality of universities and colleges. Definitely, universities and colleges are beginning to take on accountability toward related members of the school and societies in the way that private enterprises do. Colleges more and more are being requested to present institutional effectiveness to the general public. Hence, quality assurance mechanism and international benchmarking, which emphasize output monitoring and measurements and systems of accountability and auditing have become more popular worldwide (Marginson, 2007).

With a gradual shift to the universal type of higher education since the 80s, there are more than 160 colleges and universities in Taiwan higher education now. How to maintain quality in higher education has become a major concern for all stakeholders of higher education. In order to improve quality in Taiwan higher education consistently,

Taiwan's government started to develop a quality assurance system of higher education in the 1980s. A more decentralized system of quality assurance in Taiwan higher education was developed successfully when the Higher Education Evaluation & Accreditation (HEEACT) was founded in 2005. Nowadays, all types of Taiwan universities and colleges are obligated to be assessed by one of the external quality assurance agencies according to the University Law Revised of 2005. In the first cycle of program accreditation from 2006 to 2010, HEEACT mainly used input and process indicators, such as faculty quality, financial resources, research and professional performance, to assess the quality of higher education institutions.

Today, many institutions, programs, and accrediting organizations in Taiwan are hearing requests about learning outcomes from a number of sources to provide concrete evidence of student academic achievement in higher education and to report on this evidence in a manner that is readily understandable to the public at large. Hence, the general public, the higher education community, policy makers, and students are increasingly seeking to use such information as an integral part of making judgments about the quality of accredited institutions and programs. In order to respond to this legitimate public demand, HEEACT has started working toward greater emphasis on student learning outcomes for the upcoming 2011 institutional accreditation and the second cycle of program accreditation. Many institutions, policy makers and other stakeholders are invited to discuss with HEEACT about how evidence of the attainment of learning objectives can be obtained successfully.

Therefore, the main purpose of the paper is to analyze recent educational policy trends that emphasize learning outcomes and quality assurance in many nations and in Taiwan, especially higher education and accreditation standards of student learning outcomes set by HEEACT in its first cycle of program accreditation. The big challenges in the upcoming institutional round of program accreditation exercises that Taiwan's higher education institutions and HEEACT are facing are discussed at the end of the paper.

Development of Learning Outcomes-Based Accreditation and Role of Accrediting Bodies

Over the past decade, increasing pressure to demonstrate accountability of higher education had led to the rise of learning outcomes based

assessment in many countries. Hence, a debate over how to gather reliable evidence of the student achievement of these outcomes has been growing globally. According to Wolff (2009), the focus made accreditors shift the accreditation standards from “the use of key input and resources indicators to gain evidence of effectiveness, especially in relation to student learning outcomes” (p. 84).

The US was the first nation to focus on learning outcomes assessment. In the mid-80s, U.S. higher education began the so called “assessment movement”. As Ewell (2008) stated “this was and is aimed at gathering systematic evidence on student learning outcomes and a call to provide information that enabled institutions to establish a clear statement of intended learning outcomes and make the result public” (p. 42). In the early 90s, over 90% of institutions had an assessment program under way, though the majority of them were just getting started. At the same time, U.S. regional accreditors played a very prominent role in the outcomes assessment. The Southern Association, the Western Association’s Senior Commission and the North Central Association developed a new model of learning outcomes assessment by adopting institutional effectiveness standards. Program and career-related accreditors also paid increasing attention to evidence of student academic achievement by requesting programs to develop assessment systems such as creating exit examinations for graduates (Ewell, 2008).

In the 90s, the UK government began to express its concern about whether institutions and their graduates had achieved optimal academic and learning standards. A discipline-based panel was convened by QAA to create the “subject benchmark statements”, which describes what can be expected of a graduate in terms of abilities, skills, understanding and competence in the subject. However, they are not the learning outcomes standards for courses, just for broad comparability within subjects. In fact, setting up standards and gathering evidence remains a big challenge for UK institutions. In order to assess learning outcomes concretely, other nations, for example Australia and Hong Kong, developed National Qualification Frameworks to assist accreditors to examine whether students have achieved intended learning goals (Woodhouse, 2010).

In recent years, the trend in assessment for accountability has gained prominence throughout higher education worldwide, which has also changed the way that quality is defined. Accountability mainly aims at improving fiscal efficiency of an educational organization. In contrast,

assessment has been used to try to measure, to a greater extent, the quality of education at an institution. Therefore, student learning outcomes are assumed to be better indicators of institutional quality or effectiveness based on the newly developed concept of “assessment for accountability” in higher education. Hence, the notion of quality in accreditation, defined in terms of input and process standards, has evolved into notions of quality based on institutional mission fulfillment over decades and is now moving toward student learning outcomes based assessment (Ewell, 2008).

