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Introduction

The Utah System of Higher Education began its involvement in Tuning in April, 2009. In the first two years, the team and faculty began Tuning Physics and History. In 2011, the team added Elementary Education and General Education Mathematics. The purpose for adding the two latter disciplines was to coordinate with the Common Core State Standards and their promise to better prepare high school graduates who enter our system. Overall, the Tuning groups worked very collaboratively and produced good outcomes although not without challenges. Some elements of the work were not completed to the extent the team had hoped because of lack of support from colleagues in their academic departments. Lack of support might be attributed to faculty ignorance of the Tuning process or fear that someone was going to force this process on them. The team found these problems to be endemic to initiatives that have the possibility to change the culture of higher education. Tuning is a messy, nonlinear, and iterative process that must be practiced, rethought, muddled through, and adapted to its various contexts; its practitioners must be open to new ways of thinking about teaching and learning in order to sustain Tuning.

This report will discuss the positive elements and the challenges faculty experienced in Tuning and Tuning's potential to slowly change the culture of higher education.

Major Outcomes

1. Project Advancement

- a. Learning outcomes were identified along with competencies and assessments which were reported in the interim report (May 15th). Please note that the work of the faculty was not intended to be measured. Nor was any effort made to compare student learning as this will gradually

change as faculty begin to apply new teaching strategies learned as part of their collaborative and intentional Tuning work. Faculty had to ‘muddle’ collaboratively to arrive at the learning outcomes and competencies.

- b. Utah Physics Tuning Team. The Physics Team worked to define learning outcomes and competencies at the master’s degree level (Appendix A). The Team was able to develop the learning outcomes although three of the ten institutions involved in physics offer only the associate’s or bachelor’s degree. However, having been trained in their field, all faculty contributed to the discussion. The Team also developed learning outcomes at the two-year or AS level, especially useful to those institutions that do not offer the BS in physics.
- c. Utah History Tuning Team. The History Team developed rubrics during the early part of the initiative. However, the American Historical Association (AHA), History’s professional organization, is now embarking on a Tuning initiative to determine learning outcomes and standards across the entire discipline. The History Team wanted their work to be aligned with these standards as it reviewed its learning outcomes and added history courses. The Team recognized the need to develop more rubrics so that faculty could adequately assess student work in additional courses including capstone courses. The Team also discussed better preparation of students entering history as a major by developing pre-major pathway that would be more streamlined and save students time to degree. Pre-majors are now in Utah State Board of Regents’ policies, R470-3.4., 3.5 (http://higheredutah.org/wp-content/uploads/2014/05/R470-04_16.pdf) and R401 (http://higheredutah.org/wp-content/uploads/2013/11/SBR-Policy-2013-07-19_R401-FINAL-V03.pdf).
- d. Utah Elementary Education Team. The Elementary Education Team continued its work on the learning outcomes that were subsumed under the many standards with which elementary education must work. Accreditors such as the National Council for the Accreditation of Teacher

Education (NCATE) and Teacher Education Accreditation Council (TEAC), both soon to be subsumed under the Council for the Accreditation of Educator Preparation (CAEP) set standards for teacher preparation. Dr. Bill Evenson met with leaders of TEAC on January 22, 2013 who were very supportive of the Tuning work. The Utah State Office of Education uses the Utah Effective Teaching Standards (UETS <http://www.schools.utah.gov/CURR/educatoreffectiveness/Observation-Tools/BecomingFamiliar.aspx>), a general set of standards that are for practicing teachers. The Elementary Education Team developed standards based on the UETS for pre-teachers and identified learning outcomes and competencies that could be assessed as the UETS standards are too broad and were developed for practicing teachers. Dr. Dee Caldwell, Dr. Sylvia Read, and Dr. Teddi Safman met with the Utah State Office of Education on January 28, 2014 to explain Tuning as the staff wrongly believed that the Tuning group was using different standards. After discussion, the USOE staff understood that we were working from the same set of standards but that by identifying the learning outcomes and competencies, we could assess students' work more accurately to better prepare them to become elementary education teachers.

- e. The Utah General Education Mathematics Team. The General Education Mathematics Team is different than the other Tuning teams because its faculty come from a broader set of disciplines that include the STEM fields and education. Also, some are adjunct faculty. Diversity of academic departments made the team's work more challenging. However, they identified six learning outcomes and competencies that need to be included in the other disciplines associated with mathematics. Mathematics as a discipline services many other STEM and social science disciplines with fewer students intending to become theoretical mathematicians.

(All learning outcomes were included in the May 15, 2013 interim report.)

2. Objectives and Outcomes

- a. Another objective included having faculty share their Tuning work with colleagues so that Tuning becomes more integrated into departmental learning objectives. Also, identifying assessments has been a very important objective although there was no expectation that faculty would use the same assessments in their courses. Both the strength and challenge of Tuning across an eight institution system speak to the contextual differences in each institution and department. No two are alike. Faculty are trained in various universities throughout the world. Students come prepared, or not prepared, and are accepted, and often remediated through remedial programs. Faculty work collaboratively and intentionally, typically changing one another's thinking to produce better understanding and depth of learning for themselves. They learn from one another and grow. The metrics related to how Tuning affected each participant and how this work impacted their departments are found in the developmental evaluation in Appendix B and discussed later in this report.
- b. Another outcome related to the objective of sharing Tuning work with faculty colleagues was the further development of the Tuning website: <http://utahtuning.weebly.com>. This website has become a useful repository of Utah Tuning results, available to those working on Tuning in the state and to other interested parties wherever they are located.
- c. The Utah Tuning leaders met with Tuning faculty and academic administrators at each of the Utah institutions, including the private university Brigham Young University (Appendix L). These meetings informed academic administrators and faculty colleagues of the Tuning work and laid groundwork for future campus-level meetings to continue Tuning by taking advantage of the synergy that comes from bringing Tuners from different disciplines together to review their progress and current objectives.

3. Additional Outcomes

- a. There were additional outcomes that were not anticipated. First, because of Utah's Tuning work, the annual Faculty Discipline Majors' Meetings and the annual 'What is an Educated Person?' conference, Utah was chosen to participate in other initiatives. These include: The Western Interstate Passport, the Quality Collaboratives, the Multi-State Collaborative to Advance Learning Outcomes Assessment, and the LEAP initiative (Liberal Education for America's Promise). All of these initiatives work with learning outcomes, competencies and assessments as does Tuning. All encourage faculty collaboration as they develop new ways of thinking about teaching, learning, and assessment that are meaningful and require student engagement in the teaching/learning relationship. As in Tuning, all of the initiatives require collaboration among faculty to arrive at learning outcomes, competencies and assessments. Without Utah's experience in Tuning, and its annual faculty-focused meetings, the state would not likely have been chosen to participate in other important initiatives.
- b. Among the 38 disciplines (attending 30 meetings) that participate in Utah's Faculty Discipline Majors' Meetings, some faculty asked if their discipline can be tuned. Over the last ten years, all have been asked to identify learning outcomes and competencies students need to successfully transfer into a major discipline. These groups meet annually; the Tuning groups met monthly as regular meetings are needed to provide faculty with the space for thoughtful discussion as they work collaboratively. This work is demanding and rewarding for faculty (see Appendix B).
- c. Also, during the Faculty Discipline Majors' Meetings, the Degree Qualification Profile was introduced for a third year (Appendix C). Just as Tuning takes much time and energy to practice and move forward, so do new concepts such as the DQP. Utah's experience with the DQP is that the Tuning teams and faculty engaged in the Quality Collaboratives needed the

experience of focused work on the learning outcomes, competencies, and assessments before they felt 'ready' to take on the DQP.

4. Unanticipated Project Developments

- a. As Utah has found, faculty who are involved in initiatives such as Tuning want to stay involved. The Tuning faculty, no longer earning a stipend, met in Salt Lake City to use their Tuning expertise to discuss 'wicked problems,' those that are very complex with no clear solution. Using the DQP as a framework, the Tuning groups used their discipline expertise to determine how they would address these problems. The meeting held on April 18th interfered with finals and grading. Still some 25 faculty came and stayed the entire three hours. This practical approach to the DQP 2.0 excited the faculty and gave them ideas on how to use the DQP in their teaching (see Appendices D and E for agenda and notes).
- b. An issue that impacts all institutions is their use of adjunct faculty and the need to train them to use the Essential Learning Outcomes, assessments, and the DQP. This was particularly important for the GE mathematics Tuning group as GE mathematics is taught by faculty in STEM fields and also by adjunct faculty. Adjuncts tend to be separate from the academic departments that hire them and typically are not given professional development in departmental learning outcomes and assessments. The problems posed by adjuncts must be addressed.
- c. One of the institutions, Utah State University, began working with its faculty to develop pre-major pathways for students interested in entering a history major. Clearly defining pathways may assist students to streamline their lower-division course taking and better prepare them to enter the major, complete their degrees sooner, and possibly spend less money on their education. The concept was presented to the Commissioner's staff and appears in Regents' policies R401 (http://higheredutah.org/wp-content/uploads/2013/11/SBR-Policy-2013-07-19_R401-FINAL-V03.pdf)

and in Regents' Policy R470 (http://higheredutah.org/wp-content/uploads/2014/05/R470-04_16.pdf). Also, the cross cutting skills of the DQP 2.0 are now in Regents' policy R470-3.7 although they are not titled DQP.

- d. Degrees that are being tuned are identified by learning outcomes, competencies, and assessments - many of which require high impact practices, such as research projects, internships, service learning, and paper presentations – and are transparent: The degrees are identified not by credits and seat time, but by what students should know, understand and be able to do upon degree completion. The Tuning work and the DQP have framed the agendas for both the Faculty Discipline Majors' Meetings and the "What is "Educated Person?" conference held annually. In three of the conferences, keynote speakers explained the DQP and its value to curricula (Holly McKiernan-11/4/11; Carol Geary Schneider-4/2/2012; Paul Gaston-10/26/12). The same discussions have taken place in the last three annual Faculty Discipline Majors' Meetings (Appendix C). The 2013 the 'What is an Educated Person?' conference dealt with the development of an educated person – content and knowledge gained from multiple disciplines that students study in order to apply their learning to unscripted settings and wicked problems (Appendix F). The topics for the "What is an Educated Person?" conference and the agendas for the Faculty Discipline Majors' Meetings come most often from Utah's Tuning work.
- e. A rather disappointing outcome came on September 22, 2013 in a conversation with the president of the Northwest Commission on Colleges and Universities (NWCCU), the regional accreditor for Utah, who did not know what Tuning was even though regional commissioners do. Tuning was explained along with its value. The president expressed concern that the goal of Tuning was to make its processes mandatory. This was quickly addressed as the benefits of transparent learning outcomes, competencies, and assessments – all coming from discipline faculty - were explained.

Unfortunately, it has been a long and continuing process to get the attention of the NWCCU staff on Tuning.

- f. A very positive outcome grew from Dr. Clifford Adelman's work on Tuning in Japan. Dr. Satoko Fukahori, from the National Institute for Educational Policy Research, Japan Ministry of Education, visited Utah, specifically Utah State University on June 15-16, 2014, to learn how faculty integrate Tuning into their disciplines and into the academic function of an institution. She was joined by Dr. Natasha Jankowski from the National Institute for Learning Outcomes Assessment. Subsequently, Dr. Daniel McInerney was invited to Japan this summer to work with faculty who might be interested in experimenting with Tuning.

5. Longer term Outcomes Anticipated

- a. Tuning with its transparent learning outcomes, competencies and assessments has been integrated with other initiatives in Utah. All focus on improving teaching, learning, and assessment. While the students do not necessarily know the term "Tuning," many faculty do and those who participate in the Faculty Discipline Majors' Meetings work with the major concepts of Tuning. They have begun to hold thoughtful discussions regarding the DQP which will be introduced again on the agenda for the fourth year.
- b. As mentioned above, faculty involved with Tuning want to continue involvement if there are ways to do so. The importance of having faculty collaborate to identify learning outcomes, competencies, and assessments has predisposed participating faculty to want to work collaboratively to improve their students' learning and demonstration of learning. The Tuning groups will meet with discipline faculty who were not involved in Tuning on October 17th during the Faculty Discipline Majors' Meetings and on October 31st during the 'What is an Educated Person?' conference. These

larger meetings help to keep non-involved faculty apprised on the Tuning work and its many benefits.

- c. An issue to be addressed is that not all faculty involved with Tuning inform their department colleagues or upper administration about Tuning and its many benefits. As the developmental evaluation report demonstrates (Appendix B), many faculty not participating in Tuning know what it is. Some knew but did not understand it.

6. Remarkable Accomplishment

- a. As mentioned above, because Utah has been Tuning since 2009 and also has an infrastructure through its annual Faculty Discipline Majors' Meetings and the "What is an Educated Person?" conference, Utah was chosen to participate in several other initiatives: the Western Interstate Passport, the Quality Collaboratives, the Multi-State Collaborative to Advance Learning Outcomes Assessment, and the Liberal Education for America's Promise (LEAP) initiative. Faculty in Utah tend to be willing to get involved in these initiatives as they build upon Utah's infrastructure and Tuning work. Many faculty are viewing their work very differently as they have come to value collaboration among faculty –and students- that leads to fewer lectures and more engaged teaching and engaged learning.
- b. Tuning has changed our thinking about what a degree is and how degrees are to be framed based on what students know, understand, and are able to do at degree completion. This has provided a new way to describe our enterprise to students, parents, policy makers, and employers. We are moving away from using only number of credits and courses to define a degree. Tuning has changed the narrative.
- c. Another remarkable accomplishment that was mentioned above was the Tuning faculty's experience with the DQP and wicked problems. Tuning faculty were ready to dive deeply into the wicked problems using the DQP

and found the DQP to be very useful in this context. The system will now introduce wicked problems with the DQP in other faculty contexts.

7. Geographic Area involved in Utah Tuning

- a. Utah used all of its eight public institutions and added three private institutions in its Tuning initiative. Initial work on the first two disciplines, history and physics, did not include private institutions. However, after adding general education mathematics and elementary education, three private institutions joined the Tuning effort, including the earlier discipline teams. All three private institutions participated in all of the Tuning groups except G E mathematics. In addition, representatives from the Utah State Office of Education (K-12) were included on all four Tuning Teams (Appendix G).

8. Evaluation and Communication

- a. Utah chose to use developmental evaluators as Tuning is a developmental process that is iterative and requires faculty to rethink what they are doing in their classrooms, how students are learning, what they are learning, and how they will apply their learning in a variety of new and different contexts. In a collaborative setting, faculty learn from one another and they question old practices as they struggle to understand Tuning and how it serves not only their teaching but how students learn. This is a time-intensive process and one that is never linear. Changing the culture of higher education requires much iterative work, thinking about teaching/learning in new ways, and much discussion on how the new teaching strategies might be effective. This is what needs to be communicated and understood.
- b. The evaluators, Dr. Randy Davies and Dr. David Williams, attended all discipline Tuning meetings and additional meetings with the Tuning Leadership Team. They also participated in focus groups with employers and students. They interviewed each of the Tuning faculty individually and

also interviewed entire departments from the four Tuning disciplines from each institution, including two of the three private institutions, one being a competency- based online program with no local faculty (Appendix B).

- c. The major players in communicating information about Tuning to wide audiences were Dr. Daniel McInerney, Dr. Norm Jones, and Dr. Teddi Safman. Dr. McInerney is working with the American Historical Association and has written several articles which can be found in Appendices H and I along with Dr. Jones's recent bibliography on Tuning-related work. Dr. Teddi Safman has written two papers, one on the credit hour (Appendix J) and another on the convergence of Utah's initiatives, which includes Tuning (Appendix K). Dr. Norm Jones developed with faculty the pre-major program in history on his campus. All three Tuning participants participated in a presentation at the annual meeting of the Association of American Colleges and Universities in January, 2013. Included in the presentation were Tuning and its benefits. Dr. Safman continues to work with Utah's Chief Academic Officers to understand Tuning and the benefits of Tuning as an initiative that serves the teaching/learning/assessment needs of the system's academic mission. She has been able to make additions on learning outcomes, assessment, and the DQP to state Regents' policy.

9. Lessons Learned

- a. Utah's effort to bring faculty together for Tuning also served the system. Faculty muddled through as they tried to understand what Tuning is and what it means for them to actually work with familiar concepts of teaching/learning/assessment in new ways. Monthly meetings with continuing communication through email messages provided the proper vehicle to support Tuning work. Faculty also formed strong bonds with their colleagues who collaborated with them. Ongoing faculty collaboration across institutions was one of the most important benefits of the Tuning process and served the system well.

- b. A challenge that must be addressed is the use of adjuncts in most institutions, particularly in GE mathematics. Adjunct faculty should be included so that they are informed and part of the faculty conversation on Tuning, its purposes, its processes, and its benefits. In addition, while the Tuning team met with chief academic officers, deans, and department chairs (Appendix L), this needed to be done more frequently; few meetings were not enough to really inform them and supply them with enough information and discussion so that questions could be raised and administrators recruited to sustain the effort in their institutions. Faculty from those departments, while included in these meetings, did not necessarily understand how Tuning benefited them. New faculty who replaced others on the Tuning teams did not have a good understanding of Tuning as demonstrated in the evaluation report (Appendix B).
- c. Each discipline had a different interpretation of Tuning and a different concept of standardization. Physics and elementary education were more likely to think some level of standardization was appropriate given the nature of the discipline (physics) and the expectations of multiple accreditors and state requirements (elementary education), but neither group would be comfortable with specified curriculum, pedagogy, or assessment. History, with its many areas of study, would not and should not be standardized. GE mathematics reached agreement on the learning outcomes courses they needed to work on but not through standardization.
- d. There were other very important lessons learned. First, learning is not linear. Nor is Tuning. Faculty, administrators, and students need to learn its many moving parts through practice and through examples in a variety of contexts. Differences in interpretation of content, learning outcomes, and competencies sometimes were evidence of the differences in paradigms under which faculty studied and the learning expectations in their institutional departments. Second, Tuning demands a very different concept of how students and faculty learn and how they apply their learning. This takes much time and practice and, of course, reflection that is

shared with colleagues in their Tuning groups and in their departments. Third, cultural shifts in how those in higher education conduct their enterprise require all faculty, administrators, and even students, to be willing to question what they believe about teaching, learning, and discipline content, and to determine learning goals for their own courses and institutions, including their vision for the outcomes of higher education. In Tuning, student engagement should take precedence over the faculty lecture format, and assessment may include high impact practices in which students produce a product rather than fill out a multiple choice test.

- e. Tuning and the Quality Collaboratives were both funded by the Lumina Foundation. The focus for these two projects was different; Tuning was discipline specific and the Quality Collaboratives paired community colleges with universities to address transfer. However, they shared some of the same elements: identification of learning outcomes, competencies, and assessments that made transfer seamless; use of assessment practices that actually related to the competencies being assessed; collaborative work by faculty to identify learning outcomes, competencies, and assessments; and experimentation with the DQP. These initiatives informed one another.

10. Lessons Applied

- a. Faculty participants view the purposes and practices in higher education differently as a result of Tuning. Tuning has changed participants' thinking on what students should learn, how learning is facilitated for faculty and students, and ways in which learning is demonstrated. All of the other initiatives in which Utah is engaged use Tuning as the basic conceptual foundation. Understanding that repetition is an essential part of teaching and learning new concepts, and that learning must cycle back on itself for both faculty and students, are important lessons. Repetition is based on conceptualizing new learning in various contexts, particularly when using the DQP 2.0. The DQP guides faculty to apply integrative concepts with other fields, the paradigms of those fields, and how intentional integration

of these fields can be applied to new problems in new and innovative ways. The hope is that not only is a degree transparent in its demonstration of what a student must know, understand, and be able to do at graduation, but also a warranty that graduates are able to use their education to understand and address new and unscripted problems. They must be able to address society's wicked problems if they are considered to be truly educated. This is Utah's goal.

