Competency approach to accounting education: A global view

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ABSTRACT

Competency-based education is a norm in several disciplines. Prior research on competency-based accounting education has adopted a national view. Rapid changes in environment of accounting pose a critical need for a global approach to accounting education. This article takes a global perspective on competency-based accounting education and reviews and evaluates the positions and pronouncements on accounting education of two key global players- AICPA and IAESB-and also provides a review of contemporary accounting education and competency development. The article also proposes and illustrates a systems-based competency model of accounting education that has a global view and comprises three stages of curriculum management based on systems lifecycle: planning and design, implementation, and outcomes assessment.

The first phase involves establishment of what (competencies), why (learning goals/objectives), who (learner, facilitator, and other stakeholders), with (learning/facilitation methods and strategies), where (targeted placement in courses), and when (delivery modes). The paper posits that curriculum implementation phase should employ an inputs-transformation-outputs-feedback systems model. Outcomes assessment phase entails assurance of student-learning outcomes (formative assessment) and achievement of program performance goals (summative assessment) through a two-step process: learning measurement and feedback for closing the loop. Further research is needed to extend and support/refute the propositions of this model; for instance, testing of the model using case studies of actual programs implementing this model may provide some empirical evidence relating to the model.

Keywords: competency model, accounting education, curriculum management, systems view, AICPA, IAESB

INTRODUCTION

The U.S. Pathways Commission on Accounting Higher Education (PCOAHE) has highlighted the critical need for reforming accounting education:

The practice of accounting is changing rapidly. Its geographic reach is global, and technology plays an increasingly prominent role. A new generation of students has arrived who are more at home with technology and less patient with traditional teaching methods. All of this is occurring while many accounting programs and requirements have remained constant, and accounting curricula have evolved with limited commitment or agreement about the core learning objectives. Vital programs, courses, and approaches require systematic attention to curriculum, pedagogy, and opportunities for renewal. Specific objectives to accomplish this recommendation include the following: … Engage the accounting community to define the body of knowledge that is the foundation for accounting's curricula of the future…[and] implement curricular models for the future. (Behn, et. al. 2012 b, 598)

This article is a step in this direction. The paper takes a global perspective on competency-based accounting education and reviews and evaluates the positions and pronouncements on accounting education of two key global players: American Institute of Certified Public Accountants (AICPA) and international professional body International Accounting Education Standards Board (IAESB). The paper also presents a review of contemporary accounting education and competency development. Drawing upon the background provided by these reviews, the paper proposes and illustrates a systems-based competency model of accounting education that has a global view and comprises three stages of curriculum management based on systems lifecycle: planning and design, implementation, and outcomes assessment.

This article is divided into six main parts including this one. The second part provides a review of contemporary accounting education and competency development. The AICPA's competency approach to accounting education is presented in the third part. The fourth part describes IAESB's approach to accounting education, which is in transition at this writing and is moving toward adoption of competency-based standards by the year 2015. The systems-based competency model of accounting education proposed in this article is presented and illustrated in the fifth part. The last section of the paper comprises concluding remarks. It may be noted that a very small portion of this paper may be in line with the author(s)' earlier unpublished internal documents with limited distribution.

CONTEMPORARY ACCOUNTING EDUCATION AND COMPETENCY DEVELOPMENT

Critics of contemporary accounting education contend that accounting education has been unable to respond to the environmental changes and needs a paradigm-shift (Behn, et. al. 2012 a and 2012 b, Black 2012). The now-classic report of the "Bedford Committee on Future Accounting Education" (AAA 1986) set the stage for a paradigm-shift with an observation that technical accounting competence is insufficient for educating 21st century professional

accountants and needs to be complemented by other competencies such as "creative thinking, learning to learn, lifelong learning, and communication skills" (AAA 1986).

The Bedford Committee's call for changing accounting education was resonated in 1989 by the Big 8 (now the Big 4) CPA firms when they issued a path-finding White Paper that indicated dissatisfaction with the curriculum and the "quality of accounting graduates" (Perspecives 1989). The White Paper asserted that "accounting graduates should have a broad array of skills and knowledge…[and emphasized the] desired outcomes of the educational process" (Perspecives 1989). To help implement recommendations of the Perspectives Paper and promote change in accounting education, the profession also contributed grant-money of several million dollars for creating an Accounting Education Change Commission (AECC). The AECC gave grants to 13 universities who worked on improving their accounting curricula and programs with varying degrees of success. However, disenchantments with contemporary accounting education continue unabated. Some other observations and criticisms about contemporary accounting education appear below:

