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COMPETENCY MODELING IN AN UNDERGRADUATE MANAGEMENT DEGREE PROGRAM

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ABSTRACT

Competency models have been adopted in many organizations to focus systems for employee selection, training and development, and work engagement on the competencies identified by the organization as most important to its operations and strategic direction. Similarly, competency models can be employed in business schools to guide the development of students with the goal of developing their abilities consistent with demands in the marketplace. In this paper, we draw on the literature on competency models in the human resource management field and higher education to demonstrate that competency models can be helpful in developing the knowledge and abilities of business students. We also discuss the experience of developing of a competency model for an undergraduate business program and the benefits and challenges of moving to a competency-based approach.

JEL: M10

KEYWORDS: Business Education, Competencies, Student Learning, Assessment

INTRODUCTION

Many organizations have adopted a competency-based approach to deal with the dynamic nature of business (Boyatzis, 2008) and address a variety of factors, including the need to change and adapt to a changing business environment, the need for greater empowerment of employees, and the desire for more engagement in work and organizations, among other factors. As organizations modify and develop new products, change production systems, or adjust work processes, they need to select, train and develop employees whose skills and knowledge align with these changing demands of work. The impact of technological change and quality management, for example, require changes in the work environment that require employees to have different skills and knowledge. The need to delegate and empower employees requires more broadly designed jobs; pushing decision-making to lower levels to increase the organization's responsiveness and efficiency requires a more general set of work qualifications and certainly a broader awareness of the purposes of the work. Finally, making work more engaging requires that workers invest their cognitive and emotional capabilities in the work, rather than just their rote behaviors.

Given the prevalence of competency models in business organizations, their efforts may provide insights to higher education about developing educational experiences to prepare students for professional success after graduation. In this paper, we draw on the literature on competency models in higher education and the practice of competency modeling in the human resource management field to demonstrate how competency modeling can be helpful in business education.

The remainder of this paper is organized as follows. The next section presents a review of the literature relevant to a competency-based approach in higher education. Next, we present the literature that addresses how competency modeling has been practiced in the human resource management field. In the following section, we discuss the development of competency models, their benefits, and the potential benefits and challenges of a competency-based approach in higher education, specifically business education. The development of a competency model for an undergraduate business program in a large

Midwestern university and the benefits and challenges of adopting a competency-based approach is presented in the following section. The paper then presents some concluding comments.

LITERATURE REVIEW

This section summarizes the literature on competencies and competency modeling in higher education and human resource management. Competencies have also been a subject of interest and research for educators at multiple levels of the educational process. The literature identifies a number of motivations for competency modeling, including developing accreditation and assessment standards and aligning educational outcomes with the needs of employers and professions (Boritz and Carnaghan, 2003, Wolf, 1995). Competency-based approaches relative to accreditation and education have been discussed in a variety of fields, including professional psychology (Rubin et al., 2007, Barlow, 2012), health care (Calhoun et al., 2008), information systems (Beard et al., 2008), and engineering (Robinson et al., 2005). Rubin et al. (2007) present a history of the competency movement in the field of professional psychology and efforts to develop a competency-based approach for education and assessment. Efforts to define the competencies required to be effective psychiatrists and psychologists led to efforts to create a competency-based core curriculum for professional schools of psychology. Robinson et al. (2005) used interview and questionnaires to develop a competency profile for the future design engineers, dividing forty-two competencies into six competency groups. Their work highlighted the role of non-technical competencies in future success in engineering. Similarly, in the field of healthcare, Calhoun et al. (2008) identified competencies and prescriptive behavioral indicators for development and assessment as individuals progress through their careers from entry-level to more advanced career stages in the industry. In the field of business education, researchers have discussed competency approaches as a way to prepare graduates for employment in the business community. Evers and Rush (1996) took a general approach by identifying the competencies necessary for early career success in most corporate settings. They developed a model of “generalist skills” or “bases of competence” upon which specialist skills can be built in an educational setting. Later work identifies issues related to designing assessments of student performance of these competencies (Berdrow and Evers, 2010).