- b. The Tuning initiative prepared faculty to address in more depth through its collaborative processes important issues of teaching and learning. Some faculty and administrators may not have consciously thought about what they do that impacts how learning goals are met at their institutions. While there has always been grumbling about the lecture format and the use of multiple choice tests, Tuning calls for engaged learning and demonstration of learning that goes far beyond the lecture format and multiple choice tests, although both remain accepted practices in appropriate circumstances. However, Tuning's focus on learning leads naturally to engaged learning practices which have been shown to keep students in school and to persist to graduation (Kuh, G. K. 2008. "High-Impact Educational Practices: What they are, Who has Access to Them, and Why They Matter." Washington, D.C: Association of American Colleges and Universities). Faculty are rethinking ways to make sure students are engaged and producing authentic student work.
- c. The Tuning team discussed sustainability. Tuning will be sustained through its Faculty Discipline Majors' Meetings and its "What is an Educated Person?" conference. It will also be sustained through pre-major pathways which are now in two Regents' policies. The DQP over time will become part of how faculty think about undergraduate education in its entirety and why the DQP is important to produce educated graduates. The practices of Tuning have been and are slowly finding their way into classrooms and programs, at least conceptually.
- d. The Tuning Team realizes that in order for an initiative to continue, it must be supported financially and administratively. The team also realizes that in

the iterative process of teaching and learning, there are no shiny objects that come within the first five to six years. Faculty need time to internalize the culture of focus on learning rather than solely on teaching and then to implement new strategies for student learning. They also need time to try and fail until a new rhythm of teaching and learning is established. Tuning has begun to change the culture of higher education through its intentionality, focus on collaborative faculty decisions on teaching, learning, and assessment, and its efforts to be transparent on what a degree means. The team wants Tuning to continue as new strategies are learned in teaching/learning/assessment and we prepare graduates to apply their learning to new and unscripted settings. Utah Tuners want to work with adjunct faculty to share their understanding and practice of Tuning in order to facilitate how faculty think about the teaching/learning relationship. Tuning faculty and team are committed to clarify and make meaningful the learning goals and processes that develop educated graduates. Tuning and its process of reaching out to employers assure that graduates will be prepared for the workplace and society.

The Tuning Team appreciates the faith that Lumina has placed in the Utah contingent. Thank you.

APPENDIX A:

PHYSICS MASTER'S DEGREE LEARNING OUTCOMES

Learning Objectives - Physics MS (modeled on the BYU version)

12/15/2012

Program Purpose

The purpose of the Physics MS program is to provide students with professional-level knowledge of certain areas of physics via coursework and research activities to prepare them for careers in governmental research, industrial research, teaching, or entry into a PhD program. Students become proficient in scientific communication by written and oral dissemination of physics knowledge and research, including and especially that in their own area of specialization.

Foundational Skills

Each student will achieve a mastery of physics at a level required for their chosen profession. Students build foundations and gain breadth by taking courses both required and elective. Courses that contribute include... Student will be prepared to acquire from the literature and/or teach themselves additional material as needed.

Research Skills

Each student will pursue research in the chosen field of specialization. In so doing the student acquires profession-level knowledge in his/her chosen area of specialization. The appropriate area of research and level of accomplishment here is determined in collaboration with a faculty mentor who is an acknowledged expert in the area of specialization.

Communication and Professional Preparation

Each student will become expert in scientific exposition. This is accomplished via documentation and dissemination of the results of his/her research via a written thesis which is prepared according to the professional standards of his/her area of specialization. The research results are also presented orally in one or more venues, at least including the MS defense.

Assessment

Assessment of the above Learning outcomes comes in 5 forms. (1) Coursework: Examinations, homework, papers and projects and reports. (2) Committee: Annual evaluation by a committee of experts, (3) Mentor: Regular meetings with the faculty mentor, (4) Defense: The preparation-revision-defense cycle for the MS thesis. (5) Post-graduate: Reaching the desired goal of employment or entry into a PhD program.

APPENDIX B:
EVALUATION REPORT

Utah Tuning Project
Final Evaluation Report/Paper

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July 2014

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INTRODUCTION

Largely due to economic issues, higher education in the United States is currently in crisis (Carnevale, 2012; Fischer, 2011). Expectations that we as a society increase the number of individuals receiving a college education are often at odds with the perception that adequate financial support is allocated to state-funded institutions through government budgets. Outcries over rising tuition costs (i.e., student debt) have sparked accountability concerns (e.g., completion rates). Public confidence in the ability of colleges and universities to adequately prepare graduates for their chosen careers has diminished greatly in recent years (Arum & Roksa, 2010; Hacker & Dreifus, 2010; Miller, 2013). Prompted by accountability concerns, educators and invested stakeholders have suggested several ways learning in schools might be improved. And, for better or for worse, the relative autonomy teachers have had in determining what and how to teach has become increasingly more regulated by state and federal mandates (Petrides et al., 2003; Turley, 2005; Soland, 2010).

Accountability mandates in public elementary and secondary schools are manifest in increasing reliance on standardized testing (West & Peterson, 2003). Additionally, schools are under pressure to establish a common set of core standards to guide curriculum development and instruction (Common Core State Standards Initiative, 2011). At post-secondary institutions, accountability has typically focused on accreditation mandates, which require colleges and universities to establish learning outcomes (ETS, nd; Weiner, 2009). Faculty are then expected to assess students on the learning outcomes established for a course or degree (Millet et al., 2008); this is intended to serve as evidence that graduates are prepared to enter the work place and that a post-secondary education is worth the expenditure of time and money. An additional concern for higher education to that of creating learning outcomes, which is addressed by the tuning initiative being studied in this paper, is consistency across the learning outcomes established for similar degrees offered at different universities and colleges.

Funders of this project have asked whether universities and colleges offering a similar degree could agree on a common set of learning outcomes for students receiving that degree, regardless of where they receive it. Project administrators are also interested in identifying benefits that might be realized for students and institutions by engaging in such an endeavor. The purpose of this paper is to document the findings from an evaluation of a multiyear project

targeting four undergraduate degree programs involved in a tuning initiative. A summary of recommendations and best practices is provided, along with the challenges and benefits to individuals and programs engaged in this process.

Utah Tuning Project Background

The Utah Tuning Project was introduced to improve student learning by embedding tuning and tuning reference points (expressed in terms of learning outcomes and competencies at the subject area level) within the academic culture and practices of those working at institutions of higher education across the state. In essence, the project endeavored to facilitate a systemic change at these institutions by clearly articulating a common set of expectations for what students should know, understand, and be able to do upon completing a specific program of study or set of learning experiences. The stated purpose of this initiative was to improve the quality of higher education by establishing transparent and fully assessable learning outcomes and proficiencies for degrees, discipline by discipline. The tuning project was designed to work in conjunction with other programs, including the Degree Qualifications Profiles initiative and Utah's Faculty Discipline Majors' Meetings. The long-term objective of the Utah Tuning Project was that all disciplines would be tuned, and every student graduating with a degree in a tuned discipline would demonstrate mastery of all learning outcomes and competencies that the team had determined to be critical for work in that discipline.

Project Activities and Components

The central activity of this project is its tuning teams. For the past three years, four teams have operated in Utah: physics, history, elementary education, and general education mathematics. Earlier a pilot project of the tuning process had existed for physics and history. Thus two of these groups had been functioning for two years previous. Tuning teams consisted of a representative from each of the public universities and colleges in Utah, in addition to some from private institutions. Because the physics and history teams had been tuning for over two years prior to this initiative, many of the team members were well versed in the process; however, several team members representing the various institutions had only recently joined these teams, either replacing prior team members or representing institutions new to the tuning process. The elementary education (ELED) and general education mathematics (GE Math) teams began meeting in September of 2011. Eight institutions of higher education across Utah

participated in this project to establish fully assessable transparent learning outcomes and competencies for each degree or discipline (or set of learning experiences in the case of GE Math). Team members were expected to represent their institutions as liaisons and advocates for the tuning process in their departments (see <http://www.tuningusa.org/About.aspx>).

In addition to these tuning teams, a Utah Tuning Leadership Team was established consisting of five principal members and the external evaluators. The main function of this state coordinating committee was to facilitate and evaluate the success of tuning teams. The leadership team for the tuning project met regularly to discuss the progress of each team, plan next steps, and provide professional development opportunities aligned with the project goals (e.g., the Educated Persons Conferences held annually in Utah to address issues of learning in higher education). Each of the tuning teams had a chairperson with responsibilities for conducting team meetings and communicating with team members.

EVALUATION ACTIVITIES AND CONTEXT

The external evaluators for this project provided evaluation support using a developmental approach (Patton, 2011). Developmental evaluation centers on situational sensitivity, responsiveness, and adaptation. It is particularly suited to this project given the socially complex nature of the initiative and the participants' expectation to continually adapt and revise tuning to meet the changing needs and purposes of specific groups. For this purpose the evaluators serve as participating members of the Utah Tuning Leadership Team, providing consultation and evaluation expertise to principal stakeholders in their efforts to accomplish the goals of the tuning project.

The role of the evaluators was to consult and to conduct targeted data collection and analysis. Their activities included observing (and at times participating in) tuning meetings and conferences; conducting surveys, interviews, and focus groups; and counseling with the coordinating group. The first two years of the evaluation focused on tuning team activities and accomplishments, with efforts concentrated on observing tuning team meetings as well as interviewing and surveying participants. During this last year the evaluators examined the ways tuning was being implemented at each institution and the extent it was being shared with

department faculty. This was done through an online faculty survey supplemented by on-site focus groups with faculty from each of the four disciplines.

SUMMARY OF EVALUATION FINDINGS

The contextual analysis below summarizes observations, analyzes data, and shares insight gained from the tuning project. These descriptions are based on team meeting observations, interviews, focus groups with participating team members, and survey results from faculty over a three-year period.

Claims, Concerns, and Issues

Tuning is a socially complex process of cultural change, which takes place in diverse settings and contexts. Thus although some aspects of the process were similar, some experiences of the four participating teams were unique. A common term used by participants for the tuning process was *muddling*. Team members tended to muddle first with understanding what the tuning process would entail before attempting to accomplish and implement it. The process by which each team eventually arrived at their goal and the concerns each experienced were different from all others. Based on observations and interviews, the following claims, concerns, and issues have been raised.

Understanding Tuning. One of the common challenges of the tuning initiative was that the term *tuning* is not particularly intuitive. As individuals were initially introduced to the term, many were confused about its meaning. Their confusion was exacerbated by the need for understanding related terms and definitions (e.g., *learning outcomes*, *competencies*, etc.). In fact, the primary concern of the GE Math and ELED tuning group members at their first meeting was that they did not initially grasp the meaning and purpose of tuning nor did they understand the expectations for their group. In contrast, the history and physics tuning groups were more familiar with tuning, as most members of these teams had been involved previously in a two-year pilot study. Much of the initial meeting time for both GE Math and ELED was spent discussing *tuning* and explaining why institutions might benefit from it. Most participants indicated that, while they initially did not know the meaning of the term tuning, they attended the meeting

because they had been invited (or assigned) to represent their faculty. Several indicated that they assumed the tuning leadership team would let them know the process and expectations.

When history students were interviewed as part of a focus group in the second year of the evaluation, they too could not define tuning, but they provided some rather interesting possible meanings. These students had studied at institutions where tuning was in progress, but faculty at many of these institutions rarely used the term *tuning* with students. They preferred to discuss tuning in terms of what students were expected to know, understand and be able to do upon graduating from the program.

Table 1 presents the results of a survey item questioning individual faculty members' understanding of tuning. Nearly half (44%) of those who responded to the survey indicated they didn't know what was meant by tuning or did not provide an answer to the question. Several of the non-respondents (nine individuals who did not complete the survey) emailed saying they didn't know enough about tuning to respond to the survey, tending to defer to the tuning team member representing their department.

Faculty who were categorized as having only a partial understanding of the tuning process included those who seemed to confuse tuning with other initiatives that promote development of learning outcomes. For example, the Degree Qualification Profile (DQP) and Liberal Education and America's Promise (LEAP) initiatives both encourage educators to develop learning outcomes. As part of the accreditation process at most universities, each department receives a mandate to establish learning outcomes. Most often faculty could relate tuning to learning outcomes but were unaware or unconcerned about where the learning outcomes came from, why they might be important, or how they differed from other initiatives. Based on survey and focus group results, many individual faculty members seemed to have some misconception about tuning and its purpose. A notable issue common to all groups was the need for tuning education.

Table 1

Faculty Understanding of Tuning by Tuning Group

Knowledge of Tuning	ELED		GE				ALL Groups			
	Count	%	Math	%	Physics	%	History	%	Count	%
Knowledgeable	15	38%	14	32%	8	29%	12	27%	49	31%
Partial	13	32%	7	16%	10	36%	9	20%	39	25%
Don't Know	3	8%	6	14%	5	18%	11	24%	26	16%

No Answer	9	22%	17	38%	5	18%	13	29%	44	28%
total	40		44		29		45		158	

Note: Overall response rate for the faculty survey was 52% (158 of 304).

Disseminating tuning information to faculty. A related issue to tuning education that was common among disciplines was the challenge of exchanging tuning information between the tuning teams and faculty at their related institution. Tuning team members eventually came to understand the process well (i.e., what tuning should accomplish and why it might be beneficial). For the most part they were pleased with what they had accomplished. A large majority of tuning team members also indicated that they valued having participated in the tuning exercise with colleagues from across the state and found the collaborative process extremely beneficial. This reaction was less apparent for the typical faculty members who were not involved in tuning at each institution.

An expectation of each of the tuning team members was to act as a liaison between the tuning team and faculty in their respective departments. Efforts to ensure that they do so met with several obstacles. Tables 2 and 3 present results from the faculty survey regarding how often faculty discussed tuning and learning outcomes as a department.

When asked how often departments took time to discuss tuning, about a third of the respondents did not answer this question; however, 80% of those who did answer indicated they discussed the tuning initiative as a department three to four times per year at most. In comparison, 44% of those who answered these questions said they discussed department learning outcomes at least once per month. The elementary education departments were the ones most likely to discuss tuning and learning outcomes, likely because teacher preparation programs are highly regulated by outside accreditation entities. Due to external pressure from regulators, teacher preparation programs are required to make explicit links between expected learning outcomes, instruction, and assessment evidence. Physics was the least likely discipline to report having spent time as a department discussing tuning and department learning outcomes.

Table 2

Faculty Discussion Regarding Tuning by Discipline

Tuning Discussions	ELED	%	GE Math	%	Physics	%	History	%	ALL Groups	%
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Never	2	5%	7	16%	3	10%	5	11%	17	11%
1-2 per Year	3	8%	9	20%	8	28%	13	29%	33	21%
3-4 per Year	14	35%	7	16%	5	17%	6	13%	32	20%
Monthly	3	8%	6	14%	1	3%	8	18%	18	11%
2-3 a Month	1	3%	1	2%	0	0%	1	2%	3	2%
Weekly	0	0%	0	0%	0	0%	1	2%	1	1%
No Response	17	43%	14	32%	12	41%	11	24%	54	34%
	40		44		29		45		158	

Table 3

Faculty Discussion Regarding Department Learning Outcomes by Discipline

Learning Outcomes Discussions	ELED		GE Math		Physics		History		ALL Groups	
		%		%		%		%		%
Never	0	0%	1	2%	2	7%	0	0%	3	2%
1-2 per Year	3	8%	6	14%	5	17%	7	16%	21	13%
3-4 per Year	5	13%	9	20%	5	17%	15	33%	34	22%
Monthly	10	25%	8	18%	3	10%	7	16%	28	18%
2-3 a Month	4	10%	4	9%	2	7%	3	7%	13	8%
Weekly	1	3%	1	2%	0	0%	2	4%	4	3%
No Response	17	43%	15	34%	12	41%	11	24%	55	35%
	40		44		29		45		158	

Another constraint on the frequency of these departmental discussions was the individual controlling the department meeting agenda. The more influential the tuning team member (e.g., a department chair or senior faculty member), the more likely tuning seems to have been addressed in meetings. Additionally, departments with only one or two faculty members (e.g., two-year preparatory colleges) reported little or no need to discuss tuning. An additional challenge for those in the GE math group was opportunity. GE math was not a department with official meetings, and they reported that the learning outcomes they developed tended to be of interest to a variety of departments to varying degrees.

Promoting faculty and institutional buy-in. In addition to tuning education, faculty and department feedback and buy-in have been significant issues—the most common mentioned by almost all tuning team members. There was a general perception that faculty in their departments were slow to provide feedback and in some instances resisted or expressed some

apathy regarding this endeavor. This varied by discipline. The following issues and concerns were shared by faculty as reasons they valued or resisted tuning efforts.

Benefits and value of Tuning. Several participants made claims about the value of tuning in addition to those articulated in the official purposes of the Utah Tuning Project. These include (1) the benefit of meeting with colleagues from other institutions to network and discuss common interests and issues; (2) the perceived benefit of personal learning; and (3) the fact that tuning is aligned with and useful for meeting accreditation requirements.

The benefits of collaboration among institutions and personal learning were mentioned primarily by tuning team members. Even if they felt the tuning initiative was not warmly welcomed in their department by other faculty, tuning team members consistently expressed the belief that engaging in dialogue and networking with peers from other institutions had been extremely beneficial, especially for two-year colleges. Faculty from each of the two-year programs acknowledged that they could not address all the learning outcomes the group established for the degree. However, they recognized the benefit of communicating the expectations their students would encounter when they transferred to four-year programs to complete their degrees.

Several individuals also noted the relationship between tuning and accreditation expectations. Many of the departments used the learning outcomes and assessment alignment efforts from the tuning initiative as part of their accreditation documentation. The elementary education group consistently mentioned the benefit of reframing the state's Utah Effective Teaching Standards (UETS) for practicing (in-service) teachers and aligning them with expectations for teacher candidates (pre-service teachers). Many of the standards for classroom teachers could not be applied to student teachers as they participated in field and practicum experiences. Several faculty felt that one of the greatest benefits of tuning was expressed by supervising teachers who were expected to assess teacher candidates' performance. Many of the standards listed in UETS could not be assessed for teacher candidates since student teachers were not given opportunities to develop expertise with them. Having the UETS tuned for teacher candidates has allowed supervising teachers to make better (more valid) assessments of candidates' knowledge and ability.

Concerns regarding standardization. Many have expressed concern that tuning could become a subtle form of standardization. The official tuning statement asserted that establishing

a common set of learning outcomes and expectations for degree completion does not mean institutions must standardize the way they provide services or assess students. Reaction to the standardization concern varied by discipline.

Many physics faculty seemed fine with standardization, which they believe fits nicely with the nature of science as a body of knowledge. Some participants said they accept standardization as an important goal of tuning for their discipline. They saw value in having departments across the state teaching a common set of science concepts. They expect students who receive a physics degree to have a standardized foundation of basic knowledge. Many physics faculty members accepted standardization as a partial purpose of tuning and considered the state-sponsored Faculty Discipline Majors' Meetings as an appropriate venue to discuss issues of course credit transferability.

Elementary education participants were also more likely than most disciplines to accept standardization as part of the certification process for their students. For some time now teacher preparation programs have been regulated by state and other external organizations. They are expected to have clearly stated learning objectives along with assessments targeted at providing evidence that their students are prepared to teach. Although they accept a common (or standardized) set of learning outcomes, they also believe their individual programs are not compelled to prepare and assess their students in standardized ways. Faculty members in each of these programs feel they provide a unique benefit to their students. Members of each program indicated they felt they were doing a good job preparing their students, emphasizing that they have been doing this for several years. As mentioned above, they also felt that coming together as a group to discuss ways to accomplish the goals of tuning had been a highly beneficial endeavor.

For the GE math group, standardization was less a concern than a challenge. The distinctive contexts of the various GE programs make tuning difficult. GE math courses may not be completed as a series like they would for degrees in other disciplines, but often function as service courses for various degrees. Standardization in these situations was seen almost impossible. Thus the learning outcomes for GE math needed to be very general.

The most consistent push back to tuning as standardization came from history faculty. Contentious debates regarding standards and standardization within the American Historical Association (AHA), the premier professional organization in the United States in this discipline,

may have contributed to negativity. The primary concern about tuning and standardization seems to center on the kinds of skills and knowledge historians require. While minor learning outcomes for this discipline might address recall of historical events or familiarity with historical facts, the primary skills and abilities focus on critical thinking and interpretation, along with the ability to present a persuasive evidence-based historical argument recognizing a range of divergent viewpoints. For many of these faculty members the nature of history as a discipline seems to reject the notion of standardization. Historians don't want to be told what to teach or how to teach it. Most seem to believe they are preparing their graduates effectively, providing a valuable set of skills required to function in a wide variety of fields. However, unlike physics course content, which is somewhat standardized, the content of specific courses taught for a history degree seems secondary to the foundational skills the program develops within an area of specialization.

Concerns regarding assessment. Most tuning group sessions identified assessment as a major concern. While any uniform use of standardized testing was clearly not an option for any of the disciplines, most respondents indicated they were unsure about how to assess each of their tuning learning outcomes effectively and efficiently. They often expressed the concern that some important outcomes and expectations would be extremely difficult to measure. Many of the groups expressed a desire to share assessment ideas.

Some respondents expressed concern over a perceived expectation that departments would guarantee that each of their graduates would have all the important dispositions and abilities put forth by tuning members. Given external criticism regarding low graduation rates, few if any expressed willingness to withhold a degree from a student who had successfully completed required courses if the faculty felt he or she had not fully or adequately learned all that was expected.

Concerns regarding tuning as a grassroots initiative. Some have questioned the claim that tuning is a grassroots initiative. Many faculty respond initially to the concept of tuning by questioning the source and the motives behind it.

Tuning is meant as a faculty-driven process, seeking and usually obtaining input from department faculty through their representatives. The Utah Tuning Leadership Team was careful to avoid prescribing outcomes or telling team members how to implement and assess them.