Generally speaking, there is wide recognition that the level of institutional capacity should be measured by how learning outcomes are produced. Yet, there is still little evidence of how much students are learning because no reliable comparable data is available to indicate if higher education learning is good, bad or somewhere in between (Woodhouse, 2010).

Assessment for Student Learning Outcomes

For public understanding, student learning outcomes generally refer to aggregate statistics on groups of students like graduation rates, retention rates, transfer rates and employment rates for an entering class or a graduating class. Nevertheless, they just represent to a certain extent institutional performance, not being able to show what and how students learn in universities and colleges. With a broader definition, student learning outcomes now encompass a “wider range of student attributes and abilities, both cognitive and affective, which are a measure of how their college experiences have supported their development as individuals” which include acquisition of specific knowledge and skills, values, goals, attitudes, self-concepts, world views, and behaviors affected in the learning context (Frye, 2009). The Council for Higher Education Accreditation (CHEA) also stated that student-learning outcomes are defined “in terms of the knowledge, skills, and abilities that a student has attained at the end of his or her engagement in a particular set of higher education experiences” (CHEA, 2001, p. 66). To conclude, student learning outcomes “can be broadly defined as something happened to an individual student as a result of his or her attendance at a higher education institution and/ or participation in a particular course of study” (Ewell, 2008, p. 5)

When it comes to student learning assessment, several issues pertaining to content, methodology and evidence are raised. Ewell (2008) proposed four types of student learning outcomes assessment that an accrediting agency might adopt in terms of three dimensions of choices: prescription of outcomes, unit of analysis and focus of review. An accrediting agency should specify the particular learning outcomes for the accredited programs and institutions and examine the direct evidence of student achievement to assure the quality of learning outcomes. These four approaches: program assessment, academic audit, auditing academic standards, and third party certification have their strengths and drawbacks (Ewell, 2008).

In the first model, program assessment is the typical accreditation practice. The program and institution define learning outcomes by themselves and the evidence of student achievement is collected directly through portfolios, examination and surveys.

In this approach, although programs and institution are encouraged to examine student learning in a “visible and actionable fashion”, there is no guarantee that all graduates of the institution or program have met established goals for learning.

In the academic audit model, the particular learning outcomes are decided by the program and institution and its effectiveness is the major focus of review. However, no direct evidence of learning is collected in this model.

In the auditing academic standards model, learning outcomes remain in the hand of the program and institution but the focus of attention shifts to individual attainment. Direct evidence such as student work products or student career development is required. However, like the other types of assessment, there is no guarantee that all students achieve the intended learning goals.

The third party certification model is unlikely to be adopted by an accrediting agency since it demands direct demonstration of the competence of each graduate to ensure that specified levels of mastery are attained. Students are the main focus of attention and direct evidence is needed for proof of student achievement (see Table 1).

In these four approaches, there are a few common problems regarding quality of evidence, such as what kind of evidence should be considered acceptable by an accrediting agency and how it is collected by the program and institution. Evidence for student learning outcomes take many forms including quantitative and qualitative methods of collection (Association of American Colleges & Universities, 2008). Evidence should be not only

Table 1: Characteristics of Four Models of Assessment for Student Learning Outcomes

	program assessment	academic audit standards	auditing academic	third party certification
prescription of outcomes	Program and institution	Program and institution	Student	Student
unit of analysis	Program and institution effectiveness	Program and institution effectiveness	individual attainment	Individual attainment
focus of review	indirect evidence / portfolios, examination and survey over students.	no direct evidence / learning / learning outcomes are decided by the institution and program	direct evidence/ student work products, student career development.	direct evidence/ license and certificates

Source: CHEA (2001). Accreditation and student learning outcomes: A proposed point of departure. Washington, D.C.: CHEA.

relevant but also verifiable by third party inspection, particularly accrediting agencies. It is usually advised to collect several types of evidence such as faculty-designed examinations and assignments, performance on licensing or external examinations, portfolios of student work, student satisfaction surveys, interviews and so on. However, there is no guarantee that they fully represent what students learn in universities and colleges.

In short, the use of student-learning outcomes to improve curriculum and pedagogy remains a big challenge for institutions and accrediting agencies.