Educators in accounting programs and practitioners in public accounting developed a competency model to expand accounting instruction beyond accounting technical content to a broader set of skills that are necessary in public accounting, business, government, or academic careers (Daigle et al., 2007, Boritz and Carnaghan, 2003). Specifically, the American Institute of Certified Public Accountants’ (AICPA) *Core Competency Framework for Entry into the Accounting Profession* includes functional competencies, personal competencies, and competencies related to general business perspectives (Daigle et al., 2007). Research into academic practices relative to student achievement of competencies has been conducted relative to various elements of AICPA’s competency framework (e.g., Daigle et al., 2007, Kaciuba, 2012, Kaciuba and Siegel, 2009, Bolt-Lee and Foster, 2003).

Developing managerial competencies in MBA programs has been the subject of several studies. Boyacitz, Stubbs, and Taylor (2002) showed that cognitive and emotional competencies can be developed in an MBA program. Camuffo and Gerli (2004) also presented a model that integrates competency-based tools addressing functional and managerial skills within an MBA Program. Sturges and colleagues (2003) studied Canadian MBA programs and their effectiveness in developing different types of competencies. Rubin and Dierdorff (2009) assessed required curricula in MBA programs and find a misalignment between valuable managerial competencies and MBA curricula.

Several common themes occur across the literature on competencies in higher education. First, high quality professional practice involves not only requisite knowledge but also a broader set of behaviors related to application and professional conduct. Specifically, traditional conceptions of education (and the curricula that result) as developing cognitive skills and technical knowledge are insufficient at

developing a broader set of competencies that are important in career success. In other words, technical knowledge about a topic, such as accounting or information systems, for example does not necessary translate into an ability to create value in professional practice unless it is accompanied by a broader set of competencies (Boyatzis et al., 2002). Second, explicit and intentional efforts are necessary to link the educational process to the desired professional outcomes articulated in the competency models. Reaching a point where the acquisition of cognitive and technical knowledge is integrated with a broader set of competencies and measuring student performance on these broader competencies requires significant effort and attention.

Competency Modeling in Human Resource Management

The practice of competency modeling in the field of human resource management has become very common (Campion et al., 2011, Boyatzis, 2008). In the literature, there does not seem to be a universally accepted definition (Shippmann et al., 2000) and competency-based approaches have been generally defined as focusing on “the underlying characteristics of a person that lead to or cause effective and outstanding performance” (Boyatzis, 1982). While competencies have been described in the literature as skills and abilities, Campion et al. (2011) point out that competencies are more than simply lists of required knowledge, skills, abilities and other characteristics (KSAO). Some of the competencies commonly described in organizations are different from traditional KSAO’s in that they include “extra-role” performance that could include prosocial behaviors, such as organizational citizenship behaviors that are not associated with particular tasks but instead are believed to contribute more generally to organizational performance (O’Reilly and Chatman, 1986). Competencies can be tailored to an organization’s strategy and culture, and therefore a standard list of them does not exist.

A typical competency model identifies multiple competencies and associated behaviors required for effective performance in a particular organizational or professional context (Mirabile, 1997). Levels of competencies may be arranged in a hierarchy, describing increasing levels of capability, and behavioral descriptors can be used to assess one’s performance using the competencies as a criterion measure (Mirabile, 1997, and Rodriguez et al., 2002). Different jobs within a discipline or within a career path may require ascending levels of the competency, which provides a foundation for both performance assessment and career management systems.

In human resource management, competency models may be used to facilitate a number of human resource practices, including employee selection, employee development and succession planning (Campion et al., 2011). Identifying required competencies can serve as a “blueprint” for hiring, as organizations attempt to find a match not only between a candidate and a job, but to make a more holistic match between the candidate and the organization in a way that incorporates evolving job roles and career advancement requirements. Competency models typically provide a clear definition of each competency along with behavioral performance indicators that can be observed and used to evaluate employee capability (Markus et al., 2005). Organizations can then use assessment data and hierarchical orientation to competency modeling to create and carry out employee development systems. Competency modeling may also enhance the comprehensiveness of the measurement of work performance (Bartram, 2005), adding broader competencies to the more commonly utilized supervisory ratings of task performance (Campion et al., 2011).