However, some have mentioned that the learning outcomes developed by tuning teams need more faculty input. This same concern was voiced by history faculty for current national tuning efforts under AHA, which have produced similar but slightly different learning objectives from the Utah tuning outcomes (see <http://historians.org/teaching-and-learning/current-projects/Tuning/history-discipline-core>). While input was obtained from a wide variety of individuals from across the country, a final true consensus by all history faculty is unlikely. Agreement is low on which learning outcomes and competencies are most important and on how to word specific outcomes.

Elementary education tuning groups face similar issues. Teacher education programs have many masters, principal among them being state regulatory bodies that ultimately issue teaching licenses to graduates. Each state establishes standards for these programs (e.g., UETS) and expects faculty to align their learning outcomes, curriculum, and assessments accordingly. While some faculty may disagree with these mandates, they must comply to the best of their ability.

Faculty implementation of tuning. Another concern participants expressed was implementation of tuning in the classroom. Faculty rarely talked about tuning directly with students; about 31% did not answer the survey question asking if they had done anything different as a result of tuning, and another 26% indicated specifically that they had not done anything different. Another 12% simply indicated that they were already tuning. This group and those indicating they had not done anything different seemed to mean they had already been sharing course and program learning outcomes with their students verbally or on course syllabi, which appears to be the primary implementation activity for most participants, along with creating a document for the department outlining the expected learning outcomes for the program. Another 13% said they now share program learning outcomes with students.

A few respondents indicated that they implemented tuning in additional ways, which included aligning assessments with learning outcomes, adjusting instruction to address learning outcomes, and using learning outcomes to communicate to others what they expected of graduating students. The history faculty at some institutions also indicated they were trying to change the students' perception of their degree by coaching them to express their qualifications in terms of learning and skills rather than courses taken. For example, faculty reported their attempts to focus student discussion on the broader goals of historical study, the skills and

proficiencies developed in a course, the sequential “laddering” of skills, the importance of the capstone research project as a way to acquire and demonstrate skills and abilities, as well as the ways history proficiencies translate into success in further education, public sector work, and private sector employment.

CONCLUSIONS AND RECOMMENDATIONS

Overall, this initiative was well organized and in compliance with all the specified aspects of the grant. The Utah Tuning Leadership Team functioned well together and actively sought to facilitate the success of each of the Utah tuning teams. The discipline-specific teams meet regularly and each has made progress toward their goals. However, while the project was a success in many ways, initiatives like tuning require considerable time and effort if they are to have a lasting impact.

Taking tuning forward successfully will require a long-term commitment to the concepts and principles of the initiative. Initial success in tuning requires agreement on learning outcomes for a discipline, along with changes to policies and practices at the individual institutions involved. Although the Utah Tuning Project has seen this level of success, lasting improvement will require a systemic change in the way faculty and students think about university training. Sustainable success will also require continued state-level support to coordinate and facilitate the collaborations the initiative requires. The following recommendations and best practices are presented as findings from this evaluation.

Project Support and Initiative Advocates

Buy-in is an essential ingredient for the success of any initiative. For a tuning project to be successful, support must be established at each level of the university system within the state. Advocates at each level must be willing to take on the challenge of tuning implementation. Without someone at the state level to rally support, facilitate meetings, and encourage cooperation, the individual institutions will be less likely to participate. At the university level, college administrators must provide individual departments with encouragement and incentives to participate. At the department level, an individual must advocate for the program and be willing to serve as a liaison between the tuning teams and department faculty.

An important aspect of the Utah Tuning Project's success was support from individuals representing the Utah System of Higher Education on the tuning leadership team, who gave credibility to the initiative and increased initial support for the project when individuals from the various institutions were invited to participate. These individuals believed in the benefits of tuning and worked to make it successful. Because the state was involved, the leadership team was also able to integrate tuning into the agendas of the established state-level Utah's Faculty Discipline Majors' Meetings, which are designed to bring together department representatives from various colleges across the state to discuss issues and articulate agreements. We also found it is a best practice to have highly regarded individuals from the departments serve on the tuning team. A department liaison who is a prominent member of the faculty with the support of the department chair (or who is the department chair) is much more likely to be able to share tuning information, gather feedback, and garner faculty support.

Continued Tuning Education for Faculty

Another aspect critical to the success of this project is tuning education. Individual faculty and university administrators have to be educated in terms of what tuning is, including its benefits and challenges. Tuning participants must also be educated regarding what they are expected to do. Training cannot be a one-time event, as personnel often have competing obligations and expectations demanding their time and attention. To be successful, tuning must be integrated into department meetings and processes. It also needs to be explained to new hires and presented persuasively to faculty who hesitate to participate because they do not understand the potential benefits.

This project demonstrated clearly that as individuals learn about tuning (understanding what it is and what it is not), they tend to participate more fully. While each group had specific issues to deal with, all participants faced the challenge of gaining full collaboration, adequate input, feedback, and buy-in from their department colleagues. Obviously many faculty members at particular colleges did not understand tuning and as a result were less willing to participate. A best practice for educating faculty is to establish regular meetings to inform faculty about tuning and to discuss ways to implement tuning practices into classrooms.

Contextualized Adaptions by Discipline

Unfortunately tuning is not a one-size-fits-all endeavor. Successful implementation of tuning will likely vary significantly among disciplines. For example, while the GE math group had some success and benefited individually from tuning, they found it more difficult to implement tuning and get buy-in from those at individual institutions that might benefit from tuning GE math. The primary difficulty was that GE math courses do not constitute a specific degree and those involved are not organized in a department. For those in the elementary education group, tuning had to align with mandated learning outcomes from state regulatory departments and in some cases from more than one accreditation organization. Physics faculty agreed fairly quickly on learning outcomes and then struggled with assessment issues, as well as differentiating between bachelor's and master's degrees. The history group had to contend with buy-in issues and also efforts by their national organization that would inevitably affect their own tuning efforts. A best practice for those trying to implement tuning is to avoid expecting that it will be implemented in just one way.

Summary of Conclusions

Many initiatives fail because participants are unable to sustain ongoing support after introductory efforts. Success in tuning may initially be measured by agreement on learning outcomes delineating what students will know, understand and be able to do once they complete their degree. However, long-term success requires a systemic change in the attitudes and actions of individual faculty members and students. The essence of that change would require individuals to focus on students learning rather than simply completing course requirements for a degree. Sustainable success of tuning also requires a long-term commitment of support from state administrators and from individual universities that will benefit from the potential tuning has to offer.

One crucial benefit of tuning identified in this evaluation was collaboration and communication among faculty at institutions offering similar degrees, particularly in identifying efforts and articulating expectations between four-year programs and two- year transfer programs. Additional benefits included refocusing students' attention away from formal degree requirements to specific knowledge and skills necessary for working in their chosen field; making learning outcomes more explicit and transparent for faculty and other stakeholders such

as employers; and helping faculty better align their teaching efforts with the intended learning outcomes of a degree.

During all tuning efforts those who are trying to implement tuning must understand that tuning faculty will not likely implement tuning in just one way. Tuning can be a dynamic and messy process that will present itself in different ways depending on the discipline involved. For tuning to be effective, those implementing the initiative must also make a long-term commitment to encourage, educate and regularly re-train its stakeholders.

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APPENDIC C:
Faculty Discipline Majors' Meeting Agenda and Notes

September 21, 2013

1. Introductions
2. Changes in Lower Division Courses; Implications for Transfer
3. Additions and Deletions of Common Course Numbers (law)
4. Review of Quality Collaborative (U of U – SLCC)
 - A. Description of project
 - B. Expected outcomes re: signature assignments and assessment
 - C. Possibilities for other business programs
5. Degree Qualification Profile (DQP): It's back! (Provide spider sheet)
 - A. Competencies building upon one another within the discipline and GE
 - B. Ways to test it
 - a. Development of pathways
 - b. Include both departmental faculty and students in discussion of DQP
6. Articulating students' knowledge and skills
 - A. Intentionally tying LOs in syllabi with what students are learning in class
 - B. DQP as tool to assist students to express these skills more broadly throughout their undergraduate education
 - C. What are the implications for undergraduate education if we prepare students to articulate their knowledge and skills?
7. Issues from Last Year
8. New Issues
 - a. Updated articulation matrix?
 - b. Issues for upcoming Business Deans Meeting (Does one need to be scheduled?)
9. Conclusion and Announcement of the "What is an Educated Person?" conference – 10/218 – Zermatt

Meeting Notes

Physics Major's Meeting

September 27, 2013

Board of Regents Office: 11 a.m.

In attendance: University of Utah: Brian Saam, Jordan Gerton, Lynn Higgs; Utah State University: Charles Torre, David Kardelis; Weber State University: Colin Inglefield; Southern Utah University: Jim Chisholm; Utah Valley University: Phil Matheson; Dixie State University: Samuel Tobler; Snow College: Larry Smith (joining by phone); Salt Lake Community College: Trina VanAusdal; Utah System of Higher Education: Teddi Safman, Greg Benson, Cyd Grua, Jessica Lucero; Tuning Project: Bill Evenson, Janice Gygi, David Williams, Randy Davies

Charles Torre chaired the meeting.

Changes in lower division courses.

Cyd said that the prefix for physics is PHYS. If UVU is the only one teaching cultural astronomy, should it be removed from the list? Are there any to add? No one suggested additions.

Cyd asked if there is a difference between modern physics (PHYS 3740) and Introduction to modern physics (PHYS 2710). UVU said that PHYS 3740 should be gate keeper. They offer two semesters, PHYS 3210 and PHYS 3220. PHYS 3210 is the current PHYS 3730 plus waves. PHYS 3220 is devoted to applications.

Utah already has PHYS 3210 and PHYS 3220. USU has PHYS 2710 – quantum theory and applications and PHYS 3710 is different. SUU modeled their PHYS 2710 after the previous course at USU. The standard across the country is PHYS 2710. The Utah institutions that teach PHYS 2710 are tweaking it to fit their needs.

Cyd asked who within the institution does the articulation. Phil said if it is a small issue, it comes to him. Charlie said at USU every year they review the standard articulations.

What should be done about the modern physics course? Phil said it is an introduction to other courses. They never do get to the last half of the chapters. USU has a class called waves. UVU put in a first semester with a nice solid wave unit.

The University of Utah said that the PHYS 3740 class is not substantially different from what is taught at SLCC. It is not different enough to be calling it a different course.

Bill said that the modern physics course is an introduction. Whatever is taught is a good introduction to other courses. At Utah, they give transfer students elective credit for PHYS 2710 and don't require them to take PHYS 3740. The issue is what is being accepted for transfer. USU reported that they will take

anything that is modern physics for transfer. You need to make sure they have roughly four weeks of relativity. Quantum material is an introduction anyway. Relativity is a critical piece because they do not hit it again. Utah suggests PHYS 2710 plus PHYS 3740.

Jon said that at Dixie they now have the ability to teach 3000 and 4000 level courses. Now they have PHYS 3710, which will be like PHYS 2710. They are trying to add 3000-level credits for the students.

Cyd suggested swapping syllabi among the institutions.

Charlie said that USU has PHYS 2710, which is quantum theory. Then PHYS 3710 includes relatively, cosmology, and particle physics. He said there is no problem with courses within the state of Utah.

Teddi said the regents don't want students to be disadvantaged in transferring from one school to another. Dixie noted that they have no degree in physics.

Larry asked what year students take PHYS 3740. Charlie said that some take it as sophomores, but it is a junior-level course. However, it is hard to determine what sophomore, junior, or senior means. They need to take courses in a specific order. The time to completion is often five years, so they just count credit hours. Jordan said they should look at progression through the courses and perhaps change some to 2000 level.

Cyd asked if there was a lab for PHYS 2220. She will put it into the matrix. Utah has PHYS 1500, preparatory physics, but no other institution has it. It should be removed from the matrix. Jordan said it used to be PHYS 1100 and was intended for people whose math skills had lapsed. It was a preparatory course to get students back to speed to prepare for PHYS 2210. Now it is a normal full semester course. They have started to track performance, and it seems to be valuable. Students are doing well in PHYS 2210. It really only goes through the beginning of Newton's law and looks at problem solving techniques.

Charlie said that PHYS 2200 is a half semester. It is PHYS 2210 cut off half way. This provides a smaller credit load for engineers. Jordan said they are not using calculus in that class. It mostly focuses on algebra and trigonometry. Brian said it is a matter of student maturity. It needs to be offered.

Jordan said they just started to try to populate that class based on a recommendation and on measurement. It has no lab.

With PHYS 1700 and PHYS 1800, they want to add PHYS 1600, which would be a quasi-lab descriptive optics course for multimedia, graphic design students.

Assessment Processes and Types.

The Tuning website has Tuning items (Utahtuning.weebly.com). Departments are encouraged to post information on this. USU has posted and SUU has a nice document. These include some assessment strategies. Jordan reported that Utah is now gearing up to have a department-wide discussion about

undergraduate curriculum. Brian and he are pushing to have this be a discussion of learning outcomes. They have no idea how it will go over, but it is a beginning.

How do students find out about learning outcomes? USU is putting them on the website and on the documents that students receive when they enter the major. Jim requires the learning outcomes that are relevant to the course to be on the syllabi. Teddi said that currently students cannot articulate the outcomes, and they need to be prepared to articulate them. Jordan said once they agree about learning outcomes, they should be public. Charlie said they should be online. Bill said USU's are currently linked on the Tuning website.

Charlie said USU is starting to use a new course evaluation system, IDEA. They must specify learning outcomes up front. Students are asked questions about what they have learned. It has been very eye-opening.

SUU switched from online to the pencil and paper IDEA. Faculty receive four pages of how they compare to other programs. USU is online. Charlie reported that he gets 80% participation. Jordan said the students at Utah get to see their grades early if they fill out the form. They have over 50% participation. Faculty are highly motivated to teach to the test. They tell students the outcomes at the beginning of the course and again right before the evaluation.

David said he talks about questions that were on the test. Why was this on the test? It gives students an idea of what was being taught and tested.

SUU looked at their program review and used questions from exams. They use same questions each year, and then they can track the results over time. They have separate tracking system, TrackDat, which is a way to assess the course. It is mandated at the university level. All the Tuning work goes into this. There are only four courses that need this assessment. In physics it is course based. In chemistry they have a comprehensive assessment.

Charlie said that students may not remember specific information from a class. The issue is what they know at the end of the program. They have a capstone, research course. With a little work they can turn it into an assessment tool. A student has to have a mentor, prepare a paper, and make a presentation. This can be used as an assessment of a program, not just a course. They have a new process for use with the two year program, and they just completed a long document for engineers for ABET accreditation. It is nice to have a clearing house of assessment techniques. Everyone is encouraged to put links for individual institutions on Tuning web site (Utahtuning.weebly.com). Send links or files to Bill: bill@evenson.ch).

Jordan said that Utah is not doing anything. It is difficult because the GRE costs money, and it is not clear what it tells you. It takes some thought to figure out how to do degree-level assessment. The number of students in the major at Utah makes it difficult to do a final project.

Bill said that BYU does assessment through a capstone class with a senior thesis. They have a large number of students, but they are able to make it work. He said that whether or not there is a senior

thesis depends on the major within physics. Randy said all departments at BYU must put their learning outcomes into the system, including how they are measuring them and how they are progressing.

Charlie said some departments are more amenable to this kind of project.

Degree Qualifications Profile.

Teddi said that the DQP is a tool and a process. Theoretically it is intended to answer the question, what is a college degree. It is an intentional tool that tracks what a student knows, understands, and is able to do. The faculty collaborates to see what the students know as they progress through the program. The DQP ties tightly to Tuning in that we have worked intentionally and collaboratively. For both, faculty work together to determine what a student should know. It is important to have students articulate what they are learning and why they are learning it, including how it ties to the expectations of the class. At the end students will know what they know, understand, and are able to do. The DQP is a transparent way for employers, legislators, and other stakeholders to know what a student can do. Teddi said that the Board of Regents will never tell you what to do or what to teach. The DQP is being tested across the United States.

Bill said the DQP gives an overview of assessment at degree levels, because it is not discipline specific. Faculty will find the language and categories to be useful when looking at the degree level.

Teddi said that the DQP is built on levels of sophistication. It would be useful to map Tuning to the DQP. The Association of American Colleges and Universities (AAC&U) has found that students are proficient in their fields, but they have problems with skills such as communication, team-work, and critical thinking. Those skills are in the DQP and are based on the essential learning outcomes.

Jim noted that the DQP initiatives are like the LEAP initiatives, and SUU has mapped physics to LEAP. There is a linkage between courses and outcomes.

Charlie asked to what extent general education prepares students for physics. Bill reported that we have a Tuning team for general education math, but we need to Tune all of general education. Jordan said there is a bigger option to impact society with other courses rather than physics.

Bill said, as we advise physics majors, we need to have them take courses that help them understand how they fit into the world. How does physics connect, and how does it fit with the rest of the world?

Charlie asked if there are recommended general education courses for physics majors. Do you want something that fits into physics, or do you want courses that broaden students? Some students who are not physics majors may become majors, and some physics majors may change.

Teddi has been working on pathways. Legislators say students are wasting time taking some of the classes. However, no class is wasted. Phil suggested asking graduating physics majors what they learned in general education and how would they change those courses. Colin said students benefit from general education. The discipline is better if the people who practice it are well educated. Bill noted that people who major in physics tend to be more analytical, so they gravitate toward analytical GE courses.

General education allows us to do more than we do in the major alone. Jordan said we should examine the courses that physics teaches in general education.

Phil said physics majors would profit from taking music or other courses. Charlie said that there is not much wiggle room in the physics curriculum. Colin noted that the physics curriculum is vertically organized. It takes a long time to get through the major, and it is difficult to switch into the major because students need to take the appropriate steps.

Bill has argued that the current physics pathway is a convention. Utah has used it because it is an order that works and is consistent across the country. The discipline does not impose the hierarchy, but it imposes some hierarchy, and we have used the current one because it has been accepted.

Physics classes require a new language. Students cannot do anything unless they have had the earlier courses.

Taking the discussion to the departments.

Charlie said that his department is not very engaged. Phil said that, at UVU, new faculty have been forced to go through this in a real way. It is coming from on high. New faculty are required to go to Faculty Excellence teaching workshops, and the new faculty are on board with this. Charlie said that we can change the culture with new people. If this is to be accepted, every department needs a champion.

Utah is gearing up to implement Tuning. Brian is working on it. He is starting to hear grumblings. There are people who are going to resist for a long time, and he is starting to see the emails now. It is policy now. If we look a few years into the future, this will be standard and will be like buckling your seatbelt. We need to show the advantage of this. It does not involve telling people what the specific content should be. Utah has a new chair now. They are now are the Department of Physics and Astronomy and are moving to a graduate curriculum. It is beginning to gel now. All these are things that have to be addressed.

Technology intensive concurrent enrollment.

Greg Benson discussed technology intensive concurrent enrollment (TICE). About a dozen classes have been developed. CHEM 1010 is the only science class. There are physics courses in concurrent enrollment. Dixie does concurrent enrollment. SUU will start a course. At USU-Eastern some students are joining. It is not clear whether there will be a third iteration of the funding for TICE.

AP credit.

The group discussed AP credits. They can be accepted as elective credits but are not accepted as a substitution for required physics courses.

Tuning evaluation.

Randy announced that he and David will contact each department to meet with faculty or interview them over the phone. They want to discuss some of these issues with the faculty. Obviously

implementation varies. David said they are hoping to do this before February. By February, they will be preparing a report for future generations of Tuning.

Announcements.

The “What Is an Educated Person?” conference will be at Zermatt in Midway on October 18. Information and registration materials can be obtained from Monica Ingold (monica.ingold@usu.edu).

There will be another meeting in the spring at a date to be announced.

Be sure to check the website at utahtuning.weebly.com. If you have material to add to the site, send it to Teddi (psafman@ushe.edu).

History Major’s Meeting

September 27, 2013

Board of Regents Office: 3 PM

In attendance: University of Utah: Isabel Moreira, Denise Brenes, Nadja Durbach; Utah State University: Dan McInerney; Weber State University: Kathryn MacKay, Susan Matt; Utah Valley University: John Macfarlane; Dixie State University: Chip McLeod; Snow College: Michael Seibt; Salt Lake Community College: Marianne McKnight, Ted Moore; Brigham Young University: Mark Choate; Utah State Office of Education: Robert Austin; Utah System of Higher Education: Teddi Safman, Greg Benson, Jessica Lucero; Tuning Project: Janice Gygi, Randy Davies, David Williams

Kathryn MacKay chaired the meeting.

Changes to lower division courses and implications for transfer.

Kathryn asked why HIST 1510 at UVU is HIST 151G, world history. John reported that the course is HIST 1510, but the G indicates it fills the global requirement students need for graduation. There were no new courses or changes. There were no deletions or additions of common core numbers.

