higher education

disciplinary tuning process

faculty-driven process

shift focus

from what should be taught
to what students need to learn

input from *students*

input from *employers*

TRANSPARENT PATHWAYS, CLEAR OUTCOMES:
Using Disciplinary Tuning to Improve Teaching, Learning, and Student Success

Tuning report

adjust to changing circumstances

clearer path
+ relevant skills

more confident grads

student, workforce, societal needs met

higher education *enhanced*

About the Midwestern Higher Education Compact

The Midwestern Higher Education Compact is a non-profit regional organization, established by compact statute, to assist Midwestern states in advancing higher education through interstate cooperation and resource sharing. Member states are: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. The Compact seeks to fulfill its interstate mission through programs that:

- Expand postsecondary opportunity and success;
- Promote innovative approaches to improving institutional and system productivity;
- Improve affordability to students and states; and
- Enhance connectivity between higher education and the workplace.

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Acknowledgements

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The MHEC Cross-State Tuning initiative was supported by generous funding from Lumina Foundation, an Indianapolis-based private foundation that is committed to enrolling and graduating more students from college—especially 21st century students: low-income students, students of color, first-generation students and adult learners. Lumina's goal is to increase the percentage of Americans who hold high-quality degrees and credentials to 60 percent by 2025. Lumina pursues this goal in three ways: by identifying and supporting effective practice, through public policy advocacy, and by using our communications and convening power to build public will for change. For more information, logon to http://www.luminafoundation.org.

Please direct any comments about the report or requests for additional information to Chris Rasmussen, MHEC vice president for research and policy analysis, at chrisr@mhec.org.

Marketing Tuning Workgroup

Co-chair: Lora Hines, John A. Logan College (IL)

Co-chair: Maryon King, Southern Illinois University Carbondale

Rick Bonsall, McKendree University (IL)

Debra Cartwright, Truman State University (MO)

Michael Elliott, University of Missouri – St. Louis

Nancy Evans, Heartland Community College (IL)

Karen Gore, Ivy Tech Community College of Indiana – Southwest

Peter Kaufman, Illinois State University

Greg Kitzmiller, Indiana University

Susan Mantel, Ball State University (IN)

Teresa Massoels, Saint Joseph's College (IN)

Lance Renner, Ozarks Technical Community College (MO)

Cindy Rossi, Jefferson College (MO)

Carl Saxby, University of Southern Indiana

Joann Wayman, Columbia College (MO)

Psychology Tuning Workgroup

Co-chair: Steven Dworkin, Western Illinois University

Co-chair: Cynthia Porter Rickert, Ivy Tech Community College of Indiana – Central Indiana

Lorelei Carvajal, Triton College (IL)

Christie Cathey, Missouri State University (formerly Ozarks Technical Community College, MO)

Mike Drysdale, Vincennes University (IN)

Leah Gensheimer, Avila University (MO) (formerly University of Missouri – Kansas City)

Barbara Gormley, Governors State University (IL)

Ed Hirt, Indiana University

Amy Kausler, Jefferson College (MO)

David Kreiner, University of Central Missouri

Theresa Luhrs, DePaul University (IL)

Rick Mangold, Illinois Valley Community College (IL)

Marcia Pasqualini, Avila University (MO)

Fay Plascak-Craig, Marian University (IN)

Virgil Sheets, Indiana State University

Dear Colleague,

On behalf of the Midwestern Higher Education Compact, I am pleased to present this monograph summarizing outcomes and lessons learned from our cross-state Tuning initiative. The document showcases the impressive work conducted by faculty from Illinois, Indiana, and Missouri and facilitated by Compact staff, our partners at the Institute for Evidence-Based Change, and consultant Robert Stein. This monograph and the associated Competencies and Student Learning Outcomes document, which was released last summer, are valuable resources that can guide faculty to engage in similar initiatives and can also demonstrate the benefits of Tuning to higher education leaders and policymakers.

Our work with Tuning is consistent with our mission of increasing student access and success. Tuning makes educational pathways more transparent while helping to clarify to students, parents, faculty, administrators, employers, and policymakers what degree holders know, understand, and can do through study in a given discipline. The Compact Tuning initiative involved 30 faculty members from Illinois, Indiana, and Missouri—15 from marketing and 15 from psychology—representing two-year public, four-year public, and four-year private non-profit institutions. During the 18-month project the Tuning teams met in person 10 times, with countless additional hours spent in between meetings collaborating with each other and talking with students, colleagues, and employers about their work. This monograph includes several recommendations for future Tuning work and for the use and application of Tuning to improve teaching, learning, and student success.

We are grateful to Lumina Foundation for providing financial support for this Tuning initiative, and to Marcus Kolb, who served as the program officer for the grant. Special thanks to the staff at the Institute for Evidence-Based Change for providing facilitation and technical assistance; to Robert Stein for providing program evaluation and advisement throughout the project; to Ann Grindland for her role in project development and coordination during the first year of the initiative; to Leah Reinert for her work in supporting and helping to manage the project; and to Chris Rasmussen, who served as project director.

Finally, our deepest gratitude to the 30 faculty participants who were the heart and soul of the Compact Cross-State Tuning Initiative. The success of the project is a direct result of their thoughtfulness, enthusiasm, and dedication.

Sincerely,

Larry A. Isaak, President
Midwestern Higher Education Compact

Tuning in Context

Attention to the value of higher education degrees—including their connection to workforce demands—has increased over the last decade (Association of American Colleges and Universities, 2010; Gaston, 2010). In response to the call by government leaders to increase the number of US citizens completing college degrees, many foundations, non-profits, and institutions are promoting new initiatives to ensure that the increased productivity of colleges and universities is linked to quality. One of the most innovative and promising initiatives in this regard is Tuning.

Originating in Europe as part of the Bologna Process, Tuning has since spread to Latin America, Canada, the United States, and other nations and regions of the world (Adelman, 2008a, 2008b, 2009; Gaston, 2008; Institute for Evidence-Based Change, 2010; Tuning USA, 2012). In 2009, Lumina Foundation launched "Tuning USA" as part of its "Goal 2025," which seeks to increase the percentage of Americans with higher education credentials to 60 percent by the year 2025 (Tuning USA, 2012). Since then, at least eight states have promoted initial Tuning projects in more than 20 different disciplines.[1]

Within this portfolio of projects, Lumina Foundation awarded a grant to the Midwestern Higher Education Compact (the Compact) to tune the disciplines of psychology and marketing in three states: Illinois, Indiana, and Missouri. This was the first cross-state Tuning project funded by Lumina following investments in single-state pilot projects beginning in 2009. The Compact initiative launched in Fall 2011 and culminated with a symposium held in June 2013. The purpose of this monograph is to share the outcomes of our work as well as lessons learned to inform future work in Tuning and related efforts to define and assess what students should know and be able to do as a result of earning a degree in a given major or field.

BACKGROUND

Tuning diverges from previous efforts in curriculum reform and learning assessment in its emphasis on faculty-led processes focused on individual disciplines across different types of institutions. Ideally, once begun, Tuning is expected to be an ongoing process fostering continuous faculty engagement with various stakeholders. Essential elements of the Tuning process include defining the core essence of a discipline, including competencies and student learning outcomes; seeking feedback from key constituent groups (e.g., faculty colleagues, current students, alumni, employers); mapping career pathways linked to a credential in the discipline; revising initial documents based on feedback; and reviewing initial work with campus colleagues to determine possible revisions to a department's curriculum content, structure, and approach to assessment. Tuning can function as a form of valuable professional development for faculty within the arena of teaching and learning. Achieving a greater level of agreement and transparency of each discipline's core competencies and learning outcomes is expected to improve student understanding, persistence, performance, and transfer. Additionally, the value of Tuning includes affirming the relevancy of curricular elements, improving the alignment of institutions with different missions, and advancing higher education's ability to respond to the demands and needs of an ever-changing internal and external environment.[2] When done well, the work of "tuners" should serve as a foundation for the design and collection of evidence-based student learning.

Tuning is a faculty-driven process intended to articulate what a student should know and be able to do in a given discipline at the point of degree completion. The process involves consultation with various higher education stakeholders in creating a framework that establishes clear learning expectations for students at each degree level. A key goal of Tuning is to improve the alignment of students' mastery of agreed-upon learning objectives for specific degrees and the relevance of said learning objectives to the workplace—that is, how outcomes match entrance needs in the field.

It is important to note that Tuning does not focus on curriculum development nor does it attempt to standardize curricula. While a goal of Tuning is to create a broadly shared understanding of subject-specific knowledge and skills, it is not a goal to standardize programs offered by different institutions; rather, tuners endeavor to illuminate the quality and relevance of degrees in a specific academic discipline. It is critically important to the Tuning process that faculty retain autonomy in the design and delivery of individual degree programs.

An important benefit to students from Tuning is an increase in their abilities to make informed choices about degrees and disciplines based on better understandings of the content, knowledge, and skills they are expected to master through study of the discipline and how student learning can be applied to the workforce. The potential of Tuning to both teaching and learning has been widely illustrated in both Europe and the United States (Gaston, 2008; Jones, 2011; Tuning USA, 2012).

As more attention is focused on Tuning, questions have been raised about whether it is an appropriate model for colleges and universities in the US. Proponents of Tuning believe that establishing and using agreements about a discipline's core does not preclude institutions from establishing unique program characteristics through specializations, arenas of excellence, or stylized approaches to learning. According to Adelman (2013), Tuning is a first stage of convergence—it does not standardize. At the same time, some believe that Tuning will drive curriculum change from outside forces representing an encroachment on academic freedom and faculty expertise.

Clearly, the demand for higher education to demonstrate its value to prospective students (as well as parents and family members), to government officials, and to taxpayers has never been greater. In this context, Paul Gaston emphatically suggests that "the issue is not whether we should 'import' the Bologna Process, but whether we can learn from its coherence and sense of urgency" (Jaschik, 2010).

RELATIONSHIP TO THE DEGREE QUALIFICATIONS PROFILE

A closely related initiative, the Degree Qualifications Profile (DQP), has simultaneously emerged with the support of Lumina Foundation.[3] Driven by concern about the substance and quality of college degrees, especially in an environment that is demanding increased production of degrees to meet workforce needs, promoters of the DQP place an emphasis on what should be expected of all graduates at each degree level regardless of students' disciplinary majors or areas of concentration. Similar to Tuning, the emphasis of the DQP is on what a student should know and be able to do. Like Tuning, the DQP process promotes faculty-led work on curriculum and assessment. As the DQP moves forward, faculty are expected to build on ". . . more than a decade of widespread debate and effort, across all levels of US higher education, to define expected learning outcomes that graduates need for work, citizenship, global participation, and life" (Lumina Foundation, 2011, p. 1).

The integration of Tuning and the DQP is a natural progression of these two separate initiatives. Taken collectively, Tuning and the DQP place a spotlight on the intersection of general education and the academic major (or in the case of students at two-year colleges, the intersection between general education and area(s) of curricular focus).

The potential value of Tuning and the DQP is reflected in discussions of degree completion, student mobility, knowledge developed and skills learned, and technological influence in higher education. Both Tuning and the DQP have the potential to reduce student time-to-degree by providing more transparency and clarity in the degree process, including articulating more clearly to prospective and current students (as well as to employers) what students should learn, know, and be able to do at the point of degree completion. Ideally, this will help to circumvent many of the frustrations both graduates and employers experience in the hiring process. As these initiatives mature they have the potential to shape the development of assessment frameworks, courseware and learning management systems, and open educational resources.[4]

An example of continued interest in Tuning is the collaboration between the American Historical Association and the Institute for Evidence-Based Change (IEBC) to define the "disciplinary core of historical study" (American Historical Association, 2012). This is the first time a national professional association in the US has attempted to

engage its membership in Tuning. Due to the magnitude of the project (involving 60 history tuners across the nation) the initiative is functioning as an experiment with the scalability of Tuning. Lessons learned from the AHA project are informing a Tuning effort of the National Communications Association (NCA), which launched in late 2013. Both the NCA and AHA efforts are funded by Lumina Foundation. An additional ongoing Tuning project facilitated by IEBC in California involves the Accrediting Commission for Community and Junior Colleges (ACCJC) of the Western Association of Schools and Colleges, which is applying both Tuning and the DQP for selected associate degrees at a small number of community colleges in the region.

As with Tuning, interest from higher education institutions and policy groups about the DQP continues to grow. The DQP is currently being utilized or explored in at least one institution in 45 states and Puerto Rico. This experimentation with the DQP, along with further reflection on the relationship between the DQP and Tuning, will inform the release of DQP version 2.0 by Lumina Foundation in Fall 2014. The growing interest and investment in both Tuning and the DQP has led to calls for genuine experimentation with how the two initiatives can work together.

As noted earlier, a key objective of both initiatives is to identify the core knowledge, competencies, and skills associated with degree-level higher education and to signal to all stakeholders—but especially to students, families, and employers—what particular degrees mean in relation to workforce and societal needs and demands. Tuning and the DQP also seek to provide students with timely information about what they will gain from their formal studies so they are better positioned to make evidence-based decisions when choosing a degree program along the pathway of becoming a productive and engaged citizen. Ideally, Tuning and DQP projects will also establish agreed-upon student learning outcomes within and across disciplines at key educational transition points that will serve as an important foundation for continued development of viable and relevant approaches to assessment.

THE COMPACT AND TUNING

The Compact has a 20+-year history of working in 12 Midwestern states to maximize higher education opportunity and performance through collaboration and resource sharing. In May 2011, the Compact sought Lumina Foundation funding to facilitate further experimentation with Tuning initiatives underway in several states. Tuning's connections to college readiness and success, to the relationship between higher education and the workforce, and to the increasing mobility of learning propelled the Compact to pursue an opportunity to advance Tuning in the region.

From the outset, the Compact's Tuning initiative was designed to chart new territory by involving faculty in multiple states in Tuning the same disciplines. In addition to being in close proximity, the particular states chosen (Illinois, Indiana, and Missouri) include metropolitan areas whose residents easily cross state boundaries in pursuit of their individual higher education goals and employment. The two disciplines—marketing and psychology—were chosen based on the popularity of majors in these

fields, the diversity of career pathways chosen by undergraduates in these areas (including the pursuit of graduate education), and the fact that neither discipline had previously undergone Tuning in the US.

The Compact approached Tuning in the context of three key phenomena or movements shaping higher education. First, competency-based education is gaining traction as policymakers and institutional leaders seek effective alternatives to increase overall college completion rates while also ensuring that new graduates have skills that are needed by society and marketable in the workforce. Secondly, mobility is increasing both among students and among workers as individuals pursue postsecondary credentials from a variety of providers and change jobs and careers more frequently. And finally, as technology influences both teaching and learning within collegiate environments, an agreement by educators on competencies and student learning outcomes across degree levels within disciplines serves as a foundation for the expansion of open educational resources and alternative forms of content delivery, including MOOCs.

GETTING STARTED

Fifteen faculty in each of the two disciplines—five from each state—were identified by representatives of each of the three institutional sectors (two-year public, four-year public, and four-year private) for participation in the project. The primary objective for choosing a cross-state, multi-institutional type model for this initiative was to engage geographically dispersed faculty with different institutional allegiances in clarifying the meaning of a degree in their discipline. Tuning was presented as an intentional process that generates greater transparency and consensus among professional collegiate educators about the key competencies aligned with student learning outcome statements. Furthermore, these outcome statements represent the knowledge and skills students are expected to acquire along their educational pathways, specifically at the major transition points of completing the associate, baccalaureate, and master's degrees.