Competency-based approaches differ from traditional approaches which emphasize the tasks that need to be executed within a job and the KSAO’s required to perform those tasks (Campion et al., 2011). Using this approach (sometimes described as the job analysis approach), the KSAO’s are tied to explicit tasks required by a job and the value of the KSAO’s is limited to that context. However, in a competency approach, performance capabilities have greater value in their own right. What is unique about a competency approach is its behavioral focus and resulting descriptions of human characteristics that are

broader than traditional task-driven approaches. In other words, a competency describes what a person should be capable of doing beyond the narrow scope of the current job description. Examples of competencies found in the literature and practice include “interacting and presenting,” “organizing and executing,” and “leading and deciding” (Bartrum, 2005).

Markus and colleagues (2005) identified three distinct orientations within the competency modeling movement. The first of these orientations is driven by the need to define functional performance requirements necessary for effective role performance. These performance standards are articulated in terms of work outcomes rather than task execution. The second orientation focuses on the psychological characteristics (motives and personality traits) that predict superior performance. The third orientation is characterized by an even broader strategic orientation. This orientation is driven by strategic intentions to develop competitive advantages at the collective, rather than individual level. Organizations utilizing this orientation facilitate collective learning and other strategic human resource initiatives so that aggregated individual competencies become core organizational competencies, which provide strategic competitive advantage. Our approach to competencies and the model we discuss later in this paper incorporate all three orientations.

Contextual Factors

There are several contextual factors that have contributed to the movement toward competency modeling in human resource management. Management positions are more ambiguous than lower level roles. Managerial jobs are described more often in terms of broader areas of responsibility and goal orientation, therefore, it is necessary to identify the qualifications for such jobs as more general competencies rather than more narrowly defined KSAO's (Campion et al., 2011). Shippmann et al. (2000) point to assessment center approaches as some of the original examples of competency modeling. Assessment centers treated managerial roles and the capabilities to perform them as being somewhat homogenous or universal across organizations. Assessment centers then focused on identifying and developing these broad capabilities in current or prospective managers. Delaying of organizations, employee involvement, and job enrichment programs have caused a kind of trickle down of this phenomenon to even lower level jobs. Further, changes in organizational systems that may be described as generally consistent with the quality management movement and calling for greater employee involvement at all levels have had a similar effect. Competency modeling can align managerial work roles to business goals and strategies (Shippmann et al., 2000) and improve “line-of-sight” connection between jobs and organizational goals. In contrast, traditional task-driven approaches typically do not encompass broader employee capabilities that contribute to such strategic imperatives as problem solving, customer orientation and continuous improvement. The increased employee involvement found in high performance work systems necessitates the addition of competencies to existing task requirements. Technological change is also a significant catalyst for the movement to competency-based approaches. As new technologies are introduced, tasks change in fundamental ways and the existing task oriented descriptions are rendered out of date or even obsolete. Hiring and development systems based only on alignment of employee capabilities with tasks are inflexible and ill suited to adaptation. In an environment in which tasks are constantly changing, competency models are more enduring descriptors of performance requirements that assure the sustainability of employee selection and developmental systems.

A third driver of the competency movement is a heightened career orientation. Organizations recognize that employees expect to address a need for growth and development more today than in the past. Employment systems that are focused solely on task performance in current job roles do not readily facilitate employee development and career management. Competency models identify and facilitate assessment and development of competencies that cut across levels in the organization and provide the foundation for a career oriented approach to managing organizational talent systems.

Evidence of Benefits

The benefits of using competency-based approaches have been discussed in published manuscripts (e.g., Markus et al., 2005, Campion et al., 2011). The benefits include the potential for improved talent management systems, particularly employee recruitment and selection systems and improved career management systems (including succession planning and employee development). Competencies may be used as useful criteria for promotion and advancement (perhaps in contrast to the “spoils” system which relies on past performance as the emphasized, and sometimes sole, determinant of promotion). “Talent pipelines” can be built through management development initiatives focused on competencies, which are linked to organizational strategy and goals. Competency models may also foster organizational change management through more adaptive HR practices and broader definition of managerial capabilities beyond narrow job functions.

