

## “TUNING” THE DISCIPLINES

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Since March of 2009 the Utah System of Higher Education has been a partner with the Lumina Foundation for Education in the ““Tuning” USA” project, its first experiment in introducing the European concept of degree “Tuning” to American academia. Utah chose to “Tune” two disciplines, History and Physics.

“Tuning” is a methodology developed in the European Union to create common degree standards across multiple nations. In it, subject-area teams from state or regional systems develop criterion-referenced learning outcomes and competencies for particular degrees. It is a faculty-led approach that involves seeking input from students, recent graduates and employers in an attempt to create a common understanding of what students should know, understand, and be able to do when they finish each level of a disciplinary degree.

“Tuning” arrived in Utah at an opportune time for us. We had already been engaged in system-wide faculty dialogues that we call “majors’ meetings,” and in an annual conference known, for the past thirteen years, as “What is an Educated Person?” that concentrates on General Education outcomes and assessment. Having worked closely with the Association of American Colleges and Universities, Utah was becoming a LEAP State (Liberal Education and America’s Promise). All of Utah’s colleges had adopted the Essential Learning Outcomes, and the Utah System of Higher Education is actively promoting access and authentic assessment. Consequently, when Lumina invited us to participate in a faculty-driven process of defining degree outcomes, it made perfect sense to us. We already had developed many of the

mechanisms needed for “Tuning”, and the General Education Task Force was an established voice on all of our campuses, so we knew who to call to get things done. We were ready to work toward “Tuned” degree profiles.

At the core of successful degree “Tuning” are three considerations that make every experience unique. I think of them as “visions,” “trust,” and “mechanics.” If these three are not attended to, you cannot successfully “Tune”. And although “Tuning” may go a long way in one or two areas, unless the three are brought into “Tune” with one another, it will not be possible to complete it.

#### VISION

What do I mean by visions? I mean the metaphysics of the process: The “why” of “Tuning”. For thirty years I have been engaged in conversations about higher education reform and assessment, and for all of those years I have seen most attempts fail because they usually impose a “why” that means nothing to the faculty in the classroom, cannot be explained to faculty as a recognizable part of their jobs, and generally seek to impose answers and processes without asking the disciplinary faculty into a conversation that allows them to voice their own values. Faculty in all disciplines have professional values, and, if you ask them, they can articulate them. They frequently have ways of teaching those values, and they can be articulate about recognizing when their students have achieved the goals set for them. But most externally invented and imposed reforms and assessments fail to link to the “why” of faculty efforts.

This is why “Tuning” has such promise. It takes seriously the professional values of disciplines and their disciplinary communities.

By the professional values of disciplines I mean those parts of professional self-understanding created by indoctrination (used in its classical sense) into the academic field. Adherence to these values marks you as a member of the discipline, guides your practice as a researcher and a teacher, and shapes your mental world. After years of earning a doctorate in an academic discipline, you literally become one who follows the teaching of that discipline, a disciple.

For instance, as an historian, neither I nor my colleagues believe in tests that do not include written analyses of primary documents. We are fierce in our commitment to careful documentation, despising “presentists,” “antiquarians,” politicians and movie makers who distort and abuse historical evidence. We are generally suspicious of theories, we do not trust *a priori* hypothesizing, and what seem to us to be the overly broad and poorly contextualized arguments of social scientists. We believe in the power of good writing, and happily denounce jargon of all kinds. And we teach skepticism in the acceptance of facile arguments. In short, we know what we value, and we have a centuries-old tradition of evaluation that has been inculcated by our professional educations. Any system of assessment that ignores our vision of our professional responsibility will fail because we will dismiss it as untrustworthy at best, and an enemy of our professional mission at worst.

All academic administrators know about these disciplinary communities in the faculty, but what they seldom notice is that these communities are replicated in the larger world.

“Tuning” asks disciplines to identify these larger communities and to find a common language for use in conversations about the discipline. These communities are made, most obviously, of the people inducted into the discipline by taking a degree in it. We call them “alumni,” and we are very proud when they get jobs using the skills and values we taught them. A properly prepared accounting major is a credit to her department and an asset to her employer.