1. Suggested changes in accounting education have had an accretion approach to improvements. Accounting education reforms have lacked an integrative ongoing scheme for implementing recommendations (Black 2012).
2. Accounting education may have "a perilous future" (Albrecht and Sack 2000). The validity of accounting "as an academic discipline" has been questioned (Demski 2007, Fogarty and Markarian 2007); Fogarty and Markarian (2007, 137) conclude that "academic accountancy is now in decline".
3. Demski (2007, 153) argues that "our instruction has become first-job vocational. Accounting majors are treated to a litany of rules and even tutoring in how to look up additional and newer rules". There is a short-term focus in accounting education on entry-level preparation.
4. Accounting education emphasizes production of accounting data, and not strategic and other uses of accounting information. This may hurt the aspiring professional accountants' competitive edge in the marketplace (AICPA 2011) and value-chain (Elliott and Jacobson 2002, 75).
5. Benefits of higher education have been accepted generally but the cost-benefit differential of college education has been questioned. Accounting education is not immune to this criticism, though a recent study's findings suggest that "an undergraduate degree in accounting is a worthwhile investment" (Schadrie et al. 2012, 5).

Accounting academics and practitioners are responding to the challenges to accounting education by calls for "comprehensive reforms" (Behn et al. 2012 a, IAESB 2013) that are based on a variety of models of accounting education. Competency-development of tomorrow's professional accountants represents one of these models. What, then, is a competency? A competency can be defined briefly as a sufficient capacity to perform some activities and functions for achieving a desired purpose or goal. A related concept of "Core Competence" of corporations is explained by Prahald and Hamel (1990) and Porter (2008) as a unique success factor- such as highly skilled workforce, a process, product, or differential relationships over the value chain- that gives a corporation a sustainable competitive advantage in meeting its mission and objectives.

AICPA'S COMPETENCY APPROACH TO ACCOUNTING EDUCATION

This part has three sections which are described next: (1) AICPA Vision 2011 Project, (2) AICPA Core Competency Framework, and (3) AICPA CPA Horizons 2025 Project. In the last decade of the 20th century the AICPA led and coordinated the efforts of over 3,300 CPAs from across the United States for an ambitious "Vision Project 2011 and Beyond" (AICPA 1998). Based on the project's findings, the AICPA team developed "Top Fives- values, services, competencies…Core Competencies [comprise] communications and leadership skills; strategic and critical thinking skills; focus on the customer, client and market; interpretation of converging information; technologically adept."

The AICPA continued its active role in accounting thought and in 1999 issued its core competency framework (AICPA 1999) as the first phase of the core competency project. The AICPA has recently defined ''Core Competencies'' in accounting education as a "unique combination of human skills, knowledge, and technology that provides value and results to the user" (AICPA 2011, 11). The Framework divides core competencies into three main categories: "functional competencies, personal competencies, and broad business perspective" (AICPA 1999).

As a later phase, the "AICPA Pre-Certification Education Executive Committee" developed/released in 2003 an Educational Competency Assessment (ECA) website that provides guidance to educators and other users of the Framework and "includes a library of resources…[and] the 'organizer' tools that allow educators to document their assessment process and generate reports at the course and program level" (AICPA 2003). For each competency, the website also provides links to course-types and education strategies.

The AICPA has also mapped the Framework's core competencies to "the skills tested on the CPA Exam: Analysis, Judgment, Communication, Research, and Understanding". For example, communication (a personal competency) and reporting (a functional competency) are " tested on the CPA Exam…as communicate business information" (AICPA 2013 b).

AICPA Core Competency Framework was not a paradigm-shift but a continuation of competency-based approach to accounting education recommended earlier, for example by the Bedford Committee and the Big 4's 'Perspectives' paper. However, the AICPA Framework and the related ECA website have made invaluable contributions to the advancement of competency approach to accounting education and were well-received by the accounting educators (Bolt-Lee and Foster 2003, Hite and Hasseldine 2001).

As an extension and update of the "AICPA Vision 2011 Project" discussed above, the AICPA conducted "CPA Horizons 2025" Project in 2010 (AICPA 2011). Some of the key points of the Project's findings are: "The profession has a 'bright future'…and will need to respond quickly and competitively to the shifting ground on political, economic, social, technological and regulatory fronts… [the profession's] core competencies evolved to reflect the 21st century...[and comprise] communications skills, leadership skills, critical-thinking and problem-solving skills, anticipating and serving evolving needs, synthesizing intelligence to insight, [and] integration and collaboration" (Nilsen 2011, 1-5).