Kathryn asked if anyone has created a research methodologies course. Utah has added HIST 3100, the historian’s craft. Weber has renumbered their methodology class, which is now HIST 4985. Mark said BYU has a historian’s craft methodology course, HIST 200. It is a prerequisite to the capstone course. Chip said that Dixie has HIST 3000, historical methodology. UVU has HIST 3010, a research methodology course. It was noted that it is not necessary for upper division courses to have common numbers.

Isabel said it is difficult for assessment if students transfer to the University of Utah without the HIST 3100 course. Only the UVU HIST 3010 has prerequisites, which are HIST 2700 and HIST 2710. The assessment of general education and upper division courses was discussed in the majors’ meeting in 2012.

Weber reported they have a pre- and post-test for HIST 1700, which is the U.S. citizenship exam. There was a new assessment for HIST 1400 and HIST 1510 last spring. For HIST 2700 and HIST 2710, some faculty use a grid and a rubric. For HIST 4990, they use the USU assessment form, assigning numerical scores that assess student perceptions of what they have accomplished. In HIST 4990, they use a new assessment form for every project and tally them for each cohort graduating.

The University of Utah does assessment for general education courses at the university level. This is in process and will launch next year. There will be a rubric for students in courses with a general education specification. Faculty at the college level will participate in that. They are using the AAC&U essential learning outcomes. For upper division, they are using the Tuning outcomes. In HIST 3100, there is a series of small tasks that can be evaluated. In HIST 3190, the outcome is a research paper. They have a survey that is used to gauge how students feel they do at the beginning and the end of the course. Students report on which of the learning outcomes they felt they had at the beginning. The process is still rough.

USU started a pre-major two years ago. It was designed to provide a key message to students. It clarifies foundational skills and course materials that they ought to fulfill before they move into major work. They give students some choices for general education. It is focused on about a dozen courses whose focus, methods, and interests coincide. If they go through the list, students will be checking off requirements that will be needed for history majors. The department advises students, but they have flexibility. They are currently looking at the IDEA evaluation program. The key focus of evaluation and assessment is on the capstone course where there is a universal project. Dan focuses on the AAC&U value rubrics that he tweaked for himself. There have been complaints that history student do not have team skills. Dan has developed rubrics that allow students to measure themselves. When they leave, they are more familiar with the language used in history.

John reported that in the lower division (1500s and 2700s), UVU identifies lead instructors. They develop standards and objectives for adjuncts as well as the regular faculty, and they are working on assessment for those courses. In the upper division, they have writing courses. The senior thesis is the final assessment tool. They have outside readers for the theses, and each student has a committee of three.

Chip said they are using pre- and post-tests for HIST 2700 and HIST 2710, but it is not working. They are working on exactly how upper division courses will be assessed for accreditation.

Mark said that at BYU most of assessment has been at the program level. This has been based on comparing students' 200 level papers with their capstone papers. They are looking at world civilization and American history. Evaluation will be based on minimum requirements of reading and writing, but they have not yet evaluated those specifically.

Michael said that at Snow students are hardly ever history majors. Students begin with an assessment of knowledge, which lets the teacher know what to teach. At the end of the semester, students are given an assessment of knowledge again. Faculty stress that students should use analysis as a skill. They compel students to analyze how this increases their historical knowledge. They also ask students to demonstrate skills with respect to analytical skills. The historical skills are also general skills. Faculty

make it a habit to delineate the objectives of each lecture. That has had good response from the students. Students are in the classes because they love history.

Marianne said that at SLCC, they have been in process of reviewing all courses they teach. They all have specific outcomes. Annually, two courses are assessed in terms of student learning. They are analyzing syllabi across the state to determine what is being required in HIST 2700 and HIST 2710 and are now looking at 3000 level courses to determine what students need to know to transfer to the University of Utah. They want to see how students are doing after transfer. They are piloting writing intensive HIST 1700, HIST 2700, and HIST 2710. In English courses, they are requesting faculty to teach skills that reinforce skills taught in the history courses. A successful internship program has been developed with the Utah Historical Society, and good quality is coming out of these projects. All SLCC students are invited to have internships. They provide one on one mentoring, and students are required to create a research project. SLCC uses an eportfolio, and a research paper is the most common assessment.

Nadja said they are encouraging internships at Utah. They have very good connections with internship opportunities and have a series of learning outcomes specific to internships. The student, internship provider, and the department all sign a paper concerning internship. The student provides a written statement about how the internship has gone. This is a small but avid group. They have a website with the history Tuning outcomes so can add internship outcomes.

Kathryn reported that at Weber the internship have learning outcomes. The site supervisor has to produce a signed letter. Weber now has the Walker institute with a series of internships. These are mostly political science, but history students are signing up. They have shared learning outcomes.

Marianne said SLCC is in the process of creating an internship in Washington, D.C. Ted discussed a study where companies were interviewed. The single most important issue in hiring people was whether they had completed an internship. A high-tech firm reported they hired a computer science major, and the student did not know how to solve problems. Employers said they can train people to do the job, but they cannot train them how to think and solve real problems.

Kathryn asked if all of the departments in the state system have learning outcomes that are visible on web pages. Are the outcomes in every syllabus in some form or other? Each syllabus should have some subset of the department outcomes. Isabel reported that they have them on the web site, but inclusion on the syllabi is very uneven. It is very hard to enforce having faculty actually do this. Susan said at Weber they had faculty submit syllabi to the chair and sent back the ones that did not have learning outcomes.

Ted said at SLCC learning outcomes have to go on the syllabus. They use bullying and other techniques to encourage this. Susan puts such information as due dates in the syllabus. This may be serving the faculty and assessors rather than the students.

Isabel said we need to try to have more consistency throughout the system as to what the outcomes will be in HIST 1500 and HIST 1700. The team may want to look at this. It might be helpful to know what

institutions are doing in these courses. Isabel said there should be some consistency in what is being taught.

Degree Qualifications Profile.

Dan said there are a number of contexts for the DQP. The Lumina foundation national advisory board sees the integration of Tuning and the DQP as their signature project. Their goal is to have 60% of adults in America with secondary degrees by 2025. Lumina has a new strategy for themselves for the next three years. At the center of that is how Tuning and the DQP are going to intersect. In Tuning we are trying to see what students should know, understand, and be able to do within a major. The DQP is asking the same questions at the degree level regardless of major. Norm Jones is the general education tsar at USU. General education should not just a check list, but faculty should consider how courses relate to one another and the skills and competencies that relate to the degree. It involves asking majors what they expect out of general education and what the department can contribute to that. Where do you expect students to start, and where do you expect them to be at the conclusion. This starts with the key questions of when students finish a major or degree what do they know, understand, and are able to do. We need to make certain we are communicating that information to stake holders. This involves talking about a way of expanding Tuning to think about a degree as a whole. We should have agreement about majors and degrees. How do you know you have done what you set out to do? How do we measure all this at the degree level?

The Carnegie foundation now says the credit system has very little bearing on the nature of education as we now know it. They are experimenting with something else that is more meaningful. This is something to think about when we talk about the DQP and Tuning. How do we define a degree if the credit is removed? We are moving toward assessing competencies.

Kathryn asked if those who have been involved in the Tuning process will we be involved with the DQP. Dan said that we are not the only people on campus to be involved with this. History should have a place at the table in discussions about this issue because it is involved with general education.

Teddi said it will take time to reach an understanding of the DQP. The faculty are not excited, but it seems almost doable. The faculty needs to collaborate, talk about it, and learn about it. The DQP document is going under a revision at this time. We should wait and see what comes of discussions in the fall and winter. It is important to talk about collaboration and intentionality. The language breaks it down into something doable. Susan asked how Tuning is different from assessment. Are we just putting in another new project? Do we have to do another set of tasks? Nadya said students in Utah have been to lots of different institutions. They may decide to do general education during their last semester. We have a vision, and then we have reality. Students move through in different ways at different rates. We have an ideal path that nobody is on.

Dan said we need demonstrable student outcomes with some kind of intentionality. It is not an effort to impose some rarified ideal. It is very much intended to provide a set of skills that students can take to many different places. Teddi said this is an effort to have some idea of student learning. This is what we can do at this point in time.

Marianne said some erratic behavior is because students can get away with it. Perhaps as we move into more structure, that may change. Students seem to have a sense of entitlement.

Dan said in a class meeting we should reflect on what we bring to this. Are we determined to get through the course content, or do we have broader goals. Students don't understand why this is a real world exercise. It should be more than preparing a student to take a Praxis course. They will fail in interviews if they talk about history the way we have them talk to other history professionals rather than people outside the discipline. They need to be able to transfer research skills to another context. Students should introduce themselves as information analysts rather than history majors.

Denise said it is important to catch students before they enter the major. We need to go into the community and talk to parents and other stake holders. Let them know what it means to be a history major. Isabel suggested giving a letter to the student explaining what they could do with the major. Faculty may buy into this if they see that it is helping students.

Dan discussed the larger American Historical Association (AHA) Tuning project. The AHA has heard a lot of complaints and objections, but we should all at least recognize that we have been moving along the lines the AHA recommends. Many want to focus on pure disciplines themselves. The AHA wants to have departments decide what the PhD programs are gearing students for. Discussions can be found on the AHA web site. The meeting of AHA in January will be discussing this. Dan announced that updates on the AHA project and positions are on the agenda for the "What Is an Educated Person?" conference. The AHA is offering a set of reference points and nothing more. Faculty are being asked to look at the objectives, see what is relevant for their institutions, and understand what they might be able to do. The AHA does not want to license or set up requirements for individual departments.

Taking the discussion to the department level.

Dan said we should speak with the advisors to develop presentations for students to let them know about history. USU will bring back some graduates to talk to the students. This will be a simple meeting with pizza and soda. One purpose is to have them demystify graduate school. A history club might be used to discuss this kind of issues.

Technology Intensive Concurrent Enrollment.

Greg said that in concurrent enrollment, high school students take courses where they receive both high school credit and university credit. They can come to campus or take it in the high school in a concurrent course. About a dozen courses have been developed by teams from USHE institutions. These technology intensive concurrent enrollment (TICE) classes are hybrid courses with a robust online component plus an in-class component. The TICE project has packaged the courses a little better for a high school teacher to teach these. Information about the project can be found on UEN.org/concurrent. There you can see the courses that have been developed, have been piloted, and are being piloted. TICE is going into the third cycle. There may be a fourth cycle if it is funded.

Teddi asked how we can work with adjuncts so they catch the spirit. Greg said once the TICE courses are developed, they may be helpful to college professors. Marianne asked who is going to do the updating and maintenance on the TICE courses. At the English majors' meeting, Weber reported that money is going into TICE for upkeep. Robert said that the Utah State Office of Education will be revising the secondary core.

MOOCHS and other online learning.

MOOCHS are massively open online courses. Teddi said that departments have to be smart about these. Some students have taken the MOOCHS and have liked them. They are literally open to people around the world. There are issues with putting them in your program. They are new pedagogies.

Announcements.

Robert said USOE is encouraging student to know memorize and study the Gettysburg address. History majors will be serving as judges or mentors for this project.

Randy said that he and David will be visiting departments to discuss Tuning sometime between now and February. They could interview people individually if that would be better.

The "What Is an Educated Person?" conference will be at Zermatt in Midway on October 18. Information and registration materials can be obtained from Monica Ingold (monica.ingold@usu.edu).

There will be another meeting in the spring with the date to be announced.

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Elementary Education Major's Meeting

September 27, 2013

Board of Regents Office: 1 PM

In attendance: University of Utah: Dee Caldwell, Kristen Lindsay, Natasha Ralyk, Tamara Moore; Utah State University: Shannon Burgin, Anne Mackiewicz, Sylvia Read (joining by phone), Barbara DeBoer (joining by phone); Weber State University: Shirley Dawson, Richard Pontius, Louise Moulding; Southern Utah University: Brian Ludlow, Peggy Wittwer; Utah Valley University: Talitha Hudgins, Mike Patch, Sue Womack; Dixie State University: Sandy Petersen, Tracey Wheeler; Snow College: Richard Squire; Salt Lake Community College: Lois Oestreich; Brigham Young University: Janet Young; Utah State Office of Education: David Smith; Utah System of Higher Education: Teddi Safman, Greg Benson, Jessica Lucero; Tuning Project: Janice Gygi, David Williams, Randy Davies

Dee Caldwell chaired the meeting.

Changes in lower division courses.

Cyd discussed ethnic studies. On the grid, SLCC has EDUC 2150, Introduction to cultural education. This is not ethnic studies and should be removed. Weber had a diversity course, EDU 3200, which is now EDU 3205, culturally and linguistically responsive teaching. Should ethnic studies be changed to diversity?

Educational psychology is taught under several different numbers. SUU has ELED 3200; USU has PSY 3660; Utah has EDPS 3110; WSU has EDUC 3140; DSU has EDUC 3110; UVU has EDED 3300. Do these all articulate? EDUC 2110 at SLCC does not transfer, so it is being taken off the grid. It can be a general education elective, but it will not count as educational psychology.

Should there be a common course number for introduction to special education?

Assessment processes and types.

Weber has embraced the Tuning outcomes. Kristin Hadley, the department chair, has made a chart that has the pre-service teacher outcomes cross-referenced with the specific courses. It includes the assignments and assessments for each. These mesh well with outcomes from other organizations such as the Council for Exceptional Children (CEC) and with what people in the field want. It is nice for faculty and students at Weber to know exactly how they are using the learning outcomes (LOs). The LOs prepare students for the Utah Effective Teaching Outcomes. At SUU faculty have put them into the syllabus. In Canvas you can link to outcomes. Shirley is concerned about outcome 4.d. This should be unpacked into two outcomes. The way it is now, they are assessing two outcomes in one. The group agreed to divide this.

Dee distributed the Utah Pre-Service Teacher Learning Outcomes document at the University of Utah retreat. It was a little too soon to put them into syllabi, but she is still nagging everyone about it. Weber and SUU sent them to Linda Alder at the Utah State Office of Education (USOE). They have not heard from her about whether they are acceptable to the USOE. Janet said that the need to have that okay before they adopt them. David Smith said he would check with Linda and report to the group about the acceptability of the outcomes. For accreditation a report must be submitted annually. The outcomes have to be in the Syllabus, and it has to be okayed by the USOE.

The outcomes are an agreed upon way of documenting progress. Does the department monitor progress through the major? They use portfolios, student teaching, and other artifacts. Tamara is currently teaching in the public schools, and she reported that she has not used her portfolio from student teaching. She did show it at one interview. Louise asked who is it good for. What additional information do you get from it that you don't get from student teaching and other information? Sylvia said that students are taught to value it as a reflective piece. It makes them more articulate when they make a presentation in an interview.

Louise asked if the group members are using the portfolio for students or for accreditation. Sylvia said they are building it in Canvas and are planning to use it for accreditation. Dixie said they tried to embed a teacher work sample into portfolio, but students did not get to that level. This semester they are using benchmark assessments such as a reflective essay on how students have met the overall program standards. They use Weebly, which has all their information as far as eportfolio artifacts and includes

teaching samples. They have the web site but are also saving each portfolio on a CD, including benchmark assessments. An added component of the technology piece is the students' ability to present information and use technology. Who is it really for? What standards are you connecting it to?

Louise said videos of teaching, lesson plans, and teacher work sample evidence are included. Special education uses the Google site and includes videos and student teaching evaluations. Dee asked if it shows whether or not they are getting the information. The portfolio does not seem to supply the necessary evidence. Brian asked who is responsible for scoring the eportfolios. Louise said that the portfolio has been completed but has not been the in-depth scoring. She asked if anyone is using the teacher performance assessment (TPA). No one in the state is. It is a checklist rather than a rubric. BYU uses a teacher work sample, but a student could fail it and still pass student teaching class.

Teddi asked if a portfolio doesn't have value in the process. Dee asked if it really documents progress and competency. Is it really doing that? Does it assess competency other than the ability to use technology?

Janet asked what kind of capstone there would be. Louise wants to get rid of all the things that are just there and do not have really value. Weber students select an artifact about what they have learned and share it with others and discuss it with the group. They pull the most critical components to show what they have accomplished. They are merging the portfolio and the teacher work sample ideas. They have had trouble getting an answer about what the USOE will use to evaluate teachers.

Janet said that the teacher work sample is contrived. It is one more thing that may or may not be relevant. Louise said they use evidence throughout the years that they can draw on for student teaching.

Sandy said it is impossible to grade. You have to look at what is the purpose of the portfolio. Students are self selecting, and they need more direction. How do these connect to program outcomes? Portfolios can be used a lot of different ways. Louise said they are totally contrived. Do they show development or something else? Tracey said they ask students questions that a principal would ask and have them go back to portfolio for information to answer them. Louise said departments should not have data that can't be interpreted. Dee asked if the portfolio actually demonstrates that they know what the standards are. At what point can they do the work? Can they demonstrate it?

Louise said they have looked at the standards and asked which of them require demonstration. Tracey said they want triangulation with the data. The issue is how you harvest the data. Dee asked if the competencies are building on one another.

Brian said we are sometimes responding to the wrong audience. The concern should be not what accreditors want, but what do we need to know to improve the program.

The Teacher Performance Assessment (TPA) is an expensive program offered by Pearson. It is a lot of work. Peggy said that it is hard to get someone to evaluate the portfolios. The important question is whether or not the major is articulating the skills and knowledge.

Are we intentionally linking the learning outcomes and syllabi? Are we bringing it up ever again? Dee reported that the new syllabus for her reading course lists common core standard for every week. We should be coordinating assignments with standards. Teddi asked if students are able to articulate the learning outcomes and are they intentionally linking them.

Degree Qualifications Profile.

The Degree Qualifications Profile (DQP) outlines what a student should know, understand, and are able to do. We want well prepared teachers in the classroom. How would it improve the major if we use the DQP, which puts us all on the same page?

Teddi said the faculty should be working together collectively. The DQP doesn't just articulate skills in a discipline but outlines what an educated person should know, understand, and be able to do. These are cross-cutting skills.

Teddi said the DQP skills are less course based than competency centered. It is not that we all have the same courses, but rather that we agree on the competencies.

It is important to take Tuning and the DQP to the departments. They need to be made more intentional, because we want the best for our students. We want them to be able to perform well. Tamara said, with the new teacher evaluation, they track professional growth development. Each teacher will choose one of the Utah Teaching Standards and discuss their progress on it with the principal three times during the year. The teacher can use such evidence as student artifacts for the review, and teachers are required to do this yearly.

It was suggested that a portfolio discussion might help to introduce Tuning and the DQP into the departments. Randy suggested that the team make this about the objectives rather than the portfolio. What is the best evidence that they have met the objective?

Technology intensive concurrent enrollment.

Greg Benson discussed technology intensive concurrent enrollment (TICE). About a dozen classes have been developed. Students participate online as well as in the classroom. Information about the program can be found on Uen.org/concurrent.

Announcements

Randy said that he and David will be visiting departments to discuss Tuning sometime between now and February. They could interview people individually if that would be better.

The "What Is an Educated Person?" conference will be at Zermatt in Midway on October 18. Information and registration materials can be obtained from Monica Ingold (monica.ingold@usu.edu).

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Be sure to check the website at utahtuning.weebl.com. If you have material to add to the site, send it to Bill (bill@evenson.ch).

Mathematics Major's Meeting
Board of Regents Office
September 27, 2013: 9 AM

In attendance: University of Utah: Angie Gardiner, Peter Trapa; Utah State University: Dan Coster, Melanie Nelson; Weber State University: Paul Talaga, Kathy VanWagoner; Southern Utah University: Seth Armstrong, Marty Larkin; Utah Valley University: Kathy Andrist, Keith White, Carolyn Hamilton, Joseph Hwang, Max Aeschbacher; Dixie State University: Clare Banks; Snow College: Jonathan Bodrero; Salt Lake Community College: Suzanne Mozdy, Todd Riggs; Brigham Young University: Steven McKay; Western Governors University: David Francis; Utah State Office of Education: Diana Suddreth; Utah System of Higher Education: Teddi Safman, Greg Benson, Christie Fox, Cyd Grua, Jessica Lucero, Blair Carruth; Tuning Project: Bill Evenson, Janice Gygi, Randy Davies, David Williams

Jonathan Bodrero chaired the meeting.

Changes in Lower Division Courses and Implications for Transfer.

Snow has combined linear algebra and differential equations into MATH 2250. Jonathan said he would send information about the course to SLCC. At SLCC a lot of students are on the MATH 2270 and 2280 track, and some would rather do that than MATH 2250, but students are concerned that other institutions will not accept the two courses. USU, Weber, and Utah said they would accept MATH 2250. UVU doesn't teach MATH 2250, but students would have no problem transferring in. At SLCC, engineering is the problem, not math, but engineering will accept the course. SUU is okay with it, but students may need more algebra for engineering. Diana noted she is more worried about students having a good linear algebra course than having differential equations. She said that students in education who take MATH 2250 will still be required to take MATH 2270 unless it is taken through the Utah Mathematics Endorsement Project (UMEP).

Utah will offer MATH 3140 for the first time spring semester. It combines the last half of calculus III with differential equations.