The vision of those employers is formed by and helps form disciplinary values, too. The external disciplinary community includes the workplaces in which people prepared in particular disciplines find work, since those employers often share the vision of the discipline held by the faculty and graduates. They seek to hire graduates because of their disciplinary preparation. Even graduates in disciplines that do not appear to have a natural employer constituency, and whose faculty sometimes haughtily claim to disdain the teaching of “useful” skills, have multiple employer constituencies, including other branches of higher education.

Envisioning these disciplinary communities is important, and there is a great danger in too simplistic a notion. Some disciplines have presumed obvious employers. Whole disciplines have been named after the employers – Accounting trains accountants to be hired by accounting firms; Forestry trains foresters to work for the Forest Service. Or so the simplistic logic runs, but even in these the alumni upset the calculation with their behavior. And in many the alumni skill set is broad enough that there is a very broad, even generic, community of employers. History represents one of these disciplines with so many employers that imagination is required to identify the disciplinary communities. Of course, there are obvious employers – schools, libraries, museums, publishers, and others -- but there are many less

obvious ones – the ones that need researchers, analysts, and writers but don't have jobs with "history" in the title. And then there are the others: law schools, medical schools, business schools, and, importantly the self employed. These are constituent communities identified by valuing similar things to the values of the discipline, but not job titles. This is one of the important lessons of "Tuning." There are shared visions and values that transcend academic boxes and can inform the way we think about disciplinary degrees.

"Tuning" creates the opportunity to identify the members of these disciplinary communities and to express the vision inherent in the degree preparation on both the philosophical and the practical level, expressing these as "outcomes" that can be measured according to the values of the discipline in ways that are acceptable within the discipline's community.

How to determine the values of the disciplinary community is difficult for those disciplines that do not have obvious constituencies. Early attempts at using surveys to learn about employers' desires and understandings taught us that surveys were very poor instruments. It is much more effective to convene professionally mediated focus groups that can explore the usefulness of the outcomes in settings that allow probing discussions. Focus groups are not cheap, but they are very effective, to the point of being cost-effective.

If we listen to the community of the discipline the "outcomes" of a degree quickly become visible. If the articulated "outcomes" have these people nodding their heads in agreement, you know that you have captured the metaphysical values of a group that shares and values what the discipline teaches.

## TRUST

We learn the vision by listening to the faculty and the disciplinary constituencies, but that only generates warm feelings amongst the people who have reconfirmed their self image. If “Tuning” is to begin and succeed, we have to pay attention to the trust necessary to get it off the ground.

What do I mean by “permissions?” I mean that the discussion of outcomes, their formulation, and their enactment must be valued and supported by academic leadership. The disciplinary faculty must trust that their leaders value and will support the effort “Tuning” takes. The faculty must be heard, and their vision must be allowed, even if it seems contrary to institutional habits. In “Tuning,” we have to understand the politics of the process, identifying the people and organizations that have the power to convince the faculty that they will not be harmed if they articulate their values and base their assessments upon them.

Think of the arguments faculty members are likely to make when asked to undertake any assessment process. Experienced academic leaders can name several instantly, many turning around the fear that efforts to identify the outcomes of a degree and assess its success are tools of the evil upper administration/politicians/pundits/lazy students to punish the faculty and to increase its work load. If we make obvious what we do, and if we discover we don’t always succeed in doing it, faculty members say, terrible things are likely to happen. The department may be denied funds, or have faculty lines taken, or teaching loads may be increased. But, worst of all, external actors who do not understand or value the discipline may interfere with the faculty’s duty to its profession.

After all, it is not just that those lazy historians don't want to teach 300 students in a lecture because they don't want to work harder. It is because their professional values tell them that they must make students write, and you cannot require and assess writing in classes that large. If you ask them to betray their profession, they demur.

Moreover, most assessment systems do not care about content, yet content is at the heart of professional preparation. Institutions are even more uninterested in content. The American system of higher education runs on credit hours, facilely accepting the credit unit as the measure of achievement. We all can do the sums. Accumulate 120 hours and you should have a degree. If students don't have a degree in 120 hours, the institution has failed to be efficient. Sixty hours should provide you with an associate's degree; general education can be met in 30, or 40, or 50 hours, but should be "completed" so it can transfer whole. A major is much the same, a check list of courses that add up to a specified number of credits. But if you ask whether the outcomes of the degree are met, it undermines this beautiful, Henry Ford inspired, system.

