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A Review of Student Learning Outcomes and the Impact of Tuning at Colleges and Universities in the United States

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Acknowledgments

Table of Contents

Shifting the Focus from Teaching to Learning: The Institutionalization of Student Learning Outcomes at Colleges and Universities

This report presents the findings from a joint project between Tuning USA and Tuning Europe to better understand the ways in which student learning outcomes are introduced and institutionalized. The Institute for Evidence-Based Change (IEBC), with funding from the Lumina Foundation, collected data from site visits to postsecondary institutions in the United States that mirrored a similar effort in Europe.

About Tuning

Introduced to the United States by the Lumina Foundation, Tuning has been one method for ensuring quality. Begun in Europe, Tuning was an outgrowth of the establishment of the European Union's need to harmonize degrees across countries and to link the political objectives of the Bologna Process to the higher education sector. Although there are similarities between European and American higher education, a major distinction is that community college in America offer Associate degrees and also transfer many students to four-year institutions.

Tuning is a faculty-driven process to articulate what a student knows and is able to do in a given discipline at the point of degree. Typically, faculty from four-year and two-year colleges and universities within a state meet by discipline to work through the Tuning process. Both public and private institutions within a state/region are included in the Tuning process, though participation is voluntary. Faculty members meet in their respective discipline groups to generate competencies and outcomes for their respective degrees.

Tuning involves creating a framework that establishes clear learning expectations for students in each subject area and sets forth clear responsibilities for institutions to invite all stakeholders (faculty, students, recent graduates, and employers) to have input into the process. It is critically important, however, that all programs being tuned retain their academic autonomy. What makes Tuning unique is that it intentionally includes collaboration among faculty from different institutions and institutional types across a state, professional organization, and/or groups of states. It breaks down silos and brings faculty together to talk about their discipline across many lines.

In short, Tuning does not focus on curricula. The faculty experts that comprise the work groups may discuss their individual curricula as a means of making shared competencies and outcomes explicit, but not as a means of establishing a common curriculum. Individual faculty participants are responsible for assuring that they are attentive to those competencies and outcomes in their own curricula. Thus, identifying competencies and their subsequent outcomes does not limit the faculty's ability to approach the material as they see fit within their own institutions and classrooms. It only establishes what students should know and be able to do at the point of graduation in the discipline.

Purpose

The purpose of this study was to explicate and better understand the development and implementation of student learning outcomes (SLOs) at the department and course levels, after an institution participated in Tuning at the discipline level. The evaluation questions to be addressed were:

- ▪ What has been the impact of Tuning on faculty in the following areas: (a) assessments; (b) course syllabi; (c) development of course-level SLOs; (d) discussions with other faculty members; and (e) course sequencing within a degree program or department?
- ▪ What are the administrators' perspectives on the implementation of SLOs at their institution?
- ▪ What has been the impact of Tuning on students in the following areas: (a) awareness and transparency of course and degree SLOs; (b) transparency of degree expectations; (c) end-of-course demonstrations of learning; (d) workload and its relation to SLOs; and (e) incorporation of SLOs and expectations into print materials (e.g., course catalogues) and advising?
- ▪ What is the level of awareness of Tuning, *per se*, among faculty and students?

Method

IEBC contacted postsecondary educational institutions around the United States from a list of institutions that had participated in Tuning. Due to the nature of the project, a convenience sample of institutions willing to participate was used. This resulted in seven institutions at which the project team conducted site visits (Table one).

Table one
Institutions visited

Institution	Type	Level	Enrollment[1]	State	Department(s)
A	public	2 yr	43,000	TX	Engineering; International Business
B	public	2 yr	16,500	MI	History
C	public	2 yr	30,000	TX	Engineering
D	public	4 yr	42,100	IN	Psychological and Brain Sciences
E	public	4 yr	7,500	MD	History
F	public	2 yr	21,000	TX	Engineering
G	public	4 yr	1,900	NC	History

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[1] These are the most recent available enrollment figures. They are approximate and the date frame varies among institutions.