Quality Assurance in Taiwan Higher Education

Over the past ten years, higher education in Taiwan has expanded impressively, with respect to the number of institutions and the number of enrolled students. Amid flourishing economic development, social liberalization and democratization in the 1990s, Taiwan higher education has decentralized with the state exerting less control and universities seeking more autonomy. By 2008, the number of higher education institutions had increased to 163, largely due to the upgrading

of junior colleges to four-year universities. Student enrollment had increased 65% with a total number of 1.3 millions. The University Entrance Exam admission rate is close to 97% net enrollment and gross enrollment in higher education is approximately 55.3% (693,847/1,254,395) and 78.6% (987,914/1,254,395) respectively (Department of Higher Education, 2008).

As higher education has expanded, the public's desire to maintain and increase both quantity and quality has placed tremendous pressure on the government. Apart from encouraging institutions to conduct assessments on their own, a few professional associations such as the Chinese Management Association, the Chemical Society and the Physical Association of the Republic of China were chartered by the Ministry of Education to exercise program-based academic assessments beginning in the 1980s. In the 1990s, the government, under pressure from the public, began implementing a wide-range of comprehensive institutional evaluations with the goal of establishing a non-governmental professional evaluation agency whose purpose was to conduct evaluations of higher education institutions. In 1994, the Legislative Yuan passed the "University Law" which stated clearly that the national government is entitled to evaluate university in order to assure higher education quality. Up to the present, three independent evaluation agencies chartered by the Ministry of Education assess three different types of Taiwan higher education institutions, including four-year comprehensive colleges and universities, universities of science and technology and technical colleges.

Starting in 2002, the evaluation of technical colleges was conducted by National Yunlin University of Science and Technology. A total of forty institutions are scheduled to be reviewed over four years. Reviewers evaluate both administrative support and academic performance of an institution in a two-day onsite visit. There are four types of assessment outcome ranks (Establishing an evaluation mechanism, 2007).

Another is Taiwan Assessment and Evaluation Association (TWAEA). Established in 2003, TWAEA, the first non-profit evaluation agency jointly founded by senior members of the academic and business sectors, has assessed 38 universities of science and technology and technical colleges since 2004 (TWAEA, 2008). In order to "oversee current assessment mechanisms, enhance teaching assessments, maintain teaching quality and periodically conduct administrative assessment" based on the 2005 Revised University Law, another professional organization jointly endowed by the Ministry of Education and 153

colleges and universities, the Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT) was established.

Generally speaking, Taiwan government assessments of universities and colleges had been only conducted in an evaluative mode until HEEACT was established. “Evaluation” clearly “focuses more on how successfully the institution achieves its goals and objectives” (National Institution for Academic Degrees and University Evaluation, 2007, p. 4). Evaluation agencies evaluate results in terms of the same set of criteria and this produces intense competition among all evaluated institutions and programs.

HEEACT adopted the American accreditation model, featuring peer reviews, on-site visits and self-enhancement, to each of which are added values that supersede the evaluative mode. According to CHEA, “accreditation” means “a process of external quality review created and used by higher education to examine colleges, universities and programs for the purposes of quality assurance and quality improvement” (CHEA, 2008, p. 12). In other words, accreditation “is a voluntary process of approval of an institution or program by an accrediting agency or body” according to its own mission and goal. In 2006, HEEACT began a five-year, program-based, nation-wide, modified accreditation of 76 four-year comprehensive institutions, including military and police academies. Participation is mandatory (shown in Table 2).

Over 800 reviewers from universities and industries are recommended by 47 Program Planning Committees formed by the Board to conduct evaluations (HEEACT, 2009b). The accreditation standards developed by HEEACT are as follows: 1. goals, features, and self-enhancement mechanisms, 2. curriculum design and teaching, 3. learning and student affairs, 4. research and professional performance, 5. performance of graduates. There are three review outcomes of accreditation including “accredited”, “conditionally accredited” and “denial”. Those with a status of “conditionally accredited” or “denial” are supposed to be reviewed again one year later to check if the major problems mentioned in the final accreditation report have been solved during the year.