The specific design the Compact utilized for this Tuning initiative, facilitated by Compact staff and consultant facilitators from IEBC, involved the following characteristics:

- Faculty led
- Regular face-to-face meetings
- Anonymous collection of faculty evaluative feedback
- Debriefing with co-chairs after face-to-face meetings
- Monthly planning calls with co-chairs
- Utilization of electronic communication, including document sharing through DROPBOX
- Support from Tuning staff, which included facilitation when called upon, encouragement, technical assistance, logistics planning, enforcement of deadlines, identification of related published materials, financial support for travel to professional meetings to present on Tuning, formatting suggestions and printing of final documents, mediation when necessary, outreach to organizations and specialists, and collection of selected data
- Opportunities for small group work
- Built-in time for networking and relationship building

By taking a leadership role in promoting Tuning projects in marketing and psychology, the Compact's overarching goal was to create clarity in student pathways to acquire higher education credentials needed in those two fields; the meaning of those credentials; and the congruency between the knowledge and skills acquired with those needed by the workforce. Side benefits expected from Tuning included greater understanding by students of their field of study; improvements in student persistence, mobility, and completion; and establishment of a foundation for more meaningful mechanisms for assessing student learning.

This report describes both the processes followed and the outcomes generated by the Compact's Tuning teams in marketing and psychology. The report is intended to function as an illustration of what can be accomplished by a collection of faculty in a single discipline from a variety of institutions located in different states. Faculty and campuses unfamiliar with Tuning may wish to consider initiating a Tuning project with nearby and/or transfer institutions in their regions. Faculty from other disciplines who are considering becoming more engaged with the Tuning process will find important lessons learned as they design their own approach to Tuning. Finally, this work has implications for higher education policymakers at all levels as both Tuning and DQP help to improve teaching and learning, drive greater transparency about higher education, support greater productivity and quality of degree programs, and increase the relevancy of what graduates know and are able to do as they assume the responsibilities of becoming productive and compassionate world citizens.

Seeking Agreement on Defining the Discipline Core

While Tuning conversations can occur within single departments, fostering dialogue among faculty from different types of institutions focuses conversations on commonalities for each degree level irrespective of program location. Tuning does not result in a standardized curriculum; rather, it provides a common framework and foundation for student mastery in a particular field. Using this foundation, institutions and departments can determine locally the breadth and depth of their curriculum and make choices about materials and course assignments, teaching styles, specializations, and areas of excellence to establish a particular niche.

ATTENDING TO IMPORTANT PROCESS CHALLENGES

Since tuners from different institutions are often meeting each other for the first time, they must develop as a viable team while also trying to reach consensus about their discipline's core. It is important early on to address common challenges associated with group dynamics including norms for group discussions, tools for communicating in the time between face-to-face meetings, and processes for conflict resolution and reaching consensus. Tuners may want and need to spend time with each other in a social or non-work context simply to get to know each other and to establish a level of trust and professional understanding that is required to be successful as a team.

Using Tuning experts to provide a solid orientation helps beginning tuners establish a foundation upon which to do their work. Familiarity with each of the major Tuning activities is essential to internalize a holistic view of the process. While there are five separate activities or "steps" in the Tuning process, they are not intended to be linear or sequential. Some activities require completion of earlier actions, e.g., seeking formal stakeholder feedback and using Tuning products to review local decisions about programs. Other tasks, e.g., mapping career pathways, developing tools for formal stakeholder feedback, and drafting initial competencies and learning outcomes, can be pursued concurrently, especially if the team breaks into sub-groups.

It is important to break down the reluctance that faculty often have of sharing initial drafts of their work with peers. As part of this process, tuners should be encouraged to distinguish between formal and informal feedback. Although seeking formal feedback requires creation of an agreed-upon initial list of competencies and learning outcomes by degree level, this should not preclude gathering informal feedback early and often. By regularly communicating with stakeholders informally, especially department colleagues, tuners increase their understanding of substantive disagreements about the discipline's core among their peers as well as among those who might hire their graduates. Tuners are also increasing potential ownership and buy-in for their processes and eventual products. Tuning is an ongoing process that has no definitive end point. Departments that are committed to Tuning are expected to use products from Tuning groups to review and potentially change their professional practices, curriculum content, and degree requirements. With time, it is envisioned that regular and systematic evaluation with input from various stakeholders will become more normative for professional practice across all disciplines within collegiate environments.

GENERATING KEY COMPONENTS

Tuners bring a wealth of experience to the task at hand, which can function as both a resource and a hindrance. Relying on the way individual departments have approached course development can help to generate initial conversation. Sharing syllabi also provides a tool to generate "lists" of core concepts as a foundation for developing recommendations about competencies and learning outcomes. Tuners can become aware early on that a great deal of variation exists in program structure both within and across institutional sectors (particularly between two-year and four-year institutions). In grappling with the task of defining their discipline core, both marketing and psychology tuners in the Compact's Tuning initiative experienced difficulty in getting beyond individual experiences. Tuners commented often in early discussions to the effect of "…but this is the way we do it on my campus." Tuners also admitted to possessing limited information about how other departments approached their discipline and to having stereotypes about their colleagues from other sectors. By incorporating purely social time during face-to-face meetings, tuners learn to confront preconceived attitudes and opinions about their teammates that help them emerge as genuine colleagues. As expressed by one Compact tuner, "gaining respect for the expertise and professionalism of colleagues makes it easier to disagree and work on common solutions as we face challenges to meeting our charge."

As with most creative endeavors, it is more difficult to start from scratch than to follow some predetermined logical process, formula, or "how to" guide. The resource "Tuning American Higher Education: The Process" (available on the Tuning USA Website) describes the complexity of Tuning processes, demonstrates that numerous options and approaches exist for accomplishing this work, and provides practical advice with provocative questions that tuners should ask about each of the major Tuning activities.

According to Tuning USA, Defining the Discipline Core involves:

- Describing the nature of the discipline;
- Identifying the bodies of knowledge and skill that comprise the core of the discipline; and
- Identifying what learning is expected at each degree level and the ways in which students can demonstrate their learning

Adelman (2013) suggests that when identifying a discipline's core, tuners could identify key reference points by describing the discipline's content and methodologies as well as its relationship to other disciplines. He further suggests that Tuning reference points might include principles and concepts, dominant methods, tools, and information sources as well as a description of the physical environments in which practice occurs.

During this initial phase of Tuning, faculty are encouraged to use a multitude of resources including traditional approaches in the discipline as well as new and emerging fields of inquiry; informal conversations with disciplinary peers, students, alumni, and employers; and recommendations about the discipline's core issued by learned societies, professional associations, and accrediting bodies.

CORE DEFINITIONS, NUANCES, AND DEGREES

In defining their discipline's core, both of the Compact's Tuning teams utilized definitions promoted by a professional association in their discipline, suggested nuances about their discipline, and identified the scope of degree programs offered to prospective students. Sections from both the marketing and the psychology final team reports about their discipline's core are provided as illustrations for future tuners.

Marketing

The American Marketing Association offers the following formal definition for the discipline of Marketing:

> Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large. (Approved October 2007) (http://www.marketingpower.com/aboutama/pages/definitionofmarketing.aspx)

According to the Compact marketing tuners, the discipline of marketing focuses on identifying and meeting human and social needs as well as organizational needs. Marketing is based on thinking about business in terms of customer needs and their satisfaction. For example, when eBay recognized that people were unable to locate items they desired most, it created an online auction clearinghouse to facilitate consumer acquisition. Likewise, when IKEA observed that consumers desired good furniture at substantially lower prices, they created "knock-down" or "ready-to-assemble" furniture. These two firms

demonstrated marketing savvy and turned a private or social need into a profitable business opportunity.

To prepare students for careers in marketing, academic programs provide training in basic business knowledge as well as education in marketing areas such as sales, advertising, marketing research, consumer behavior, and communications. For students wishing to pursue careers in some aspect of marketing, several degree options are available.

- **ASSOCIATE DEGREES (A.A., A.A.S)** Currently, there are two distinctly different Associate Degrees available to students.
  - **Associate of Applied Science (A.A.S.)** This is a two-year degree program requiring 60 +/- hours that typically includes minimal general education requirements. This program is designed for students seeking employment immediately upon graduation. Emphasis is placed on courses (e.g., sales, retail management) that enable the student to gain knowledge and skills important for working in a professional business environment. The A.A.S. degree can lead to entry-level positions in areas such as customer service, advertising, or retail sales, and as a marketing management trainee.
  - **Associate of Science/Associate of Arts (A.S., A.A.)** These are two-year degree programs requiring 60 +/- hours, including approximately 40 hours of a general education block. Students complete general education requirements and take business courses that have proven to be academically transferrable to four-year institutions. Ideally, completion of all requirements allows a student to enter a four-year institution's business program seamlessly (in marketing, accounting, management, etc.) to complete a bachelor's degree rather than immediately entering the workforce.
- **BACHELOR'S DEGREE (B.A., B.S.)** For future marketing professionals, a four-year bachelor's degree program in marketing can help students develop an understanding of how businesses develop relationships with their customers, and how their customers' needs can be satisfactorily fulfilled. The bachelor's degree in marketing provides students with an understanding of the important concepts of marketing, emphasizing emerging technologies and the practice of marketing in an ever-changing global environment. The degree also prepares students for careers in such roles as media planner, buyer, advertising manager, and marketing research analyst among many others.
- **MASTER'S DEGREE (M.B.A., E.M.B.A., M.S., M.A., M.M.R.)** These advanced degrees are for individuals who want to move into a managerial or consulting marketing role. As marketing is a competitive field, a master's degree will also give degree holders an advantage in obtaining more coveted jobs. As noted, there are several different types of master's degree programs offered for marketing students seeking advanced education. These have substantively different characteristics and can be roughly divided into the following two groups.
  - **Master of Business Administration, Executive M.B.A.** Typically a two-year program, the Master of Business Administration (M.B.A.) degree attracts individuals from a wide range of academic disciplines because it provides wide-spectrum theoretical and practical training to help graduates gain a broad-based understanding of general business management functions. While the M.B.A. degree can have a specific focus such as accounting, finance, marketing, or global business, its primary purpose is to help students understand the interrelationships among the various business disciplines rather than provide in-depth training in a single business area. Executive M.B.A. programs are specifically designed for managers and executives with a significant amount of business experience who wish to earn an M.B.A. while working full-time.
  - **Master of Science/Master of Arts (M.S./M.A.)** This category of advanced marketing degrees represents a more "traditional" master's program in which students concentrate on a specific field of study (e.g., marketing research) and thus, upon program completion, can demonstrate advanced knowledge of a specialized body of theoretical and applied topics. While existing M.S./M.A. programs are only a fraction of the number of M.B.A. programs in the United States, they offer significantly more depth in specific areas of study than do their broader-scope M.B.A. counterparts. Moreover, while M.B.A. programs have generally similar content requirements, M.S./M.A. programs vary widely with respect to their academic focus. To wit, master's programs include concentrations in such areas as marketing strategy and planning, marketing communication, integrated marketing, marketing and technical innovation, and marketing research.

- **DOCTORAL DEGREE (Ph.D., D.B.A)** The Doctor of Philosophy degree (Ph.D.) is the highest academic degree attainable, requiring extended study and intense intellectual effort. To earn a Ph.D. with a concentration in marketing, two things must be accomplished: 1) mastery of a specific marketing-related subject, and, 2) extension of the body of knowledge about that subject. The D.B.A., while substantively similar to the Ph.D. in most respects, typically focuses more on the application of theory rather than the generation of new theory.

Psychology

According to the American Psychological Association (APA), psychology is defined as:

> The study of the mind and behavior. The discipline embraces all aspects of the human experience – from the functions of the brain to the actions of nations, from child development to care for the aged. In every conceivable setting from scientific research centers to mental healthcare services, "the understanding of behavior" is the enterprise of psychologists. (http://www.apa.org/support/about/apa/psychology.aspx - answer)

Compact psychology tuners struggled initially with expanding on the APA definition of psychology based on the breadth of their discipline. After extensive discourse they determined that the APA definition was sufficient as a context for their work.

When identifying degree programs for students in psychology, tuners from four-year institutions were initially confused about the associate-level degrees in the field given the variation in options across campuses. On many two-year campuses students pursue general areas of interest or concentrations rather than "majors," which furthered confusion at the front end of discussions.

The psychology tuners clarified that at the associate level, students interested in using their degree to pursue a job/career have options for three different pathways, while at the baccalaureate level both B.A. and B.S. degrees are offered. A single institution does not necessarily offer all options. Psychology tuners described each of the degree pathways up through the doctorate as follows:

- **ASSOCIATE OF ARTS (A.A.)** This pathway is for students who intend to transfer into a baccalaureate program. Consequently, students pursuing this degree have varied interests across many disciplines. The core of an A.A. degree, which is a traditional two-year transfer degree, cuts across several disciplines. It is usually comprised of 30 to 45 hours of general education course requirements that introduce students to various disciplines in the natural sciences, social sciences, and humanities. Beyond these degree requirements students can use elective hours to explore a particular discipline in greater depth prior to transfer.

- **ASSOCIATE OF SCIENCE (A.S.)** This pathway is also for students who intend to transfer into a baccalaureate program. Unlike the A.A. degree, this degree often is built upon a specific articulation agreement in a discipline (sometimes between specific individual institutions and sometimes among a collection of institutions within a given state). A.S. degrees are intended to provide students with smooth transfer for both general education and discipline-specific course credits.
- **ASSOCIATE OF APPLIED SCIENCE (A.A.S.)** This pathway is for students who intend to enter the workforce upon completion of the degree; thus the degree has traditionally been labeled a terminal degree. Students pursuing this degree generally have fewer general education hours available to them than A.A. students, which results in more hours being devoted to their area of specialization or interest. Increasingly, institutions and states have revised their transfer policies in acknowledgement that students completing A.A.S. degrees may immediately enter the workforce upon degree completion but then return to pursue a baccalaureate degree or certificate at a later date. In these situations, students expect that their formal training at the two-year level will transfer smoothly once they matriculate into another degree program.
- **BACHELOR OF ARTS (B.A.) OR BACHELOR OF SCIENCE (B.S.)** Students at the four-year level who major in psychology can earn either a B.A. or a B.S. degree. A major difference is that students pursuing a B.A. usually must complete a foreign language requirement while B.S. students do not, although some institutions do require foreign language for graduates in both degree programs. In addition, many B.S. programs include required courses in other disciplines such as mathematics, computer science, and biology/chemistry/physical science. Some institutions also require courses in cognition, neuroscience, tests and measurement, advanced statistics, and advanced research methodology, although these requirements are not uniform.
- **MASTER'S DEGREES (M.S.)** Some master's programs in psychology are offered as terminal degrees. This type of degree is designed to prepare graduates for professional practice in their specialty area. In other cases, a master's degree may serve as preparation for further study at the doctoral level. Many states are now granting certifications at the master's level so graduates are able to practice psychology on a limited basis. The states vary in how psychologists are licensed. Many psychology graduate programs have been developed to meet requirements outlined by the state, especially at the master's level. Specific course requirements can vary considerably. For example, in many programs both thesis and non-thesis options are available. A thesis is typically the option of choice for students interested in further graduate study, while the non-thesis alternative is often considered by students who are more interested in entering the workforce immediately after graduation.
- **DOCTORAL DEGREE (Ph.D.)** The doctoral degree is considered the primary terminal degree in psychology. The psychology doctoral degree provides the most mobility and access to careers in the psychology discipline, which can include research and teaching positions in academic or in clinical settings as well as in other health, education, corrections, research, and social service sectors.

GENERATING LISTS OF COMPETENCIES AND LEARNING OUTCOMES

As faculty grapple with the charge of identifying the core essence of their discipline they eventually are confronted with the challenging task of generating an agreed-upon list of initial competencies and student learning outcomes differentiated by degree level. Conversations about traditional core concepts of a discipline tend to emphasize the commonality among tuners, all of who have formal training in the same discipline. In contrast, the identification of different types of competencies and learning outcomes highlights layers of specializations or concentrations that are not as widely shared among the team members.