Each one-day site visit was designed to include individual interviews with administrators who were familiar with the development and implementation of SLOs at their institution. Group interviews were conducted separately with faculty and students. Interview protocols (Appendix A) were adapted by the Lumina Foundation from those already developed for the effort in Europe. Modifications to the protocols were minor (e.g., changing terms to reflect the types of degrees awarded in the U.S. (associate, bachelor, masters)). The protocols were easy to use and participants found the questions easy to understand and respond to in a thoughtful manner from their personal experiences.

As a thank you for participating, IEBC provided lunch on site for interviewees. Site visits were conducted in fall 2014.

In addition to site visits, students and faculty were encouraged to complete an online survey. Survey respondents were not limited to those participating in group interviews; nor were they limited to institutions participating in the site visits. The survey was approved by the Institutional Review Board (IRB) of a major public university and this approval was accepted as valid by other institutions.

Site Visits

In this section we present brief write-ups of the site visits to each of the postsecondary institutions.

Institution A

Site Description. Institution A is a multi-campus community college system. Institution A currently enrolls more than 43,000 credit students. There are eleven campuses and the visit took place at the newest of these, which opened in fall 2014 with an enrollment capacity to serve 6,000 students.

Institution A is located at the site of a former shopping mall. Construction began in spring 2013, which transformed the mall "into a state-of-the-art center for innovative learning, training excellence, and community engagement." Walking through the campus felt like walking through a mall, yet former store fronts and department stores were now transformed into classrooms and computer labs.

Student Group Interview. Two students from the international business department participated in the student group interview. Students interviewed were very positive about the International Business program at Institution A, and both are looking forward to completing their Associates degree in spring 2015. One student has received an International Business Certificate.

Students noted that each class they've taken typically begins with the teachers reviewing course outcomes, which are documented in the syllabus. Many instructors provide examples of how each outcome will be implemented. Students used the terms "objective" and "outcome" interchangeably, implying that most of the linkage takes place behind the scenes.

Students did not note ways in which SLOs are reinforced throughout the course. Students receive the syllabus at the beginning of the term, which outlines each objective. Students are aware that their assignments and assessments are generally related to objectives and outcomes, however students pointed out, "teachers do not typically make the link of lessons to objectives and outcomes explicit to students." Even so, students stated that the SLO driven approach benefits them by providing clear expectations about what will be accomplished in a given course. One student described this as a contrast with her previous experiences of frustration in other classes in not knowing what to expect.

Students believe that the SLO driven approach assists in preparing them for employment in international business, and cite examples from their internship experiences. One student described her internship as, "mutually beneficial", as she acquired valuable and relevant knowledge and skills while the company had their immediate needs met.

Students claimed to be familiar with the term Tuning. One student stated, "It means that the college is meeting you half-way with regard to what you're learning, to help you accomplish your goals as well as [those of] your employer." Another student reported that the Tuning process has provided her with experiential knowledge about the skills necessary to be successful in her future career. The students agreed that Tuning is an important ongoing process.

Faculty Group Interview. One faculty member from the engineering department was present for the engineering faculty interview, representing instruction of engineering, statics, dynamics, and mechanics. Two faculty members were present for a separate international business faculty group interview, representing instructors of intro level courses through final capstone courses.

Engineering faculty reported that the SLO approach was introduced through the Texas Coordinating Board (THECB) when they received a document called the Mechanical Engineering Transfer Combine. Engineering faculty agreed to participate in this process to facilitate students transfer, and understood that two-year and four-year faculty would establish a common list of content to be included in each course for the course to be considered transferable. This 14-month process involved reviewing every engineering course from top to bottom. When the college president asked engineering faculty if they should agree to participate, faculty said "Yes, absolutely". International business faculty described the SLO approach as fully integrated, and included as a key component of their syllabi. International business instructors pointed out that the SLO approach has formalized much of what they were previously doing. For example, "we had goals and objectives in our syllabus – but now we call them outcomes because we are instructed to ensure the outcomes are there."