Some of these benefits are quite relevant to the challenges in management education. Educational institutions are engaged in the preparation of present and future managers and must impart sustainable managerial capabilities to be relevant to their students and the organizations that employ their graduates. Not knowing exactly what students’ roles will be and knowing that they will likely work for multiple organizations over the course of their career calls for academic institutions to design programs around more general and generalizable competencies which will serve graduates’ needs regardless of organization and position that they find themselves in.

EXPANDING THE ROLE OF COMPETENCY MODELS IN UNDERGRADUATE BUSINESS EDUCATION

Expanding the role of competency modeling in an undergraduate business education is consistent with the role of business schools in preparing its graduates for successful employment after graduation. Attention to the required job demands in post-graduate positions is well established and has become institutionalized in business school norms and practices, as well as accreditation processes by the Association to Advance Collegiate Schools of Business (AACSB) (Abraham and Karns, 2009). This imperative to prepare graduates that bring relevant knowledge, skills, and abilities to the organizations that hire them underlies many educational programs and practices in business schools.

Many of the contextual factors driving the adoption of competency models in the business community are relevant in the business educational context as well. Preparing students for a wide array of organizational and role assignments, as well as building a foundation for career development, is much akin to the challenge of identifying sustainable managerial capabilities that will be useful in a wide variety of roles and situations. Today’s graduate is likely to hold many more jobs over the course of his or her career than previous generations, whether those jobs are similar across organizations or within the same organization (Akkermans et al., 2012). In addition, the dynamic nature of the business environment demands employees who can adapt and apply themselves to learn new knowledge and capabilities in order to compete. Changes to information technologies and work systems, for example, demand that employees have the ability to adapt to these changes in context. For these reasons, business education that focuses on developing student’s abilities around competencies and their attendant behaviors is more consistent with the demands that will be placed on them as professionals.

The changing nature of business organizations’ approach to training and development also influences the need for more attention to competency development. Individuals are much more accountable and responsible for the development of new knowledge and capabilities. The traditional model where businesses invest in formal identification and training of its employees has become much less prevalent thereby increasing the need for individuals to take more responsibility for their on-going development (Spellman, 2010). For these reasons, a focus on developing competencies, and not just content

knowledge, is more likely to prepare graduates for the work world they will enter may yield a number of important benefits.

Benefits to Students and Higher Education Institutions

Implementing a competency-based framework in a business school program and curriculum prepares students for what they are likely to face in the work world. To the extent that many employers use competency models to guide their employee development and selection processes and training programs, exposure to competency modeling will benefit students by exposing them to the concept. Second, employers expect to hire graduates that not only have the technical and content knowledge requirements of the position, but they expect behaviors consistent with business norms (Shuayto, 2013). Because competency models often describe broader capabilities and behaviors that extend beyond the scope of a traditionally narrow job description, a competency model describing the expected knowledge and behaviors will be a better representation of expectations of student's post-graduate positions. To the extent that students can learn about and develop the competencies necessary for professional success during their college years, they will have a "head start" in their professional development. Second, deployment of a competency-based curriculum will necessarily involve discussion and development of behavioral skills and practices that may bear on the student's future success. By assessing student competencies early in the program, students can formulate individualized development plans to enhance their preparation prior to their graduation. This practice of building self-awareness about their own strengths and areas needing development, as well as developing plans to improve their development relative to the competencies is a model for life-long learning and development that they can employ throughout their careers. As business organizations decrease their training budgets in response to tough economic conditions, the graduates' abilities to proactively pursue opportunities to develop their abilities will serve them well in long-term career development.

A third benefit of a competency framework is enhanced insights about how students plan for longer-term competency development. Students who have been exposed to a competency-based approach may be more aware of and better able to assess the tools and resources that a potential employer provides to develop their employees. As such, the student is better able to evaluate future opportunities with the employer. Students may be better prepared to assess their fit with a potential employer if they consider a broader range of factors that go beyond tangible factors (such as salary and benefits) and include issues related to employee development. In addition, the insights that the student gains about his or her developmental needs can provide for a better assessment of the congruence of factors such as their career orientation and developmental goals with any particular potential employer.