Furthermore, a lack of agreement about the meaning of both terms–in particular "competencies"–can undermine whatever comfort level new tuners have with this particular aspect of their charge. Both marketing and psychology tuners expressed confusion over understanding the major differences between competencies and learning outcomes early in the process

The fact that the concept of competencies has multiple definitions in the literature and is applied in different contexts adds to the confusion. According to Kennedy, Hyland and Ryan (2009), "there is wide variation in the

literature regarding the interpretation of the meaning of the term competence. This interpretation ranges from a description of competence in terms of performance and skills acquired by training to a broad overarching view that encompasses knowledge, understanding, skills, abilities, and attitudes" (p. 1).

The Council for Adult and Experiential Education (CAEL, 2012) provides an illustration of the variety of approaches used by US institutions that are developing some aspect of a competency-based or competency-focused higher education model. While the commonality across such programs is the identification of competencies expected of graduates, clearly institutions are defining and utilizing "competencies" in different ways. Some institutions discuss competencies and learning outcomes as if the terms are synonymous while others make clear distinctions. In some instances, competencies are developed at the course level, while in others program is used as the appropriate unit. The utilization of competencies also varies, with some institutions embracing traditional delivery models while others recognize learning that occurs outside traditional class time thereby permitting students to demonstrate competencies without formal coursework. While there is more consistency in the use of the label "learning outcomes" many faculty admit to having little experience in developing crisp outcome statements that can serve as a basis for assessment of student learning in the discipline.

HELPING TUNERS DISTINGUISH BETWEEN COMPETENCIES AND LEARNING OUTCOMES

Of particular help to both marketing and psychology tuners in the Compact initiative was a workshop presented by IEBC about the differences between competencies and learning outcomes. According to IEBC, in the context of Tuning, competencies are "benchmarks of mastery" while student learning outcomes are "discrete behaviors that, together, indicate that the benchmarks have been reached." Tuners learned that competency statements are expected to be general in nature and not directly measurable. In contrast, learning outcomes focus on what a learner is able to do as a result of their learning. Learning outcomes let students know in advance what actions they are expected to perform, are action-oriented, and serve as a foundation for the type of evidence that would demonstrate that learning has occurred.

Providing tuners with a list of action verbs helps them build confidence in developing learning outcomes that can serve as a foundation for assessment in their discipline. After exposure to training on how to write learning outcomes, tuners begin to see the differences between words or phrases like "appreciation for," "ability to," or "understanding of" in contrast to action verbs like "explain," "define," or "compare." While the former are vague and difficult to measure, the latter are specific

about what a student is expected to demonstrate. Tuners were also reminded to avoid using wordy statements or including too many components in one outcome statement. Tuners were encouraged to utilize the moniker of "ABC" as a reminder of three essential components of learning outcomes: audience, behavior, and context. IEBC staff also offered "SMART" as an acronym for remembering the collective characteristics of good learning outcome statements: student centered, measurable, action-oriented, results driven, and tailored to specific degree levels.

ADDITIONAL CHALLENGES EXPERIENCED BY COMPACT TUNERS

Several additional challenges emerged for tuners during the process of developing an initial set of competencies and learning outcomes. One challenge involved the appropriate unit of analysis for Tuning. Discussions that center on course-level competencies/outcomes have value for tuners, since this is an arena where they often have the most experience and confidence. However, the unit of analysis for Tuning is at the program or degree level, and not the course level. Once program-level competencies/outcomes are identified they can easily be mapped back to courses, whereas the reverse can be problematic by potentially overlooking important aspects of the discipline since the whole is greater than the sum of its parts.

Another challenge involved determining which competencies/outcomes are specific to the discipline and which are more general to higher education overall. General competencies, e.g., written and oral communication, teamwork, civic engagement, and others are often associated with an institution's general education program required of all students. Compact tuners struggled with several questions associated with general competencies and learning outcomes, (e.g., "Should these competencies and their associated learning outcomes be treated as pre-requisites that students are required to demonstrate prior to entering a major or area of concentration? Should they be arrayed as a separate category within the discipline or should they be infused throughout the discipline")? Since these skills are not taught in a vacuum but in the context of a discipline, tuners are expected to determine their relationship to the discipline as well as the ways they should be reflected in their work. The Compact teams demonstrated that there is no single answer to these questions. Marketing tuners ended up putting all general education type skills and outcomes under one competency with several sub-components, while psychology tuners infused general education skills/outcomes throughout their major competencies. Other Tuning groups may very well identify additional structures for ways to describe how general competencies/outcomes are translated for a particular discipline. As Tuning matures, prototypes describing different treatments will likely emerge.

As is often the case in making lists, levels of abstraction need to be taken into consideration. Having first worked broadly on competencies, Compact tuners then faced the challenge of how to group their lists of competencies in a meaningful way. The more general the category is the greater the likelihood that the category could include several sub-competencies. Compact tuners grappled with questions such as "should skills like reading and writing be listed separately or together? Should they be considered a subcomponent of a general competency on communication and interpersonal skills or should they be elevated into a separate competency?" It soon became clear to both of the Compact's Tuning groups that rather than reach agreement on an exact number of competencies, it would be best to keep moving forward by generating learning outcomes associated with particular competencies and address later how to group and/or present them.

Eventually tuners must make decisions not only on the number of competencies and learning outcomes to include but also on how to array their work. In making formatting decisions, tuners begin to realize that the way information is organized and presented sends several messages, not all of which are necessarily intended. At one point in the process, Compact psychology tuners had intense debates about whether to present separate charts for two- and four-year degrees in their discipline or to present them in a single chart, with the latter more clearly communicating the developmental nature of learning in their discipline.

As work progresses in Tuning, faculty teams must achieve at least initial closure to both formatting and content issues for their products to move forward. Both Compact Tuning groups were aware that many of their proposed learning outcomes used terminology that denoted a specific level along Bloom's hierarchy of skills. Pressing questions emerged and were discussed in detail, such as "Should all learning outcomes start in some rudimentary way at the lower-division level or should some not even be introduced until later in the curriculum? To what extent should the skills students acquire be considered developmental or hierarchical? Should some learning outcomes be the same for different degree levels?"

By going public with requests for formal feedback, tuners must also determine the number of degree levels that they will include in their initial work product. Both Compact Tuning groups included associate and baccalaureate degree levels. The marketing group also included the master's level. While the psychology team began work on the master's level, they determined that the diversity of approaches and complexity of psychology master's programs rendered the work very difficult to complete. Neither Compact Tuning group addressed competencies or learning outcomes for doctoral degrees.

The next chapter addresses the challenges and opportunities associated with mapping career pathways in the discipline.

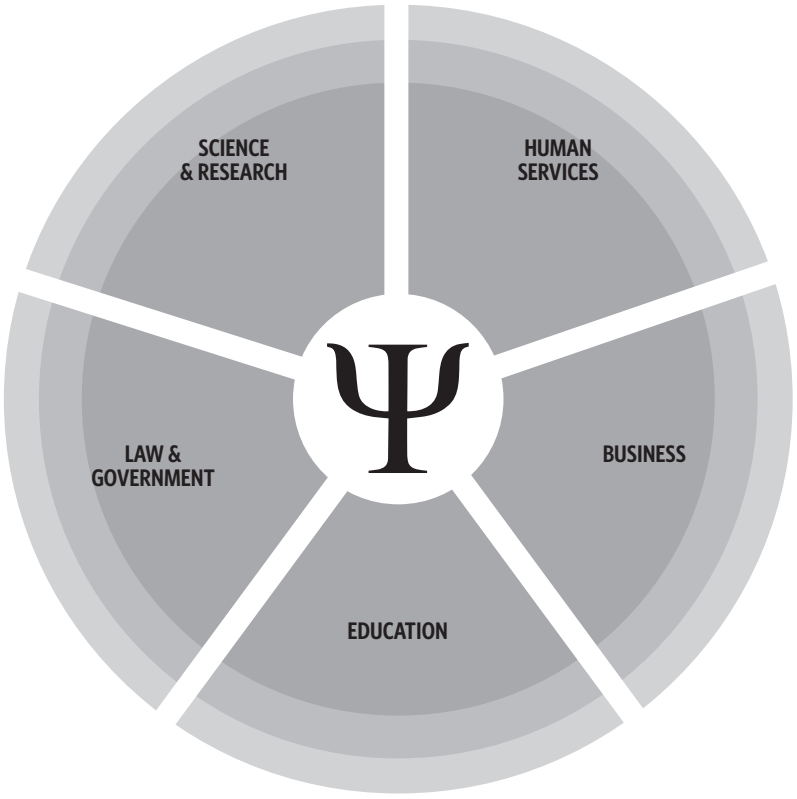
Mapping Career Pathways

The term "career pathways"—sometimes referred to as career mapping—has traditionally emphasized transitions for students as they move from formal education and training programs into the workforce. The development of career pathways is often linked to vocational and technical education programs but their use is expanding into "professional" and "white collar" fields. For example, initiatives are underway in several states to increase the number of qualified workers in high-demand occupations. As part of these efforts some states, such as Wisconsin, have launched user-friendly websites to help students understand the knowledge and skills they need to obtain for career success within a particular pathway and/or cluster.[5]

Three other states (Colorado, Kansas, and Mississippi) are working on the development of new assessments to measure student preparation for several postsecondary options. Tests for nine areas are anticipated to be available by Spring 2014. The intent is for educational institutions and industry to use student test scores as an indication of preparation levels relative to the knowledge and skills required for entry into the field. This work is proceeding through a collaborative known as "cPass" or the Career Pathways Assessment System. Information about this Collaborative can be found at http://www.careerpathways.us/public/aboutassessment/overview.html.

In addition, several commercial entities provide services to help current and prospective students analyze their interests and strengths so they are able to make informed choices about a particular career pathway. While the objectives of these different approaches to career pathways vary, they all tend to focus on careers and work backwards to the type of formal education and training required to be eligible for various postsecondary options.[6] As an essential element within the Tuning process, mapping career pathways starts with a single academic discipline and builds outward toward career options. As faculty grapple with the core essence of their discipline and begin to develop an initial set of competencies and learning outcomes, they are also expected to be engaged in discussions about potential careers (as well as continuing education, including graduate school)[7] that students completing a particular degree in their discipline are prepared to enter. This approach has the added benefit of drawing attention to knowledge and skills that may be transferable to jobs and careers not previously imagined for graduates with a particular major. Ultimately, the Tuning process should include a career pathways map illustrated through prose and/or a visual diagram for use by students and faculty in disciplines involved with Tuning.

For some disciplines, especially in applied fields, the link between completion of formal degrees and careers is explicit (such as with nurses and K-12 educators). Nursing faculty take it for granted that their students are being trained to serve as nurses, while teacher education faculty members imagine their students becoming PreK-12 teachers. Despite this narrow focus, even in these fields there are a variety of occupational settings in which to practice one's trade.



In other disciplines, especially in the arts and sciences, the link to specific occupations is less clear. For example, students in programs like history or philosophy are often less clear about their wage-earning prospects, much less the career clusters in the workforce they are prepared to enter. Both marketing and psychology fall into the category of disciplines that prepare students for a wide, though somewhat diffuse, set of career options.

Many faculty members, especially those in the arts and sciences, are uncomfortable with discussions of workforce preparation and the vocational application of study in the discipline. These faculty members see their role primarily—if not exclusively—as preparing students to live productive lives fully immersed in their communities, equipped to make informed decisions, and committed to life-long learning. These faculty members sometimes tend to view societal concerns about preparing students to be competitive in the workforce and designing academic programs that are responsive to employer needs as suspicious, if not unwarranted intrusions into the academy.

When faced with the challenge of mapping career pathways, many faculty members find the experience to be a catalyst for self-reflection on how much they know—or do not know—about work opportunities for students outside of an academic pathway. Of course there are numerous examples of close working relationships between academicians and employers: faculty teaching in the practicing professions tend to have extensive relationships with business and industry through internships and practicum placements; community college faculty teaching in technical areas regularly utilize advisory committees comprised of business and industry partners; and faculty whose research involves working closely with government, business, and industry are likely to possess deep understanding of particular professions. In each of these cases faculty benefit from an informed awareness of new specializations and careers within certain occupational clusters in the early stages of their development.

Initially, Compact tuners from marketing and psychology found it difficult to map career pathways for their students. Both groups first started with information they possessed about recent graduates from their programs. Beyond this, the relative lack of information about their graduates became quickly apparent, as described by the psychology tuners, who reported "we discovered that we had little systematic data on the career pathways of the majority of our students, and that our anecdotal data primarily concerned students who had continued on to graduate school." Using state-supported databases also proved to be problematic for providing insights into career options since the programs of study and occupational categories identified in said databases were very broadly defined, thereby precluding identification of students who had graduated with a specific degree in psychology or marketing and who ended up in a particular job classification.

Tuners then turned to existing resources likely to be used by prospective and current students seeking to better understand their career choices associated with a credential in their respective disciplines. Both groups turned to the Occupational Outlook Handbook, while the marketing team also used the Occupational Information Network (O*NET). Although time consuming, based on the organizational structure of these materials, the information gleaned was quite useful. Other sources influencing the career maps of Compact tuners included constructive

suggestions from alumni, current and prospective employers, and campus units that advise students seeking employment. Collectively, these resources represent only a partial list of individuals and organizations available to tuners as they seek to fill in gaps about the types of employers that would value students with degrees in their discipline.

In the process of creating career maps, tuners generated a broad list of job titles that were then culled and grouped within a limited set of categories or career clusters. The psychology Team identified six major categories of careers for graduates in their discipline including Mental Health and Social Services, Science and Research, Business, Law and Government, and Education. Continuing graduate education, either in psychology or in graduate programs that value undergraduate psychology majors, was acknowledged as another pathway.

Marketers identified 10 industries that hire their graduates including Retail/Wholesale, Media, Government, Financial Services, Agriculture, Education, Telecommunications Services, Entertainment, Transportation, Technology, and Energy. Marketing also identified two emerging fields with new jobs geared to graduates with skills either in analytics (helping firms understand and increase the efficiency of their expenditures), or in the effective use of social media.

The visual career maps from both groups of Compact tuners are very similar in appearance to maps created from earlier Tuning projects in the US. In each case, the discipline appears in the middle of the visual map with industry or career categories linked in the outer layers through spikes or as pieces of a pie. This approach to career mapping provides only surface level information that is of limited utility to students and faculty but is a starting point for further exploration within specific career clusters.

Both Tuning groups attempted to uncover additional useful information for students and faculty that they displayed in charts. Psychology chose one career cluster, Mental Health and Social Services, and developed a chart that included job titles for each level of education completed, associate through doctoral levels. In addition, jobs that do not require even an associate's degree were identified. Also included were psychology-related career positions that may require master's degrees in fields other than psychology. Furthermore, it was noted that students might want to consider double majors or a minor in psychology as an advantage in the marketplace when seeking career choices that are closely related but where psychology is not indicated as a preferred major.