Engineering faculty reported that institutional support has improved. For example, one of their goals is to incorporate more project-based learning into courses. As a response the campus now has "The Project Room", which allows for more long term project-based learning. Some projects take students two courses to complete, while others take up to five courses to complete. Engineering faculty noted that institutional support for the Project Room has resulted in steady increases and improvements around project-based learning. Another example of institutional

support came in the form of ensuring continuous support for small class sizes in the international business department, which faculty have also attributed to improvements in student retention and student comfort level. One faculty referenced the curriculum committee as a source of support from the institution.

Faculty from both departments agreed that the learning outcomes and competencies of their curriculum/a and its individual units are well formulated, and are incorporated in every class. However they describe the explicit link of outcomes to lessons as a faculty driven process that takes place "behind the scenes". Instructors reported that learning outcomes of their courses are presented in the syllabus, and are briefly addressed at the start of the term. However one respondent reported that while students are aware of the SLOs and have access to them, the importance of course content is more relevant to students' future employment than fulfilling SLO requirements. "I know that chapter four is tied to this SLO, for example. But in my classes this connection takes place behind the scenes." Another faculty member acknowledged that "it's important for a student that signs up for a class to know what they're going to get from that class". While the overall objective of the course is aligned, instructors consider this level of detail as not useful to students.

Faculty from both departments were familiar with the term Tuning. Engineering faculty were involved in the Tuning process from the start, and participated in monthly meetings for 14 months. Instructors believe that that participation in Tuning has benefitted the institution's accreditation process by providing documented evidence of formalized student learning outcomes.

Faculty from both departments indicated that the use of SLOs has had a positive impact on new faculty with little experience. "New faculty are well served to review the SLOs frequently in the beginning to ensure that their course is aligned." However, more experienced instructors reported that the impact on what happens in the classroom was minimal. These instructors noted the benefit of participating in this process as providing validation of their course content. "Internally, verbalizing these SLOs has been positive. I've been doing it for so long but it wasn't documented before." Another faculty member stated "this process has really fine-tuned my teaching. Now I'm aligning everything – the goals of the program, of the course, and of each chapter." Instructors expressed that focusing on aligning and defining objectives, as well as on results oriented methodology has made their teaching more effective.

Engineering faculty do not attribute the SLO approach to improvements in student performance, rather, improvements are attributed to a professor's ability to inspire students. A strong understanding the SLOs are valued by engineering instructors as a benefit to the faculty themselves rather than a direct improvement in student performance. International business faculty on the other hand credit this approach to providing both students and faculty with clear expectations. International business instructors review job descriptions to ensure skills are covered in courses. One international business instructor considered the challenge of knowing what students will do with these outcomes after they leave Institution A. While acknowledging

the limits in our ability to judge the result of course outcomes, this instructor reflected "I think our outcomes do address what students need to do their job."

One engineering instructor recollected a challenge in his experience with this approach, as instructors discovered that state requirements obligated them to shift content from Physics I to Physics II. The textbooks are not aligned with the course content requirements, which prompted faculty to use content from the Physics II textbook along with a 10-page faculty written summary in their Physics I course to ensure that students could meet this requirement. International business instructors described their department as a small community that encourages sharing and collaboration within their department, as well as beyond the college.

Instructors report that Institution A applies a system of evaluation of course design and delivery. Student competence is evaluated via homework, exams, and quizzes. One faculty member pointed out that their mission is to improve student success and transfer. However, "our measuring stick is if the student can, for example, do a 3D equilibrium problem. This is not a class assessment, it's a program assessment. But it's done in the classroom." International business instructors described a standardized evaluation questionnaire that is administered to students at the end of each course, which indicates whether or not a SLO was adequately covered in that course.

When asked to share lessons learned to support implementation of Tuning, engineering faculty declared, "We need buy-in from four-year universities." Engineering faculty enthusiastically agreed to sign the agreement to participate in the Tuning process. However, "we knew at that time that it would depend on if the larger universities in the state would sign it. They did not." As a result, transferability of courses continues to be a challenge. In spite of this challenge, faculty reported that their institution involvement has been positive. "Progress is incremental. We are better now than we were five years ago. We are moving in a positive direction."