No other additions or deletions were discussed.

Cyd asked if MATH 2000, statistics measures, aligns with MATH 1070. Does it align with Weber's MATH 2200, business statistics? Cyd will make the necessary changes on the grid, and Teddi will distribute it to the group.

Assessment processes and types.

The Tuning team has worked hard to identify learning outcomes. Has this affected programs? Jonathan reported that, for his courses, he puts all outcomes on the syllabus. He then pulls the syllabus up two or three times during the semester to see how students are progressing. In addition to checking progress,

this also informs students about the intentionality of the course. It helps student see better where these can apply in real life. He has seen an incremental improvement. Kathy Andrist reported that the faculty know that there are outcomes, but they probably have not made it into the classes yet. Carolyn has not documented the outcomes on the syllabus, but she discusses them with the class.

Teddi indicated that unless you articulate the learning outcomes for students, very few will be able to tell you what the learning outcomes are. Students cannot do it on their own. The faculty are not doing this. The learning outcomes need to be articulated for the faculty and for the students.

Jonathan noted there are many connections between the learning outcomes and the course content. Students should have a “take away” each day, so they know what they learned. This needs to be documented.

Suzanne discussed assessment at SLCC. All general education classes at SLCC require a general education signature assignment. Students must post these in an eportfolio and then reflect on them. This is a school-wide initiative, and it must account for 3% of the grade in every course. Suzanne said that students can use any free environment for their portfolios. They register their links inside of their SLCC student portals. Math faculty make the value of this work obvious, and all faculty in department have the same grading structure.

When Teddi asked how many are listing learning outcomes on syllabus, only about four raised their hands. Jonathan noted we have room for improvement. The outcomes do not have to be word for word from the Tuning document. Faculty should adapt them to the class. In each institution, the Tuning representative has the outcomes including a mapping to courses. For a copy, contact your Tuning representative or Jonathan.

Returning to the matrix, it shows that UVU has MATH 3310. USU has had MATH 310, discrete math, for ten years. Calculus II is a prerequisite. Cyd asked what is the difference between MATH 2210 and 3310. The title is generic, but it should transfer. Dan said USU would need a generic syllabus to see if MATH 2210 should transfer to MATH 3310. Some courses are on the grid as equivalent courses, but the numbers do not align. Can this be changed?

Teddi noted that any courses 1000 and above are not developmental. Utah offered MATH 1000 twice to help students succeed in math, but only a few took it, and it is not likely to be offered again. Snow reported an intermediate algebra refresher course, Math 1002, but they haven't been teaching it.

Cyd noted that the matrix shows two workshops and a refresher workshop. UVU treats it as MATH 1010, and it is taught in the developmental math department. Dixie also has MATH 1010. Cyd reported several changes that were made in the developmental math majors' meeting. These will be on the math matrix, and Cyd will put notes at the bottom because sometimes there are outliers and it is okay.

Degree Qualifications Profile (DQP).

Teddi reported that the DQP is no more than a tool. It shows outcomes for bachelor's level and gives an idea of what the students learn. It includes electives and student work outside the classroom.

Legislatures were asking what students are learning. The DQP was developed by Cliff Adelman, Peter Ewell, Paul Gaston, and Carol Geary Schneider. It is a tool that is transparent to any student, faculty, or legislator. It can be used to see what students are actually learning. Students are graduating very proficient in discipline-specific tools, but they need the overall skills. The DQP maps out intentionally what students are learning. It is being tested in 19 sites throughout the country. In Utah it is being tested through the Quality Collaborative. The second iteration of the DQP is being planned now.

Bill noted that the DQP does not have a discipline focus. It is meant to track progress through the entire degree program.

Suzanne asked why two of the disciplines are being tuned at the master's level and the other two are only at the bachelor's level. Bill said that the focus of general education math is different than the focus of the other disciplines.

The Tuning project has developed a website, utahtuning.weebly.com. The website has a link to the DQP document and has information about each of the four disciplines that are being tuned. It shows how students progress in core concepts through various degrees. It will help in the long run if we put work into Tuning and the DQP. It will make accreditation much easier. DQP is a resource on language for outcomes and assessment.

Teddi reported that she met with Sandra Elman from The Northwest Commission on Colleges and Universities (NCCU), which is responsible for accreditation for all Utah institutions. Teddi will plan to report about Tuning at the NCCU summer workshop.

It is important to take both Tuning and DQP to the departments. It is valuable to discuss this with students and to work the discussion into the discipline level (Tuning) and degree level (DQP).

MATH 1010.

The question arose of the role of MATH 1010 in the USHE system. The University of Utah said that historically it has served as a mechanism to insure that the students enter into the math programs with the high-school level skills needed to succeed in college-level courses. It is a step backwards from secondary math III. It may serve a role for students who limp through math 1, 2, and 3 in high school. Keith said, in the eyes legislators and administrators, MATH 1010 is considered developmental, but because of the 1000-level number, it is not developmental in the USHE system.

Jonathan reported he had checked and discovered that at Snow, students who had taken MATH 1010 had a better grade in the next courses. It can work with Accuplacer to put students in the next course if they are ready. They have to receive a 70% on MATH 1010 to receive better than a C-. There was some concern about MATH 1010 in concurrent enrollment. It was agreed that secondary III should be a prerequisite for concurrent MATH 1010.

Diana reported that some parents would rather have students take MATH 1010 than the other courses. USOE and USHE on the same page on this, but they need to have institutions on board.

Seth said he would like to get rid of 1010, which is considered remedial. There should be a disclaimer that parents would have to sign telling them that it is remedial. Some administrators say it is better to take some math than none, but MATH 1010 is not a plus when applying to college. Diana noted that anyone graduating from high school should be ready for MATH 1030, 1040, or 1050.

Teddi noted that having students take the ACT in math may structure the discussion differently. Cyd said that any course that is a concurrent math class should have a prerequisite of Math III. Currently there is documentation of that from USOE. Cyd will make sure that it coordinates properly.

Peter said this course should be for students who have a big gap in their careers. It is better not to take math in the senior year than to take MATH 1010. Todd said this is a low level class, below college level. Why then is there such a high failure rate in that course?

Diana believes if you have a high failure rate, you should be examining your own teaching. They have high school teachers who think failure is the students fault and not the teachers fault. Diana is hopeful that universities will see changes as the high schools see changes.

Carolyn noted that the current curriculum is much better than the previous one. The high failure rate in MATH 1010 may be due to the fact that there is more involved than knowing how to do math. There are all kinds of first-year-experience issues that enter as well as the math issues. Learning to be a college student is tricky. If they are in a class where they can succeed it is better than if they are in a class where they fail. It is good to take something they already had as the first math course.

Jonathan asked what percentage of MATH 1010 is taught by adjuncts. At Snow it is 30% but many are higher. It is a shared learning responsibility. The student has to show up and do the work. We need more adjunct training.

Cyd noted that students do not see the value of math. It needs to be meaningful to them.

Marty asked what the prerequisite for MATH 1050 is in the catalogs. It should be Math I, II, and III. Although schools use ACT and Accuplacer, you can't know what a student knows about math from ACT or Accuplacer. If students miss Math III in high school, they miss a lot.

Cyd will modify the paragraph in R470 to reflect these changes. Institutions were encouraged to change their catalogs to have a prerequisite of three years of high school math. They should also communicate in some way that Math III is important.

Jonathan noted there is pressure to complete remedial more completely. Suzanne said that at SLCC they have a pilot on 0990 and have one section of 30 students. Is a combination of MATH 1030 and 1010 possible? There is a push to the math emporium, which they complete at their own pace. UVU has an effort to put students through remedial faster than some other schools. They have MATH 1000. If MATH 1030 is a terminal course, why does it need MATH 1010 as a prerequisite at all? The focus is on reteaching algebra but not geometry. Why the focus on algebra? There could be lots of rigorous useful mathematics. There might be college mathematics course that is not quite so algebra intensive.

Max said there are recurring discussions about why we cannot teach the students, but are we teaching the right things? Keith said other disciplines have better success rates. Why is math different? Keith asked if we need to change what is taught in the college courses.

Announcements.

Randy said that he and David will be visiting departments to discuss Tuning sometime between now and February. They could interview people individually if that would be better.

The “What Is an Educated Person?” conference will be at Zermatt in Midway on October 18. Information and registration materials can be obtained from Monica Ingold (monica.ingold@usu.edu).

There will be another meeting in the spring with the date to be announced.

Be sure to check the website at utahtuning.weebbl.com. If you have material to add to the site, send it to Bill (bill@evenson.ch).

APPENDIX D:
TUNING MEETING ON THE DQP AND WICKED QUESTIONS

AGENDA

Using the DQP 2.0

Regents' Office – P3 Board Room

April 18, 2014

1. Welcome and Introduction
2. Description of Wickedteers' *experiment*
 - a. Higher education now and 20 years from now
 - broad world of academic changes
 - shifting from teaching to learning
 - instructor centered to learner centered education
 - singular focus on content to broader interest in ELOs
 - b. How our work in Tuning has tied into the issues above
 - looking beyond the work in a major to the degree as a whole
 - c. Quick review: DQP 2.0 — broad overview
3. Wicked questions: WHY are wicked questions asked?

Ramaley: *"We can talk about curricula and criteria for success but we can easily lose sight of the larger goal – to prepare our graduates to be productive and creative people who can work on problems they have not seen before, problems that keep changing and do not lend themselves to easy and well-practiced answers. We call that class of problems "wicked" (Riddle and Webber, 1973 in Ramaley, 2013)."*

- a. Wicked questions as *one* approach to understanding and applying the DQP

- b. Using the DQP Matrix to understand questions
- c. Relationship between curriculum and matrix

4. Choosing wicked question(s)

5. Reflections on experiment

- a. How might this inform your teaching?
- b. What are the possibilities for new pedagogies using the matrix?
- c. What other lessons were learned today?
- d. Other insights

6. Fine and Validation

Thank you for participating.

APPENDIX E:
DQP and WICKED PROBLEMS-NOTES

**DQP/Wicked Q Tuning
Meeting at the Gateway offices
18 April 2014**

Attendees:

Randy Davies, Evaluator, BYU
Sylvia Read, USU (Elementary Education)
Spencer Clark, USU (History)
Daniel Eves, SUU (Math)
Marty Larkin, SUU (Math)
Denise Brenes, UU (Advisor)
Isabel Moreira, UU (History)
Lois Oestreich, SLCC (Elementary Education)
Kathy Andrus, UVU (Math)
Jonathan Bodrero, Snow (Math)
Larry Smith, Snow (Physics)
Kristin Hadley, WSU (Elementary Education)
John McFarlane, UVU (History)
Charlie Torre, USU (Physics)
Phil Matheson, UVU (Physics)
Samuel Tobler, DSU (Physics)
Sandy Peterson, DSU (Elementary Education)
Dan McInerney, USU (History)
Norm Jones, USU (History)
Keith White, UVU (Math)
Kathryn Mackay, WSU (History)
David Kardelis, USU-Eastern (Physics)
Dee Caldwell, UU (Elementary Education)
Marianne McKnight, SLCC (History)
Teddi Safman, USHE, Tuning Director

OUTLINE OF NOTES:

- I - Introductions**
- II - Context of our work**
- III - Group exercise with DQP matrix**
- IV - Discussion topics that arose during the meeting**

I. Welcome and Introduction

The group was given a broad outline of our task:

- to review the present context of higher education and project it into the future,
- to reflect on the multiple education initiatives at work in the nation and the state
- to discuss the DQP and its tie to Tuning, and
- to discuss wicked problems using the DQP as a framework.

II. Context for ‘Wickedteer’ experiment

What drives changes in the way we understand post-secondary education? *Who* drives changes? Our institutions have become more expensive to run (especially with declines in state support). In addition, the Great Recession has spurred broader public questions about how public money is spent and what the public gets back from public education. In other words, we have had to be more direct and persuasive answering questions of accountability and assessment.

What are we doing to make college degrees more meaningful and widely valued? People from the outside want to tell us what to do and how to fix education. If we do not set our path, someone will impose strategies on us. We need to explain persuasively what students are learning and what they get from degree.

The “wicked questions” in all of this? What are we doing and how do we do it? We are in a “Bill Gates plug and play” world, a universal outlet. This is corporate mentality for the economy. Who has a voice in this discussion? Do we?

The projects in which Utah teams have been involved:

- The LEAP initiative (Liberal Education for America’s Promise)
- Essential Learning Outcomes
- The Multi-State Collaborative to Advance Learning Outcomes Assessment using the VALUE Rubrics (Valid Assessment of Learning in Undergraduate Education)
- Interstate Passport Initiative
- Tuning (*discipline*-focused)
- The Degree Qualifications profile (*degree*-focused) (now in version 2.0 with version 3.0 due in the fall)

The broader national discussions on higher education:

For a century we have relied heavily on the “credit hour” as a proxy for learning. Credits represent the Carnegie unit, launched in the early 1900s as a means of calculating – of all things -- professors’ pensions.

But there are new ways of learning that do not match the credit hour. For example, the credit hour cannot measure success of degree or the outcomes. We are *slowly* moving away from tallying hours, credits, and grades as “measurements” of higher education and recognizing that we need more sophisticated and nuanced types of evidence to demonstrate how and where students achieve the competencies and learning outcomes we lay out. The change in our “recording systems” will not come soon or

instantaneously. Our ultimate goals are: (1) to have graduates who know how to think and apply their learning, which employer surveys suggest our graduates cannot do – and (2) to have clear, transparent, persuasive ways to confirm the learning that has occurred.

Where we've been; where we're going:

Our group should feel confident about the way colleagues in the state have discussed and debated emerging ideas on curriculum and general education.

- Our own vocabulary about post-secondary education has shifted dramatically in the past 5-7 years (learning / outcomes / competencies / laddering).
- We recognize the importance of being pro-active on matters of accreditation and accountability (defining core goals rather than having goals imposed on us).
- We continue to move beyond the open “smorgasbord” of classes toward intentional sequencing of courses.
- We give proper attention to content but also recognize the broader significance of skills and proficiencies that build upon content, its application, and include learning outcomes and competencies.
- As instructors we encourage one another to look beyond a class as a personal possession and view its work within a collective curriculum.
- We recognize (along with AAC&U, Lumina, and NILOA) that meaningful assessment rests not in standardized tests but in authentic, reflective exercises and evaluations within courses (something that puts pressure on us to think rigorously about the connections among content, exercises, and stated outcomes; translating the language of assessment into particular assignments).

This is our new world, one which looks beyond courses and GPAs alone. We all realize that the meaning of a degree is not conveyed adequately through a collection of sums and averages, but through a sophisticated assessment of demonstrated achievements, developing proficiencies, and capacities for continued learning.

We recognize that it is not sufficient to have a sense of the learning required for 2014. We also need to reflect on: (a) the *locations* of learning in 20-30 years; (b) the skills needed in the future; and (c) the work of higher education that will remain focused in familiar and conventional institutions.

Many of these questions come from the work of education leaders such as Randall Bass, Vice Provost for Education at Georgetown University. Bass's writing and presentations commonly call on audiences to reflect on the conditions faced by the Class of 2034:

- What institutions, sites, or services will generate learning?
- How will we use the tools of learning?
- What kind of graduates will we need in the economy in two decades?
- What type of “work” will be left – and in demand?
- How will we use the tools of learning?

-How do we prepare students for jobs that do not yet exist?
Bass has suggested that we will most likely need to teach students to solve unstructured and unanticipated problems. We will need to determine what learning is appropriate and prepare students to acquire skills throughout life.

Conclusions:

Tuning asks a key question: what should students know, understand, and be able to do at the completion of a discipline program?

DQP asks a broader, more inclusive question: what should students know, understand, and be able to do at the completion of a degree?

The DQP skills are cross cutting and take graduates beyond what they have and include the entirety of an undergraduate experience. What does a graduate have that makes her distinct and what does it mean to have a college education with fluencies and proficiencies? The DQP spider web demonstrates where students are going in their educational experience.

Faculty make the connection for students to the next level of learning and to degree requirements. This is the conversation for faculty. Why do we do this work?

Reflecting on where we've been and where we're going, **one** way to draw out a group's thoughts, concerns, and suggestions is to engage in a collaborative, open-ended discussion revolving around themes that have come to be called "**wicked questions**": broad inquiries to be solved -- but without solutions. Wicked questions keep giving us more problems -- multiple angles, multiple solutions. There is no single "right" judgment or "correct" response.

Judith Ramaley's overview of "wicked questions/problems":

"We still talk about curricula and criteria for success but we can easily lose sight of the larger goal—to prepare our graduates to be productive and creative people who can work on problems they have not seen before, problems that keep changing and do not lend themselves to easy and well-practiced answers. We call that class of problems "wicked" (Riddell and Webber 1973). We and our students must think and act more deeply and more adaptively and build up experience over time in an integrated way if we are to make sense of the world around us (AAC&U 2007; Budwig 2013.) To address wicked problems and use those problems as vehicles to provide a meaningful education, we must learn new habits as we experience a major generational change in both our professoriate and our student body. We must work together in ways that span disciplines, generations, and institutional boundaries, just as wicked problems do."

Source: "Thriving in the 21st Century by Tackling Wicked Problems," Dr. Judith Ramaley (President Emerita, Portland State University and President Emerita, Winona State University)
<http://www.presidentialperspectives.org/pdf/2014/2014-Chapter2-Tackling-Wicked-Problems-Ramalay.pdf>

III. Group exercise: Tuning and the DQP

The exercise: Working with a matrix from page 27 of the *DQP 2.0* draft document, each discipline group got together separately and examined the matrix (with a vertical axis listing “intellectual skills” and a horizontal axis listing “degree-level proficiencies”). The question for each group:

- What does your discipline contribute to higher education?

- What boxes can you check off to mark the areas that your discipline advances?

Larger function of the exercise: might this be a way for institutions to determine what skills and proficiencies are present in the curriculum -- and a way to determine where the learning “holes” exist?

Physics: did the first three; did specialized knowledge on sources; did not discuss institutions specifically; did not do diversity perspectives; pursued ethical issues a bit; quantitative fluency is good; communicative fluency; checked 24 boxes.

Elementary Education: all over analytic inquiry and then moved to other issues.

- All students in the program are generalists; some have difficulty with expected levels of professionalism.

- WSU has a process to follow for those having a problem with professionalism.

- Some agreement about civil and global learning.

- Communication skills expected.

- “Program-specific intellectual skills”? *fitness to teach*

General Education Math: This is an odd group as the group is not a specific discipline. In the discussion, the group determined that:

- analytic and specialized knowledge expectations are strong

- “ethical” questions: concern whether sample is biased and conclusions are sound

- civic and global outcomes: not strong

- communicative expectations: good on specialized symbols; apply to elementary education; take math abstract structures to see how kids learn in elementary education;

- within discipline, lack connection in Elementary Education and Math

- don't always get connections between proofs and education.

History:

- divided the 35 “check marks” into areas where the discipline’s contributions are very low, low, moderate, and high

- very low: 5 (disciplinary work focused on “quantitative literacy”)

- low: 6 (disciplinary work focused on “collaborative learning”)

- concern that many students in the discipline have weak understanding of “information resources”

- “Program-specific intellectual skills”?

- the presence of the past in contemporary experience; quest for a usable past

- value of past historical interpretations; recognize importance of developing lines of historical inquiry and analysis (i.e.: the value of older research)

- “Institution-specific emphases”?

-responsive to the historical land-grant mission of Utah State University

Result: We learned that in specialties there is a mixed record: discipline experts recognize their contributions and their gaps.

-The group wrestled with the meanings of phrases

-Not every group responded to “program-specific intellectual skills” and “institution-specific emphases”

-A question: if our discipline doesn’t supply the skill or proficiency, who does?

-other departments? ourselves? negotiation w/another department?

-The exercise served as reminder of our reliance on other parts of the institution and what majors contribute toward the degree profile, compared to what the institution as a whole provides.

IV. Discussion topics

Participants raised a wide variety of concerns and questions – both before we broke into smaller groups *and* after we reassembled.

• *Starting conversations about the initiatives: engaging the “higher-ups” & faculty voice*

- A conversation among ourselves is fine, but it sounds as if our reforms might wind up altering the standard SCH structure.

- Therefore, we need to find a way to engage top administrators.

-Are they even aware of our discussions?

- Do we, in fact, understand how our campuses are administered?

-substitute on-the-ground experience for “heritage” and “folk culture” of institutional life

- Faculty need to be included with upper administration in the conversations about big issues. These larger issues might be discussed at the college level.

- We must communicate to administrators what is needed as curriculum process speeds up. Administrators can facilitate rapid changes in curriculum:

-arrange flexibility in work loads and course development

-curriculum support

-reward structures

-encouragement for interdisciplinary work

- Yet, only some faculty can open doors to these conversations. The question is how to get into the conversations and move them to the next level.