MENTAL HEALTH AND SOCIAL SERVICES SECTOR

Minimum requirements are below the associate degree level

- Childcare worker (includes daycare provider; daycare worker)
- Residential advisor/resident assistant/resident mentor/peer advisor/community advisor/ senior resident in collegiate or other group living settings
- Social and human services assistant (includes community outreach worker; gerontology aide; life skills counselors; family services worker; social service assistant)
- Substance abuse and behavioral disorder counselor (for some settings)

Associate degree

- Eligibility interviewer
- Funeral service manager, director, mortician, undertaker
- Psychiatric technicians and aides (includes mental health technician/behavioral health technician; some jobs are possible with only a high school diploma)

Bachelors degree (in psychology)

- Social and community service manager (includes social services director; youth program director)
- Substance abuse and behavioral disorder counselor (for some settings; others require more or less education)

Master's degree (in psychology)

- Master's level psychologist (in some states)
- Licensed Professional Counselor (from master's level counseling psychology programs)

Master's degree (not in psychology but with a foundation in psychology)

- Arbitrator/mediator/conciliators (e.g. master's in conflict management)
- Career counselor
- Certified substance abuse and behavioral disorder counselor
- Marriage and family therapist
- Mental health counselor
- Rehabilitation counselor
- Social worker

Doctoral degree (in psychology)

- Clinical psychologist (including specialties such as neuropsychologist, health psychologist; in hospitals or private practice)
- Community psychologist
- Counseling psychologist
- Sports psychologist

Marketing tuners identified six major career areas including Brand Management, Advertising and Promotions, Public Relations, Market Research, Sales, and Graduate School. Specific job positions for each category were identified along with an anticipated salary range. Caveats were also included, indicating that the lists included common nomenclature and did not include all possible positions, that the names of career areas and positions may vary by industry, and that the content of the chart was only a representative sampling of possibilities.

A SAMPLING OF MARKETING CAREER OPPORTUNITIES BY MAJOR CAREER AREA WITH POSSIBLE SALARY RANGES[8]

Brand Management
$62,000–$87,000

- Brand Manager
- Product Manager
- Product Development Manager

Advertising and Promotions
$41,000–$166,000

- Marketing Manager
- Advertising Manager
- Advertising Sales Director
- Account Executive
- Account Coordinator
- Media Director
- Media Coordinator
- Media Buyer

Public Relations
$49,000–$166,000

- Public Relations Specialist
- Public Relations Director
- Corporate Communications Manager
- Press Secretary

Market Research
$33,000–$111,000

- Market Research Director
- Market Research Manager
- Market Research Analyst

Sales
$18,000–$166,000

- Sales Manager
- Sales Representative
- Event Planner
- Purchasing Manager
- Customer Service

Graduate School
Salary N/A

- MBA
- Master of Marketing Research
- Juris Doctor
- PhD
- Other

In order to address the intersection between level of degree completed and career opportunities, the marketing team introduced a second chart as an illustration using one of its general competencies: Marketing Analytics, Feedback, and Control. Within the chart a broad list of job positions for which this competency would be valued is provided. In addition, descriptions are provided about what a potential job applicant should be able to do based on the specific degree level completed, associate through doctoral level.

MARKETING CHART: TUNING IN ACTION
EXAMPLE OF A SCALED MARKETING PATHWAY

Marketing Analytics, Feedback and Control

Typical job categories: web analytics, business intelligence, customer relationship management, enterprise reporting analyst, database developer, data warehousing, digital marketing managers, marketing researcher, marketing consultant, and marketing analyst.

2-year (A.A., A.A.S.)

A competent student will understand the purpose of relationship management and its benefit (e.g., increased profitability, customer retention, and decreased overall costs) to the firm. This student will have solid technological skills, especially in the area of digital literacy. They will also understand key marketing capabilities in tracking social media campaigns and effectively employing email, social media, telephone, and direct mail.

4-year (B.S., B.A.)

A competent student will be able to implement marketing analytics across product lines and target markets. They should be able to assess all website properties and perform ongoing research and analysis to provide and implement actionable recommendations to best utilize Google Analytics. They should be able to construct a customer satisfaction survey. In addition, the student should be able to conduct a customer value analysis and interpret relationship management dashboards.

Graduate (M.B.A., M.S.)

A competent student will be able to plan data driven analytical solutions in marketing strategies and decisions to reduce the rate of customer defection and enhance customer lifetime value. Specifically, they should possess strong computer and analytical skills to mine data in complex databases and address issues such as customer relationship management, media allocation, cross selling, and fraud detection. They should be able to analyze information from other applications, enterprise resource planning, industry databases, etc.

While much of the information provided in these graphics and charts is retrievable, it is not easily accessible without extensive research of multiple sources. Collectively, the career maps created by the Compact's tuners advance conceptualization of the breadth and depth of information to include. The fact that each group took a slightly different approach to the same assignment is a reminder that there is not a single way to map career pathways.

The work of both Compact groups, though incomplete, represents culled information from various sources into single user-friendly documents. While cursory discussions of career pathways were started early, Compact tuners delayed in-depth work on this aspect of Tuning until near the end of the project. As a result, their career maps did not benefit from extensive vetting or iteration.

Future tuners should note that there is not one best model or approach to mapping career pathways. Starting early and revisiting career pathways often will increase the likelihood that this aspect of Tuning will be beneficial for advising students, identifying employer groups for stakeholder feedback, and expanding thinking about competencies and skill sets.

Gathering and Using Stakeholder Feedback

In process of Tuning, each faculty team is expected to gather feedback from a variety of stakeholders for review and potential revision to drafts of competencies and student learning outcomes associated with study in the discipline. While faculty members regularly participate in peer review with other faculty about scholarly work, subjecting Tuning work products about competencies and learning outcomes for critique by a variety of stakeholders is new terrain for many. Expanding the definition of stakeholders with interest in curricular decisions to include non-academics directly confronts criticisms about higher education institutions clinging to an "Ivory Tower" where intellectual pursuits are best developed within a closed environment free from the concerns or pressures of everyday life.

As institutional boundaries blur, expanded collaborations are emerging comprised of practitioners, academics, and other stakeholders working collectively on the design of new curricula and assessment efforts.

Consistently soliciting stakeholder feedback is important to the Tuning process because this serves to recognize and engage explicitly the various constituencies served by higher education. Stakeholder feedback is essential in each step of the Tuning process but can often be the most difficult to obtain.

IDENTIFYING STAKEHOLDERS

A first order of business in addressing the challenge of gathering stakeholder feedback is to identify a list of potential stakeholders. Groups that are immediately identified include current students, alumni, employers, and other faculty. However, tuners may want to consider other groups including representatives from learned societies, professional associations, accreditation agencies, book publishers, counseling centers, professional advisors, and K-12 schools. For example, to identify stakeholders the Compact tuners in marketing identified various participants in the educational process, groups that directly benefit from the process, and those individuals and groups beyond employers who are involved with the outcomes mastered by students. Both Tuning groups gathered feedback from educators (faculty from their home campus and other campuses), students (first and last-year students and alumni), and potential employers (primarily those who recruit on campus, those serving at internship sites, and some in fields not immediately identified as hiring graduates with degrees in the discipline). Some conversations also took place with personnel from placement and career centers, faculty advisors, articulation specialists, textbook publishers, and representatives of professional and accrediting associations.

INFORMAL FEEDBACK

Next, it is important for tuners to distinguish informal from formal stakeholder feedback. Informal conversations about Tuning processes and products provide opportunities to test ideas, brainstorm content essential to a discipline, identify language that is obscure and not easily understood by a diverse group, and clarify assumptions that are often unstated. Compact tuners were encouraged to seek informal feedback about their work from anyone with an interest in their discipline. Some Compact tuners expressed a reluctance to share partial work informally in the initial stages of Tuning before creating a more finished product. Rather, they wanted their first public display of a product to be as perfect as possible before subjecting it to the critical eyes of faculty peers and other stakeholders. Eventually Compact tuners became more comfortable with talking about their work as it was continuing to be developed and they began sharing and inviting informal feedback with a variety of stakeholders more frequently. Both Compact teams gathered informal feedback throughout their projects.

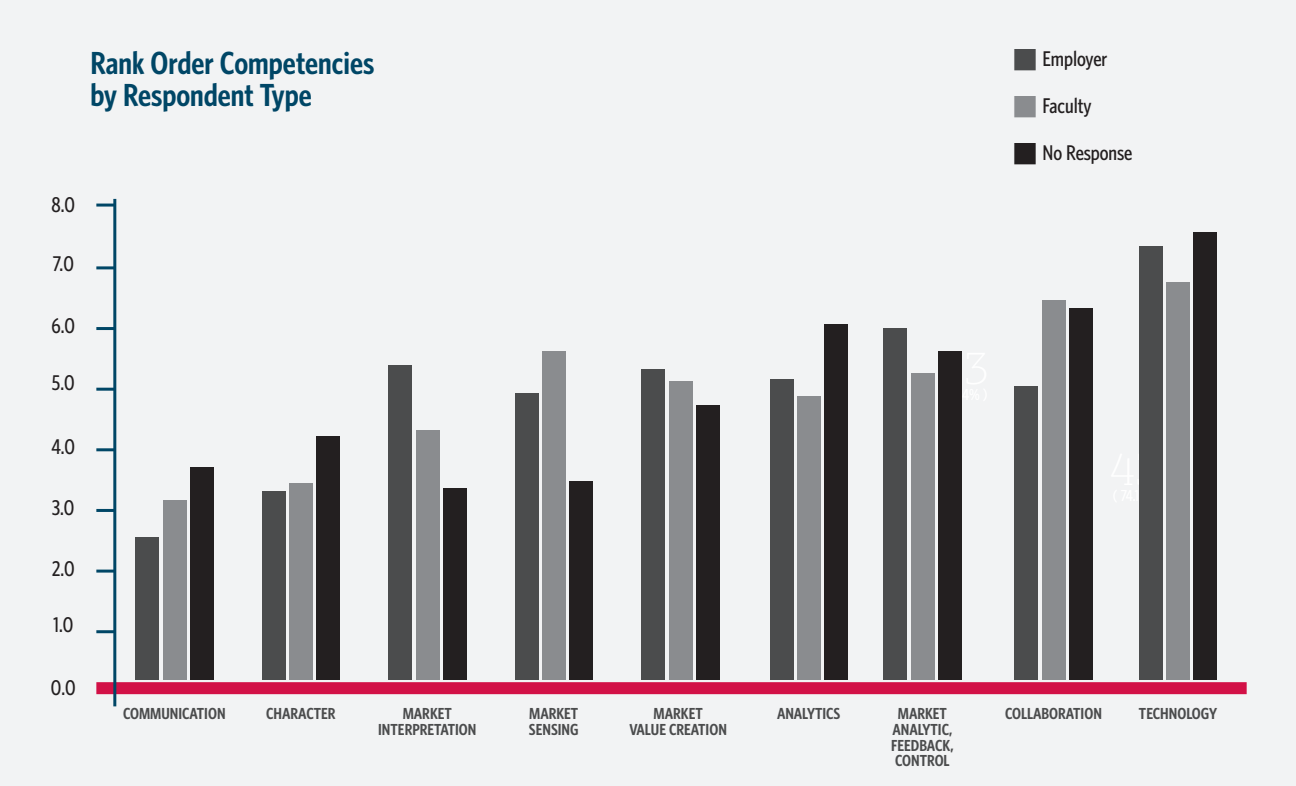
FORMAL FEEDBACK

At some point in the process, tuners are expected to solicit formal feedback from the stakeholder groups that they have identified. While feedback can be solicited concerning multiple aspects of Tuning products, inviting scrutiny of draft competencies and learning outcomes is essential. To accomplish the task of gathering formal stakeholder feedback, decisions are needed about how to locate potential respondents and what target number of stakeholders within each group would be desirable.

CONVENIENCE SAMPLES

Initially, Compact tuners were challenged with a desire to identify the best possible processes for locating respondents to provide formal feedback, what sampling procedures to use, and what assumptions could be drawn about the particular group of respondents willing to provide feedback. Some tuners misperceived the intent of stakeholder feedback and approached it as if they were collecting data for a research publication that required strict approaches to design, sampling, number of respondents, and comparability of administrations. Eventually Compact tuners realized that the intent of gathering stakeholder feedback should not be to collect and analyze data to draw scientifically based conclusions about similarities and differences between stakeholder groups.

Tuners also agreed implicitly that the validity of, and therefore the potential influence of comments from various stakeholders should not be driven by a numeric formula. Rather, they determined that the feedback they received would be used as a catalyst for professional consideration by the full Tuning team. The final decision about the content of their Tuning products would and should remain with the team as they prepared documents to be shared locally by departments offering degrees in their discipline. Obviously knowing how, when, where, and from whom feedback was gathered would be important contextual information for tuners to consider.



Compact tuners reached consensus that the ultimate goal in securing feedback was to hear from diverse groups of stakeholders on a variety of issues. They also agreed that no feedback, regardless of the methods used or the number of respondents expressing a particular viewpoint, should be ignored.

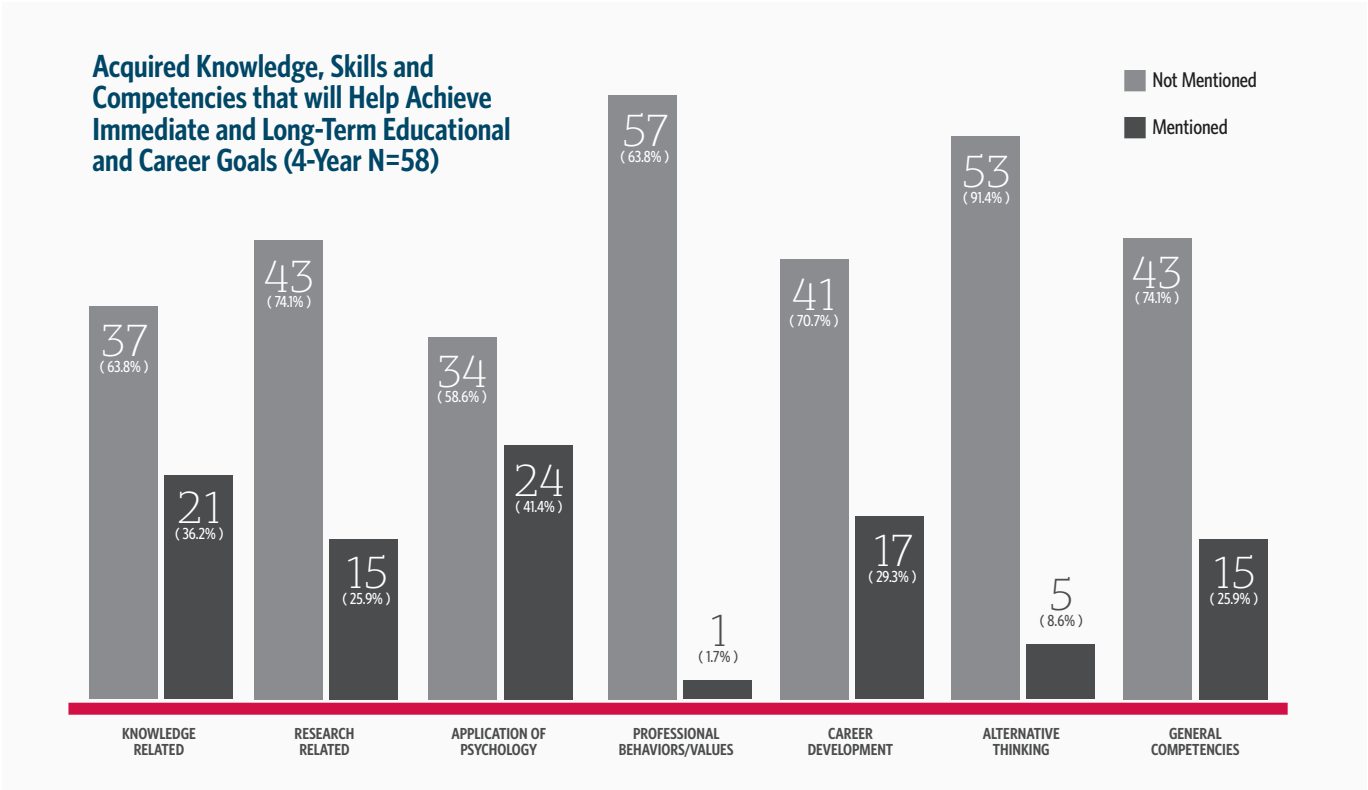
While students and faculty colleagues on the home campus were the easiest groups to find, locating potential lists of alumni and employers proved to be more difficult, at least initially. Some institutions maintained good data systems with contact information for employers and alumni. Others provided only limited, if any usable, data. Collectively, the two Compact Tuning teams gathered a total of nearly 1,500 stakeholder responses, the majority of which came from students and alumni.