Administrator Interviews. The administrator from the engineering department was interviewed on the date of the visit. A phone interview was conducted at a later date with the administrator from the international business department.

The engineering administrator reported that Institution A was introduced to the SLO approach through the Texas Coordinating Board (THECB). Engineering instructors are required to adhere to the learning outcomes for engineering that are listed in the course guide manual, an annual publication of 20 committee members across the state. The international business administrator pointed out that while from a policy standpoint this is well communicated, faculty don't always implement as expected. This administrator described Tuning goals for 2015 in IT and business, and currently has approximately 100 faculty and administrators involved in the process.

Administrators reported that most of the work around incorporating learning outcomes into their programs is related to accreditation, stating that participating in this process provides beneficial evidence to the accreditation agency. One administrator described the benefit of going beyond the minimum requirements to satisfy accreditation, recognizing their internal discipline

assessment cycle for providing the necessary structure for a continuous process to review and adjust learning outcomes. For example, faculty found that some of their students were weak in a particular SLO. As a response faculty acquired resources to create instructional videos, which students can access at all times. "If we focus on a SLO and assess our progress, then we can use that as a basis to get the resources we need to improve. If [used in this way], then SLOs have great pedagogical value." Further, one administrator identified the computer lab as a resource for getting students out of remedial math classes, as it is also used to teach math classes and offer math tutoring.

Administrators have facilitated workshops on creating and implementing SLOs to provide instructors with support and professional development opportunities. In addition, there are faculty driven department meetings. One administrator reported, "We have IT support for developing course material as well as faculty developed training, both online and in class." This additional support has accumulated a library of about 100 different video topics online (e.g., dealing with different types of students). Instructors are required to take 9 hours of these courses each year.

Administrators understand the term Tuning as continuous improvement. The engineering administrator, along with the Institution A Engineering department signed agreements to participate in the Tuning process five years ago because they saw value in streamlining course objectives among community colleges and four-year universities to facilitate the transfer of these courses. International business administrators described Tuning as an endless process to get closer to optimal teaching methodology. Administrators reported that locally developed SLOs are aligned with the state developed SLOs.

Administrators have seen evidence of benefits of the SLO process to new instructors. Participation in this process provided validation of the Institution A mentoring program for new faculty. "For most departments it's just validation that we're doing right." One administrator noted that this process has potential to indicate if students have necessary skills going into their profession. "You don't have to wait a week before graduation to see this. You can see this as they progress through the course."

Nonetheless, one administrator described the relationship between instructors and SLOs as odd, reporting that they were at times taken aback by the edicts imposed by the state, which resulted in reorganization of course content. Further, this administrator pointed out that there is friction when SLOs are tied to assessment, or even more so, imposed assessment from outside. As a result administrators report that they strive to make assessments innocuous to ensure faculty buy in. Administrators emphasized that buy-in is essential. "The SLOs have to be developed by experienced instructors. The connection with assessment has to be made clear." Another administrator described challenges in breaking down the standard of siloization, and getting folks to start working together. "You have to kill the old ways in order to be reborn into the new ways, and that's painful for the individual. It's the cycle of grief."

Similar to engineering faculty, the engineering administrator does not attribute improvements in student performance to the SLO approach. "What improves student success is

what the professor does to inspire the student." This administrator exclaimed that the SLO approach did not add to nor take away from this quality. The international business administrator reported that there is not enough data yet to say if this has had an impact on student performance. This administrator noted that while they are building their databases, he currently relies on multiple data sources to identify students that have declared majors and what courses they've completed.

The international business administrator reported that their review of learning outcomes does not include a formal system of evaluation of course design and delivery. Procedures to review learning outcomes are faculty driven. Each instructor has their own exams, and they are not standardized. The engineering department has a more established system of evaluation of course design and deliver. For example, they that the SLOs from the state source contained material in one course that they thought should have been included in another (e.g., physics I vs. physics II), so they made adjustments to their courses to accommodate.