Mr. Ford knew you could use an assembly line to speed up production, each worker performing a particular task and then passing it to the next worker. Carefully planned, the production line supplied parts when needed and they were assembled with a clear outcome. At the end of the line, the car was driven away.

We in academia have pretended for the past century that degrees are like Fords. We accept that once a particular part – call it Math 1050 or English 2010 – is installed, it will always work well when the next part is installed, even after years of rust. A conversation about degree

outcomes has the potential to highlight the untenable nature of this assumption. What if the disciplinary outcomes make changes to the curriculum necessary? A discipline that announces that its outcomes require more hours, a tighter curriculum, increased time to graduation, decreased accessibility, and even more students rejected for graduation, must be willing to risk change. Administrators have to reassure them that their honesty will be valued if faculty members are to take the risk of creating a real degree framework.

Faculty members are not stupid, recognizing that too much honesty can be a danger to their departments, and that the administrations of their institutions are likely to reject their professional values if they propose major changes. They have to have permission, trusted permission, from their academic managers if “Tuning” is to be taken seriously.

But even if they trust their dean to understand their deep commitment to professional outcomes, an individual department can seldom do it alone. There are other academic masters larger than a single institution that must be supportive of the effort.

“Tuning” requires a conversation about outcomes that includes many institutions. In Utah we did it across the state’s system of higher education, including all history and physics programs, from the research universities with large specialized faculties, to community colleges with one or two people in the discipline. This is essential because it gives the discipline the right to think as a discipline, rather than as departments subject to the local pressures of particular institutions. After all, differences in mission, enrollment demographics, and attitudes can undermine the right of the disciplinary faculty to enact their professional values. When multiple institutions stand together, their degrees articulate better, and their professional

outcomes are easier to impose. But there is the danger that the local administration will reject the implementation of professional outcomes if they cost money, or if they introduce complications in the larger curriculum. That is why systems have to stand together – no department is exposed to the charge of having capriciously high expectations.

But... that protection from local resistance can still fail if the larger structures do not grant permission to impose the outcomes. The system has to express its support for the effort; the least it can do is express its expectation that the outcomes developed in “Tuning” will be used in the system.

A discipline standing together and blessed by the system in which it is embedded is powerful, but professional organizations, professional accreditors, and regional accreditors must be recognized as having authority over the future of the outcomes. From the beginning of the “Tuning” process, disciplines need to look at the values of their own professional organizations – there is seldom a difference in their visions, but their ways of measuring outcomes may make “Tuning” difficult. Regional accreditors present a different sort of problem, since their assessment requirements do not necessarily make the use of degree outcomes easy.

So faculty members need to know that what they create as colleagues expressing the values of their professional community won’t be torpedoed by hostile administrators and ossified systems that will stifle new ways of expressing and measuring the achievements of their students.

Of course, the ultimate expression of trust is reward. To prove that the effort is valued, investment can send a strong message. Tangible rewards can create trust.

But there are other benefits of “Tuning,” too. We have learned that one of the largest payoffs can be in faculty morale. A department and discipline that “Tunes” enjoys an increased sense of identity. It may also find it easier to wrestle with the monsters of assessment – but only if the mechanics of academic change are understood and incorporated into the assessment process.

## MECHANICS

If the disciplines and the administrations are willing to “Tune,” there remains another consideration. The mechanics of the process of curricular development are local and systemic.

By “mechanics” I mean the processes of implementation within institutions and systems.

Before a discipline begins to “Tune” it has to think about what it can achieve within the structures of its institutions. In particular, it, and its upper administration, must be very aware of how a discipline nestles within the larger curriculum. “Tuning” a discipline has implications across the curriculum.

Built into “Tuning” is the concept of “levels,” benchmarks of performance at various points in the discipline. Obviously, one level is the bachelor’s degree. Another level is the master’s degree, and a third is the doctorate. “Tuning” expects disciplines to indicate what accomplishments accompany each level.