DATA COLLECTION TOOLS

Tuners are also expected to determine specific questions they want to pose along with the data collection tools to use (e.g., surveys, interviews, focus groups) when gathering feedback. Within each data collection method tuners are expected to adapt the types of questions posed to each particular set of respondents. Both teams of tuners gathered quantitative and qualitative data via informal conversations, surveys (electronic and paper), one-on-one interviews, and focus groups. Additionally, the psychology team developed specific questions for their work with textbook publishers in the psychology field as well as with key personnel at learned societies and professional organizations. The marketing team also gathered data through social media (Facebook and Twitter) and via a professional conference presentation. Within each type of data collection method, different questions and topics were covered to attend to the breadth of the competencies and student learning outcomes that the teams developed. Both fixed responses and open-ended questions were included.

SAMPLE DATA COLLECTED BY EACH COMPACT TEAM

Each Compact team provided rich detail about their instrumentation, sample size, and analyses of results. Due to the breadth of the data that each team collected, both teams delegated to subcommittees responsibility for gathering and analyzing feedback from a particular group of stakeholders. The stakeholder feedback collected and analyzed by Compact tuners was voluminous. Above is a sample summary chart created by a marketing



subcommittee about the ranking of competencies provided by employers and faculty.

The psychology team used a different approach with some of the students they surveyed. Rather than ask students to rank specific competencies and learning outcomes from their draft document, the psychology team developed a set of open-ended questions for students. One question given to graduating seniors asked about the specific knowledge, competencies, and skills that were acquired as a result of having earned a bachelor's [or associate] degree in psychology that would explicitly help in achieving immediate or long-term career and/or educational goals. The information collected from this question was summarized in the above chart for team member consideration.

REVIEW AND CHANGES TO INITIAL DRAFTS

For both the marketing and psychology teams, stakeholder feedback proved invaluable in the development and refinement of their competencies and student learning outcomes. In the early stages, stakeholder feedback from colleagues and students aided in expanding how the tuners were thinking about their disciplines, student outcomes, and teaching and learning. Stakeholder feedback assisted teams in refining and affirming the developed competencies and student learning outcomes.

As a result of stakeholder feedback, marketing tuners reorganized general skills under one major competency, i.e., Personal Branding. In addition, the breadth and depth of learning outcomes associated with Analytics, Feedback and Control were made more explicit. The marketing team also provided these examples of how stakeholder feedback informed their thinking in the process of developing their work:

- Likely the single biggest result showed the priority of *working skills* such as teamwork and communication over *specific content* oriented skills such as specific analytics. While there were occasional differences in ranking importance there was no bimodal distribution rating importance of any competencies.
- Employers and faculty ranked importance of competencies for marketing graduates similarly to student perception of preparedness. Communication was ranked first and technology was ranked last among both faculty and employers. Students also ranked communication first and technology last.

- Students who were planning to enter the work force after graduation self-reported that their program was effective in preparing them for proficiency in marketing competencies.
- Students pursuing an associate degree with plans to continue toward a baccalaureate degree realized there was more to learn to become proficient in the marketing competencies. They reported significantly lower scores compared to either the students pursuing a terminal Associate of Applied Science degree or a Bachelor of Science degree.
- Employers ranked interpersonal skills and character as key just behind communication skills.
- Faculty viewed marketing analytics and technology as more important than did employers.
- Findings from research confirmed rather than changed perceptions of marketing competencies. The findings not only substantiated the work of the Tuning team but could be quoted or further referred to in any validation of the overall Tuning process.

While the marketing tuners reflected on how their final product was informed by stakeholder feedback, the psychology team reflected on how their stakeholder feedback influenced changes to earlier draft documents:

- Student learning outcomes reflecting dimensions of emotional intelligence were further refined and related outcomes were added, including realistic self-assessment of skills, comfort with ambiguity, openness to change, ability to suspend judgment before acting, identifying the emotional state of others and its impact on behavior, and persuasiveness.
- A learning outcome specific to interviewing skills was added.
- Application-related student learning outcomes were enhanced.
- The language of student learning outcomes reflecting ability to translate academic skills (including research-related skills) to employment and nonacademic setting was strengthened.
- Teamwork-related learning outcomes were expanded and enhanced.
- A number of changes to the section of the competency of career and professional development were made, including:
- A learning outcome related to project management skills was added.
- Learning outcomes related to professional and personal privacy issues involving social media, Internet, etc., and knowledge and practice of appropriate self-disclosure were added.
- A learning outcome related to demonstrating behavior appropriate to the social norms of different professional and personal settings was added.
- Various changes in terms and language were made throughout this section to minimize academic jargon and make the section more user-friendly for students.

By definition, gathering stakeholder feedback sets up an ongoing process of review and revision by cross-institutional teams creating Tuning products. The effort to create an initial draft requires within-group discussion, debate, and compromise prior to submitting the draft for public scrutiny and formal feedback. Subjecting group work for review and constructive critique from non-team members results in a new cycle of discussion, debate, and compromise by team members, often causing tensions within the group about issues they thought were resolved or had been looming just beneath the surface of their previous dialogues. Despite the frustration caused by so many iterations, both Compact Tuning teams acknowledged that their final lists of competencies and student learning outcomes were stronger due to stakeholder feedback. They also expressed the belief that in general, stakeholders tended to validate their work.[9]

Developing Degree Specifications

An additional responsibility for tuners in cross-institutional teams involves working with local colleagues in the development of degree specifications documents for each academic program in their respective departments. Ideally this activity involves using initial work products created by cross-institutional Tuning teams as a catalyst for departmental exploration and evaluation of its degree offerings at each level. IEBC (2013a) provides a template for departments to use when creating degree specifications documents that includes the following five key elements:

1. **PURPOSE:** General statement on the degree track's overall objective.
2. **CHARACTERISTICS**: Description of the degree program as it is uniquely expressed in the specific institution.
3. **RESULTING EMPLOYABILITY:** Summary of the discipline's career pathways.
4. **EDUCATION STYLE:** Program-specific description of how curriculum is delivered.
5. **PROGRAM COMPETENCIES AND OUTCOMES:**
   List of competencies and outcomes expected in the program (IEBC, 2013a, p. 24).

Students are intended as the primary audience for a degree specifications document. Ideally the document will represent the collective work of department colleagues. While the degree specifications documents submitted by Compact tuners utilized the standard format provided by staff, many appeared to present previously created department materials without specific reference to their reflections about the completed Tuning work. However, in a few cases there did appear to be genuine attempts to identify unique aspects of their institution and to utilize the Tuning Team products (competencies, student learning outcomes, and career pathways) when designing a degree specifications document for their department. Conversely, even in most of these cases, it was not clear whether the document submitted represented department work or the views of an individual tuner.

When done well, a degree specifications document creates opportunities for departments to describe aspects of their institutions as well as their degree programs that demonstrate distinctiveness from approaches embraced by other institutions. While Tuning products serve as a core foundation, the degree specifications document adapts, adjusts, and adds in a way that describes not only the degree requirements but also the local culture of the institution and the programs it represents. Examples of degree specifications plans from Compact tuners follow.

NOTE: it is not assumed that any of the documents presented as illustrations here have been adopted or endorsed by the departments, schools/colleges, or universities represented by the authoring tuner.

EXAMPLE 1: INDIANA UNIVERSITY

Kelley School of Business	Bachelor of Science, Business Concentration In Marketing

Purpose:

The Kelley School Department of Marketing gives students the education, experience, and connections needed to "hit the ground running" with top employers after graduation. The purpose of the degree is to provide students with a foundation in marketing concepts while developing communication, creative, and analytical skills.

Characteristics:

The Kelley School is among the pioneers of the integrated business curriculum—an innovative approach to teaching business fundamentals with a real-world context—which we continuously update to reflect the changing business world.

The marketing program provides important underpinning as the basis of marketing education: Analysis and Display of Marketing Data, Database Marketing, and Creativity and Communication along with Marketing Strategy using simulations. There is considerable opportunity for interaction with major employers and real data in our classes to quickly propel the learning into the business environment. Students create a marketing campaign for an actual client. Outside of class, many students intern for a prestigious company, join one of our student organizations, study consumer behavior in our Customer Interface Virtual Laboratory, or compete in case competitions.

Teamwork is the hallmark of a Kelley education. Kelley students learn from their high-caliber peers in a work-like setting, collaborate with expert faculty who become their mentors, and develop solid leadership skills for an immediate edge in their careers. Although our environment is collegial, our students are fierce competitors—participating in numerous case competitions each year with a winning history.

Career Pathways:

Kelley Marketing provides jobs with top employers, attractive starting salaries (nearly 9 percent above the national average), and careers that are fast moving, creative, and critical to business success. Our department is known for educating skilled, knowledgeable marketing professionals who can contribute right away.

A marketing education prepares these students for a number of career paths, including brand management, customer relationship consulting, sales management, corporate retail management, marketing research, and advertising as well as management consulting. Within three months of graduation more than 93 percent of our undergraduates reported a full-time job offer or graduate school acceptance. Our students are recruited by some of the nation's best employers such as Procter & Gamble, Target, Kohl's, Ernst and Young, General Mills, Eli Lilly and Company, Toyota, Kimberly-Clark, Kraft, Nielsen, PepsiCo, PetSmart and more.

Educational Style:

Kelley School courses are designed to help shape the personal brand of a student: what values, beliefs, and passions will inspire future employers, associates, and customers to believe in the student's vision? What unique strengths will the student leverage in teamwork scenarios? How does a student become a leader people want to follow? This is accomplished through a multi-step process that provides what Kelley now calls a Compass for students through a new and specifically designed course each semester the student is at the school.

Students are coached and mentored on such topics as learning to set personal and professional goals, practicing networking and other professional interactions, developing a resume and professional portfolio, and developing customized time-management strategies. All students have a global foundations core that allows international experience for most students. The Kelley School uses specific and customized proprietary case students, client consulting, simulations, and extensive teamwork and interaction with marketing professionals.

The Kelley marketing curriculum is specifically designed around current employer needs while sufficiently providing general creativity, analytical, and management skills. After the initial core courses on personal values, teamwork, and leadership, students complete a required business integrated core including strategy, marketing concepts, operations concepts, and financial concepts. As students specialize in marketing they must complete courses in marketing research, database analysis, and creativity. Students can then pick from elective courses to specialize in career tracks with such courses as promotions, retail strategy, sales communication and sales management, digital marketing, brand management, marketing channels, emerging markets marketing, and more.

The capstone marketing strategy course is designed to use tools and platforms learned throughout the program on a real-time marketing simulation.

EXAMPLE 1: INDIANA UNIVERSITY — PROGRAM COMPETENCIES

Kelley School of Business

Bachelor of Science, Business
Concentration In Marketing

An Integrative Point of View

Graduates of the Kelley School of Business Undergraduate Program will be able to evaluate and make business decisions from an integrative point of view, one that reflects an understanding of mutually interdependent relationships among competitive and environmental conditions, organizational resources, and the major functional areas of a business enterprise.

Ethical Reasoning

Graduates of the Kelley School of Business Undergraduate Program will be able to recognize ethical issues, demonstrate familiarity with alternative frameworks for ethical reasoning, and discern tradeoffs and implications of employing different ethical frames of reference when making business decisions.

Critical Thinking & Decision Making

Graduates of the Kelley School of Business Undergraduate Program will be able to use a variety of research methodologies to identify and critically evaluate implications of business decisions for organizational stakeholders (e.g., customers, colleagues, employees, suppliers, foreign governments, communities, cultures, regulatory agencies) and the natural environment.

Communication

Graduates of the Kelley School of Business Undergraduate Program will be able to communicate effectively in a wide variety of business settings (e.g., live, virtual, synchronous and asynchronous), employing multiple mediums of communications (e.g., written, oral and visual).

Quantitative Analysis and Modeling

Graduates of the Kelley School of Business Undergraduate Program will be able systematically apply tools of quantitative analysis and modeling to make recommendations and business decisions.

Team Membership & Leadership

Graduates of the Kelley School of Business Undergraduate Program will be able to collaborate productively with others, functioning effectively as both members and leaders of teams.

Respect, Inclusiveness, & Valuing People

Graduates of the Kelley School of Business Undergraduate Program will be able to create and sustain personal and work environments that are respectful and inclusive, valuing the contributions of all persons.

Personal and Professional Development

Graduates of the Kelley School of Business Undergraduate Program will be prepared to become the "authors" of their own futures, make informed and deliberate choices about personal and professional development, assume responsibility for their decisions, take pride in excellence, contribute to community, and demonstrate college-level mastery of the skills needed for pursuing and managing a career as a business professional.

Global Awareness

Graduates of the Kelley School of Business Undergraduate Program will be conversant with major economic, social, political, and technological trends and conditions influencing foreign investment and development of the global economy and demonstrate an understanding of the cultural, interpersonal and analytical competencies required for engaging in global business activities.

Innovation and Creativity

Graduates of the Kelley School of Business Undergraduate Program will know how to respond to the need for innovation or creativity by engaging in ongoing learning, broadening their points of view, exploring cross-contextual links, and consulting with others.

The Marketing Program emphasizes these specific competencies:

- Ability to complete and implement a marketing plan (including pricing, promotion, product, and distribution strategies) for new or existing products
- Analysis of marketing data
- Ability to make marketing recommendations and decisions

EXAMPLE 2: AVILA UNIVERSITY — OVERVIEW

Department of Psychology

Bachelor of Arts in Psychology

Purpose

The Department of Psychology at Avila University provides an educational experience rooted in the spirit of the Sisters of St. Joseph, emphasizing collaboration, examination of social justice issues, responsiveness to the needs of others, and respect for the worth and dignity of each human being.

Psychology is the scientific study of thoughts, feelings, and behaviors. Psychological knowledge can be used to understand and address issues related to how people think and behave as individuals, families, groups, or as a society. At Avila, we use this same empirically driven approach to help students become confident, competent, and compassionate global citizens.

Characteristics

Combining the science of psychology with Avila's mission and values, our department emphasizes collaborative, participatory learning, with real-world applications, including practicum, service-learning, and travel opportunities.

Strong faculty involvement within a teaching-focused university creates an inclusive environment that leads to significant student-faculty interactions. Small class sizes ensure that these interactions take place regularly, and our diverse student population results in expression of a wide range of viewpoints, informed both by science and by varied cultural experiences.

Avila's B.A. in Psychology Program benefits from the presence of Master's programs in Counseling Psychology and General Psychology. Our full-time faculty teach at both the undergraduate and graduate levels, and offer unique insights into the application of psychology beyond the classroom to real-life contexts. Students who continue in our graduate program can be academically prepared to become Licensed Professional Counselors, or can further other career goals.

Career Pathways

Undergraduate psychology majors develop a unique combination of critical reasoning, problem-solving, data analysis, and "people" skills useful for a wide range of career areas. Psychology majors are highly recruited in the fields of mental health, social services, health care, education, law, and business.

Specific jobs that psychology graduates might find include: substance abuse workers, youth corrections workers, researchers, technical writers, child care workers, probation officers, public relations, health care workers, novelists, and sales representatives. An undergraduate degree in psychology is excellent preparation for entering law school, medical school, business school, and other graduate programs, in addition to masters, Ph.D. and Psy.D. psychology programs.