Alternatively, graduates may find themselves in organizations that do not have formal development programs or may not have access to them. To the extent that these students have some understanding of the competencies required to succeed and ways to develop them, they will be better able to assess their own capabilities and identify means to develop their competencies on their own.

The movement to competency frameworks can align business programs with the demand characteristics of the labor market. In other words, we would expect students prepared using competency frameworks to be more attractive candidates due to their exposure to relevant competency frameworks and potentially fit better with organizations.

A competency-based approach can also benefit business schools in ways that are distinct from the benefits that accrue to individual students. If business schools involve potential employers in the process of developing the competency model and methods of assessment, business school programs can align expectations regarding student achievement with factors that are highly relevant to the employers that want to hire their graduates, which improves accountability with accrediting bodies and other external

stakeholders (Holtzman and Kraft, 2010). Over time, success at preparing students to meet expectations relative to these competencies will enhance the business school's reputation (or brand) with potential employers and prospective students. Due to their practical nature of competencies, schools employing them may enlist alumni and business organizations in the educational process and connecting students and their programs with employer early on.

Because competencies are outcome-focused, competencies lend themselves to assessment activities and practices. One of the challenges of assessing cognitive abilities is the difficulty of identifying indicators of student knowledge. Because competency models are based on observable behaviors, the indicators of competency achievement are inherent to the model.

In addition, the fact that competencies are often behavioral in nature and more tightly linked to expectations in the workplace, students and faculty may find assessment activities more relevant and important. To the extent that students and faculty can see the connection between assessment and future career success, their willingness to engage with assessment activities is likely to increase. Given the increasing demands for accountability that educational institutions are facing, additional opportunities to improve the measurement of student outcomes and showing how those outcomes are related to professional success is important to individual institutions and to higher education, more generally.

APPLYING COMPETENCY MODELING IN AN UNDERGRADUATE MANAGEMENT PROGRAM

Our journey to developing a competency model began with the need to assess our students' achievements of the learning outcomes that we had developed. When we began this process, the learning outcomes for our undergraduate management program were largely a list of knowledge (or cognitive content) that students should demonstrate before graduating. If we were going to assess student performance in any other way than through their performance on exams, then we would have to identify observable measures of their performance.

As the faculty went about identifying the indicators necessary to demonstrate achievement of the learning outcomes, we became more aware of the limitations of the learning outcomes we had developed. First, the learning outcomes in their initial formulation looked like a list of course objectives all put together on one list. While these created a type of simplicity or "neatness" in its implications for our curriculum in that the faculty members knew which learning outcomes were addressed in which class, the list was incomplete in that they did not reflect the comprehensive set of expectations we had for students. In addition, our learning outcomes were all cognitive or knowledge-based and our discussions forced us to step back and ask, "What type of abilities do we expect our students *to demonstrate* when they graduate?" For example, our learning outcomes presented our expectation that students know the underlying management and psychological foundations for effective teamwork, but, in reality, we also expected students to be able to demonstrate the ability to be effective team members; this expectation was not expressed in our learning outcomes. In other words, our early learning outcomes focused on the content knowledge but not the student's ability to demonstrate his or her ability to act on that knowledge, and in this case, collaborate or lead a team.

By moving towards the articulation of competencies, our discussions became more focused on the program, as opposed to individual courses. We learned to expect that many of the competencies would be addressed in different classes in different ways and that this "redundancy" was important because it reinforced the programmatic goals that we had for our students.

Through these discussions, we also concluded that our learning outcomes did not reflect the types of investments we made in students through any number of curricular and co-curricular activities. Our

college and department, in fact, invested a significant amount of energy and money in creating co-curricular opportunities for our students in order that they could develop collaborative and leadership capabilities in student organizations, for example, or by supporting student-led conferences. These activities were carried out because we thought they contributed to our students' learning, but these expectations were not explicitly identified in any of our learning outcomes. Companies that hired our students also expected students who could demonstrate these collaborative and leadership abilities. In addition, we observed that those students who gained positions in companies with high potential for career growth were the students who were displaying many more qualities than were represented in our student learning outcomes. For these reasons, we embarked on revision of our learning outcomes to more fully reflect our aspirations for our students as well as the commitment faculty had to preparing students for professional success.