Administrators from both departments emphasized the importance of buy-in at all levels. The international business administrator focused on the value of building a basis of support from faculty up front. "We need to get faculty members on board privately before talking with naysayers. Ensure that they're well prepared with facts to answer typical questions that faculty will raise." This administrator recommends building FAQs proactively rather than reacting to those questions. The engineering administrator's main concern with buy-in was at the university level. "If [the four-year university] doesn't buy-in, we're dead in the water." This lack of buy-in from the four-year university has been frustrating for both faculty and administrators at Institution A.

Summary. Institution A administrators and faculty reported that the SLO approach has provided them with a number of challenges as well as benefits. One administrator stated that this work is aligned with the Institution A mission – to set students up to succeed at a higher level, whether that be preparing students for the workforce, or preparing students for transfer to a university.

Respondents cited buy-in as the main challenge, although the point of focus varied by department. The International Business Department emphasized the importance of obtaining faculty buy-in before rolling the process out to a larger audience. While most international business students are seeking skills or certification, engineering students are typically pursuing transfer to a university. Transferability of courses from Institution A to the local four-year university continues to be a challenge. Students reported to Institution A faculty that the four-year university advised them not to take engineering courses at Institution A. "We have a list of all Institution A courses that transfer, but some advisors don't get that." International business faculty also cited transferability to the local four-year university as a challenge stating "we've had students leave the program because they couldn't transfer." Respondents at Institution A expect that working together would have a greater impact on all stakeholders mutual objective of preparing students to succeed.

In spite of these challenges, respondents reported that developing SLOs has been beneficial, although the type and degree of benefit varied by department. Some of the benefits identified by the Engineering Department included validation of their current practices as well as formal structure for new instructors. The International Business Department has strengthened its community of collaboration within their department, as well as beyond the college with community work programs and events. The internship program offer industry partners a rare opportunity to participate in shaping students' educational outcomes, which will also meet the industry's long term needs. Students also see value in having clear expectations outlined for each course, and find comfort in knowing that these outcomes are aligned with industry expectations.

Across both departments, some faculty used this process as an opportunity to fine-tune their teaching practice, while others received validation of their practices. Most importantly, respondents began to see value in gathering and using SLO data for other purposes, for example, making a case for additional resources.

Institution B

Site Description. Institution B is a two-year college with a main campus and three additional centers in surrounding counties. Institution B enrolls approximately 16,500 students annually. Two-thirds of the students are under age 25 and almost 80% are Caucasian. Over 200 certificates and degrees are offered by Institution B, many of which are linked to local and state workforce demands.

Student Group Interview. Students from the history department participated in the group interview. The use of student learning outcomes (SLOs) is sporadic, at best. According to the students, "only one teacher mentions the student learning outcomes all of the time. They're spread throughout the semester. She doesn't want to trick us. She wants us to know why what we are learning is important and how it connects to life."

However, students had knowledge of SLOs—their purpose and design—and also opinions about their use and value. Students perceived value in the SLOs because they get beyond content and move toward skills, which is important for history majors because, "employers are not familiar with the skills [students] gain from a history major. It's more than memorizing dates, kings, and wars." Another student noted, "it isn't always about knowing history, but being more analytical outside of history. Talking about the consequences of history, linking things to today, group work, and speaking in front of your classmates support and reinforce the student learning outcomes." Students believe the SLOs link classroom activities to a skill set they can use in the real world, "they challenge us to bring the content back to the outcomes and big picture. Group work helps us learn to communicate with several types of people and learn from each other. Presentations build confidence and, ultimately, they are teaching us speaking and confidence."

Students also believe that SLOs keep them focused on what they're supposed to be aiming for, "they are the light at the end of the tunnel. If you don't have an outcome, it is more

like high school where they talk at you. Take the test and forget the material. The outcome lets us have a discussion more geared towards real life."

Students also noted that, although SLOs are identified in course syllabi, they are not linked to content throughout the term. They stated that most teachers don't really emphasize why students are expected to learn something. The typical student experience is that at the beginning of classes faculty describe what they will be doing throughout the term. Only occasionally will a teacher, "regroup and talk about why we are learning things."