Three suggestions:

(1) We should invite faculty *who are administrators* to discuss the DQP. We should invite some of these administrators into a conversation with us to tackle the wicked question of how to reorganize the university so that it is less top down (both a wicked and dangerous question).

(2) a pre-session at the next Educated Persons Conference just for top administrators (The conference will look at what the system and each campus are doing regarding the present and future direction of education. Accreditation may drive the discussion.)

(3) Faculty can initiate another process: include others on our campuses such as advisors. Can advisors help with the culture shift that our projects involve?

- **Post-secondary reforms . . . and the Utah Core (was Common Core) initiative**

- might departments engage in a discussion of the Utah Core during their fall retreats in August?

- **The DQP**

- lends itself to mission funding

- The majors/disciplines must still define pathways -- which means a two way conversation (with general education and the departments supplying supporting courses).

Some thoughts:

- We need to more clearly identify the DQP components contained within general education (and link those outcomes to subsequent courses).

- We need to think about what the curricula are designed to do. Do they bring general education reforms? These have not changed anything. We are still checking off credit boxes.

- With DQP, we ask where various skills and competencies are happening -- and how students practice and refine these abilities. This issue connects to the way we structure our courses.

- Do we have buy-in from other faculty who care about the courses students have taken. Institutions need to care. Individual faculty can say: I don't teach it but I believe in it. Faculty have limited spheres of interaction but the whole (of education) is greater than the sum of its parts. What are the skills and abilities our graduates leave with?

- Where do we assess for the major outcomes?

- **Practical problems / impediments / obstacles we face:**

- differences between small and large campuses

- higher education's growing dependence on contingent faculty, instructors who have likely never heard of (or cared about) Tuning – instructors who are commonly excluded from the conversation.

- making stronger connections between discipline experts and academic advisors – *and* career advisors, campus orientation leaders

- struggle between disciplinary expectations and contributions to Gen Ed programs

- disciplines face very different accreditation challenges; how do we construct reform initiatives that serve the accreditation needs of all?
- While we explore the fundamental meaning of a degree, we can't lose sight of the fact that the credit hour and grades and course requirements *still* matter.
- Perhaps, as discipline experts, we need to focus our attention on something we can construct and refine: "scaffolding" student knowledge, skills, and abilities.

• **Questions about curricular focus on "wicked questions"**

- How well does higher education focus on forming learners who can think about answers to such questions?
- How well do we develop "grit" among students (their toughness, their capacity to experience and transcend failure).
- Who picks the wicked questions?
- Who serves as the "gatekeeper" for wicked questions? (a new type of "czar"?)
- Once wicked questions are selected, how do we ensure that *students* care about them?
- How do we pursue wicked questions? Through the capstone?; interdisciplinary courses?; distinctive methodologies?; collaborative, team-teaching efforts?
- What is the "reward structure" an institution can develop to get faculty (and departments) engaged in wicked questions?

Developing in our students the ability to ask and grapple with wicked questions. Some of our own and discussion around the topic:

- Should Utah have a lottery?
- Is human nature flawed or good?
- Space exploration: What is the math to get into space? Mission to Mars involves all disciplines -optics of telescopes.
- Obesity epidemic: history, surveys, health issues, exercise. These themes tie to a statistic class with physical education class, to nutrition class.
- Climate change

However, students must care about what they are learning. We need to find ways to get students to care or they will only go through the motions. The human conundrum! When teaching to wicked questions, we ask what disciplines contribute to themes. How do students define themselves if they are in thematic paths? Instead, show how these themes relate to larger issues. At what point in the curriculum are students prepared to address wicked questions? Capstone? Mind mapping is useful. In thinking about curriculum, there are issues of readiness and the preparation to tackle course/curriculum.

Do we have the right methodologies to address wicked question? Can we fit the questions with areas we don't know, and construct the themes to be addressed by different disciplines? Can we tie them to the real world? How do we make our disciplines expand the wicked questions?

How do we fold in broad and integrative knowledge into specialized knowledge?
-At the same time we narrow down pathway courses within list of GE courses.

- **Pedagogies**

- Are there pedagogies to have students recognize and respond to these wicked problems/questions?
- How do we know if students can do all of these things listed on the DQP 2.0 matrix? It seems important to advocate for studies -- and learning -- that cut across fields without categorized and anticipated outcomes.

- **Faculty Voice . . . and Students**

Faculty voices must be heard. We need a mechanism for faculty inclusion in broader institutional conversations so our voices are heard.

Tuning gave faculty the voice; brought discipline experts together to think about and articulate outcomes. Wicked questions faculty can talk about related to learning.

We need good strategies for groups of faculty to develop and address big ideas.

Must also recognize that some disciplines do not have specialized accreditation that might shape faculty voices.

Our students: how do we give them the skill sets to handle wicked problems down the roads that we do not yet know about?

- We need to give them skills with which they can communicate. DQP does offer this. Some students learn how to use curriculum to get where they want to go. However, our remarkably varied student body operates at different levels of development (kids and adults, naive and experienced).

- **Two wicked questions:**

- (1) If the Lumina Foundation decides to fund a new Tuning/DQP project in the Utah system of higher education, how might we frame the outlines of the initiative?**

- (2) What would be the “deliverables”?**

- The overall goal is to change the culture of higher education. But what is the “deliverable”?

- The deliverables would likely focus on *collaboration* between institutions -- requiring some funding to be used to get faculty together. How do we make this possible?

- Develop opportunities for faculty to collaborate to Tune an entire college or university?

- How about a statewide DQP? Each institution could have its own DQP and goals.

- There is no single “right” answer. There might be a back door to get other disciplines to Tune and to get other faculty involved.

- Long term deliverables:

- shifts not only in undergraduate curricula but also in graduate training

- what do these programs do for students in terms of learning and in terms of

- preparation for fields of endeavor after degree completion?
- The American Historical Association is looking at a “Malleable Ph.D.,” doctoral programs that realistically envision a variety of activities and paths for which graduates are well-trained and well-prepared.
 - significance of Tuning Gen Ed (the piece that’s fairly consistent in Utah)
 - changes in the structure of administration?
 - while recognizing collaborative research by faculty, how do institutions recognize collaborative teaching and curriculum development . . . and the service these tasks perform for accreditation and accountability?
- Emphasizing that cultural change is the key deliverable?
- Importance of providing specificity in our planning. What can we do to make this a more effective project to clarify deliverables, such as how do we provide better education in Utah?

October 18, 2013

APPENDIX F:
'WHAT IS AN EDUCATED PERSON?' CONFERENCE
Round XVI

Assessing the Outcomes We Teach

- 8:00 a.m. Registration and Continental Breakfast
9:00 a.m. Welcome: Liz Hitch, Associate Commissioner for Higher Education for the State of Utah
9:15 a.m. Key Note Speaker: Dr. Judith Ramaley, President Emerita, Portland State University, Winona State University

"A 21st Century Education: The Pursuit of Quality"

- 10:15 a.m. Break
10:30 a.m. Response panel: Ryan Thomas, Associate Provost, WSU; Chris Picard, Provost, SLCC
11:00 a.m. University of Utah's new block General Education program: an update
Mark St. Andre
11:15 a.m. "What is an Educated Person?" student seminar presentation, USU
Harrison Kleiner - USU
Abigail Fritz - USU student
Samantha Maxfield - USU student
Alex Tarbet, USU student
12:00 SUU Edge Program: an update
Briget Eastep, Todd Petersen
12:15 p.m. Lunch
1:00 p.m. Report on Complete College America activities in Utah
Christie Fox, USHE
1:10 p.m. Breakouts
History Tuning
Physics Tuning
Math Gen Ed Tuning
Elementary Ed Tuning

Assessment and the Essential Learning Outcomes:
Social Science, Humanities, Sciences, and Fine Arts
3:00 p.m. Re-Convene for Final Words
3:30 p.m. Adjourn

APPENDIX G:
INSTITUTIONS INVOLVED IN TUNING
STATEWIDE REPRESENTATION

Utah System of Higher Education

University of Utah (Salt Lake City)
Utah State University (Logan)
Weber State University (Ogden)
Southern Utah University (Cedar City)
Snow College (Ephraim)
USU – Eastern (Price)
Utah Valley University (Orem)
Salt Lake Community College (Salt Lake City)

Private Institutions

Brigham Young University (Provo)
Westminster College (Salt Lake City)
Western Governors University (Salt Lake City)
Involved only in elementary education

APPENDIX H:
PERSPECTIVES ON HISTORY



April 2014

**Tuning History in Utah: Winning Friends and Influencing
Policy Makers**

Daniel J. McInerney

In February 2011, as the Utah state legislature debated funding for higher education, a Senate leader rose to denounce what he saw as wasteful spending in particular programs, arguing that students in the humanities and social sciences graduated with “degrees to nowhere.” College and university presidents attending the session sat quietly and respectfully as the senator made his speech; none stepped up to rebut the claims made. But over the next month, the arguments were repeatedly challenged, not only by academics who publicized their students’ postgraduation successes, but also by a range of community members from business, industry, and services—sectors that we, at one time, did not think of as producing humanities advocates, but who had been purposely included in our statewide Tuning project.

Whether operating within a state, a national disciplinary society, or across a region (as in Latin America, Africa, Russia, and the European Union), Tuning is a faculty-driven initiative designed to clarify—and demystify—the core goals and the key skills pursued in different academic disciplines. The project poses

a straightforward question: when students complete a program of study in a discipline, what should they know, understand, and be able to do? Faculty in a discipline ask the question to better understand their own roles, responsibility, and accountability in higher education. More important, faculty want students to understand what they take from their studies into further education, employment, and civic life.

Conversations about Tuning take place both within and outside the walls of an academic institution, with stakeholder groups of employers, legislators, and policy makers. As in Utah, colleagues in another state Tuning project have also seen the value of building reform initiatives with communities that academics do not usually identify as allies. The Texas Student Success Council purposely engaged with policy makers known to be deeply skeptical—and dismissive—of higher education. The council's work focuses on broader attainment of postsecondary degrees over a wide range of disciplines. As organizers began their project, they called on long-standing supporters of education in Texas. But they also deliberately included some of the strongest skeptics of educational programs and spending.

The organizers built on an insightful strategy. Education critics commonly grounded their arguments on the claim that vested interests were not interested in genuine change. But when the critics were asked to join in the work—and offered the opportunity to actually effect change—they accepted the challenge. In the process, those who had frequently questioned higher education helped build a receptive and inclusive community of postsecondary reform, one that has had a powerful effect on the state's legislature.

As in Texas and Utah, the American Historical Association's Tuning project, launched in February 2012, does not simply engage in a narrow, insular assessment of the discipline but invites a broad mix of -communities into discussions of higher education's roles and goals. As Elaine Carey, the AHA's vice president, Teaching Division, has noted, Tuning is a dynamic process that creates "ongoing conversations about -competencies, goals, and outcomes." The discussions should include students, alumni, administrators, parents, employers, and policy makers. Conversations with such a variety of voices take historians out of their comfort zone in two ways: by pushing discipline specialists to articulate clearly the skills, knowledge, and habits of mind we believe our students should develop; and by listening to the ways a range of stakeholders answer the same question.

Examples from Utah and Texas suggest the value of building discussions with those we might all too causally dismiss as critics, naysayers, or opponents. They suggest that we should take the time to hear what is on their minds. Learn what they value. Figure out what assumptions they make and the suspicions they hold. Employers and policy makers are eager to talk and grateful for the opportunity to be heard. As we in Utah realized, simple acts of openness, inclusion, and respect can pay off in a legislative dustup. And, as our colleagues in Texas have learned, it can be helpful to give critics the opportunity to take part in the very process they so often dismiss—and see if they are serious about their claims.

Employers and policy makers have not only helped us; they have taught us about the work we do within our own institutions. The point was driven home to Tuners in Utah when we engaged with employers,

particularly employers who specifically recruit history graduates. Working on a statewide Tuning grant from Lumina Foundation, team members kicked off their project with a questionnaire sent out to a range of employers. The survey asked participants to identify a broad set of skills and competencies they deemed important in higher education. The results were reassuring because of the considerable congruence among a wide range of stakeholders. But the survey gave us little to go on beyond points of agreement.

To dig deeper into the views of employers, our Tuning team contracted with a local research firm to conduct focus group discussions with employers in the public and private sectors who hire history majors. In Utah, that meant conversations with school districts, archives, museums, research firms, and the Church of Jesus Christ of Latter-day Saints. Our facilitator asked employers about the skills they expected in graduates, the strengths and weaknesses they observed in our students, and the suggestions they had for our curricula (reports are available at: history.usu.edu/html/about/assessment).

Employers provided a vigorous, thoughtful, and wide-ranging set of responses to our questions. In particular, they taught us four key lessons about the types of strategies faculty should develop to help students in our history programs.

First, for all our Tuning talk about formal sets of learning outcomes, skills, and proficiencies in the field of history, it was interesting to hear employers repeatedly emphasize a basic quality they admired in candidates: a strong passion for historical study. -Employers described their interest in -candidates who expressed an animated, infectious commitment to studies of the past and who displayed an ability to stir up a lively interest in audiences for a range of historical projects. We do our graduates a great favor by encouraging them to convey a lively, enthusiastic sense of the joy and pleasure they take from their studies. Employers in our focus group repeatedly pointed out that the subject students spend so many years loving may very well provide them (for an even longer time) with a satisfying living.

Second, employers noted that they preferred candidates who had completed some type of practical experience in historical work outside the classroom. The focus groups pointed to the importance of building internship opportunities into a history curriculum, especially in archives, museums, historic preservation groups, and government agencies. Our participants valued internships because of the on-the-ground experience students acquire as they bridge academic work with involvement in the local community. Equally important, internships offer practical lessons in two other critical areas of experience: records management and the operation of organizations and bureaucracies. As one participant observed, interns can enter full-time -positions with a much clearer understanding of relationships: how staffs function, the way offices connect with one another, and (practically speaking) “where you go to get stuff” and accomplish tasks.

Third, discussions with employers indicated that it is important for our graduates to discuss their historical studies in terms of collaborative, team efforts. Some employers appeared to think of historians as scholars who lock themselves away in dusty carrels, preferring to work alone, isolated, and out of touch with others. The stereotype may leave our graduates in a weak position during interviews. Faculty can help in two ways: by developing course projects created by groups of students, and by encouraging

students to consider how their scholarly work—especially capstone projects conducted in upper-division seminars—results from sharing resources, critiques, and strategies with a small community of researchers (for an example of a capstone rubric that highlights collaborative skills, see: history.usu.edu/htm/about/assessment).

Fourth, the focus groups clarified a broader point appropriate to consider for students looking ahead to employment or graduate studies: the importance of constructing a persuasive narrative of their educational experience. As faculty tackle the complex responsibilities of providing course content, disciplinary skills, research assistance, and critical evaluation, we should also consider the importance of a particular type of mentorship for our students: helping them develop a clear, meaningful, and compelling vocabulary to convey the scholarly work of history in terms that the broader public can appreciate. It is, perhaps, one history lesson we often overlook. Students intensely engaged in the details of a monograph, a document set, or a research paper may have difficulty stepping back to recognize the broader abilities they have honed: their capacity to investigate problems, identify reliable sources, analyze information, contextualize complex questions, and communicate conclusions in a clear and thoughtful manner. We provide a great service to our students by helping them form a crisp, coherent, and meaningful account of the skills they develop in historical studies.

Conversations on higher education with a wide public audience have the capacity to upend preconceptions, reframe responsibilities, build trust, and strengthen alliances, particularly when we establish a common interest: the success of our students. Talking with employers in Utah opened our eyes to issues that faculty had often neglected. The discussions opened our ears to suggestions from a community we had frequently disparaged. And the conversation opened our minds to the way four simple lessons could help graduates focused on employment as well as those committed to masters- or doctoral-level work. Tuning serves as a double “calibration” of our discipline: the project invites scholars to look deeply at the knowledge, understanding, and skills developed through historical inquiry, while also asking us to listen thoughtfully to the ways those outside our institutions view, vet, and value our field of study.

Daniel J. McInerney is professor of history and associate department head in the Department of History at Utah State University.

APPENDIX I:
COMMUNICATION – DR. DANIEL MCINERNEY and Dr. Norm Jones

Daniel McInerney

Presentation: “A Beginner’s Guide to Tuning: Starting the Discussion with Your Colleagues,” invited presenter, *Teaching History to Undergraduates: A Regional Conversation*, St. Francis College, Brooklyn, N.Y., May 20, 2014.

Editorial post: named to the Panel of Advisory Editors, *Tuning Journal for Higher Education*, June 2014.

Invited speaker: “Developing Degree Programs with Tuning,” presentations at: National Institute for Educational Policy Research; Kyoto University; Tohoku University; Kwansai Gakuen University, Japan, August 26- September 6, 2014.

Article in preparation: “Integrating the Initiatives: Finding Points of Convergence in Key Academic Reforms,” National Institute for Learning Outcomes Assessment, *Occasional Papers* series (due November 2014)

Conference panel: “Tuning as a Global Historical Project,” invited presenter and panel organizer, American Historical Association, 129th Annual Meeting, AHA Tuning Project, New York, N.Y., January 2015.

Invitation to submit article: request from the editor of the *Tuning Journal for Higher Education*, article on Tuning work conducted through a professional disciplinary organization.

Norm Jones

Jones, N. L., The Scholarship of Teaching and Engagement Conference, VI, “Undergraduate Scholarship and other High Impact Practices: Assessing the Outcomes not the Content,” Northern Rockies Consortium for Higher Education, Utah Valley University. (March 28, 2014).

Jones, N. L., Workshop, "Constructing Pathways through Degrees: General Education meets the Major," Utah Valley University, Orem, UT. (March 28, 2014).

APPENDIX: J
PAPER ON CREDIT HOUR

May 21, 2013

Working Draft

Credit Hour as a Proxy for Learning

by

Phyllis 'Teddi' Safman, Ph. D.

Assistant Commissioner for Academic Affairs

Utah System of Higher Education

The Carnegie Foundation for the Advancement of Teaching is discussing the future of the credit hour and will have its work completed and circulated for comment sometime in 2014. The usefulness of the credit hour is addressed in both Amy Laitinen's article, "Cracking the credit hour," and in Carol Geary Schneider's article, "Is it time to kill the credit hour?." The credit hour began as a payment method for faculty pensions, and over time evolved into segments of learning that designated degree completion within academic disciplines. Essentially, the Carnegie unit evolved as a way to organize and measure seat time and credential completion.

Neither the credit hour nor the assignment of a letter grade upon completion of a course can tell us much about what students have learned. The credit hour, a proxy for learning and still the coin of the higher education realm, cannot tell us exactly what students know and are able to demonstrate as a function of learning. Letter grades tell us nothing about integrated and complex learning, nor the rigor expected in a course or program; instead, letter grades provide only a comparison that represents some assumed level of mastery.

Nationally, conversations among higher education academic officers are focused on competencies and designated levels of mastery expected of each student at different points in their education. These competencies are expected to build upon one another, resulting in more sophisticated and complex levels of demonstrated learning. Some institutions, such as Utah State University and Southern New Hampshire University, and a national organization, the American Historical Association, are working towards coherent sets of competencies that move students to the next level of learning. Tuning and the Degree Qualifications Profile also assist faculty in this effort.

*Tuning is a process in which faculty collaborate to develop successively sophisticated learning outcomes as students progress through the study of a discipline or professional field, marked by more demanding competencies along a continuum of credentials (associates, bachelors, and masters). The Degree Qualifications Profile (DQP) is a tool that captures the entire undergraduate experience across a continuum from an associate's degree through the master's level, including general education, electives, internships, etc. The DQP is a visual representation of learning outcomes and competencies that are both coherent and complex. Because the DQP is a visual representation of expected learning outcomes and competencies, parents, students, policy makers, and employers will actually see what students must know, understand, and be able to do to earn a degree; in addition, the DQP demonstrates what graduates know and are able to do not only as future employees but also as contributing citizens involved in their communities. High impact practices in assessment of learning - practices that fully engage students such as e-portfolio development, research papers, group projects, etc. - not only demonstrate explicit levels of mastery, but provide continuous student learning through formative and summative assessments. Successively sophisticated work prepares students for the next level of learning as they move through their chosen disciplines. Thus, the DQP clearly defines what we can expect of a person who earns an associate's, baccalaureate or master's degree instead of providing a definition based on the number of required credit hours.

What do learning outcomes, competencies, and high impact practices imply for the credit hour? The work cited above is experimental; it concentrates on student learning and how as faculty we intentionally develop coherence and depth of learning in our curricula. Does the credit hour help us? Not so much, as it only defines the amount of time we have to do our work but not the substance of the work. Are we as a complex educational enterprise able to switch from artificial limits of time to a competency-centered paradigm, one that includes all of student learning - general education, discipline content learning, extracurricular learning, etc.? Not yet, although we have Tuning that makes faculty more intentional in aligning their class work with discipline-specific competencies and learning outcomes and the DQP which potentially demonstrates visually what students are learning and expected to learn and do throughout their undergraduate education.