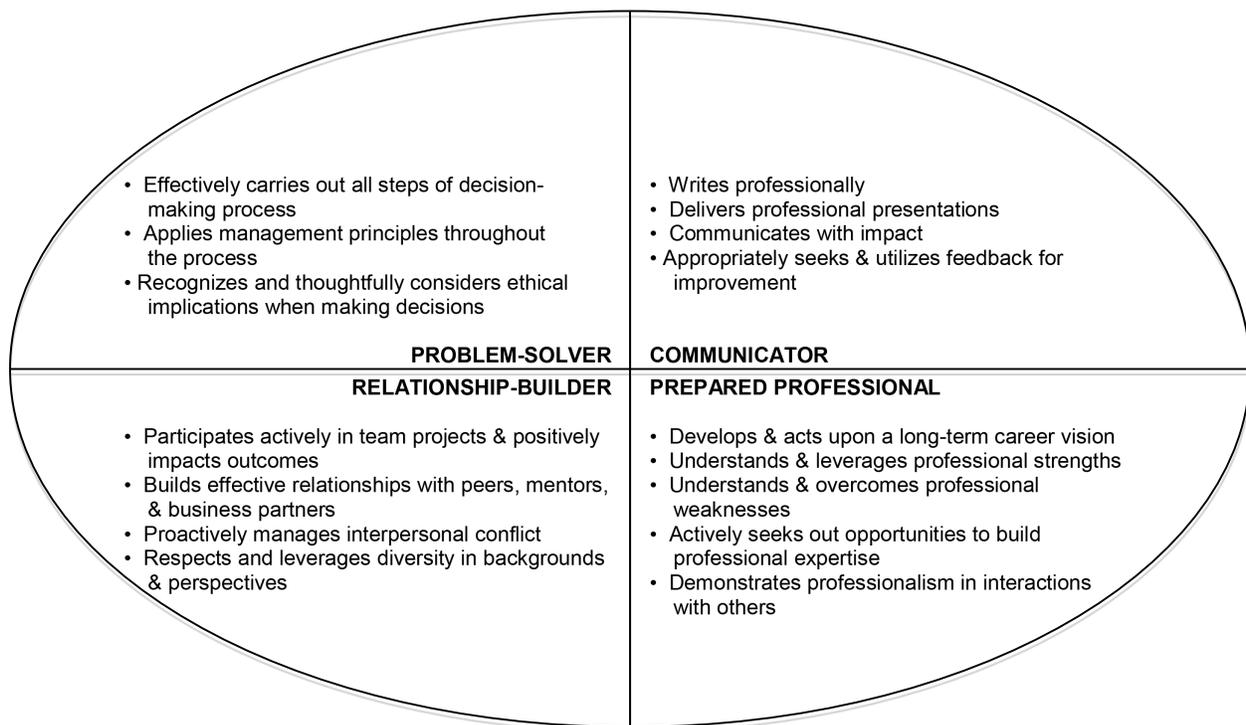
We also struggled with balancing our desire to articulate the full breadth of learning that we wanted students to achieve with the very real costs in time, energy, and financial resources that are required to deliver to and assess on many behavioral indicators. It was difficult to know when the competencies and behavioral indicators were refined enough to serve as meaningful objectives and measures to achieve our overall objectives.

As a result of these discussions, we identified a framework of four general competencies, each with specific behavioral indicators. We sought input from those representing employers who are hiring our graduates to refine the competencies and behavioral indicators. Our department advisory board of a dozen managers participated in the refinement and revisions to our competency model. This discussion helped us characterize the types of behaviors that were most critical to early career success in ways that were meaningful to employers. For example, the faculty felt that students needed to understand the role of diversity in effective teams. While the faculty had anticipated a discussion of ethnic diversity, the managers quickly migrated to the challenges of age diversity and how new graduates had to learn to manage and interact effectively with a diverse set of age groups. Based on this discussion, faculty made final revisions to the competency model.