Faculty Group Interview. Faculty began by noting attempts to create SLOs with institutional guidance and support. Previously, the institution gave no specific guidance and two faculty members proactively converted the table of contents from the textbooks into student learning outcomes. However, "everyone ignored them because you couldn't assess them."

Faculty noted that Tuning gave them the opportunity to talk to other faculty from other institutions and brainstorm how address the coverage versus skill debate. Faculty who participated in Tuning were surprised that they reached consensus easily. One faculty member described their process, "At our institution, we discussed how to develop skill outcomes for the disciplinary core. Then we moved to our outcomes for each course. It was challenging at first, a culture shift." Another faculty member provided a more personal perspective, "The process helped us move from coverage to higher level thinking. It helped me feel more confident that our SLOs are connected with our discipline. We set outcomes and hoped they matched with what other people are doing, but you can't really know. Tuning and defining our SLOs has made us stronger as a discipline."

However, the use of SLOs in the classroom remains limited. Also, as at other institutions, faculty struggle with including adjunct and part-time faculty members in the process. Right now, the work is limited to the two full-time faculty members who are deeply involved. Those faculty members have started redesigning their courses around student learning outcomes, which are always, "in the back of our minds." They present the outcomes on the first day of class, in the syllabus, and they have them available throughout the course. The other full-time and part-time faculty know about the assessment part and the outcomes, but they aren't as actively using them. There is no systematic assessment yet.

The department has a representative on the college's Student Learning Assessment Committee, "who decided to align that with our Tuning work." Faculty reported that, at first, the word assessment got a bad reaction, "Even though it was the assessment committee, people didn't actually like assessment." After the committee presented the work they had done the faculty in the department responded extremely well, though.

There has been no other involvement from the administration, "They gave us no release time or resources." There is desire to expand the Tuning work, but History faculty would need more active support from the administration, especially release time. In fact, the process seems to be moving backward as the institution had a course design person for two years, but the position was eliminated.

Administrator Interview. The administrator we interviewed noted that the institution got involved with Tuning when one faculty member who was passionate about the approach, "brought the rest of the department and division into it with her." The department decided to apply for a grant to fund the Tuning work, but did not receive the award. They tried a second time, but were again denied. Currently, this institution is implementing Tuning throughout the social sciences and humanities, using existing institutional resources they already have.

This administrator noted a culture shift at the institution resulting from their efforts. The administrator used their hiring practices as an example, "we prided ourselves on hiring strong faculty expertise and really knowing what they know. Now, they are focusing more on thinking about the knowledge and skills they want students to take with them upon leaving the classroom. That is, instead of focusing on faculty skills the focus is on transferring knowledge and skills to our students."

Although faculty members would not be able to recognize or use the Tuning label, according to the respondent they have bought into the process. The administrator reported that faculty have aligned the assessment and accreditation process and they are trying to broaden the approach to more of the college. Assessment is where the institution has taken the biggest leap into the Tuning approach, "the AQIP [three to four year accreditation] process is fully aligned with our SLOs. They have become aware of what assessment really means. Our primary Tuning faculty member participated in the AQIP Strategic Planning, AQIP accreditation process, and Tuning. That made all of them more aligned and everything benefitted from Tuning."

The administrator also addressed the supports provided to faculty who are involved in developing SLOs. The college provides faculty members with a professional development allowance, "Our primary Tuning faculty member gets 3 hours of release time per semester for this work." However, it is unclear what supports are provided to faculty who are not designated as primary. The college also bring in speakers and uses the Faculty Center for Teaching Excellence and Teaching Success as a venue and platform for professional development offerings. The President takes a team of people to visit other community colleges to see how they are improving their climate. Fall learning days give faculty members the chance to share how they are assessing and benchmarking student learning. Faculty work together to identify and implement ways of assessing outcomes across all of the courses in the division. Finally, the institution identifies artifacts throughout the curriculum map that will indicate students' progress toward achievement, and that are aligned with the SLOs.