A 2-4 page formative and summative report provided after the assessment contains two parts, comments based on site visits and accreditation outcome proposed. In the former, the strengths and weaknesses of the program are evaluated on the five standards addressed clearly in a descriptive format followed by constructive recommendations. As to accreditation outcome, a checklist of 5 criteria accompanied with 21 indicators are provided for reviewers. The review panel assesses the

Table 2: Comparison among Three Quality Assurance Agencies by Background and Accreditation Status

	HEEACT	TWAEA	NYUST
Background			
Starting year	2006	2004	2002
Type	Non profit Foundation	Non profit Foundation	Higher education institution
Governance	15 Board members	15 Board members	Research center (6 staff)
Funding	Ministry of Education	Ministry of Education	Ministry of Education
Content of Quality Assurance			
Nature	Mandatory	Mandatory	Mandatory
Unit	Program	Institutional/ program	Institutional / Program
Scope	76 4-year comprehensive colleges and universities	38 Universities of Science and Technology	40 Technical Colleges (including 2 and 5 year junior colleges)
Process	Self evaluation / peer review	Self evaluation / peer review	Self evaluation / peer review
Standards	5 criteria	5 items in institutional evaluation and 8 items in program evaluation	5 items in institutional evaluation and 8 items in program evaluation
Review cycle	5 years	4 years	4 years
Outcome	1. Accredited 2. Accredited conditionally 3. Denial	Rank 1-4: Rank 1: above 80 points Rank 2: 70~80 Rank 3: 60~70 Rank: below 60	Rank 1-4: Rank 1: above 80 points Rank 2: 70~80 Rank 3: 60~70 Rank: below 60
Implication	Governmental Funding / enrolment approved	Governmental Funding / enrolment approved	Governmental Funding / enrolment approved

Source: by author.

performance of the program in a six-point scale (6-excellent; 1-not good) based on the items of the checklist. At the

bottom of the checklist, the whole panel will suggest the final accredited status of the program based on the evidence provided and send it to Preliminary Accreditation Review Subcommittee. Then the Accreditation Review Committee finalizes the accredited status. The list of five criteria and 21 indicators is as follows (HEEACT, 2008b):

Item one: Mission, goals, features, governance, self-improvement system

1. Faculty and students understanding of mission and goals of the program
2. Mission and goals related to the institutional development
3. Operation of self-evaluation mechanism
4. Self-improvement system
5. Operation of various steering committees of the program

Item two: Curriculum design and instruction

1. Curriculum development and planning
2. Curriculum meeting program goal and mission
3. Quality and quantity of full-time and part-time faculty and staff satisfying student demands
4. Instruction content following course schedule
5. Faculty development and teaching quality are the centrality of the program
6. What faculty members teach corresponds to academic scholarship

Item three: Student learning and student affairs

1. Teaching resource satisfies student demands
2. Sufficient faculty resources to help students write theses and dissertations.
3. Student support and services in learning and counseling
4. Tutorial time scheduled
5. Students' opinions are respected and accepted
6. Active interaction between advisors and graduate students

Item four: Research output and professional performance

1. Research output and professional performance of faculty
2. Grants and research projects received by faculty
3. Faculty members provide professional services for the community

Item five: Alumni performance

1. Effective channels to contact with graduates and their employment and career tracking.

The accreditation final reports are provided for three major stakeholders, the institutions for self-improvement, the government for resource allocation and students for school selection (HEEACT, 2009).

Currently, four rounds of accreditations have been conducted, and the results of the first three and a half rounds have been released. According to the review outcomes of the past four years, among the total of 1,587 programs, the average rate for accredited status is 83.21%, for conditionally accredited status is 14.03%, and for denied status is 2.69% (see Table 3). The accredited programs in the fall semester of 2008 outnumbered the other six reviews. The pass rate dropped a little bit in the spring of 2009 because some newly established universities did not offer relevant programs based on their missions and goals. Thus, it is evident that these figures demonstrate that Taiwan institutions are becoming more and more acquainted with the HEEACT accreditation mode, and that they are aiming at self-enhancement and learning ways to prepare faculty for participation.

Table 3. Number and Percent of Programs by Status

Review status		Accredited			Accredited conditionally		Denial	
Academic Year		Number of programs	Number	%	Number	%	Number	%
2006	Fall Semester	362	279	77%	71	19.6%	11	3%
	Spring Semester	242	159	65.7%	55	22.7%	27	11.6%
2007	Fall Semester	265(458*)	386*	84.3%	65*	14.2%	7*	1.5%
	Spring Semester	231(418*)	376*	90%	42*	10%	0	0%
2008	Spring Semester	231(418*)	376*	90%	42*	10%	0	0%
	Fall Semester	266(455*)	425	93.41%	30	6.59%	0	0
2009	Spring	222(378*)	336	88.89%	42	11.11%	0	0%
Total		1587		83.21%		14.03%		2.69%

Source: Higher Education Evaluation & Accreditation Council of Taiwan (2010). 2009 Annual report. Unpublished. Taipei: Higher Education Evaluation & Accreditation Council of Taiwan.