In the American system, however, there is another level, the point when students move from the general curriculum into the upper division of a discipline. This is sometimes indicated by the awarding of an associate’s degree, but it always marks the beginning of upper division work in the major, the point at which a student is truly the responsibility of a disciplinary team in a bachelor’s degree granting institution. To “Tune” successfully, it is crucial that the discipline knows what students entering the major should know, understand, and be able to do.

In the American world of transferring students, on-line courses, and concurrent enrollment, the major must say “When you enter this major you must have accomplished the following.” If it does that, it knows where it starts in preparing students for the next level. If it does not, it sends the message that “no preparation is necessary to be an advanced student in this subject.”

But when a discipline builds this starting point into its curriculum, it is also saying to the rest of the university, “This is what makes our major what it is.” In the process, it should be telling the student that there are courses that should be taken outside the discipline in preparation for success in the major. For instance, at Utah State the History Department created a pre-major as a result of “Tuning.” A pre-major in History is told that certain lower division history courses must be taken, that statistics are preferred to algebra, that philosophy

and anthropology are subjects with which a history major must be familiar, and that two years of a single language are part of the preparatory education for the major. The History major is making use of courses taught by other departments, shaping the general education of its majors in ways that prepare students for successful mastery of the History outcomes.

A “Tuned” discipline takes its students as partners. It makes its outcomes clear to the students and invites them to track their own progress toward their degree outcomes. At the same time, it gives them a vocabulary for talking about how and why they are expected to know, understand, and be able to do things associated with the major.

Important allies in developing intentional student behavior in degree programs are the academic advising and career advising staffs. “Tuning” gives them a clearer understanding of the discipline, and they can then help the major deliver a unified message to the students.

We owe it to students not only to expand their knowledge, thinking, and skills. We must also expand their very vocabulary. What words do students use to describe their own experience in a major, a college, and a university? How do they answer the question that comes to them from skeptical parents and even more cynical employers: what did you learn? What practical use does your course work have? What are the skills associated with your degree?

The USU History Department stumbled on the realization that we had not explained the outcomes of the bachelor’s degree to our students when it began to redesign its requirements sheet, the basic advising tool. This document goes into the catalog and into the hands of advisors and students, explaining what the History program offers and how students can navigate successfully through its requirements.

One section of the sheet contained a blurb on “career opportunities.” Unfortunately, for decades it had simply listed the types of positions graduates had filled over the years. It never explained, in concrete, understandable terms, what History graduates could and should have learned. We rewrote it, and we have made a point of discussing it with students. History students are already adopting the new way of talking about their degrees. One new graduate recently announced he had taken a job in management at a landscaping firm because he realized his history degree had prepared him for business leadership.

Once “Tuning” begins, it becomes increasingly clear that the traditional way of relating students to their education is antique at best and inefficient at worst. Faculty in disciplines may be able to agree on outcomes and assessments, but their ignorance of student life stands in the way of student success. One consequence of this is another experiment at Utah State is being conducted in partnership with the Business Innovation Factory [BIF] of Providence, Rhode Island, funded by the Lumina Foundation for Education. The experts from BIF and a USU faculty member are running a student design studio focused on the way students navigate the curriculum. The students themselves are charged with helping majors and colleges articulate processes and outcomes in forms students find understandable and useable.

A “Tuned” discipline with clear outcomes, rubrics for measurement, reformed delivery, effective advising, and intentional students can solve many of the mechanical problems, but there are implications for others beyond the particular discipline. Curricula do not exist in vacuums. If 400 history majors are suddenly clamoring for the same philosophy course, the

Philosophy Department may have a staffing problem and History may have a time-to-degree crisis.

Worse, since disciplines are “Tuned” across systems, changed expectations in one discipline may make difficulties for other disciplines. For example, in Utah the physicists decided to add a lab to a course required by the engineers. The physicists were happy, but the engineers were upset because physics had added two credits to their students’ curricula without consultation. That lab might lengthen the time-to-graduation for engineers.