IAESB'S APPROACH TO ACCOUNTING EDUCATION

On an international scale, the IAESB has issued a framework and education standards that aim to facilitate the global mobility of competent professional accountants through

''learning and development'' and deal with initial and continuing professional development as well as assessment (IAESB 2013, 1). The work of IAESB is supported and facilitated by International Federation of Accountants (IFAC) (IFAC 2009 a). The IAESB has taken a principles-based approach to the achievement of its vision and mission through its three principal instruments: (1) a "conceptual framework for international education standards for professional accountants" (IFAC 2009 b), (2) its International Education Standards (IESs), and (3) their Exposure Drafts (EDs) and other supporting documents. The IAESB is undertaking an ambitious "Revision Project" of the suite of eight standards it had issued previously and "the Project is planned to be completed by the end of 2013 and the resulting IESs to be effective after June 30, 2015" (IAESB 2013). IAESB Framework defines "Competence… as the ability to perform a work role to a defined standard with reference to working environments" (IFAC 2009 b).

With its "Revision Project" the IAESB has now stressed and adopted competency approach to accounting education which specifies "an outcomes-based approach in integrating technical competence, professional skills, and professional values, ethics, and attitudes." (IAESB IES2 ED, 6). The IAESB has classified competencies into three different types: "(1) technical competence, (2) professional skills, and (3) professional values, ethics, and attitudes". Learning outcomes associated with these competency-types are specified respectively in Exposure Drafts IES2 ED, IES 3 ED, and IES 4 ED (IAESB IES2 ED 2012).

IAESB defines technical competence as "the ability to apply professional knowledge to perform a role to a defined standard" (IAESB IES2 ED 2012, 6). IAESB IES2 ED gives 11 competence areas as well as learning outcomes and minimum proficiency level associated with each area. For the second competency-type, professional skills, IAESB specifies "four competence areas- personal, interpersonal and communication, organizational, and intellectual skills- and learning outcomes and proficiency level linked with them" (IAESB IES3 ED 2012). For professional values, ethics, and attitudes - the third competency-type- IAESB IES4 ED (2012, 12-13) requires that "each IFAC member body shall provide … a framework of professional values, ethics, and attitudes". Learning outcomes and proficiency level linked with them are also given in the IES4 ED. The IAESB also specifies practical experience and continuing professional development.

There is no denying the fact that the IAESB is doing a laudable work on advancing/converging accounting education on a worldwide basis, given the constraints posed by a vast diversity of environments, thought, laws, regulations, institutions, and practices that prevail globally. This diversity is explained by McPeak, Pincus, and Sundem (2012, 6): "While there is general agreement that professional competence is developed and assessed by the 'three E's'—education, experience, and examination (assessment)—there are a variety of approaches to each of the E's."

A COMPETENCY MODEL OF ACCOUNTING EDUCATION: A PROPOSAL

Competency-based student learning and assessment are a norm now for professional education in many disciplines-e.g., engineering, medicine, and psychology. The U.S. Department of Education has endorsed the concept of competency-based programs for financial aid (Field 2013). In its Final Report the PCAOHE suggests an Action Item to "Create curriculum models that embed appropriate competencies into curricula for both undergraduate and graduate programs" (Behn et al. 2012 a, 37).

This article proposes a systems-based competency model of accounting education that has a global view. Systems life cycle of curriculum management (IFAC IEPS2 2006, Arnold and Sutton, eds. 2002, Mock et al. 1991, Frederickson and Pratt 1995) has three phases: planning and design, implementation, and outcomes assessment. The proposed model comprises these phases of curriculum management. Curriculum management for a program is mission-focused and faculty-driven, and dovetails with the entity's strategic planning and management (AACSB 2012, Nelson et al. 1998, Karmon and McGilsky 1997).

A Birds'-eye View of the Proposed Model

It is in order to present now a birds'-eye view of the proposed model as follows. The curriculum planning and design phase involves 'what, why, who, with, where, and when' facets. These facets are: establishment of what (competencies and associated competency areas), why (learning goals and objectives for specific competency areas), who (the learner, the facilitator, and other stakeholders), with (learning/facilitation methods and strategies), where (targeted placement/prioritization in various courses), and when (delivery modes). Curriculum implementation phase, in a broad view taken in the model, spans the change effort associated with entire systems life cycle. Outcomes assessment phase involves assurance of student-learning as well as achievement of program performance goals. It may be noted that these three phases of curriculum management overlap at times by design. The next sections of this part of the paper expand on these three phases of the proposed model.