Educational Style

Through coursework, field experiences, involvement in Psi Chi (psychology honor society), and travel courses, Avila students see psychology in action.

The psychology major "core" comprises courses in four general domains (lifespan development, individual and sociocultural differences, biological bases of behavior, and learning and cognition), plus statistics/research methods, and topical electives (e.g., Criminological Psychology, Human Behavior and Addiction, Sports Psychology, Health Psychology, Cultural Psychology). As part of the required practicum capstone course, students gain direct workplace experience, which affords the opportunity to directly apply psychological knowledge and skills, as well as to develop professional networks. Students select one of two tracks, Human Behavior (42 credit hours) or Research (45 credit hours) based on their career goals.

Our department's teaching focus includes the opportunity to become an active member of a psychology professor's research team, working on the kinds of research that are typically available only in larger universities. All students benefit from being taught by faculty who are at the cutting-edge of the field by virtue of the research that they are conducting.

EXAMPLE 2: AVILA UNIVERSITY — PROGRAM COMPETENCIES

Department of Psychology | Bachelor of Arts in Psychology

Upon completion of the B.A. in Psychology Program, we expect that students will have acquired the following competencies:

Psychological Knowledge and Application

Students will acquire knowledge in psychological theories, concepts, research, and historical trends, and be able to apply this knowledge in real-world contexts.

Scientific Reasoning and Research Skills

Students will be critical consumers and producers of information, applying scientific reasoning, problem solving, and basic psychological research methods in understanding and solving social and psychological problems.

Values

Students will hold professional and personal values consistent with the discipline, recognizing the importance of human diversity and sociocultural context.

Communication and Interpersonal Skills

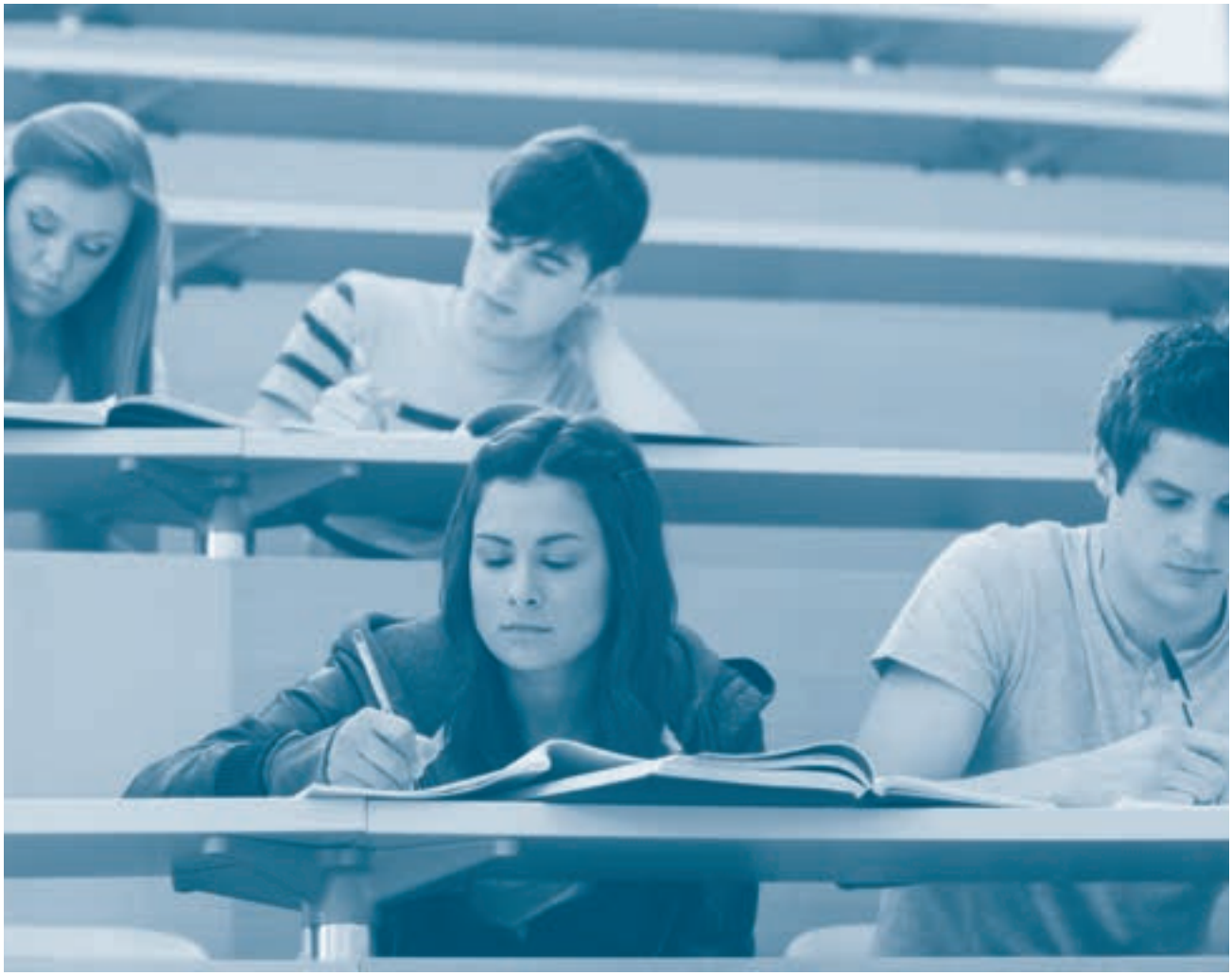
Students will be able to communicate and interact effectively with members of diverse groups in various contexts.

Professional and Career Development

Students will be competent in the use of information and technology, and will develop personal and career goals.

Social Justice

Students will understand issues of social justice and compassion through the lens of psychological science, and will be able to apply psychological principles to "serve the dear neighbor without distinction."



In hindsight, the requirement of submitting degree specifications documents at the end of the Compact's Tuning project was a challenge for tuners. With the initial Tuning products being completed just before the end of spring semester 2013 and the final deliverables of individual tuners due during summer 2013, when most department colleagues were on break, the expectation to work with colleagues on development of degree specifications documents was not realistic.

Another factor that affects the creation of genuine degree specifications documents relates to the level of involvement of a tuner's department colleagues from the outset. A key question that should be addressed in future projects is how the tuner is chosen and whom the tuner is expected to represent. In the Compact's project, tuners were identified either through a self-selection process based on individual interest, or through appointment with limited to no ownership by the tuner's department or administration.

When a tuner is chosen to represent a department, and the department is engaged throughout the process by being provided regular updates and providing in turn regular feedback, both formal and informal, throughout the Tuning team's processes, the work products created are more likely to serve as a catalyst for genuine exploration and potential change.

While not pervasive across all Compact tuners, it is important to note that several participants expressed commitments in their personal statements and sustainability suggestions to use their work products with colleagues as a basis for review, exploration and potential change to the materials given to students.

Conclusions

Tuning academic disciplines has an immediate allure to faculty, whose identification is often first with their discipline and then with the department, division, or institution where they are employed. Tuning work groups composed and led by faculty enjoy the advantage of discussing and coming to consensus about the core of their discipline outside the context of budgets, number of majors, student faculty ratios, course schedules, assignments, or other factors associated with department and institutional management and politics. Change that results from Tuning should not be expected to happen immediately. Many of the beneficial results anticipated from Tuning (e.g., improved teaching and learning; greater transparency, efficiency, and productivity; enhanced degree relevance) will require several years to be realized. At the same time, some immediate effects from Tuning are often apparent.

Almost all Compact tuners reported that the experience was very positive and that several benefits accrued from their participation. Many acknowledged personal and professional growth in their faculty roles; many also perceived themselves to be more intentional in identifying learning outcomes on their syllabi as well as more conscientious about better aligning student assignments with the expected learning for a particular course. A few examples of testimonials about changes in approach to teaching from different Compact tuners included the following statements:

- My learning outcomes are more succinctly stated.
- I am creating more relevant readings/projects.
- I am more explicit in spelling out linkages between one class and others in the degree.
- I am careful to spell out WHY I expect students to gain specific skills.
- The Tuning process has opened my eyes to the narrowness with which my fellow faculty members and I have judged the scope of our teaching mission.

Several tuners also indicated having more confidence in being able to advise both current and prospective students about the core essence of the discipline and the key outcomes students are expected to master when completing degree requirements. For example, one tuner stated "I am now better able to advise students, helping them to devise a way to detail their skills for potential employers." This change was also reflected in the number of tuners suggesting their engagement with employers had become more substantive as expressed by one tuner who said "[Tuning]…increased my understanding of workplace needs."

Mapping career pathways also has a positive impact on tuners and the Tuning process. Faculty in some disciplines, especially those that have field placements and/or are in technical areas, regularly interact with prospective employers. For other disciplines interactions with current or prospective employers of a department's graduates is not common, and for some faculty there is limited to no interaction with employers prior to Tuning beyond writing reference letters on behalf of their graduates. Over the course of the Compact project tuners became more aware of the need to learn about the demands of

the marketplace, which are continually changing. Regular communication between faculty and potential employers of their graduates stimulates curriculum conversations about ways to improve existing specializations or concentrations as well as helping to identify emerging subfields.

Some faculty may view this as a step toward turning their institutions into vocational production factories. Tuners suggested that their colleagues often argue "our curriculum should not be modified just to make students more palatable to employers." Being open to feedback from prospective employers is not equivalent to turning curriculum decisions over to employers. Ultimately, it is the home campus faculty who remain in control of all decisions about their degree programs including the competencies and student learning outcomes that should serve as a foundation for curriculum development, course sequencing, and assessment of student learning. Engagement with prospective employers serves as a catalyst to challenge assumptions faculty may have about careers open to their graduates and also to encourage faculty to acknowledge that they are preparing students for many things, one of which is to enter the workforce. As expressed by one tuner, "We need to take this issue [employability of our students] more seriously for we cannot continue to deceive ourselves that we are just teaching students about our field."

The following statement by one Compact tuner is representative of the way Tuning is a positive professional development experience: "As a result of having gone through the Tuning process, I feel that I have become a more effective teacher, a better advisor, and a more articulate advocate for the importance of serious assessment practices in higher education and for easing transfer between two-year and four-year institutions."

At the same time, it is important to note that tuners in any discipline are likely to experience frustrations and challenges as they seek common ground with disciplinary colleagues from other campuses. It is easy to get sidetracked, bogged down by disagreements, or exhausted from the amount of work required. A list of several suggestions to increase the future success of new Tuning efforts are offered here as a result of reflections by Compact Tuning project staff and Compact tuners.

01. IDENTIFYING TEAM MEMBERS

Since most Tuning groups are comprised of members from several institutions, the entity initiating a new Tuning effort—and therefore the individuals with funding and appointment authority—is often a university system, a state agency, or a non-profit organization. In such cases, the appointment of team members tends to be the result of a call for interested volunteers. In this situation, team members arrive with built-in curiosity or positive leanings about the potential of Tuning. This positive attitude, however, is often countered with a potential disconnect between the tuner and their home department. Without some ownership from home departments, individual Tuning members are less likely to feel that they are representing departmental colleagues in responding to teammates and are therefore more likely to espouse individual viewpoints only. Without intentionality of participation by departments at the front end of a new initiative, tuners unnecessarily have the additional burden of having to gain their colleagues' attention and interest as their work progresses.

Recommendation: Academic departments should be asked to commit to new Tuning initiatives and should be the responsible unit for identification of participants for a cross-institutional disciplinary Tuning team.

02. ESTABLISHING REALISTIC TIMELINES AND TUNING RESPONSIBILITIES

Tuning is arduous, time consuming creative work, which requires more than simply gathering pieces from individual programs and taping them together. Team members often comment that they are surprised about the intensity of the inquiry, analysis, dialogue, and debate that occurs within the team prior to producing their Tuning products. A degree specifications document becomes meaningful when developed collectively with campus colleagues after serious review and evaluation of Tuning work products.

Recommendation: In advance of selecting team members, identify for tuners all of the products they will create along with a realistic estimate of a minimum amount of time (both in and outside of face-to-face meetings) they will be expected to dedicate to the Tuning project. Be clear that the development of a meaningful degree specifications document should represent the collective wisdom of departmental faculty rather than the opinion of a single Tuning member.

03. SELECTING TEAM CHAIRS

Choosing a team chair can be tricky. Tuning is expected to be faculty-led, but the entity with funding is often an external group comprised of individuals who do not currently hold faculty positions (e.g., personnel associated with state or national agencies, regional compacts, or consortia). As a result, coordinating entities may opt to let the Tuning faculty choose their own chair. Since most, if not all, faculty are meeting each other for the first time when a new Tuning initiative is launched, this approach has no assurance that individuals with sufficiently strong leadership skills will be chosen.

Recommendation: Entities initiating Tuning projects should identify team chairs in advance of the first official meeting and should appoint individuals who are known and respected for contributions to their discipline and who have strong interpersonal skills.

04. INVOLVING GOVERNMENT OFFICIALS AND/OR SENIOR-LEVEL ADMINISTRATORS

Faculty driven initiatives are often sidetracked by interest in discussing big picture items that slow traction on a project (e.g., the political environment in a state, the extent of support from senior institutional administrators and public policy makers, how the project will fit within larger statewide agendas like performance funding, and the impact of the work on other state or institutional policies). At the same time tuners are legitimately concerned that their work is not being done in a vacuum.

Recommendation: Encourage tuners to avoid topics that are deemed to be important in the long run but tend to be open-ended without definitive answers. Suggest that decisions about responsibility for promoting Tuning and Tuning products be put on hold temporarily. Suggest that tuners should imagine being in a "think tank" protected from outside forces. At the same time, project staff should familiarize state leaders and institutional administrators with the promise of Tuning and encourage them to acknowledge tuners for this important work.

05. PROVIDING A SUBSTANTIVE ORIENTATION

Initiatives involving faculty, especially those with financial support from external sources, tend to rely on some level of orientation for a new project, whether in advance of or during the first formal meeting for project participants. Too often, however, orientation sessions involve one-way communication from "experts" bringing team members up-to-speed about key elements of the new project but failing to address other pressing issues that are salient for faculty during the initial stages of a new initiative.

Recommendation: Develop an extensive orientation session that not only introduces the key elements of Tuning but that is structured to serve other purposes as well. For instance, educating tuners about other campuses by providing background information (campus size, sector, degree nomenclature and levels offered, requirements for graduation); helping tuners understand any relevant state parameters, especially for disciplines leading to careers in professions that require registration and/or certification; and addressing the need for non-work face time that will provide tuners with an opportunity to get to know other team members.

06. DEFINING "FACULTY-LED"

Tuning is meant to be a faculty-led process, meaning tuners drive the project while technical and other project staff serve as facilitators and/or provide other types of support for the project but are not members of the Tuning group. This has the potential to create confusion both for team members and for project staff, especially in regard to the meaning of faculty-led.

Recommendation: Develop clear definitions of the roles and responsibilities of faculty team members. Be clear about the meaning of faculty-led, including the types of decisions expected of faculty throughout the Tuning process.