Figure 1 shows the competency model that was developed by faculty with the aid of our advisory board. The model incorporates four broad competencies: problem-solving, communication, relationship-building and professional development competencies, each with a set of indicators to express the behaviors that demonstrate achievement of the competency. While the behavioral indicators are specifically linked to one of the four broad competencies, some behavioral indicators may be relevant to more than one competency. For example, seeking and using feedback for improvement is identified as a behavior under the communication competency. It is clear that this behavior related not only to communication but also to what is necessary for the professional development competency. The fact that an indicator is relevant to multiple competencies only reinforces the importance of the behavior.

Note that the cognitive content, or technical knowledge, expected of our students is embedded in these behaviors, rather than identified separately. For example, students are expected to demonstrate knowledge of management principles not by simply stating them but by applying them through the problem-solving process. Similarly, students are not just expected to know what ethical implications are but be able to apply their knowledge of to the problem-solving process.

Figure 1: Management Program Competency Model



This figure shows a competency model we developed to incorporate four broad competencies for an undergraduate management program. It includes problem-solving, communication, relationship-building and professional development competencies, each with a set of indicators to express the behaviors that demonstrate achievement of the competency.

Although we continue to develop methods to assess student performance and improve opportunities for students to develop the competencies both in and out of the classroom, the development of the competency model and implementing methods to assess it has already generated a number of benefits. First, and perhaps most importantly, there is a clear focus on the program that orients faculty to their curriculum and class work. When the learning outcomes consisting largely of content knowledge that was neatly folded into classes, there was discussion of “who teaches what in which class” but little in terms of the ultimate purpose of that learning or the fact that students experience a program more holistically. Because the behaviors associated with the competencies do not fit neatly into a single class, the discussion by faculty has largely moved to a program-level discussion. Classes and co-curricular activities are discussed as a means to an end, not ends in and of themselves. The change in perspective from class to program also broadens the faculty’s perspective and stimulates a much broader consideration of the opportunities for enhancing student achievement.

A second benefit is a shared language among faculty and students. When all faculty members discuss the desired outcomes for students in consistent language, their importance grows in the minds of students. Faculty members often discuss their particular course objectives and how they fit into the competency model. As students see reinforcement of the competencies across the curriculum, the curriculum becomes more cohesive and students have a better understanding of how the parts contribute to the whole.

Finally, the competency model has helped the faculty identify many more ways to assess student performance. While earlier assessment methods largely focused on rating student papers or exam questions, the competency model broadened methods to include assessing performance in mock interviews and a 360-degree feedback system by internships supervisors and peers, which bring new

insights into how our students perform in a wide variety of settings both in and outside of the classroom and creates an opportunity to triangulate data on student performance.

Implications of a Competency Model Framework in an Undergraduate Management Degree Program

The use of a competency-modeling framework in an academic setting brings with it a number of implications, particularly with regard to assessment, facilitation of the transfer of competencies to students' work life after program completion, and career orientation.

The assessment of a traditional content-focused curriculum has been fairly straightforward in the past, as a body of knowledge was typically assessed through objective testing. A competency model-based approach brings with it some special considerations when engaging in assessment. Assessment is a necessary component process of any successfully managed endeavor. Noted management theorists W. Edwards Deming and Peter Drucker both emphasized the essential nature of being able to use measurement to identify baseline conditions and to detect the results of interventions. Educational institutions have sometimes been reluctant to embrace assessment and have typically limited it to the knowledge-based outcomes. As discussed earlier in this paper, a key attribute of competency modeling is the behavioral focus. In other words, what one *can do* is at least as important as what one *knows*. Historically, business education programs (and perhaps other professional degree programs) have focused on knowledge absorption. The focus on concepts, techniques and processes was often devoid of context and application. We did not abandon the expectation that students master the expected content. However, we added the expectation that students develop and demonstrate targeted competencies that incorporate behaviors as well as content knowledge. Consequently, teaching approaches must be bolstered by more active and applied learning methods. Similarly, assessment must also be adapted to measure student competencies by assessing behaviors, and not just knowledge.

Assessment is important in both pre- and post-intervention stages, although in higher education we have more commonly emphasized post-intervention assessment. Pre-measures are important for two reasons. First, it is important to establish a baseline as a starting point; otherwise it is difficult, if not impossible to conclude that student achievement has occurred. Furthermore, the feedback provided from assessment to a student can be a significant stimulus to and even a source of learning. Post-program assessment can gauge the accomplishment of learning and enhancement of competencies, as well as allow "fine-tuning" of educational processes and methods to improve learning.