Curriculum Planning and Design

Today's complex and rapidly changing environments make planning a necessity in all walks of life and learning including the curriculum area. Curriculum planning and design entail a systematic, organized, and feed-forward approach to envisaging and managing the needs, goals and objectives of education, given the opportunities, constrains and threats posed by environmental forces (Karmon and McGilsky1997). The 'what, why, who, with, where, and when' facets of curriculum planning and design are described in the next sections of this article.

What

Competencies pertaining to accounting are broadly defined in the model proposed in this article as a set of attributes, behaviors, abilities, and technology embodied in sufficient technical competence, skills, and values and their integration that will enable professional accountants to serve the society and public interest by performing their professional duties and responsibilities effectively and efficiently and creating/sustaining their differential advantage.

Drawing upon a number of prior research studies reviewed in this paper (e.g., Behn et al. 2012 a, AICPA 1999, 2003, 2011, 2013, IAESB IES2 ED 2012, IAESB IES3 ED 2012, IAESB IES4 ED 2012), other prior works on the area as well as program/course descriptions of many leading accounting programs, the model proposed in this paper classifies accounting competencies into three main types and their integration- (1) Technical competence (T), (2) Skills (S), and (3) Values (V); integration of these competencies (TSV) adds value through synergism. These competency-types are presented next.

The proposed model's 'Technical' competence competency is specifically in line with and draws upon the competencies-type "technical" proposed recently by the IAESB in its IESs "Revision Project" (IASB IES2 ED 2012), as discussed above in the paper. This competency category comprises functional and other knowledge and abilities included traditionally in accounting subject-areas (IASB IES2 ED 2012, AAA 1986). The competence areas pertaining to Technical-competence are classified by the proposed model into two sub-types as follows: (a) Technical competence 'Accounting', and (b) Technical competence 'Broad Societal and Business Perspectives'. This model proposes the following competence areas for Technical competence 'Accounting': financial reporting and analysis, management accounting and control, income tax accounting, accounting information systems and IT, audit and assurance, enterprise risk management and governance, accounting for nonprofit organizations, and strategic accounting and auditing. Technical competence 'Broad Societal and Business Perspectives' (AICPA 1999, AAA 1986) has the following competency areas: liberal arts, business and organizational environments and systems, business laws and regulations, strategic management and organizational behavior, corporate finance and financial management, international business and globalization, and quantitative business analysis and modeling.

'Skills' competency in the proposed model is composed of four "soft" skill-areas that have been identified in a number of research studies (e.g., Behn et al. 2012 a, and several competency-based studies reviewed earlier in this paper) and comprise the following: communication skills; creative thinking and problem-solving; teamwork and leadership; management of change. To serve the public interest and society, professional accountants ought to perform their work with integrity, due care, pubic trust, and other ethical norms of the profession and the society (IAESB 2013, IAESB IES 4 ED 2012). 'Values' competency type of the model represents attributes, behaviors and abilities that provide foundations for moral and ethical performance of professional work and responsibilities on which 'Technical competence' and 'Skills' are based. Prior research and other works on this area (e.g., IAESB IES4 ED2012, Jeffrey ed. 2012, Blanthorne et al. 2007) suggest that 'Values' include the following competence areas: professionalism, conceptual foundations of ethics, and ethical decision making.

Why

Graduating students who have demonstrated achievement of the outcomes associated with the competencies desired/needed by the profession is the prime goal of accounting education (IAESB IES6 Revised 2012, AICPA 2011 and 1999, Thompson et al. 2008). Each of the competencies and competency areas included in the proposed model has a set of learning goals and objectives (and learning outcomes discussed later in 'outcomes assessment' section) that are to be achieved by the graduating accountants at four different levels-introductory, intermediate, advanced, and mastery-that correspond loosely to Bloom et al.'s taxonomy (Forehand 2005, IASB IES2 ED 2012). An illustration is provided below for the competency area 'Technical Competence Accounting, Financial Reporting and Analysis':

1. Mission Statement Element: We provide a learner-centered environment…that delivers our students technical competence… in accounting …
2. Learning Goal: Graduating students should possess technical competence in 'Financial Reporting and Analysis' appropriate to the entry-level professional accountants.