07. ATTENDING TO GROUP DYNAMICS

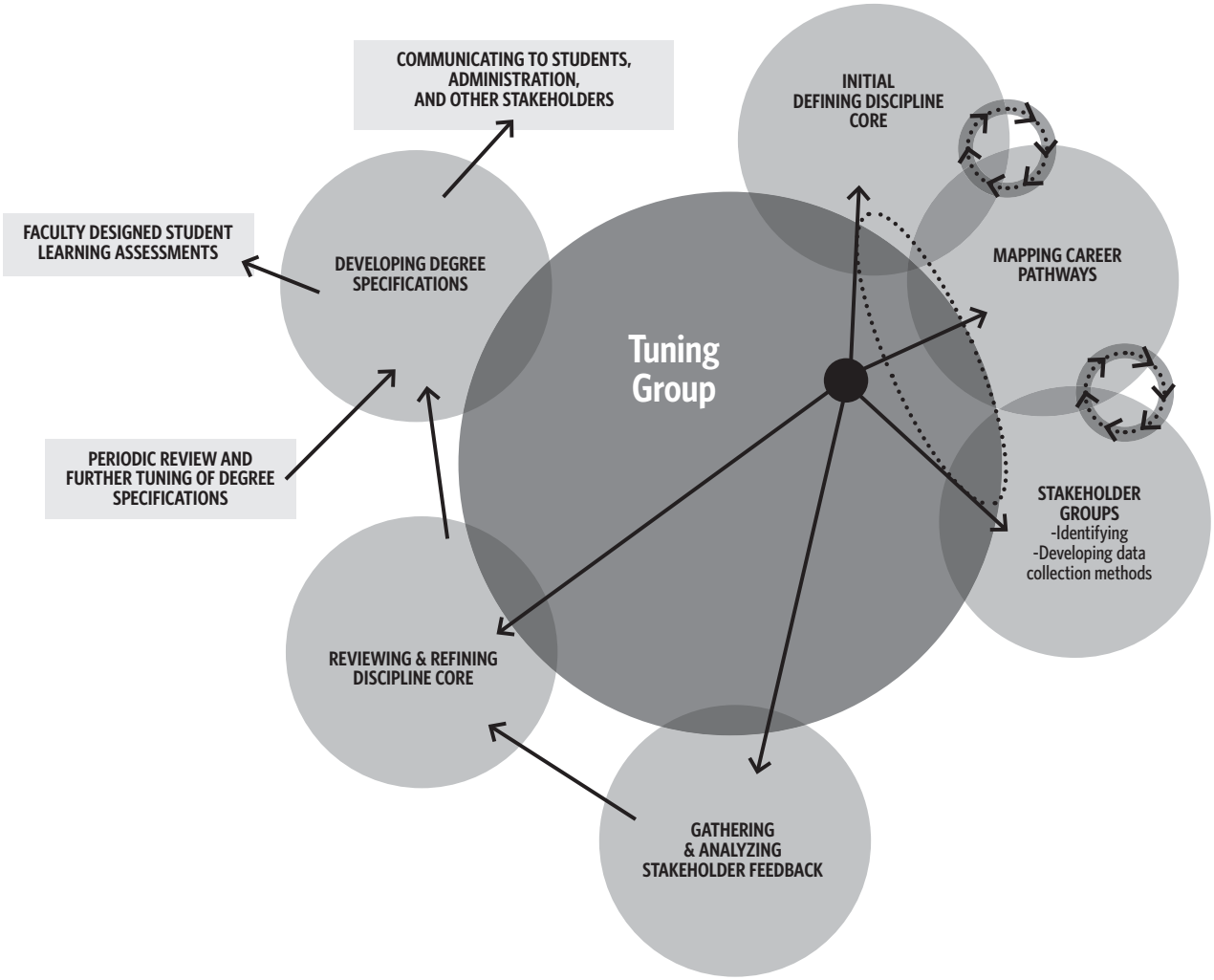
New work groups are faced with the challenge of establishing expectations for team member interactions. Too often, groups avoid having direct discussions about ways they will conduct their business both during team meetings and in the time between face-to-face meetings.

Recommendation: Faculty teams should be encouraged to spend time early on developing explicit group expectations for team behavior, including such things as identifying and utilizing communication tools for time in between face-to-face meetings, determining processes for reaching team decisions, designing approaches to address unresolved issues and team conflicts, assigning responsibility for setting agendas and timelines, and deciding if team members can send substitutes/proxies.

08. DISTINGUISHING BETWEEN INFORMAL AND FORMAL FEEDBACK

Tuners often struggle with decisions about when to share examples of their work publicly for scrutiny and evaluation by others. While formally seeking stakeholder feedback specifically in response to initial Tuning draft documents is one of the five key elements of Tuning, this does not preclude regular conversations about early drafts and particularly thorny issues with individuals who are not team members.

Recommendation: Tuners should be encouraged to distinguish between seeking formal feedback after agreeing on initial draft documents and having informal exchanges about their discipline core and other aspects of Tuning. Engagement with peers and other stakeholders informally, early and often, provides important perspective for consideration by Tuning teams.



09. ACKNOWLEDGING THE NON-LINEAR ASPECTS OF TUNING

While no one model exists to follow, all Tuning should eventually involve five key activities or elements: defining the discipline core, mapping career pathways, seeking stakeholder feedback, honing the initial work products, and sharing agreed-upon team products with department colleagues as a catalyst for review and potential revision of each program's degree specifications. The above diagram is intended to illustrate the fluid nature of these activities as faculty engage in this work.

Recommendation: Tuning activities associated with defining the discipline core, identifying career pathways, and determining stakeholder groups—along with related data collection strategies and instruments—can be done sequentially or simultaneously. Tuners should determine what approach makes the most sense to them. Informal feedback should be gathered throughout the process. After formal stakeholder feedback has been gathered and analyzed, Tuning teams should reflect on all previous Tuning activities as they collectively refine and develop a new Discipline Core. Individual departments should use the work of tuners to develop degree specifications for each of their degree offerings. The degree specifications documents provide a context for communication to students, administrators and stakeholders about the discipline and also as a foundation for faculty-designed student learning assessments. Periodic review will help to ensure the continuous nature of Tuning.

10. UTILIZING PROJECT STAFF

While a commitment to faculty-led reinforces the importance of having a chair or co-chairs of Tuning workgroups, the team chair is also a team member with important opinions about the content of potential Tuning work products. On the other hand, facilitators are non-team members whose presence can be useful on a variety of fronts.

Recommendation: Rather than leave the role of project staff open-ended, Tuning work groups would benefit from project staff serving as facilitators with responsibilities for running meetings, keeping the team on track, offering perspective and constructive suggestions when asked, and providing summaries of actions, accomplishments and assignments for future work. The team, through its chair, should still be fully responsible for setting agendas and determining when consensus has been reached.

11. DESIGNING AN "IDEAL TYPE"

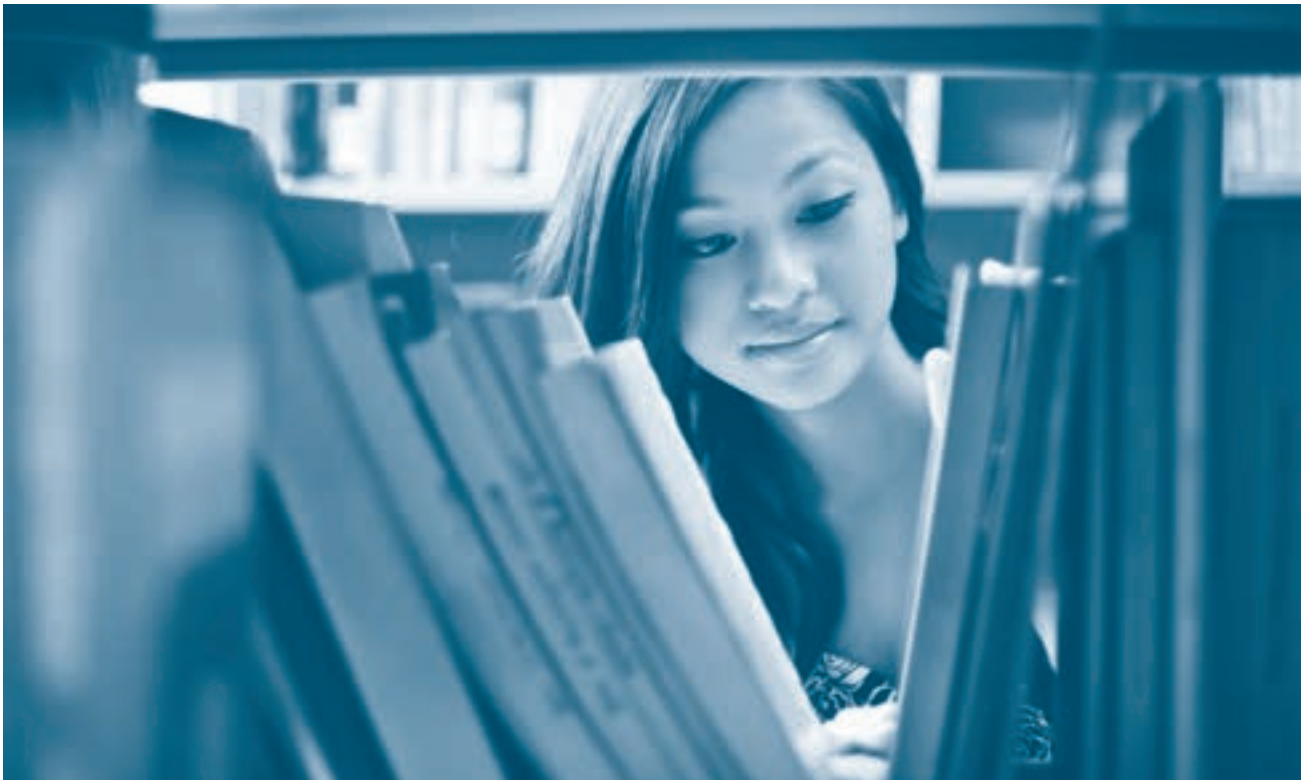
When constructing academic models for the future, existing practices and precedents (such as the American Psychological Association Guidelines for the Undergraduate Psychology Major) are likely to affect participants' viewpoints. In the process of Tuning, traditional approaches promulgated by departments, professional associations and/or existing policies (institutional or state-level) are important for reflection but not necessarily for repetition.

Recommendation: Utilizing the Weberian concept of "Ideal Type," tuners should be encouraged to operate as if they are creating an abstract model that may be difficult to bring about in reality. Ultimately, tuners should develop an ideal set of competencies and learning outcomes that are desirable from the perspective of a cross-section of faculty, despite perceived difficulties that might be encountered in implementing them locally due to past practice or tradition.

12. GETTING CLOSURE

Faculty tuners enjoy the discourse and debate about their discipline. Honest disagreements often emerge with opposing viewpoints having support and rationale by passionate team members. While efforts should be pursued to find common ground, resolution of differences, and eventual consensus, unanimous agreement on all Tuning team products is not a requirement of the process. The work produced by Tuning teams is merely a prototype for consideration by faculty within institutions who are the individuals with ultimate authority for degree content, sequencing, and requirements.

Recommendation: Tuners should be encouraged to reach consensus on the development of their work products. When differences of opinion emerge, genuine efforts should be made to keep any disagreements professional and to seek resolution. Ultimately, tuners should be assured that minority opinions are acceptable for inclusion in Tuning work products.



A FOCUS ON THE FUTURE: SUSTAINABILITY

Curriculum reform efforts are viewed by some as faddish, with the expectation that given time a particular fad will disappear. In contrast, at the end of their experience, Compact tuners indicated that Tuning or Tuning-like activities were highly likely to be an integral aspect of faculty work for future generations. Implied in the image of "Tuning like activities" were such things as a focus on learning outcomes that lead to evidence, emphasis on the importance of data in decision making, engagement of feedback from others beyond faculty colleagues, and professional agreements about the core essence of a discipline. A few tuners commented that the label "Tuning" may change as related practices become part and parcel of faculty work, while others acknowledged that aspects of Tuning existed prior to Lumina Foundation funding of Tuning projects (just not as systematically) and will likely continue to exist if, and when, the label "Tuning" is replaced.

As with most social change movements, some participants emerge true believers in the process and anticipate staying involved as a support base to grow the initiative. The fate of Tuning, however, is difficult to predict. To date, projects have tended to end with a team report with limited dissemination or exposure, and many eventually were shelved, though there were exceptions where planted seeds have continued to grow (e.g. Texas engineering work; Utah history, physics, and secondary education initiatives; and the American Historical Association nationwide project). Ultimately, several factors are likely to affect the life of Tuning, not the least of which are financial incentives, the existence of key faculty champions with solid academic reputations, acknowledgement and support by economic and government leaders, and promotion by professional associations and/or accreditors.

Implicit in Tuning is the belief that the work should be an ongoing process that supports continuous improvements associated with teaching and learning in a discipline. Compact tuners were not in complete agreement about this issue. At the conclusion of the initiative some were ready for the project to be over. These faculty were likely to have stated something along the lines of "we are finally done" or "our discipline is finally Tuned!" Others, however, were quite explicit about the fact that they perceived Tuning as an ongoing process with comments such as "Tuning is never done!," "we have not 'tuned,'" and "we have only begun Tuning." As a further indication of the extent to which some Compact tuners internalized an ongoing process, many identified additional Tuning work that they intended to promote during summer term or throughout the following academic year. Activities identified included: engaging in course mapping with

department colleagues to identify competencies and learning outcomes for specific courses in the curriculum; reaching out to colleagues in the region to work on the portability of courses in their discipline; working with colleagues in other disciplines; and becoming role models for faculty colleagues in other departments that might want to begin a Tuning initiative. Whether this level of enthusiasm will be borne out with the test of time remains to be demonstrated.

How often should departments become engaged in Tuning? Compact tuners generally agreed that the process should be integrated into a department's considerations on a regular basis. About half of each Compact Tuning group indicated that it should be ongoing every year while the other half expressed support for Tuning to regenerate once every five years.

Several potential avenues for continuation of the work or for branching out into related areas were identified by project staff and presented to Compact tuners for consideration. Areas of exploration included the potential linkage of open educational resources to Tuning outcomes, engagement in a process called "Academic Audit," and the relationship of Tuning to student use of library resources.

The possibilities inherent in linking student learning outcomes to the growing open educational resources (OER) movement was explored through discussions with Lumen Learning, a group that views OER as a largely untapped opportunity to reduce costs to both institutions and learners while at the same time improving student success. The premise behind OER is that the materials created exist in the public domain, free for anyone to reuse, revise, remix, and/or redistribute. A long-term vision of Lumen Learning is to develop open sources that would include both course content and learning assignments for the full complement of major requirements for a particular degree. Lumen Learning sees potential in using the student learning outcomes that are included in Tuning work products as drivers for the creation of new OER materials.

A second promising initiative identified by Compact staff is "Academic Audit," which engages faculty in self-reflection about their programs. Departments are asked to describe and analyze their processes and outcomes along with the evidence they collect and use to make decisions that support quality improvement. Peers who have been trained as auditors review self-study materials and provide faculty with constructive feedback for self-monitoring and program development. Tuners discussed the potential of a Tuning/Audit partnership as a structured opportunity to jumpstart implementation work with campus colleagues.[10]

A third initiative draws attention to library use by students. The "Understanding Library Impacts" protocol (ULI) "is a suite of assessment instruments designed to help libraries communicate their contribution to general education and discipline-specific undergraduate student learning." Tuners learned of the potential of linking the learning outcomes from their work products to high impact learning experiences on their campuses in future ULI research.[11]

When asked for other constructive suggestions about follow up and sustainability opportunities Compact tuners offered the following:

- Presenting at professional meetings and conferences
- Working with accreditors and professional associations
- Collecting additional data to demonstrate the value added as a result of Tuning to students, faculty, and institutions
- Identifying incentives and external support from foundations and states for continued projects that would help bring Tuning to scale
- Using Tuning to bridge gaps in transfer/articulation agreements between institutions in close geographic proximity
- Instituting policy changes that will support Tuning work as part of faculty roles and responsibilities
- Emphasizing the key tenets of the Tuning process with major focus on the value for reflection and evolution in higher education
- Securing interest and engagement from business/industry partners

FOCUS ON THE FUTURE: EVALUATION OF TUNING AND TUNING-LIKE ACTIVITIES

To date, data collection and analysis about Tuning in the United States and its effect on teaching and learning has been project driven, i.e., Tuning initiatives often have an external evaluator who has responsibility for the design, collection, and analysis of data about the Tuning process and its impact. Cross-sharing among separate Tuning evaluators has been minimal, resulting in

substantial variation in evaluation designs that have been incorporated into individual projects.