Summary. There seems to be a great divide between the administrator's perspective and that of faculty. Faculty do not feel supported in this work and seem unaware of the resources available to them or what is happening more broadly at the institution. There also are considerable differences among faculty in their acceptance and use of SLOs. Students perceive this difference as they reflect on their classroom experience.

However, all parties acknowledge the benefits to them of SLOs. Faculty and administrators also note the benefits of having participated in the Tuning process. Tuning provided them with context and also examples from other institutions. Students believe that

SLOs provide them with a road map to their courses. Like students in other history departments, these students believe that SLOs provide them with a language to discuss their skill sets and not merely focus on course content.

Institution C

Site Description. Institution C had a student population of over 30,000 students in the 2012-13 academic year. There are five campuses and the visit took place at the largest of these with an enrollment of approximately 18,500 students. The student population is almost 85% Hispanic.

Institution C has strong ties to the local four-year university and has developed transfer agreements that improve student transfer and persistence to degrees across the institutions. These agreements resulted from work done statewide to develop and align student learning outcomes. There also is an early college high school on the Institution C campus. There is considerable dual enrollment across the three institutions: high school, college, and university. This leads to accelerated degree attainment at the associate and bachelor degree levels.

The engineering program is well-regarded worldwide. The student population includes many students from overseas and dream act students from Mexico. Groups of students spend time each summer on-site around the world, also. One group of engineering students was in Peru and another in Alaska during summer of 2014. In fact, students who visited Alaska did not return to Institution C, but enrolled at University of California, Los Angeles (UCLA) after meeting a representative from the University while there who offered them enrollment opportunities and financial aid. This is noted as a testament to the quality of the Institution C program.

Finally, the engineering program benefits greatly from strong ties to local industry. Many of the faculty members at Institution C came from local industry and some are still employed. There are many opportunities for work-based learning experiences. The engineering department looks to local industry to guide what students need to know, understand, and be able to do upon receipt of a degree. In this way course content is kept updated. Local industry also looks to Institution C (and their four-year partner university) for a skilled workforce.

Student Group Interview. Eight students participated in the student group interview. Students interviewed were extremely positive about the engineering program at Institution C. They have strong relationships with the faculty members. Students believe they are getting an excellent engineering education and point to successful transfers to four year universities, employment rates, and work-based learning experiences as evidence of this high quality.

Students noted that teachers review course expectations and objectives at the start of the academic term. The syllabus is reviewed along with course objectives, student learning outcomes (SLOs), policies, and grading. Students were clear about the difference between course objectives (what the teacher is doing) and student learning outcomes (what the student is supposed to know, understand, and be able to do).

Students did not note ways in which SLOs are reinforced throughout the course. One student noted, "I don't realize until at the end of the course that, yes, I actually did learn these things." Other students agreed. Students noted it is "pretty obvious" during the course how assessments and assignments related to specific learning outcomes.

Students also believe a SLO driven approach benefits students in a number of ways. They noted that it sets up expectations for them and also for their teacher. It helps to check to see if students actually learned what was supposed be in a course. One student noted that a SLO driven approach helps to apply and connect the classroom and laboratory experiences.

Students firmly believe that the SLOs in their courses are related to getting skills for a job. One student noted, "It helps me to realize why I'm taking this class." Students believe that identifying the SLOs, "ensures that we get the basics and are prepared for on the job learning." It also reinforces for students that the equipment and programs they learn and use are what is expected by employers.

Students had not heard of the term Tuning. When explained, one student noted he is, "…studying in the Czech Republic next year. So I realize now that I'm almost Tuning my own experience as I try to figure out how credits and courses transfer." Students thought it was an important process, but there were few other comments.

Faculty Group Interview. Five faculty members were present for the faculty group interview, including the department chairperson (who arranged the details of the visit). Faculty represented various subfields in engineering including electrical, mechanical, and industrial.