Time as an element of learning should not be disregarded. Many students need time in the classroom to fully learn concepts through repetition and interactions with other students and faculty. Repetition can occur by nesting concepts in a variety of paradigms and examples. Classroom time as workspaces for learning can be found in projects such as the Interstate Passport, an initiative facilitated by the Western Interstate Commission for Higher Education (WICHE) in which faculty from five participating states collaborated to identify learning outcomes, competencies and methods of assessment for lower-division work in written communication, quantitative literacy and oral communication. The Passport project will enable students to transfer this block of learning outcomes/courses seamlessly, without having to repeat the courses, among the participating institutions in the five pilot states. The Quality Collaboratives project, sponsored by the Association of American Colleges and Universities, and funded by the Lumina Foundation, partners community colleges and universities to identify learning outcomes based on the AAC&U Essential Learning Outcomes (ELOs), competencies and assessments using Value Rubrics and the DQP. The ELOs form the foundation for the Passport and Tuning as well. All three projects depend upon faculty collaboration to identify learning outcomes, competencies, and

assessment within the credit hour and class time needed by students to succeed in the courses identified for each project.

Perhaps, the task ahead is to embrace a competency-centered paradigm of learning which fully engages students, is faculty driven, visually represented through the DQP , and intentional as faculty identify learning outcomes, successively more complex competencies, and appropriate assessments. Currently, we have the credit hour that segments rather than informs our work. As Schneider reflected, there is no other mechanism of apportioned time at this juncture. We would be better served by capturing the richness and entirety of all student learning through a competency-centered paradigm. For now, the credit hour remains the coin of our realm. We look to the Carnegie Foundation for the Advancement of Teaching to energize the discussion and offer insights to move beyond the current proxy for learning.

*My thanks to Judith Ramaley whose suggestions for this working draft and thorough understanding of our work guide its improvement, not only for practitioners, but for our students.

APPENDIX K:
CONVERGENCE OF INITIATIVES

Working DRAFT

**Educational Vision for Utah Students:
Higher Education Initiatives and their Potential to Produce
an Education of Quality and Value**

by

Phyllis 'Teddi' Safman
Assistant Commissioner for Academic Affairs
Utah System of Higher Education

June 29, 2014

Introduction

The Utah System of Higher Education is engaged in one regional and four national initiatives: the Western Interstate Passport Initiative (Passport), Tuning USA (Tuning), the Quality Collaboratives (QC), the Multi-State Collaborative to Advance Learning Outcomes Assessment (MSC), and the Liberal Education for America's Promise initiative (LEAP). All five initiatives have the potential to change how we engage in teaching, learning, and assessment in higher education in Utah and across the country. Specifically, they seek to change higher education by fostering student learning that is intentional (faculty work collaboratively and deliberately to plan student learning), cumulative (each learning experience builds upon the last), and integrative (learning experiences include content and competencies from other disciplines and build student capacity to apply learning in new settings and to solve complex problems). These are the elements believed to be essential to provide a quality education to prepare our graduates for their future, no matter what new experience awaits them (Adelman et al., Degree Qualifications Profile 2.0, 2014, p. 7). Externally funded, all five initiatives share similar characteristics and converge in their processes, student learning outcomes, and assessments. All five initiatives are tied to general education learning expectations and require thoughtful actions among faculty in their teaching, personal reflection, learning, and assessment. All five embody a vision of a quality education.

Purpose

The purpose of this paper is to explain how the initiatives converge with one another on issues such as the culture of higher education, particularly teaching, learning, and assessment. In addition, the initiatives illuminate a vision of how we should prepare our graduates to be thoughtful, contributing workers and citizens. This vision assumes that we are using our curricula to teach cross-cutting skills so

that students know, understand, and apply their learning to new and unscripted settings. Put simply: We prepare our students to be educated persons.

Initiatives

All five initiatives address, though not directly, Utah's stated goal: The Utah Higher Education 2020 plan aims to have 66% of Utahns ages 25 to 64 with a postsecondary degree or certificate by 2020 (HigherEdUtah2020, 2011 Report, p. 4). Currently in Utah, 41.1% of adults 25 to 64 years old hold a postsecondary credential. Recently released data show that 80% of high school students are graduating, up from 76%, although minority students are graduating at lower rates (Hefling, Salt Lake Tribune, April 28, 2014). The Salt Lake Chamber's initiative, Prosperity 2020, has as its goal to strengthen Utah's economy by investing in education, as does the Utah Governor's Education Excellence Commission. The Utah Higher Education 2020 plan focuses on the number of degrees conferred. The two others focus, in part, on the financial return on investment in taxes collected by the state when students graduate and become gainfully employed. All support the 66% goal.

While these goals are supported by many Utah policy makers, the five initiatives described in this paper supplement these worthy goals, but go well beyond numbers of degrees and return on investment; instead, they concentrate on the elements of a quality education, one that is incremental, cumulative, integrative, and prepares graduates to apply their learning to 21st century challenges in work and life. Furthermore, these initiatives address the essential work of faculty in shaping students' learning expectations and contributing to a quality education (Ramaley, 2013). These initiatives have the potential to foster students' sense of achievement and improve completion rates.

Advancing Skills Needed by Today's Employers

The Lumina Foundation, which supports Tuning USA, the Quality Collaboratives, and the Utah LEAP initiative, for which future funding is pending, has expanded its focus from the number of degrees conferred to the quality and value of undergraduate degrees that provide students with the knowledge and skills needed by business and industry leaders nationwide (Merisotis, 2014). Studies conducted by the Hart Research Associates (2013), the Business-Higher Education Forum, sponsored by the National Association of College and University Business Officers (Maxwell, 2013), Northeastern University (2013) and an earlier study conducted by the Salt Lake Chamber of Commerce, as reported during a LEAP presentation in Utah (2010), all identified what skills business and industry leaders need from our graduates. These skills include:

- *innovation and creativity,
- *written and oral communication fluency,
- *quantitative literacy,
- *critical thinking skills,
- *complex problem solving and analytical skills,
- *broader set of intellectual and personal skills,
- *field-specific skills,
- *ethics,
- *intercultural skills,
- *civic and global learning,
- *ability to apply knowledge to real-world settings, and, once graduated,
- *the ability to continue to learn new skills and concepts.

As each initiative is described, the knowledge and skills required by business and industry will be identified.

Moving Toward an Educational Vision for our Students

Employer requirements, expressed in these four studies, and many others, inform us about what society wants and needs from our graduates. The findings also inform us about what we want our graduates to know and be able to do in order to be effective employees and contributing citizens.

The findings also tell us what is needed to produce a successful graduate, an educated person. The big questions then become: How can these initiatives lead us to a vision for our enterprise - to produce knowledgeable and competent graduates? What exactly are the problems these initiatives address? And finally, what needs to happen inside and outside of Utah classrooms in order to prepare our graduates with needed skills and competencies?

This paper will first describe the five initiatives, their goals, the problems they address, and the tools they use in order to better address the elements on which they converge. Finally, it will explore how the elements of convergence contribute toward an educational vision for our students who are to become competent educated graduates.

Initiatives that Contribute to a Quality Education

Each initiative aims to improve student performance through faculty collaboration, an emphasis on student learning, and meaningful assessment practices. Basically, all five initiatives share some goals and reinforce others. These are spelled out in the following descriptions.

- **The Western Interstate Passport Initiative (Passport)**, funded by the Carnegie Corporation of New York and developed by the Western Interstate Commission for Higher Education (WICHE), focuses on learning outcomes to streamline transfer pathways. Launched in October 2011, Passport is the first in a proposed series of

regional projects in the West that focuses on student transfer. Working with institutions in five Western states – California, Hawaii, North Dakota, Oregon, and Utah – the initial project addresses the transfer problem at an interstate level with the goals of improving graduation rates, shortening time to degree, and saving students money (<http://www.wiche.edu/Passport>). The Passport initiative pairs from each state one or more community colleges with one or more universities. (Utah includes all eight of its system institutions.)

The problem being addressed in the Passport initiative is transfer, not only within a state but also across a region. Students too often need to repeat courses they successfully passed before transferring to another institution. The process of having faculty from participating western states collaborate on learning outcomes, proficiency criteria, and assessments contributes to the quality of general education lower-division courses at all of the participating institutions and ensures that students can transfer easily but also with assurance of having achieved appropriate learning outcomes important for future success.

Faculty from each of the five states came together to define commonly agreed upon competencies and proficiency criteria. They were guided by the Essential Learning Outcomes (ELOs) developed by the Association of American Colleges and Universities through its LEAP initiative (2007). The ELOs emerged from national surveys of business and industry leaders and from leaders in higher education and include:

- *knowledge of human cultures,
- *intellectual and practical skills (written and oral communication, quantitative literacy, critical thinking),

- *personal and social responsibility, and
- *integrative and applied learning (AAC&U, LEAP, 2007).

Working collaboratively on an initial set of intellectual and practical skills - written communication, oral communication, and quantitative literacy - faculty determined the competencies expected in the intellectual and practical skills at the lower-division level and the proficiency criteria which determine the levels of learning achieved by each student in each of the three areas. This process ensures that students' successful demonstration of competence within courses deemed to advance these learning outcomes within required general education curricula will enable these students to transfer more seamlessly among the five cooperating western states. Utah will accept as satisfying the Passport quantitative literacy (QL) requirement the QL course and higher levels of first year math, such as trigonometry and calculus.

It is important to note that neither the Essential Learning Outcomes nor the proficiency criteria are standardized processes. Instead, in determining the learning outcomes faculty come together to arrive at a common understanding of competencies and assessments that are not prescriptive but rather ensure appropriate depth of knowledge to prepare students to successfully complete their lower-division work.

Students, successfully completing the competencies faculty agreed upon for these particular general education learning outcomes, earn a Passport which is noted on their transcripts in one of three ways: comment on the transcript, designation of a pseudo course, or attachment of an additional record. Faculty from sending institutions will assess the competencies, through proficiency criteria, and will then award the Passport to eligible students. Receiving institutions will accept as completed the courses from Passport holders who will

not need to repeat their work, thereby eliminating a problem which happens all too often.

This initiative, if funding is available, will track students who transfer with the Passport to determine how well they perform in their subsequent courses and in what timeframe they graduate. The first group of students within the WICHE western region should earn a Passport within two semesters and will be able to transfer to institutions within the participating western states.

Tools used for the Passport are the Essential Learning Outcomes (ELOs) and the proficiency criteria that set the learning expectations for the level of competence students have reached in written communication, quantitative literacy, and oral communication. Elements included in the ELOs are those identified by business, industry and colleges and universities as necessary to adequately prepare our graduates for life and work in the 21st century (AAC&U and Hart Research Associates, 2009).

- **Tuning USA (Tuning)**, funded by the Lumina Foundation, is an initiative that fosters faculty collaboration within an academic discipline that identifies student learning outcomes and competencies expected through each degree level - associates, bachelors, and masters' degrees. The goal of Tuning is to improve education through explicit competencies and learning expectations developed collaboratively by faculty and informed by professionals and practitioners in the field, and aspiring students, in a specific discipline. The competencies and learning goals are incremental and cumulative as they build upon themselves through degree levels, and meet accountability expectations: The learning expectations are therefore explicit and demonstrate what a degree encompasses.

The problem that Tuning addresses is the lack of clarity on what a degree in a specific field or profession means in terms of demonstrated accomplishments. Tuning clarifies what a degree means, beyond the number of credits earned, by defining what a student at the time of graduation is expected to know, understand and do.

The learning outcomes and competencies identified through Tuning describe both what is required to prepare for successful transfer, as does the Passport, and to meet employer needs and expectations of individuals educated in specific fields. Faculty, using the tools of their discipline, determine not only the learning outcomes and competencies at each successive level of depth, but the methods that students may use to demonstrate attainment of competencies. These methods may include various high impact practices (Kuh, 2008) which provide opportunities for students to apply their learning to real world settings. These high impact practices may include e-portfolios, group projects, service learning, internships, and undergraduate research, all happening inside and outside the classroom. In Utah all system institutions are involved in Tuning along with three private institutions (listed in the Bibliography). The disciplines being tuned are history, physics, elementary education, and general education mathematics unlike the Passport initiative where faculty who teach lower-division written communication, oral communication, and quantitative literacy (math departments) are involved.

Tools used in the Tuning USA initiative include the Essential Learning Outcomes (ELOs) and the Degree Qualifications Profile (DQP), knowledge and skills cutting across the entirety of undergraduate education. Both the Essential Learning Outcomes (ELOs) and the Degree Qualifications Profile (DQP) address the skills cited by employers in the four studies. Both the ELOs (discipline specific) and the DQP (skills cutting across

the entire undergraduate experience) impart to students the skills and competencies they need by the time they graduate. They also provide the foundation for continued learning as future employees and contributing citizens.

- **The Quality Collaboratives (QC)**, also funded by the Lumina Foundation and overseen by the Association of American Colleges and Universities (AAC&U), paired a community college with a university in Utah and in seven other states to improve student learning outcomes for students making successful transfer, as do the Passport and Tuning, between two- and four-year institutions. Institutions in the QC initiative are testing the Degree Qualifications Profile as a framework to assist faculty in mapping and assessing the learning outcomes and competencies expected of and demonstrated by students across undergraduate education.

The problem addressed by the QC initiative is to define and assess student-demonstrated proficiency in the context of transfer using the DQP competencies expected as a student completes lower division work and prepares to engage in advanced study/upper division work.

In Utah, the QC determined learning outcomes and competencies expected in four business courses offered in all Utah institutional business programs: foundations of business, microeconomics, statistics, and accounting. Assessment for all four courses was based on signature assignments which faculty designed to demonstrate student work on particular competencies. Additionally, the QC addressed field-based learning, as in Tuning. Salt Lake Community College (SLCC) was paired with the University of Utah (U of U). The U of U had changed its requirements in its lower division business program by eliminating some courses and teaming business faculty with those teaching general education in the humanities, social sciences and fine arts. While some of the lower-division business courses at the U of U are now

integrated with general education courses, the U of U will not disadvantage students transferring to its program from other system institutions.

The system's business faculty participated in the business faculty major's meeting last Fall (2013), an annual meeting now in its 17 year, to discuss the U of U's change in its approach to both lower-division business courses and general education. The learning outcomes agreed to by business faculty did not change even though the U of U now integrates general education and business courses. Approximately 80% of the SLCC business students transfer to the U of U. However, they may transfer to other system business programs without penalty because of clear transfer policies and the collaborative work of the business faculty in their annual major's meetings.

Tools used were Bloom's Taxonomy (1956) which includes the cognitive domains of knowledge, comprehension, application, analysis, synthesis, and evaluation (<http://www.nwlink.com/~donclark/hrd/bloom.html>), the Essential Learning Outcomes (ELOs) and the Degree Qualifications Profile (DQP) as frameworks to foster integration between general education outcomes and specific field-based competencies. Signature assignments contributed to the assessment of student demonstrations of agreed-upon learning expectations. The ELOs and DQP contributed to greater clarity about the skills and competencies that will prepare students for successful transfer and completion. The Utah QC did not make full use of the DQP but will hold a statewide meeting for faculty teaching the four courses and will use the DQP as a framework for discussion.

- **The Multi-State Collaborative to Advance Learning Outcomes Assessment (MSC)** is an experimental approach to student learning outcomes assessment. Its goals are to test the assessment process developed in initial work in

Massachusetts through the Vision Project: A project in which public campuses are working to expand college access, raise graduation rates, improve the quality of student learning, and align degree and certificate programs with the needs of local employers, among other goals (<http://www.mass.edu/visionproject>). The MSC aims to produce a framework for how we present student learning outcomes to policy makers so that higher education is less arcane and more transparent.

The problems addressed by the MSC are: 1) accountability – how we demonstrate to policy makers that students are learning, 2) the validity and reliability of the VALUE rubrics (Valid Assessment of Learning in Undergraduate Education developed by AAC&U to obtain meaningful assessment by identifying the competencies within each learning outcome) which will be used to assess student learning (<http://www.aacu.org/VALUE/rubrics/>), and 3) the challenge of generating comparable assessment results that can also help faculty improve program outcomes.

Nine states are involved in the pilot study: Connecticut, Indiana, Kentucky, Massachusetts, Minnesota, Missouri, Oregon, Rhode Island, and Utah. Faculty from participating state systems will collect authentic student work - papers, mathematical problems, work which requires student engagement beyond multiple choice tests - in written communication and quantitative literacy from both community colleges and research universities. Authentic student work (artifacts) will be collected from community college students once they have completed 75% of their course work before earning an associate's degree; university students, with 75% of their coursework completed before earning a bachelor's degree, will have their work collected for assessment. These artifacts will be scored by trained faculty using the VALUE rubrics (Valid Assessment of Learning in Undergraduate Education) which will identify the level

of mastery in written communication and quantitative literacy. In addition, several institutions, including Salt Lake Community College, are collecting student artifacts on critical thinking. Scored student work will be returned to the faculty and institutions but will not be publicized nor compared to other states and institutions. The initiative will also explore ways to present results that include attention to different contexts of different institutions. Participating Utah institutions are the University of Utah, Utah State University, Snow College, and Salt Lake Community College.

The MSC initiative addresses accountability concerns by providing data and accompanying narratives to explain the depth of student learning achieved in written communication and quantitative literacy. Participating faculty and institutions will see their own students' scored work and will know where they need to adjust teaching strategies so that students are demonstrating deeper learning.

The pilot study is being funded by the Bill and Melinda Gates Foundation and is overseen by the State Higher Education Executive Officers (SHEEO) and AAC&U.

Tools used, as covered above, are the Essential Learning Outcomes and the VALUE Rubrics.

- **The LEAP Initiative (Liberal Education and America's Promise)** grew out of the seminal work, "Greater Expectations: A Nation Goes to College in the 21st Century." Greater Expectations, a major initiative of AAC&U from 2000-2006, articulated the aims and purposes of a twenty-first century liberal education, identified innovative models that improve campus practices and learning for all undergraduate students, and advocated for a comprehensive approach to reform. The work of the Greater Expectations initiative laid the foundation for

AAC&U's (ongoing) initiative Liberal Education and America's Promise (LEAP, AAC&U, 2005, <http://www.aacu.org/gex>). From the initiative grew the Essential Learning Outcomes (ELOs) which strengthen undergraduate studies by focusing attention on intellectual skills -such as written and oral communication, quantitative literacy - knowledge of human cultures and the physical and natural world, personal and social responsibility, and integrative learning - which uses knowledge gained in various disciplines to apply to new settings. Currently, ten states and two consortia that include institutions from multiple states now use LEAP materials and frameworks for student success, faculty development, and institutional growth. All of the collaborations among the LEAP states and consortia connect completion with practices that promote quality in undergraduate education.

In the future, the LEAP initiative in Utah may go in one of two directions, if not both. It will tackle big questions posed by higher education administrators, faculty, business and community leaders and addressed in a community development paradigm with attention to social, political, and economic issues influencing how and what we teach. And/or the LEAP initiative will continue Tuning and testing the DQP 2.0, an updated version of the DQP. The Utah team tested the DQP 2.0 using wicked problems as the vehicle to engage the four Tuning groups. The reason that two directions are being considered is that the potential funder, the Lumina Foundation, has expressed interest in both initiatives. The Utah LEAP team is waiting for the Lumina staff to offer guidance.

The problems the LEAP initiatives will address are how to make changes in a community development context and/or how to improve our teaching and learning as we educate students to address 'wicked problems' through

the Tuning process. Wicked problems, those that defy easy solutions, are the problems the five initiatives are preparing students to address as they apply their learning to new and unscripted (wicked) problems and settings.

The Utah team will engage 'wicked' problems (Ramaley, 2014, p.2, draft), defined as problems that do not have easy solutions and create new problems whenever a solution is attempted. 'Wicked' problems can be applied in either initiative, addressing big questions as determined by multiple stakeholders or by faculty collaborating on questions related to student learning and assessment. Faculty will grapple with what they believe an educated person is and how to prepare students, through Tuning and the DQP, to become educated persons.

An example of a wicked problem for the community development initiative and the Tuning faculty is air pollution along Utah's Wasatch Front. This wicked problem requires that we prepare students to fully understand the issues of air particulates and their impact on the health of a community. It might include the study of how to influence policy makers to attend to this persistent problem. A more wicked part of this problem is to prepare students or community members to identify polluters and engage them to change how they manage chemical and industrial waste. Students would need to be familiarized with technological advances in clean waste removal and green applications. What may be the harder issue for community development or Tuning is how to address campaign financing from polluters that influences elected officials to make decisions not consistent with environmental imperatives.

Tools to be used include the DQP 2.0 and the collective impact model, '... a structured process that leads to a common agenda, shared measurement, continuous

communication and mutually reinforcing activities among all participants' (Kania and Kramer, p. 39, 2011). The collective impact model will provide the framework to understand how we view and collaboratively address problems.