With support from Lumina Foundation, IEBC developed an Evaluation Toolkit that is now available to external evaluators working with Tuning groups.[12] Fifteen separate instruments/tools are provided along with suggested target respondents, purposes, utilization strategies for tuners or evaluators, and timing of use. At the front end of the toolkit, evaluators are admonished to be cognizant of the language used in collecting data about Tuning, since there are numerous curricula review and reform efforts that are not labeled Tuning per se, but represent some, if not all, of the same key activities known as Tuning (IEBC, 2013b).

Evidence that Tuning is changing behavior is based primarily on self-reporting from faculty tuners. This includes both changes in personal behavior as well as changes in approaches by some departments to curricula content, course sequencing, and degree requirements. Evidence of the impact on students has been more elusive. To date, Compact tuners reported that their departments have relied mostly on anecdotal evidence that their experiences with Tuning have improved their students' abilities to be conversant about the degrees they complete so that they understand and can communicate better the skill sets they will have acquired by graduation. Some Compact tuners indicated that their department would be exploring innovative ways to demonstrate changes in this aspect of student behavior.

There is great potential for increased systematic study of Tuning's impact. Additional quantitative and qualitative research is needed to determine the extent to which Tuning serves to improve teaching and learning, to provide more transparency about higher education, to support greater productivity and quality of degree programs, and to increase relevancy of what graduates know and are able to do.

FOCUS ON THE FUTURE: THE INTERSECTION OF TUNING AND THE DQP

As experience with Tuning expands, its relationship to the Degree Qualifications Profile (DQP) is a natural outgrowth. Both initiatives emphasize faculty-driven curricula reform efforts that focus on competencies and learning outcomes expected of students at various transition points within higher education pathways. Both are needed as important aspects of a student's degree.

Understanding differences between these initiatives illuminates the initial processes used. Faculty engaged in DQP work focus on teaching and learning across disciplines at a single institution, while in Tuning the focus is on a single discipline across institutions. Undergraduate education has been the major focus of faculty working with the DQP Guidelines (though references are made to master's level programming in Lumina's publication about DQP) while both undergraduate and master's education have been the focus of Tuning.

For degrees at any level, faculty agreement about general and discipline-specific competencies and learning outcomes is important and acknowledges the intersection of general education with the major or area of concentration. Both DQP and Tuning efforts will benefit from cross-talk by faculty engaged in either or both initiatives.

FOCUS ON THE FUTURE: DISSEMINATION

Tuners are encouraged to disseminate information about their experiences and products in multiple venues, including conference presentations, publications, webinars, newsletters, and other forms of communication. Dissemination that occurs during the initial Tuning process gives tuners an opportunity to discuss their work while also providing venues for informal feedback, especially concerning the discipline's core and the career pathways for graduates. Compact tuners from both groups were actively involved in national, state, and local presentations throughout their Tuning work.

Once cross-institutional Tuning teams complete their initial obligations, dissemination of information about their work serves multiple purposes. Beyond the major obligation to use Tuning products with home campus colleagues in developing degree specifications documents, dissemination is a way to reach out to other faculty who teach in the discipline as well as those from other disciplines.

An innovative approach to dissemination developed by a psychology Compact tuner involved creation of a website, (www.PsychologyKC.com) as a resource for psychology teachers and faculty at the high school, community college, and four-year college/university level in Kansas City and surrounding areas. As the website indicates, the resource "is designed as a 'hub' to help teachers identify and cooperate with each other to enhance teaching, promote psychology as a discipline, and pursue common goals." The site will also "provide high school and

collegiate psychology faculty in the region with a public venue for sharing ideas and generating new initiatives.[13]"

The Compact Tuning initiative concluded with a symposium held in June 2013 in Indianapolis. The symposium was hosted by the Compact in collaboration with the IEBC. Over 130 participants from all higher education sectors in the U.S., along with representatives from five other countries participated in lively discussions about the current status of Tuning in the U.S., the relationship of Tuning to the Degree Qualifications Profile, and the potential for the future.

FOCUS ON THE FUTURE: IMPLICATIONS FOR POTENTIAL REVISIONS TO ACADEMIC POLICES

The responsibility for education and the way it evolves at all levels is considered the province of states and local governments. For decades, higher education had the luxury of increased enrollments and increased funding without having to demonstrate in any detail or depth its return on investment. As calls for greater accountability have increased, especially by funders at local, state, and federal levels and within the philanthropic and foundation communities, there is also an increased demand for evidence about the value of a collegiate education. In addition, more and more policymakers are encouraging a public agenda for higher education that will position states and the country as a whole to be more competitive globally based on increasing the proportion of adults with college degrees. In this type of environment it is also essential that attention be given to the quality of these degrees and the knowledge and skills graduates can demonstrate.

Faculty Reward Structures

Policies associated with faculty reward structures have the potential to increase interest and participation in Tuning and similar curriculum reform efforts. Compact tuners expressed unanimous agreement that faculty involvement with Tuning should be valued in institutional promotion and tenure decisions, and all but one tuner was in agreement that engagement in Tuning activities should also be considered when merit pay decisions are made. At the same time, some tuners in each Compact group indicated that Tuning as an activity was not valued by their department colleagues and/or their administration. Unless Tuning and Tuning-like activities are integrated into faculty reward structures, gaining scalable traction will be less likely.

Transfer and Articulation

With its emphasis on what students know and are able to do, Tuning places a spotlight on outputs rather than on inputs. In contrast, public policy within the arena of transfer and articulation has tended to focus on inputs rather than on outputs. Almost all Compact tuners expressed support for the redesign of transfer/articulation policies to emphasize evidence of student learning rather than the traditional input variables of seat time, course titles, syllabi equivalency, or perceived similarity in assignments and/or aspirational learning outcomes included in courses. Tuners also admitted that the vast majority of evidence in terms of demonstrated student learning used to determine course portability at their institutions was primarily anecdotal or inferential.

Program Review, Approval, and Evaluation

While not discussed by Compact tuners, academic policies associated with program review, approval, and evaluation could also be revised to give more visibility to the importance of requiring competencies and student learning outcomes as key elements if not already included in current policy.

Tuners across many projects have expressed the belief that while legislators and others responsible for public policy have a vested and understandable interest in higher education outcomes, they should not become engaged in setting academic policies. As expressed by one administrator familiar with Tuning, "They [legislators] need to be kept informed. However, academic programs are based on curricula, professional standards and accreditation and are best left to the academics and the institutions….however, the legislature has every right to expect we are turning out competent graduates who will address the labor needs of the state."

FOCUS ON THE FUTURE: ASSESSMENT

More so than any other factor, the use of Tuning products to drive assessment agendas is likely to help cement Tuning as a process. As a group, however, tuners are not quite sure about the exact role of assessment in their work. Initially, some Compact tuners imagined that they would be involved in designing assessment instruments and collecting data about student learning. Clarification

by Compact project staff helped to establish an understanding that the initial Tuning work products were expected to provide a foundation for driving campus-level assessment discussions and decisions.

Too often, assessment has been superimposed externally to foster greater institutional or program accountability. This approach to assessment tends to utilize instruments provided by commercial vendors that are administered to large numbers of students providing comparable data across institutions and/or programs. Several of these instruments (e.g., the Collegiate Learning Assessment (CLA) and the National Survey of Student Engagement (NSSE)) are not designed to measure discipline-specific outcomes. While other standardized instruments (e.g. Major Field Achievement Tests (MFATs) developed by ETS in several fields) do measure subject matter knowledge and skills, faculty often complain that not all of the content is necessarily deemed important by the campus or covered in their programs. In this arrangement, faculty either participate half-heartedly in collecting data that McInerney (2012) described as "pointless, irrelevant, and time-consuming," (p. 3) or worse yet, they begin to redesign classroom instruction to teach to the test.

Regional accreditors have played a significant role in influencing a more engaged role for faculty in the development of student learning assessment for improvement. According to the new criteria adopted by the Higher Learning Commission for Accreditation, Assumed Practices, and Obligations of Affiliation, a focus on student learning and a culture of continuous improvement are included as guiding values while different aspects of teaching and learning are included as two of the five criteria for accreditation. An important aspect of each criterion for accreditation is the assurance that learning goals are articulated and differentiated for different degree levels in the institution.[14]

As greater understanding emerges about how assessment for accountability and assessment for improvement might co-exist, faculty are encouraged to utilize learning outcomes as a driver of assessment (see Ewell's (2009) seminal paper "Assessment, Accountability and Improvement: Revisiting the Tension" commissioned by the National Institution for Learning Outcomes Assessment). One of Ewell's (2009) major recommendations for faculty interested in managing the tension between improvement and accountability is "to emphasize assessment at the major transition points in a college career" (p. 17-19).

For several tuners, the products they created were viewed as a solid foundation for spearheading much-needed discussion with department colleagues about assessment agendas for their majors. According to one tuner, "to be honest, our department is terrible at assessment." This particular institution did not have a senior comprehensive examination, and while students were required to complete a capstone experience it was reported that "…the range of courses and experiences that satisfy this requirement are so broad, that there is not a consensual set of competencies or learning outcomes that characterize successful completion…"

Assessments that are not aligned with specific standards are like parachutes that suddenly appear without any anchorage. Standards without aligned assessments become a journey leading nowhere. To have meaning for student pathways, standards should drive assessment. The work of tuners provides a solid foundation for driving departmental assessment decisions. In turn, assessment becomes a collective responsibility of faculty and is a natural outgrowth of determining agreed-upon program level competencies and learning outcomes. According to McInerney (2012), "when done well, assessment can serve as a springboard for alteration, revision and restructuring" (p. 7) so departments can improve teaching and learning effectiveness.

Recent developments in K-12 education associated with the Common Core State Standards, and the development of the next generation of early warning assessments aligned with the new standards, have many in higher education concerned that it is only a matter of time before similar approaches will be called for in higher education. Without serious attention to identifying discipline-based competencies and learning outcomes, which are then used to drive assessment programs about majors or areas of concentration/specialization, faculty run the risk of having policies about teaching and learning superimposed by external authorities.

The caveat that Tuning is not intended to create a single curriculum or assessment instrument requires a growing number of faculty willing to move teaching and learning from a private relationship between an individual faculty member and his or her students into a more transparent public endeavor—one with greater collective ownership for curriculum content, degree requirements, and assessment by groups of faculty responsible for institutional degree programs.

FOCUS ON THE FUTURE: CHANGES IN THE HIGHER EDUCATION LANDSCAPE

Futurists regularly suggest changes on the horizon, some which actually come to pass and others that remain as expectations that can be described as wishful, pure fantasy, wistful, or fueled by unbridled anxieties. In past decades, much less centuries, it is likely that predictions of radical changes often seemed incomprehensible when they first appeared. In 1900, an era when telephones and were not common and commercial radio stations did not exist, citizens surely were skeptical of predictions by John Elfreth Watkins that future generations would have mobile phones or televisions (Geoghegan, 2012). With technological innovations continually evolving and being embraced at an ever-faster speed, today's predictions about the future seem less outrageous in comparison.

The structure, size, scope, and mission of U.S. colleges and universities have undergone significant changes over the centuries since the establishment of Harvard in the early 17th century. However, their continued existence as a major force has remained intact. The emergence of Massive Open Online Courses (MOOCs), open educational resources (OERs), increased interest in competency-based educational programs, and calls for alternative approaches to credentialing and accreditation have brought about a wave of predictions issued by present-day futurists that suggest radical changes may be in store for teaching and learning in general, points of transition along educational pathways, and whether degree programs will retain their value.

While the work of tuners is done within the framework of degree levels, the essence of the work (i.e., identifying competencies and learning outcomes that prepare students at one level for transition to a higher level of learning) does not require adherence to traditional educational delivery or structures. Tuning can easily be adapted to alternative educational models that discard degree programs for certificates of mastery or badges, should they grow.

This report sought to utilize the work of the Compact's Tuning initiative in the disciplines of marketing and psychology to describe the processes and challenges of Tuning and to illustrate the experiences and types of products tuning teams develop. The resultant Competency and Student Learning Outcomes report[15] showcases the possibilities that cross-institutional and cross-state teams can bring to disciplines in higher education, especially when designed by faculty.

In the continued quest to develop a public agenda for higher education that will serve future generations, policy makers are encouraged to consider the value of Tuning as a framework for faculty engagement in designing clear concise competencies and learning outcomes. Ultimately this work in combination with DQP work has the potential to drive more authentic and relevant assessment of student learning, improve teaching and learning, increase transparency about higher education processes and degrees, innovate greater quality and productivity in degree programs and disciplines, and increase the transparency and relevancy of what college graduates know and are able to do as they enter the workforce and contribute as world citizens.

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ENDNOTES

[1] Illinois, Indiana, Kentucky, Minnesota, Missouri, Texas, and Utah have engaged in Tuning projects in numerous disciplines, including: biology, business, computer information systems and sciences, several engineering fields (including biomedical, chemical, civil, electrical, industrial, and mechanical), chemistry, elementary education, graphic arts, history, marketing, management information systems, mathematics, nursing, psychology, physics and social work. In addition Tuning efforts are underway in Montana and through professional groups including the American Historical Association, the National Communications Association, and the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges.

[2] http://www.luminafoundation.org/
http://www.iebcnow.org/
http://tuningusa.org/
http://www.luminafoundation.org/newsroom/topics/tuning-adventures-in-learning.html

[3] Degree Qualifications Profile website: http://degreeprofile.org/
Lumina Foundation DQP publication: http://www.luminafoundation.org/publications/The_Degree_Qualifications_Profile.pdf

[4] http://www.learningoutcomesassessment.org/DQPwebinarseries.html
http://www.lumenlearning.com/

[5] See https://wicareerpathways.org/

[6] For examples, see http://www.sokanu.com and http://www.burning-glass.com.

[7] The rationale for including continuing education is that it is one alternative among many that students consider as they complete a formal degree program, transition to the next phase of their life, and chose a particular pathway.

[8] Salary information is obtained from Bureau of Labor Statistics' Occupational Outlook Handbook http://www.bls.gov/ooh/management/home.htm. Jobs listed within each career area are not in order of income.

[9] The Compact Tuning initiative's final competency and student learning outcome report can be accessed here: http://www.mhec.org/sites/mhec.org/files/2013mhec-tuning-comp-sloschart.pdf (Note that the psychology Tuning team's competencies and student learning outcomes were informed by version 1 of the 2007 APA Guidelines for the Undergraduate Major.)

[10] See Massy, W. F., Graham, S. W., Short, P. M., & Zemsky, R. (2007). Academic quality work: A handbook for improvement. San Francisco, CA: Jossey-Bass.

[11] See Derek Rodriguez and http://www.uliproject.com/

[12] IEBC Tuning Evaluation Toolkit: http://tuningusa.org/Library/TuningEvaluationToolkit.aspx

[13] Correspondence from Marcia Pasqualini to Robert Stein

[14] See the Criteria for Accreditation HLC Policy Brief 2013: http://policy.ncahlc.org/Policies/criteria-for-accreditation.html

Midwestern Higher Education Compact
105 Fifth Ave. S. Ste. 450
Minneapolis, MN 55401
Phone: (612) 677-2777
1-855-767-MHEC (6432)

www.mhec.org