* They are classes.

To sum up, a decentralized system of quality assurance for higher education institutions was established with the formation of the HEEACT in 2005. The government still plays an indirect role and influences all higher education institutions through the funding of allocation policies and total enrollment controls based on review outcomes. If a program fails to pass the accreditation for two consecutive years, the MOE requests the university to terminate its enrollment and operation (HEEACT, 2008b). Looking at institutions prior to review and after being accredited, there is no difference in that curriculum reform, faculty hiring and resource allocation are still determined with complete academic autonomy. On the other hand, it cannot be denied that most institutions wisely chose to close unaccredited programs based on the HEEACT final report. Administrators at higher education institutions realize that a pass in the evaluation exercise is vital for the survival of an institution.

This situation clearly represents a dilemma called “the principal-agent problem”; that the responsibility of the delegated accrediting body ensures the government’s wishes is a fact even though they may have their own agenda and mission. (Hawkins, et al., 2006, Ewell, 2008). A consequence of this is decentralization of the system which conflicts with centralized state control. In turn, discussions have been initiated over the most effective ways to make the decentralized quality assurance system more professional and independent.

HEEACT Student Learning Outcomes Standards

As indicated above, the first cycle of HEEACT program accreditation focuses on input and process standards. Graduate performance is the only one out of five accreditation standards relevant to student learning outcomes. In the HEEACT handbook, evaluated programs are advised to provide quantitative evidence of graduate performance over the last three years, such as graduation rate, employment rate, number of student awards, number of professional certificates or licenses, pass rate of national examination for governmental offices as evidence of student learning outcomes (HEEACT, 2008b). In it, several questions are also prepared for the evaluated programs as reference for evidence collection in a qualitative approach. The review panel interviews a few students and graduates during the two day on site visit in order to collect their opinions of how they learned from the program and the institution:

1. How do the standards of graduate competencies correspond to the mission and goal of the program and institution?
2. What is the employability of graduates and how do they pursue advanced study?
3. Are the goals sought by graduates related to what they learn in the program and the institution?
4. What are the results of surveys of employers, parents and communities? How do programs and institutions use them to improve the quality of the curriculum and pedagogy?
5. How do the programs and institutions track the career development of graduates?

Identified as a type of program assessment as indicated above, the HEEACT standard of student learning outcomes, which emphasizes the learning experience of students does not, in fact, represent that all graduates of the institution or the program have met established goals. It merely attempts to assist programs and institutions to track where their graduates go after graduation in order to understand institutional effectiveness instead of individual attainment. Indeed, some evidence, which includes graduation rate, employment rate and student awards does not prove directly the competence of all graduates. As to the indirect evidence provided by programs and institutions such as student satisfaction surveys, focus groups or interviews, this also does not represent directly what students have learned and how they have changed in college life.

In fact, the HEEACT standard of graduate performance can be maintained only if the evaluated program has developed a set of core competencies for students according to its mission and goal, which is adopted as a guideline for student learning as well as a measure of student knowledge and skills (Wang, 2008). Rather, the major element of the standard is to see if the program develops a follow-up mechanism for graduates and collects their opinions as a proxy for institutional effectiveness. This explains why HEEACT required the evaluated programs to invite an adequate number of alumni to go back to school to be interviewed. Through interviews with graduates, information can be obtained such as how and what students learned could be applied to the job market and how competencies and skills of graduates satisfy recruiters. Graduation rates and employment rates, which may concern programs and institutions drastically, on the other hand, have been considered as evidence of the career development of graduates in a program in the last three years (HEEACT, 2008b).

However, the issue of what students learn in colleges and how it is measured continues to worry Taiwan's society as the university acceptance rate rose to more than 97% in 2009. The Taiwan public is losing confidence in the quality of higher education. As one of the major accrediting agencies in Taiwan, HEEACT has taken leadership in the face of escalating requests for easily understood information demonstrating what college students learn. In response to the changing context of higher education, HEEACT started to develop a new regulatory framework for accreditation standards to assess institutional effectiveness based on student learning outcomes instead of on input and process standards in the upcoming institutional accreditation in 2011 and the second cycle of accreditation in 2012 (HEEACT, 2009).