Convergence

All five initiatives have the following elements in common:

*All five are guided by the goal of improving educational practices and our students' performance as they move from general education into their majors in order to meet the needs of employers and society.

*Neither the initiatives nor the tools they use require standardized approaches, as they are employed in a variety of settings and in different ways. Faculty involved in the initiatives determine how they will use the tools, how they will teach, and how they will assess student work. Collaboration is not construed as standardization. Instead, faculty engage one another to reach agreement on the assumptions and principles that will guide their work and make sense of the context in which they work. Faculty engage new ideas as they learn from one another.

*Faculty working collaboratively across institutions use the ELOs to determine student learning outcomes and the VALUE rubrics to assess identified outcomes. As faculty work together, they develop trust with their colleagues across institutions (Tuning, QC, MSC), state systems (Passport, Tuning, MSC) and across twelve states (Passport, MSC). This means that faculty and institutions will accept one another's assessments of student work on the agreed-upon competencies expected at agreed-upon levels of learning.

*The AAC&U Essential Learning Outcomes (ELOs) form the basis for what students are expected to know and demonstrate in all five initiatives. The VALUE rubrics are used in all but

the Passport and LEAP initiatives. However, until the LEAP team is clear about the direction expected by the funder, the type of assessment needed to demonstrate the initiative's worth is unclear. Once direction for the LEAP initiative is determined, assessments appropriate to the work will be clarified.

*Passport, Tuning, and the QC, by intent, support transfer and articulation of general education learning outcomes to the academic majors. In Utah, faculty discipline majors' meetings have determined and review annually the competencies needed to prepare students to enter their intended majors. In addition, the five initiatives expect that departmental faculty will inform their colleagues, department chairs, deans and chief academic officers of the initiatives and their benefit to teaching, learning, assessment, and transfer practices. This goal remains a challenge.

*Learning outcomes and competencies, transparent in each initiative, make us rethink credit and seat time, which served initially as a method to account for faculty pensions, and are now proxies for student learning. None of the initiatives is expected to replace the use of credit -- at least, not yet. However, in Tuning, the QC, Passport, and MSC, credits take a back seat to competency development and assessment. Utah's LEAP activities from 2010 were focused on the skills our graduates must have, as determined by state and national employer surveys. Neither the credit hour nor specific courses were germane to initial LEAP work, although discipline and integrative content and its application were and continue to be relevant.

*Ultimately all five initiatives can be absorbed into the academic fabric of participating institutions and systems. Four of the five initiatives - Passport, Tuning, the QC, and the MSC - support high impact practices in student learning and assessment, thus demonstrating accountability to the higher education community, employers, and policy makers.

The LEAP initiative with its quest to raise wicked problems will be an example of continuing high impact practices as students and/or community members engage to address these problems.

*All five initiatives center on the skills and knowledge that are necessary for our graduates to be successful in work and society as educated persons. Thus, the elements around which all five initiatives converge contribute to creating the quality education all seek develop.

A New Vision for our Enterprise; Improving and Strengthening Education

Raising the level of performance of Utah's students through intentional and collaborative faculty work enhances the efforts of the state to reach its 66% graduation goal by 2020. That goal, while worthy, does not address what employers want our graduates to know and be able to do. Nor does it change the culture of higher education.

The five initiatives challenge our higher education culture in these ways: They focus on student engagement and inquiry-based learning rather than rote memorization of static knowledge conveyed through lecture courses; they privilege high impact assessment practices over multiple choice tests; and faculty collaborate to identify learning goals rather than working in isolation. Frameworks such as the Essential Learning Outcomes, Degree Qualifications Profile 2.0, and the VALUE rubrics change how thousands of faculty across the country think about their work. More and more faculty now focus on student-centered applied learning that is incremental, integrative, and cumulative, all elements of a quality education.

Emphasis on Quality and Outcomes for Accountability

Passport, Tuning USA, the Quality Collaboratives, the Multi-State Collaborative, and LEAP create processes of student

engagement that have been shown to contribute to completion and to a quality education (Kuh, 2008). High impact practices, inside and outside of the classroom, in which students engage, such as e-portfolios, undergraduate research, group projects and internships, better prepare them for the workplace and citizenship. The movement away from multiple choice tests to student demonstrations of learning through high impact practices has implications for accountability: The assessments used in these initiatives require narratives which explain what is learned and at what depth. Demonstrated learning arrived through student-engaged assessments gives us meaningful ways to communicate through narrative our students' academic performance. Clarity about student performance informs both faculty about what their students know, and at what depth, and stakeholders about the value of our enterprise as we work to improve student learning. In addition, the initiatives are transparent so that parents, students, policy makers and employers will be aware of what students know, understand and are able to do at each degree level.

Vision for our Students as They Become Educated Persons

We in the Utah System of Higher Education (USHE) want our students to receive a quality education: an incremental and intentional step by step succession of learning experiences that build student knowledge and application of knowledge and skills. These experiences, designed in a faculty collaborative process that supports an integrative approach to learning, will teach students to apply their broad learning to new settings. We want to teach our students how to work collaboratively to solve problems in their work, their communities, their state, their nation, and their world. Their education should teach them to reflect on their work and the work of others. We also must prepare our students to continue to learn and to ask big question not only in class but in their many other spheres of life. If we intentionally design undergraduate education to include these skills and competencies, as suggested in the employer

studies, we will have offered our students a quality education. We will have given our students the tools that enable them to build upon what they have learned and to continue learning throughout life. Thus, they will become educated persons we want as colleagues, neighbors, and fellow citizens.

Conclusion

All five initiatives will require the investment of time and energy in order to integrate their processes into institutional practices. Faculty need time to communicate with one another, to build mechanisms to identify competencies and modify systems to accommodate new learning, their own and their students' learning. Student learning is likely to improve over time as more faculty become involved, more effective teaching and learning strategies are tried, and high impact assessment systems are used and improved.

The five initiatives have great potential to strengthen higher education as our faculty collaborate to adapt new ways of teaching and learning into their classrooms. All five initiatives clarify our enterprise and our values: We educate all students by utilizing intentionally incremental, integrative, and cumulative processes at levels of depth that will prepare them to succeed as contributing employees and citizens. The Western Interstate Passport Initiative, Tuning USA, the Quality Collaboratives, the Multi-State Collaborative to Advance Learning Outcomes Assessment, and LEAP promise to change the landscape of higher education in Utah with exciting new practices in teaching and learning in this, the 21st century.

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Utah System of Higher Education Institutions involved in Tuning: University of
Utah, Utah State University and USU-Eastern, Weber State University, Southern
Utah University, Utah Valley University, Dixie State University, Snow College, Salt
Lake community College. Private Institutions: Westminster College, Brigham
Young University and Western Governors University.

Western Interstate Passport (<http://www.wiche.edu/Passport>)

APPENDIX L: INSTITUTIONAL MEETING NOTES

Brigham Young University Campus Tuning Meeting

February 28, 2014

In attendance:

Jeff Keith, Associate Academic Vice President

Kirsten Thompson, Administrative Assistant

Mark Choate, History Tuning Team

Steve McKay, General Education Mathematics Tuning Team

Ross Spencer, Physics Tuning Team

Janet Young, Elementary Education Tuning Team

Teddi Safman, Director, Utah Tuning Project, Utah System of Higher Education

Bill Evenson, Consultant, Utah Tuning Project

Bill introduced all participants and told the group that the Tuning leaders from the Utah System of Higher Education have held meetings to review Tuning with participants at nearly all higher education institutions across the state.

Review of Tuning.

Teddi gave a brief overview of Tuning. Tuning is a process that involves cultural change, focusing more on what students are learning and how we teach to get students to discipline competencies. It is a faculty project with student input. We are Tuning at the two-year, bachelors', and master's levels. Faculty define the discipline. This is a multi-institutional project that includes all eight public institutions plus Brigham Young University and Westminster College. The trend in education is to move away from counting seat time and credits to assessing what the students are actually learning. We are making implicit expectations explicit, so students know what to expect from their programs. We are generating outcomes without standardization. The teams agree on outcomes, while individual institutions select their own curriculum, pedagogy, and assessment. Each department should focus assessment on its required learning outcomes. We are working with accrediting agencies and other reviewers to try to put the outcomes into a format that will be consistent with the needs of all reviewers. The faculty should correlate the outcomes with their own curriculum, pedagogy, and assessment. It is also important to make learning outcomes explicit and transparent for students, employers, and other stakeholders. Kirsten called attention to the BYU website for learning outcomes at course and program levels, connecting all the LOs to BYU's mission statement.

Future of Tuning in Utah.

Since 2009, Tuning has been supported in Utah by a grant from the Lumina Foundation for Education. Our current grant will end on May 31, 2014. For the future without grant support for faculty travel, we

are asking the Tuning disciplines to meet face to face at the majors' meeting in the fall and in a second meeting in the spring. We will also support the attendance of Tuning team members at the "What is an Educated Person?" Conference in the fall. This provides an opportunity for teams to meet and discuss progress. Chairs of the discipline Tuning teams will keep the discussion going between the meetings using email and telephone. The four disciplines involved so far still have a lot to do, and most would like to continue to work on the project. We are asking the Tuning team on each campus to meet twice a year to support each other and share ideas. The institutional Tuning team will include the members of the Utah discipline Tuning teams, the chairs of the Tuning discipline departments, representatives from the office of the Vice President for Academic Affairs, and others who are interested in the project. We hope to continue to make progress with these groups. Finally, the Lumina Foundation for Education has indicated a desire to fund us for continuing work on Tuning and the Degree Qualification Profile. The scope of that work remains to be determined.

Bill distributed copies of his paper that uses the experience of the physics team as an example of the Tuning process. We provided copies of the Degree Qualifications Profile (DQP) booklet.

Progress Reports.

Mark Choate said he has found both the philosophical discussions and several practical matters associated with the state History Tuning team to be useful. The practical benefits have been seen in shared examples from other institutions, especially Utah State University, and in working through ways to verbalize our expectations for learning outcomes. Interactions with the other state institutions have been very helpful. The History Department now has LOs for internships, so that each student and internship host specify LOs that can be assessed at the end of the internship. In addition, the history professional organization, AHA, is also involved in Tuning, so it has been helpful to be involved at the state level and coordinate with the national effort.

Ross Spencer felt that he had learned from the state discussions, and he was able to contribute what they had developed in the BYU Physics & Astronomy Department. Since the BYU department had dealt with program outcomes at the MS degree level, he was able to share those with the state physics team when that level came to the state agenda. He also noted that the responses of employers in our focus group were very helpful, and the BYU department is seeking a way to include the high priority topics brought up by employers.

It was noted that the history employer focus groups were also very helpful.

Janet Young explained how Elementary Education is different from other disciplines – they have many sets of learning outcomes from external organizations; they must satisfy licensing requirements, working with the Utah State Office of Education; the licensing agency is quite separate from the Tuning project; they are not a stand-alone department but a small piece of a large education program. She recommended that licensure programs be considered separately from non-licensure programs because of the great difference in constraints on the programs. She found the discussions with the state team to be valuable. She was concerned that the USOE never embraced the Tuning LOs. Teddi explained that

progress has been made, and USOE is now in the process of accepting the LOs. Janet found the Tuning document produced by the state team to be “wonderful” and productive.

Bill explained that General Education Math Tuning is somewhat different from discipline Tuning. The goal for GE Math Tuning is to clarify what students need to know, understand, and be able to do to be certified as passing the math GE requirement. Steve McKay noted that BYU, like U of U, has relatively little challenge with GE math, due to student demographics. Of the many GE math courses listed by departments throughout the state, BYU deals with only four. There could be more potential interest in Tuning the mathematics degree. Nevertheless, the statewide conversation has been valuable.

Discussion.

Teddi reminded us that Tuning involves cultural change, and this takes considerable time.

Ross asked about the interaction of state Tuning leaders with accreditors, particularly NWCCU. We reviewed our contacts and our goals to make Tuning reports fit seamlessly with accreditation reports.

Southern Utah University Campus Tuning Meeting

May 8, 2014

In attendance:

Matt Adams, Mathematics

Seth Armstrong, Mathematics (Department Chair)

Said Bahi, Mathematics

Curtis Bostick, History Tuning Team (History Department Chair)

Bryan Bradford, Mathematics

James Brandt, Mathematics

James Chisholm, Physics Tuning Team

Sarah Duffin, Mathematics

Daniel Eves, Chemistry – GE Math Tuning Team

Eric Freden, Mathematics, Associate Dean of Science & Engineering

Fredric Govedich, Biology (Department Chair)

Jianlong Han, Mathematics

Dan Hanson, Physics

Marty Larkin, Mathematics – GE Math Tuning Team

Brian Ludlow, Teacher Education

Jana Lunt, Mathematics

Mark Meilstrup, Mathematics

Ty Redd, Chemistry (Physical Science Department Chair)

Christian Reiner, Assistant Provost

Emma Schafer, Mathematics
Brent Sorensen, Physics
John Taylor, Biology, Provost's Office and General Education
Andreas Weingartner, Mathematics
Cecilia Weingartner, Mathematics
Peggy Wittwer, Elementary Education Tuning Team
Teddi Safman, Director, Utah Tuning Project, Utah System of Higher Education
Bill Evenson, Consultant, Utah Tuning Project

Bill introduced himself and Teddi and asked all participants to give their names and disciplines. Bill told the group that the Tuning leaders from the Utah System of Higher Education have held meetings to review Tuning with participants at nearly all higher education institutions across the state.

Review of Tuning.

Bill and Teddi distributed copies of Bill's *Synesis* article that uses the experience of the physics team as an example of the Tuning process. Teddi gave a brief overview of Tuning, beginning with its history in Europe and explaining the development of Tuning in Utah from 2008, with the first teams formed in 2009. Tuning is a process that involves cultural change, focusing more on what students are learning than what faculty are teaching. Tuning helps us emphasize how students achieve discipline competencies and how faculty can assist them effectively. Tuning is a faculty project with student input. In Utah we are Tuning at the two-year, bachelors', and master's levels. Faculty define the discipline. This is a multi-institutional project that includes all eight public institutions plus Brigham Young University and Westminster College. Western Governors University is involved in Tuning Elementary Education. The trend in education is to move away from counting seat time and credits to assessing what the students are actually learning. We are making implicit expectations explicit, so students know what to expect from their programs. We are generating outcomes without standardization: the teams agree on outcomes, while individual institutions select their own curriculum, pedagogy, and assessment. Each department should be sure assessment efforts address the required learning outcomes. We are working with accrediting agencies and other reviewers to try to put the outcomes into a format that will be consistent with the needs of all reviewers. The faculty need to correlate the outcomes with their own curriculum, pedagogy, and assessment. It is also important to make learning outcomes explicit and transparent for students, employers, and other stakeholders.

Future of Tuning in Utah.

Bill explained that since 2009 Tuning has been supported in Utah by a grant from the Lumina Foundation. Our current grant will end on May 31, 2014. For the future, without grant support for faculty travel, we are asking the Tuning disciplines to meet face to face at the majors' meeting in the fall and in a second meeting in the spring. We will also support the attendance of Tuning team members at the "What is an Educated Person?" Conference in the fall. This provides an opportunity for teams to meet and discuss progress. Chairs of the discipline Tuning teams will keep the discussion going between the meetings using email and telephone. The four disciplines involved so far still have a lot to do, and most would like to continue to work on the project. We are asking the Tuning team on each campus to

meet twice a year to support each other and share ideas. The institutional Tuning team will include the members of the Utah discipline Tuning teams, the chairs of the Tuning discipline departments, representatives from the Provost's office, and others who are interested in the project. We hope to continue to make progress with these groups. The Lumina Foundation for Education has indicated a desire to fund us for continuing work on Tuning and the Degree Qualifications Profile (DQP). The scope of that work remains to be determined, but it will certainly involve interested faculty from across the state, including those who have contributed to Tuning.

Brian Ludlow asked about the status with the Utah State Office of Education (USOE) of the Elementary Education Tuning Team's learning outcomes for pre-service teachers. Teddi explained that there had been some misunderstandings, but a recent meeting appears to have cleared those up, and representatives of USOE have now agreed that the Tuning LOs are appropriate after all for pre-service teachers working toward licensure. This agreement remains to be formalized, so further clarifications may yet be arrived at and will be shared with Utah Elementary Education Tuners. Bill pointed out that the process for Elementary Education Tuning attempted to coordinate with USOE from the beginning: the Team included two representatives of USOE, although only one participated; also, the Team started from USOE standards documents, adapting them to pre-service and the work of the bachelor's degree programs in elementary education.

Christian Reiner asked about the national reach of Tuning. Teddi reviewed some of the Tuning activities in other states and pointed out that Utah's continued focus on Tuning has taken it beyond the work in the other states. Bill mentioned the national effort of the American Historical Association (AHA) to agree on nation-wide LOs for history, while leaving responsibility for curriculum, pedagogy, and assessment to individual departments.

Progress Reports.

Jim Chisholm reported that the Physics Team's work was adapted directly to the needs of the SUU self-study and ongoing program reviews. SUU was the only institution in Utah whose highest certification in physics is a minor. So this required some adaptation of both the AS-level and BS-level LOs for SUU. Nevertheless, Jim was able to adapt the LOs and organize them into a format suitable for the self-study and program reviews. This work thus made the self-study and program review process much more straight-forward. It also led to a specific assessment program that is ongoing.

Curtis Bostick reported that the history employer focus groups were important for validating and giving confidence in the history LOs. This was especially true for the essential skills. Nevertheless, it is a continuing challenge to match different sets of LOs: Tuning, institutional, AAC&U (ELOs), etc. The grading rubrics discussed in the History Tuning Team were of real value and clarified for Curt how such rubrics could be of practical advantage. As a result, grading rubrics are now being used by several SUU history faculty members. More progress needs to be made on assessment. It would really help to have funding for clerical support to enter information into CANVAS.

Bill explained that the Tuning Project had conducted three focus groups with employers: one with history teacher employers, one with other history employers (archives, museum, etc.), and one with physics employers. These were very valuable, but difficult to set up and conduct. Those who participated were uniformly appreciative that the academic institutions were interested in their views of student preparation for jobs. Nevertheless, it was difficult to get sufficient participants. Prior to the focus groups the Tuning Project had attempted a survey of technical employers. The survey did not yield much useful feedback; the focus groups were much more useful. It would be worthwhile to do more employer focus groups if we had further funding for these, but they must be organized with full understanding of the challenges of setting them up and carrying them out.

Bill explained that General Education Math Tuning is somewhat different from discipline Tuning. The goal for GE Math Tuning is to clarify what students need to know, understand, and be able to do to be certified as passing the mathematics GE requirement. This is very different from Tuning the mathematics degrees – in which there is also some interest around the state, but so far no funding to jump start an effort.

Marty Larkin reported that the GE Math Team focused on how to improve student learning through common LOs in GE math courses. She commented that more work is needed especially on Math 1050, primarily due to the wide variety of clientele for this course with sometimes incompatible goals. Connecting what we do in GE math with the Common Core seems valuable, and it will be interesting to see what effect the Common Core has on student preparation for college-level math in a few years.

Daniel Eves, as a chemist working with the GE Math Team, noted that the Team recognized the importance of students' developing the skills they need to understand what they have done in mathematics.

John Taylor reported that in a recent review of the secondary education science core, looking at Next Generation Standards and intellectual skills, he and a committee of faculty were disappointed in the relatively weak emphasis on quantitative literacy and fluency. He suggests that these concerns be addressed by the GE Math Tuning Team in future work.

Seth Armstrong asked about the connection between the DQP and GE Math Tuning. Teddi and Bill responded that the DQP addresses overall expectations for a degree independent of discipline, while GE Math Tuning does not concern itself with degrees and their breadth of requirements but only with the GE math requirements, asking what a student needs to know, understand, and be able to do to enable the institution to reasonably certify completion of GE math.

Brian pointed out that elementary education students have particular needs in GE math, as do students of other disciplines, but it is not practical to build separate courses to address the needs of each major. Nevertheless, GE Math Tuning should address this dilemma if it seeks to make GE math more effective.

Peggy Wittwer reported that Elementary Education Tuning had to address many sets of learning outcomes from external organizations. They must satisfy licensing requirements, working with the Utah State Office of Education. The licensing agency is quite separate from the Tuning project. And so forth.

State-wide interactions were facilitated by Tuning and encouraging since it was clear that all the state institutions had similar visions. It is essential to align Tuning closely with USOE.

Brian noted the Praxis exams that prospective teachers must pass are rooted in GE but taken as college seniors. He urged attention to alignment and integration of GE and Elementary Education degree preparation. Discussion of the paramount importance of integration in this program followed.

Degree Qualifications Profile (DQP).

Teddi called attention to a one-page summary of the DQP that was distributed. She advocated regarding the DQP as a tool for integration of the college curriculum and expectations. Bill noted that the DQP is also a very useful tool to guide assessment.

Discussion.

Teddi reminded us that Tuning involves cultural change, and this takes considerable time. It entails changing our focus from what we teach to what students are learning.