“Tuning” a discipline does not occur in a vacuum, and user departments and supplier departments must work together in negotiating supply and demand. A discipline that has “Tuned” may be able to predict demand in ways it could not before, but it can still be a problem – a problem that is magnified by the issues of transfer credit and associates degrees.

Paying attention to the mechanics of curricular relationships can be extremely beneficial, since as disciplines “Tune” they more or less drag their colleges with them. Making more effective use of the larger curriculum creates greater efficiency, and ties general education more tightly to the major. It also opens up conversations with sister institutions and feeder schools, making transfer and articulation easier.

In the best cases, “Tuning” can be applied to whole colleges. At Utah State the College of Humanities and Social Sciences is creating a faculty-driven core for the College, so that students tracking towards humanities or social sciences have a much tighter common curriculum. This curriculum is being designed, using “Tuning” methods, to ensure that students in those fields have common literacy and skills, functioning as a springboard into the majors.

The majors, of course, get the benefit of knowing what their students should know, understand, and be able to do and can plan the curriculum accordingly. The core delivers a student to the major with appropriate preparation so the major can take him or her efficiently to bachelor's degree level.

Levels for entry into the major raise another question: the level for college entry. What must a student know, understand, and be able to do to succeed in college? This a question that is usually answered by a vague reference to a standardized test score and a minimum GPA, but "Tuning" confronts the faculty with the question of whether they are teaching at the level of student preparation. Or, to put it another way, are they at the students' "level?" Asking this question opens a Pandora's Box of issues about K-12 preparation and the design of freshman courses, but it also allows colleges to explain to high schools what successful preparation looks like and to invite change. The mechanics of change require the discipline faculty to identify their "level constituencies" and to at least adapt to the limitations those impose. At best, of course, "Tuning" allows a fruitful negotiation that improves student preparation.

In Utah this issue of K-12 preparation in math has been given particular attention ever since we discovered that its curricula did not match ours. High school graduates were not prepared to begin the required general education math because it began in a different place than high school math ended. Moreover, placement and remediation were recognized by mathematicians as major issues facing their departments, and all disciplines with mathematical foundations. The success of the curricula in those disciplines depends on a proper preparation in high school and in general education.

As American K-12 systems adopt the new core standards approach, it is important for colleges to articulate their understanding of levels and to work with the K-12 people to maximize the benefits of new curricula for students.

One of the important unintended consequences of “Tuning” is the value of the process to general education. If disciplines can articulate their needs, they can articulate the relationship of the discipline to the broader curriculum. In “Tuning” the USU History bachelor’s degree, it was possible to decrease the number of upper division courses required when it was realized that better preparation for entry to the program at the meant that some things did not have to be taught by the Department.

However, institutional choices about general education can also severely limit the attempt to impose a beginning level on a degree. If, for instance, the general education curriculum permits a very limited number of choices, the “Tuned” discipline may have to add courses that in other cases would have done double duty in general education and the discipline. If philosophy is not a general education choice and history thinks it necessary, history students will need to take the accepted humanities course for the institution as well as the philosophy course for the history degree. Consequently, the “Tuned” discipline may discover that it needs to increase the preparation provided in the major if it cannot find help in the broader curriculum.

Once all of this negotiating has been done, there are still three mechanical issues facing a “Tuned” discipline: implementation of the outcomes, measurement of their achievement and impact, and faculty preparation.

Implementation is a completely local issue for most disciplines, so suffice it to say that “Tuning” must be aided by people who understand how curricular change is carried out bureaucratically. It also must have political support from the upper administration. It may take no time at all or it may take a year or two before the “Tuned” curriculum is in place.

Many disciplines have outcomes on paper. The difference between the stated outcomes and real effectiveness in disciplines is the way in which outcomes are measured and the conversations the measurements spark.

There is no simple way to assess outcomes in “Tuned” disciplines . In our experience, the most effective method is the use of rubrics, containing criteria and standards for measuring individual performance, tied to key moments in the degree program. The USU History Department has a rubric for the capstone course taken by students completing the bachelor’s degree. That rubric has also become a part of initiation into the major, appearing first in History 2700, the entry course to the major. Upper division courses frequently refer to it, as a way to tell the students how a particular course is preparing them for the capstone. Papers written in the capstone course can be compared and rated, to discover if students are achieving the established outcomes. Of course, it takes several years to have enough data to be sure that the outcomes are truly being met and to know the real effect of “Tuning.”