3. a) Learning Objective # 1: Graduating students will demonstrate technical competence in 'Financial Reporting and Analysis' through explanation and evaluation of the role of financial reporting and analysis in business, economy, and society. (This is one of the five learning objectives, all at the advanced level, associated with this learning goal.)

b) Learning Objective # 2: Graduating students will demonstrate technical competence in 'Financial Reporting and Analysis' through analysis, evaluation, and synthesis of concepts, principles, theoretical structures, theoretical approaches (e.g., principles-based vs. rules-based), conceptual frameworks, research methodology, and accounting standards underlying financial reporting and analysis.

c) Learning Objective # 3: Graduating students will demonstrate technical competence in 'Financial Reporting and Analysis' through explaining, illustrating, and applying the working of the accounting cycle employing double entry system and constructing the financial statements and other reports of public companies, in accordance with applicable accounting standards, laws and regulations.

d) Learning Objective # 4: Graduating students will demonstrate technical competence in 'Financial Reporting and Analysis' through application and evaluation of transaction recording/processing using double entry system, for financing, operating, and investment activities and the elements of financial statements.

e) Learning Objective # 5: Graduating students will demonstrate technical competence in 'Financial Reporting and Analysis' through financial analysis and interpretation of public-company Annual Reports.

Who

The main participants in learning are the learners and facilitators, who are supplanted and complemented by administrators, support staff, and others in providing the institutional environments conducive to learning/facilitation. As the AACSB International states, "A direct link exists between a school's mission, the characteristics of students served by the educational programs, the composition and qualifications of the faculty members providing the programs, and the overall quality of the school" (AACSB 2012, 31). This article endorses "The Learning Paradigm" as the principal world-view of learning/teaching, with student-learning as its ultimate outcome (Fear, et. al. 2003,152, Vega and Tayler 2005, 83-86). The "Learning Paradigm" puts the student and her/his learning as the central focus in the total learning environment, shifts the attention from learning-facilitation to learning and addresses the student/learner as an individually-different person with her/his "approaches to learning" (Duff and McKinstry 2007, 185-188) within the parameters of the proposed competency model. This view stipulates that the responsibility of a teacher is to foster healthy learning environments and experiences for the student's "learning to learn" (Gainen and Locatelli 1995, 156). Other stakeholders that benefit from attainment and achievement of key competencies (TSV in this article) by graduating students are their employers and society at large. For example, "More than half of US CEOs point to the availability of key skills as a potential threat to growth in 2013" (PwC 2013).

With

"The Learning Paradigm" requires "shifting the focus from teaching to learning" (Huba and Freed 2000) for the ultimate purpose of the achievement of student-learning. Many tools and methods are used toward the achievement of this purpose-Active Learning (AL) is one of these. AL involves two-way (or at times multiple-way) interactions between and among the learners(s) and the teacher; in-class group discussions of cases will be an example of a multiple-way AL method. The teacher acts as a facilitator and a catalyst in promoting learning. AL gives more responsibility for learning to the learner than the passive methods (Weimer 2002). Student-involvement in AL leads to intentional learning (Killian, Huber, and Brandon 2012, 337), deep learning, and self-discovery learning with concomitant benefits to student motivation and ultimately to enhancement in learning (Weimer 2002)

On the other hand, an oft-cited criticism of AL is that it short changes the course content, such as of accounting standards. AL proponents counter-argue and support the viability and efficacy of "incorporating course content while fostering a more learner-centered environment" (Vega and Tayler 2005, 83). Weimer posits that, although there might be a temporary loss in efficiency of content-acquisition in AL, "as students develop more sophisticated learning skills, their ability to 'cover' and use content increases...[and both] content and learning benefit when they are combined in active learning strategies" (Weimer 2002, 53)

The model proposed in this article suggests the employment as appropriate of active learning methods (Matherly and Burney 2013, Weimer 2002, Lavoie and Rosman 2007, AICPA 2003) including cases, simulations, field studies, internships, writing assignments, oral presentations, and information technology applications. Selection of specific learning methods and strategies depends mainly on what, why, and who facets of the proposed model. Example: for financial accounting students at intermediate level the competency-area of accounting cycle could be facilitated though interactive analytical problem-solving and simulations and could employ Socrates-style of facilitation, writing assignments, oral presentations, team assignments/projects and cooperative/collaborative learning, financial statement interview, and information technology applications.