The transfer of learned content from an undergraduate business program into real world application is paramount in the ultimate judgment of the worth of that education. Transfer refers to the extent to which learning is utilized in applied situations. Similar to the unique challenges of assessment brought on by the application of a competency model in education, the challenges of competency transfer are distinct from those associated with knowledge transfer. Knowledge and skills transfer has been a recognized problem in the training literature for many years (Baldwin and Ford, 1988, Saks and Belcourt, 2006). Some estimates indicate that even in specific job-relevant contexts, as much as half of desired learning does not get transferred or utilized in the workplace. In an educational context, we might expect the transfer rate to be even lower due to the challenges of making learning directly applicable to unpredictable job roles and organizational contexts. As educators, we need to be concerned about the extent to which what we teach ultimately gets applied in the course of our graduates' careers. In business schools, some have resisted the so-called "trade-school" orientation of measuring our success in terms of job attainment and relevancy of jobs to program of study. On the other hand, many programs have embraced the use of external certifications as indicators of program efficacy. To the extent that a competency model approach incorporates knowledge as well as behaviors, we are emphasizing knowledge and skills that are a generalizable across a wide range of professional domains. Recognizing that our students go into a wide

variety of fields, roles and organizational types, the competencies maintain relevance regardless of the path taken by the student.

The behavioral orientation inherent in a competency-based approach can be expected to improve the likelihood of transfer. Beyond the use of external certifications and a behavioral orientation, there are some additional considerations for improving the rate of transfer and application of educational foundations. Providing opportunities to apply learning can facilitate the likelihood of retention and future application of learning. Some of the critical influences on transfer are the perceived utility or value of training/education, having a realistic training/educational environment, opportunities for behavioral modeling, and learners with an enhanced sense of confidence (Grossman and Salas, 2011). Through learning media that emphasizes behavioral learning, all of these factors may be enhanced. Student organizations, shadow-day experiences, action learning, case studies, applied projects and an emphasis on behaviors, instead of just knowledge, are all likely to improve the likelihood of learning retention and transfer.

Another important implication of the use of a competency modeling approach is the establishment of a career orientation as a foundation for ongoing competency development as post-graduates. The competency approach is consistent with the broader purpose for students. A career orientation is an important part of our competency modeling effort. Our objective is to develop students not only for their first job, but to help them to see the value of continued development and growth. Much of what they learn in an undergraduate business program is merely a foundation for future growth and career success. Competency models recognize the evolutionary nature of development and the need for continuous development. The applied nature of many of the tools used in the classroom, the emphasis on co-curricular programming and opportunities for experiential learning all are consistent with the behavioral orientation that is inherent in competency modeling. It is our expectation and goal that the competencies developed in the program will be useful to our students as they seek entry-level positions and to our alumni as they manage their careers beyond entry level.

CONCLUDING COMMENTS

In this paper, we explored how competency modeling can create benefits for both students and higher education institutions and specifically business education programs. In our review of how competencies have been used in the human resource management field and in higher education, we found that many of the drivers of competency modeling in business organizations also apply to business education. Because our graduates will need to demonstrate technical knowledge and be generalists as well, incorporating broader skill development through competencies with content knowledge can enhance the future success of our students.

We discussed a number of student benefits of adopting a competency-based approach, including how a competency framework creates an over-arching context for the knowledge delivered through the curriculum and the benefits of preparing students for longer-term career development. Higher education institutions can also benefit from a competency-based approach because competencies provide a unifying framework for managing and developing academic programs. They create a platform for shared language around student learning outcomes and curriculum development. Competencies also provide a comprehensive framework for assessment, as well as the potential to create a greater sense of cohesion across the program and the faculty that teach its courses. In spite of these benefits, a competency-based approach is not a panacea. Competency models need to evolve over time to adapt to the needs of our students and the organizations that employ them. In spite of its challenges, adopting a competency model can enhance business education and student outcomes.

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