A New Accreditation Model and Institutional Actions

Prior to the establishment of HEEACT, higher education evaluation in Taiwan mainly focused on the input and process measures. Of the 2005 institutional evaluations of over 76 four-year comprehensive universities and colleges conducted by Taiwan Assessment and Evaluation Association for example, none are directly relevant to student learning outcomes. When HEEACT conducted the program accreditation exercise in 2006, learning outcomes started to gain increasing attention of the government and institutions. In the 2007 Evaluation on Colleges of Science & Technology and Technical Colleges, the item of "student achievement and development" was adopted as one of the standards of program effectiveness (TWAEA, 2007).

Recently, pressured heavily by public demand to ensure higher education quality, the Ministry of Education has announced a new policy that would put greater emphasis on evidence of educational effectiveness and student learning in the upcoming cycle of program accreditations. In order to ensure the levels of the professional knowledge and skills students require in a job market, the Guidelines of "Promoting Student Quality in Postsecondary Education Program" initiated by the MOE in 2009 indicated clearly that all programs and institutions are required to set a series of core competences or to hold exit tests for all students (Ministry of Education, 2009a). Also, the other important governmental funding program, "Excellent Teaching Programs", stated that all applicants for funding will be reviewed and selected according to a common set of criteria, including teaching quality, student learning effectiveness and

curriculum and program planning. In the dimension of student learning outcomes, applicants are required to provide some evidence of institutional effectiveness, including freshmen counseling support and alert system establishment, core competence development, mechanisms for alumni tracks, healthy functions of career planning office, citizenship cultivation, etc. (Ministry of Education, 2009b). In the upcoming 2011 institutional accreditation, 81 institutions have been requested to establish a set of generic attributes and core competencies for graduates and to explain how the intended learning outcomes can be achieved. Most important of all, the institutions have to establish a reliable assessment system in order to provide the relevant evidence for the exercise. In the second cycle of program accreditation, student learning outcomes will also be expected to be embedded into each standard.

In order to meet global demands and the public need for more educational accountability, Taiwan's government has acted to establish more student learning based model of quality assurance in higher education. On the other hand, several universities have also taken action to develop student learning outcomes in boarder ways, such as establishing clear statements of student learning outcomes, collecting and interpreting evidence of student performance, routinely modifying the standards, policies, curricular structure and leaning support systems based on opinions from graduates, employers, and student e-portfolio. Soochow University, for example, successfully designed student attributes and competencies in three domains: general education, social and interpersonal skills and professional knowledge. Then the intended generic and professional competency indicators were embedded into curriculum design, stressing the connectivity of theory and practice. Finally, three domains of student learning outcomes and competency indicators are built into the customized student e-portfolio system, which helps students realize the quality of their learning outcomes and provides advice (Ho, 2009). Furthermore, several institutions have adopted capstone courses at the final level of undergraduate education. Taiwan's universities and colleges are also encouraged to put emphasis on the development of a curriculum map to help learners select core and elective courses in order to cultivate the core and professional competencies required in job seeking.

To conclude, Taiwan Accrediting agencies are transforming the traditional accreditation model into a new learning outcomes based model and this has led Taiwan's institutions to develop diversified strategies to achieve learning goals. In fact, the standards and criteria of learning

outcomes are not difficult to develop in Taiwan's universities and colleges. The major concern, however, is how to assess them successfully based on the mutual trust and understanding between accreditors and institutions. Hopbach (2009) indicated that "using learning outcomes is not only a challenge for higher education institutions in designing curricula and assessing students but also for quality assurance be it internal or external quality assurance" (p. 24) . Therefore, the crucial job is to develop the close cooperation between accreditors and institutions so that "accreditors must work collaboratively with higher education institutions to develop common language that can explain the diverse approaches to addressing student learning outcomes" (Hawkins, 2009, p. 36).

Conclusion

A well-developed decentralized system in higher education evaluation has been created since the foundation of HEEACT in 2005. Now HEEACT is working on a new framework of student learning outcomes based standards. But it is only in the initial phase of turning from a focus on input and process indicators into a new outcomes-based model. Nevertheless, many problems between accrediting agencies and institutions still need to be solved, particularly the consensus on quality of evidence and the development of a national qualification framework. Accrediting agencies therefore should talk to institutions about the key elements of learning outcomes. Moreover, accrediting agencies should also fully understand the evidence the programs and institutions can provide and the problems they face in the new accreditation model. However, mutual understanding about the student learning outcomes between accrediting agencies and institutions is starting to increase. As Ewell (2008) noted, the task of addressing student-learning outcomes has no single and simple answer. Only with collective action and mutual understanding about student learning outcomes can the new model be successful.

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