Where

Generally the placement of a competency would be dependent on the what, why, and with facets of curriculum planning and design. Overall, eclectic forms of methods and strategies should be employed at appropriate places (Bonner 1999, Phillips and Vaidyanathan 2004) in courses and/or across the curriculum. In many cases competency-areas should be dispersed and integrated across the program curriculum (Perspectives 1989, 11). Example: the competency area of accounting cycle employing double-entry system could be placed first in intermediate financial accounting and later employed and integrated with advanced financial accounting and accounting information systems courses.

When

Over the coming years, the time (e.g., 24/7 in online courses) and place (virtual or brick-and-mortar) dimensions of education are expected to see the most dramatic shift to a greater proportion of online education (Saloner 2013, Time October 29, 2012). MOOCS (massive open

online courses) offered by Coursera, edX, and others represent a phenomenon that may eventually advance and change the landscape of higher education and competency development forever by making high-quality education accessible to a vast number of students worldwide (Saloner 2013, Kolowich 2013, Time October 29, 2012). Over the coming years online education is anticipated to benefit immensely from innovations and enhancements in education-related and other IT such as mobile computing (Gore 2013), online course management systems/platforms (e.g., Blackboard), online homework managers (e.g., McGraw-Hill Connect) and online intelligent tutoring systems (e.g., McGraw-Hill Learn Smart). Saloner, the Dean of Stanford Graduate School of Business, has capsulated this well:

> The challenges to our conventional way of doing business are greater than ever and we will see big changes in the years ahead. Online education is perhaps the greatest of these. Stanford's President John Hennessy has described it as the tsunami that is headed towards us. We can ride it as some institutions in America are already doing or we can risk being crushed by it (Saloner 2013, 13).

Curriculum Implementation

In a broad view, curriculum implementation is considered to be the change process (Kotter 2012) that begins with 'curriculum planning and design' phase and continues to the deliverables and the assessment phase. According to Durlak and DuPre (2008, 329) "In general, implementation refers to [deliverables or] what a program consists of when it is delivered in a particular setting". Successful implementation leads to a deliverable and stable state of curriculum. The model proposed in this article posits that implementation should be approached from a systems viewpoint (Arnold and Sutton, eds., 2002, IFAC IEPS2 2006, Mock et al. 1991, Frederickson and Pratt 1995, Scott and Davis 2007, Astin and Antonio 2012) and should have the following features:

1. Curriculum implementation should employ Lewin-Schein's implementation model which deals with "cognitive redefinition" (Schein 1995, 5) and has three stages- unfreezing, moving/changing, and refreezing (Schein 1995).
2. The curriculum management of a university's program (e.g., State University's BS in Accounting program) is a system that has inputs-transformation-outputs-feedback components and has exchanges with its external environment, as outlined below.
   a) <u>Inputs</u> The Inputs comprise students and their characteristics, faculty, learning resources, curriculum plan and design, and other elements.
   b) <u>Transformation</u> The learning processes and behaviors (e.g., facets of the curriculum planning and design phase) that take the given inputs and through transformation result in outputs.
   c) <u>Outputs</u> The implementation system's outputs comprise learning and a competent learner who has achieved the learning outcomes associated with the program's mission-aligned learning goals/objectives.
   d) <u>Feedback</u> The outputs provide feedback to the inputs and transformation components for any adjustments and modifications to achieve the desired outcomes in future (Astin and Antonio 2012).

e) <u>External Environment</u> Curriculum management system has its external environmental forces such as the economy (AICPA 2013 a), technology (AICPA 2011, IFAC IEPS2 2006, Malone 2004), employers and other external stakeholders, graduating students' job markets and potential cost-benefit differentials as well as other financial factors of accounting education, federal financial aid and regulations, state regulations and budgetary restrictions, faculty reward/incentive schemes, and availability of other programs and MOOCS. The curriculum management system has other subsystems (e.g., University-wide strategic management and curriculum management systems) within the University.

4. Barriers to change should be anticipated and managed (Kotter 2012). The PCAHE identifies some impediments to curriculum management implementation and recommends management of these impediments for a successful implementation (Behn et al. 2012 b, 599):

Impediments exist at institutional, program/department, and individual levels. Among the most significant impediments are (1) failure to acknowledge what drives faculty to change, (2) inability to overcome the silo effect in many departments in which curricula are viewed simply as collections of independent courses, (3) delays in incorporating effective practices in pedagogy because faculty lack experience, knowledge, and development opportunities, (4) the slow pace at which curricular change occurs within colleges and universities, (5) lack of flexibility in tenure processes and post-tenure review focused primarily on research productivity, (6) lack of reward structures promoting student-centeredness and curricular innovation, (7) inability or unwillingness of deans and department chairs to implement change, and (8) lack of appreciation or understanding of the importance of sound pedagogy and professional relevance.