In the short term, the more effective assessment is qualitative research based on interviews with faculty and students. From those, we know that both teachers and students have benefited from clear outcomes. Courses are easier to plan (or at least they are planned with new insights as to their goals) and students have a much better sense of the purpose of

the degree and the things they are expected to understand, know, and do. Already, the USU History Department can point to curricular changes and a different relationship of students to the major, even though the “Tuned” curriculum has only been fully operational since the summer of 2010.

Inherent in the “Tuning” process is the larger community of the discipline, so any assessment of its effectiveness should continue to involve alumni, employers, and other groups invited into the initial conversation.

The creation of the outcomes and the use of the rubrics are the result of faculty discussions, but the energy produced by that burst of disciplinary enthusiasm has to be sustained. There need to be mechanisms for both renewing the discussion about the outcomes and for socializing newcomers into their use. New faculty must be introduced to the outcomes and the rubrics and be expected to use them – but that expectation has to be linked to more discussion. Only if new faculty members catch the vision behind the outcomes will the discipline maintain the coherence established by them. New courses have to address the outcome goals, and they need to make use of the rubrics that create a coherent system of preparation for students.

This intentionality creates problems for the use of adjuncts. Departments that depend heavily on temporary, poorly paid faculty who teach for multiple institutions at once may find the recognition and adoption of outcomes in the classroom a difficult thing. Most professionals will share the values inherent in the outcomes, but adjuncts must be trained to understand and use the outcomes and rubrics in their teaching if the Department’s courses are to work

together toward the desired end. This is another reason why you need to “Tune” by systems rather than individual institutions. Then adjuncts can teach the same course in several places and know that there are common goals -- IF they are taught to understand and use them!

Certainly, “Tuning” challenges some managerial practices common in American colleges because clear expectations of outcomes force them to think about degrees more coherently. Like Henry Ford, degree granting disciplines that have “Tuned” know what the end product should look like when it rolls off the assembly line. But knowing that and making it work requires a great deal of discussion by the disciplinary faculties, strong support from administrators, and deep awareness of institutional contexts.

This means that faculties which are “Tuning” must be accompanied on their journey by leaders and systems that are open to the change “Tuning” engenders. If they are, exciting change can be achieved.

#### WHAT HAVE WE LEARNED FROM “TUNING?”

So what are the lessons we have learned, thus far, in our experiment with “Tuning?”

Here are the things we know we must do. We must:

- Maintain the bottom-up approach of “Tuning” – it must be faculty driven.
- Maintain the discipline-specific focus of “Tuning” – responding to disciplinary values.
- Gain the trust of the disciplinary faculties by assuring them that their values can safely be expressed in outcomes which they have permission to enact.
- Connect with the professional organizations in the discipline being “Tuned.”

- Understand student needs by giving students ways of talking about and measuring their progress toward outcomes that can also be used by advisers and faculty.
- Understand how “Tuning” moves quickly out of a department’s discussions into a college’s and university’s curriculum.
- Understand how “Tuning” a disciplines requires consideration of levels on all campuses in a system – from entry level to graduate programs.
- Understand how “Tuning” requires involvement of disciplinary constituencies -- alumni, businesses, advisers, students.
- Train faculty teaching in “Tuned” disciplines to think in terms of the outcomes, since a “Tuned” discipline has to “Tune” each new faculty member.
- Have faith in the new degree frameworks created by “Tuned” disciplines and give them time to develop.

“Tuning” is a valuable process, if it is done carefully. Keeping in mind its complexity, and accepting that it takes time and requires trust, it has the power to change the ways we conceive of higher education. But this will only be done if we make haste slowly toward the goal of faculty expressed values enshrined in curricular outcomes that are measured by means true to disciplinary values. It is time to stop thinking like Henry Ford and realize that Google’s scrum teams that maximize institutional innovation by expressing core capacities are a better model for higher education than the assembly line that built a car that came in only one design and one color.

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