Outcomes Assessment

Transparency and accountability have taken a higher role in society over the last decades in all walks of life including education (Shaftel and Shaftel 2007, AACSB 2007). Demand for accountability to public has come from various constituents (Kimmel et al. 1998) including the students, potential employers, government (Field 2013), regional accreditation agencies like the Higher Learning Commission of the NCACS, the AACSB International (AACSB 2012), and society at large. Educational assessment "can be based on (1) reputation, (2) resources, or (3) outcomes…Outcomes assessment represents the trend in accreditation evaluation since the 1980s" (Kimmel et al. 1998, 855-856). It may be noted, however, that the efficacy of educational assessment is not without its critics who feel that "most assessment activities…[are of] limited value" (Astin and Antonio 2012, vii).

AAA's Outcomes Assessment Committee (1993, 1, as quoted in Apostulou 1999, 177) defines outcomes assessment (OA) as "an assessment of learning outcomes…[that] provides information on the question: What has been the learning achievement produced by the intervention in meeting its particular goals?" OA is explained by Palomba and Banta as "The systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development" (Palomba and Banta 1999, as quoted in AACSB 2007, 3).

The model proposed in this article, in line with its systems focus, treats OA as an ongoing phase of systems lifecycle that provides feedback to the other phases of the model. As the last phase of the proposed model, OA is a two-step process when a 'program' is the unit-of- analysis:

(1) measure students' learning and (2) report the results/feedback. These two steps are described next. The first OA step consists of measuring student's learning as pre-specified in learning goals/objectives (described above in "Why" part of the first phase of the proposed model-curriculum planning and design) using assessment methods that have "causality" (Astin and Antonio 2012) or a causal link with a learning goal/objective. Learning outcomes in accounting education are of three types: cognitive, behavioral, and affective (Herring and Izard 1992, as quoted in Shaftel and Shaftel 2007, 219). Cognitive outcomes correspond to 'Technical competence' of the model proposed in this paper, behavioral outcomes correspond roughly to 'Skills' competencies of the proposed model, while affective outcomes relate to 'Values' competencies of the model. The affective outcomes are hardest to measure (Astin and Antonio 2012, 47) and are measurable through indirect measures like surveys (Shaftel and Shaftel 2007, 219), which are described next.

Learning outcomes can be measured through direct measures or the indirect measures (IAESB IES6 Revised 2012). There is an increasing trend among the universities to use direct measures for OA. Direct measures include course-embedded measures (Ammons and Mills 2005) and stand-alone measures (e.g., a comprehensive exam at the end of the program). Indirect measures (e.g., alumni and employer surveys) should not be used as a substitute of direct measures but can be employed as supplements (AACSB 2007). The second step in the OA process is reporting the results/feedback as an aid in decision-making. This closing the loop could take the form of (a) continuous improvement (formative assessment) and/or (b) accountability such as accreditation (summative assessment) (Shaftel and Shaftel 2007, 217-218, AACSB 2012).

Leading research on OA relevant to accounting education (Astin and Antonio 2012, AACSB 2012 and 2007, IAESB IES6 Revised 2012, Shaftel and Shaftel 2007, Apostulou 1999, Kimmel et al.1998, Gainen and Locatelli 1995) has identified principles and 'Best Practices' of outcomes assessment, some of which are reproduced below:

1. IAESB stipulates that assessment methods should possess the characteristics of "transparency, reliability, validity [face, predictive and content], equity [neutrality and freedom from bias], and sufficiency" (IAESB IES 6 Revised 2012), and should employ multiple measures for corroboration.
2. Specification of learning goals/objectives (an ex-ante construct) should precede measurement of learning outcomes (an ex-post construct), and not the other way around (Astin and Antonio 2012).
3. High-stakes decisions (e.g., discontinuation of a program) should not be based on accountability measures (Shaftel and Shaftel 2007, 225).
4. 'OA faculty Champion(s)'should serve as catalyst for effective and efficient OA (Kotter 2012).
5. 'Balanced Scorecard' (Kaplan and Norton 1992) can "add to the tools for initiating, guiding and sustaining continuous improvement in accounting education" (Chang and Chow 1999, 411).
6. OA should be mission-oriented and integrated with the strategic management and governance systems of the department and university (AACSB 2012, Nelson et al. 1998).

An Illustrative Example of the Proposed Model

This article now presents an illustrative example, or walk-through, relating to the competency 'Communication Skills' that will have the following linkages spanning over the three phases of the proposed model:

Curriculum planning and design

This phase has the following mission-linked facets- what, why, who, with, where, and when- that are illustrated below.

1. Mission Statement Element: We provide a learner-centered environment…that fosters development and enhancement of our students' communication skills…
2. What/why-Learning Goal (LG): Graduating students should possess written and oral communication skills appropriate to the entry-level professional accountants.
   a) What/why-Learning Objective # 1(LOB1): Graduating students will demonstrate written communication skills by producing professional document for a hypothetical professional audience.
   b) What/why-Learning Objective #2 (LOB2): Graduating students will demonstrate oral communication skills by making oral presentation to a hypothetical professional audience.
4. Who: Accounting students and faculty, and other stakeholders, in a learner-centered environment.
5. With/where: Eclectic active learning methods and strategies employed as appropriate (Bonner 1999) beginning in dedicated courses (e.g., English Composition, and Public Speaking) and also dispersed throughout the program curriculum.
6. When: The goals of the other facets of the model- what, why, who, with, where- should be independent of the delivery mode, although distance education has some unique characteristics that need to be addressed (Bryant et al. 2005).

Curriculum Implementation

The features of the implementation and impediments discussed above apply to the competency 'Communication Skills' as well.

Outcomes Assessment

As noted earlier, this phase has two steps, which are described below in the context of competency 'Communication Skills' example illustrated in this section:

1. Measurement of learning will identify two learning outcome measures corresponding to the two learning objectives of the learning goal given above:
   a. Learning Outcome Measure # 1 (LOM1): Every student will produce a professional Written Report, addressed to a potential investor, based on financial analysis and interpretation of the financial statements and related information of a public company.

    b. Learning Outcome Measure # 2 (LOM2): Every student will make a professional Oral Presentation, addressed to a potential investor, based on financial analysis and interpretation of the financial statements and related information of a public company.

2. Reporting the results/feedback will lead to formative assessment, summative assessment, or both. Example: say 82 % students scored above the minimum performance criterion using LOM1. In pursuit of continuous improvement, the faculty may form a formative assessment in the competency area 'Communication Skills' and close the loop by bringing improvements in curriculum in this area, although no deficiency was indicated by the measure. If the minimum cutoff for accountability measure is say 80 % of students, the summative assessment will signal to the assessment group that the program has met its accountability threshold. In a nutshell, assessment "is not an end in itself but a means to an end: The enhancement of learning and the vitality of the program" (Gainen and Locatelli 1995, 120).

CONCLUDING REMARKS

Previous research on competency-based models of accounting education has a country/national perspective (e.g. U.S.-centric perspective in AICPA 1999) and not a global view. Traditionally IAESB standards were not based on competency-approach which has learning outcomes as its central point, although at this writing IAESB is undertaking a "Revision Project" (IAESB 2013) to move its standards to a learning-outcomes slant by 2015. This article has taken a global view on competency approach to accounting education and has presented an examination and evaluation of contemporary pronouncements and positions on accounting education of two principal global players in this area- AICPA and IAESB- and has also provided a review of contemporary accounting education and competency development. With this backdrop, the article has proposed a competency model of accounting education that has three phases of curriculum management based on systems life cycle. The model also suggests a systems approach to implementation of curriculum management for enhancing its success. Further research is needed to extend and support/refute the propositions of this model. For instance, testing of the model using case studies of actual programs implementing this model may provide some empirical evidence relating to the model.

"The Learning Paradigm" employing a learner-centered environment has been advanced as a methodology that is conducive to learning and achievement of learning goals and outcomes. This is summed up well by Barr and Tagg at the end of their article on "The Learning Paradigm":

> Try this…experiment. Take a team of faculty at any college- at your college…Tell the faculty team, "We want you to create a program for these students so that they will improve significantly in…learning…In doing so, you are not constrained by any of the rules or regulations you have grown accustomed. You are free to organize the environment in any way that you like. The only thing you are required to do is to produce the desired results- student learning. (Barr and Tagg 1995, 25, as quoted in Fear et al. 2003, 154).

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