It was noted that the Texas Higher Education Coordinating Board (THECB) provides each department with student learning outcomes for each of the courses taught. However, faculty do not find these to be useful when they develop their course syllabi. Sometimes they do not match the syllabi and texts. They are regarded as too detailed in some instances and too general in others. Also, faculty questioned the extent to which they are "true" SLOs because faculty find them hard to measure. So faculty typically create their own SLOs for their course and attach the state's SLOs to the syllabus for students.

The SLO approach was introduced to faculty systematically. The department chair pulled faculty together to create course SLOs. Once created the faculty decided when to roll them out, and they now have been integrated into a final document at the Institution C main office (there are multiple campuses in the Institution C district). The SLOs were distributed from the main office to district-wide coordinators, then to campus coordinators, and then to faculty. Considerable professional development was provided to assist in the rollout of the SLOs. A person was hired to provide professional development and the topic was covered in multiple meetings. Requirements and expectations were clarified, it was explained what was and was not an SLO. After the campus-wide meetings, there were discipline-based meetings at which the information was disseminated to faculty further. At the start of each academic year there is a faculty development week and the topic is reviewed: how to develop SLOs, how to introduce them in class, what they should be like.

Faculty noted that the SLOs developed by the THECB ensure that all faculty are working toward the same outcomes. Faculty believe that SLOs, however, must be more than simply how students perform in class—they must be about translation of skills to industry. Industry input is ensured because many faculty have relationships with local employers. They also get feedback from industry partners via their partner four-year university.

SLOs are presented and explained in class, "very intensively." It is a college requirement that faculty do so and they take this very seriously. Syllabi are submitted to the district coordinator for their discipline and the SLOs are reviewed as part of this process.

Faculty directly assess the SLOs with exams. Assignments and assessments are created, "to really understand if students are able to use their knowledge and tools." A faculty member said, "I use them to ensure students are getting the basics, according to the outcomes from the THECB. Another faculty member noted, "I use them to assess students to ensure they are able to do what they need to do in industry." SLOs also are used to support the local engineering club, which links students to internships. For example, faculty are going to a federal energy laboratory in Colorado to set up internships under a program for which only community college students are eligible; and they are using their SLOs to ensure students are prepared for this internship as expected by the laboratory.

It was noted that the use of learning outcomes has changed their teaching, learning, and assessment strategies. The SLOs are updated by the THECB every four years. However, local faculty update their SLOs more frequently depending on local or industry need. One faculty member noted, "we're not waiting for the state to change it." In turn, assignments and assessments, as well as course content, also change. The SLOs drive the assessments, according to all faculty present.

Furthermore, faculty firmly believe that students are better prepared for finding a suitable job as a result of implementing SLOs in a meaningful way. They also note that students from the early college high school on campus are finishing a high school diploma and associate degree— some earn both in only three years due to the dual enrollment possibilities. The local four-year university then also gives these students a "free year" admitting them as sophomores.

The faculty have heard the term Tuning. The head of the industrial engineering program participated in the statewide council to develop the discipline SLOs using a Tuning process. They developed courses at Institution C that can transfer to any four-year institution in Texas; and some were used as models across the state. It was stated that, "The agreed-upon transfer agreements and arrangements seem to be working per student feedback."

The greatest challenge to using the SLO approach in class is, "about getting the technology to be able to cover the SLOs 100%. We have a little laboratory where computers have 16 Gb of RAM and some only have 4 Gb of RAM. Unfortunately, Institution C does not get the funding to keep up with the technology. We've been creative with this. We are using open hardware systems and international models. We use open source for code models to develop open hardware. It's part of a global initiative."

Faculty noted that developing SLOs and engaging in this process helps with accreditation. The accreditors were at Institution C last year and this, "helped to avoid panicking at the end and keep us on top of it." They noted the accreditors, "definitely wanted to see what's up with our SLOs."

Faculty noted that the greatest lesson learned is, "what works has to be hands on and the SLOs need to reflect this." Participants also believe it is important to work across disciplines for engineering and include mathematics, information technology, and robotics programs. They also link to the early college high school robotics program.

Administrator Interviews. No administrators were available from this institution for interviews.

Summary. SLOs have become the way Institution C's engineering programs do their work. Although the faculty represent this as a district-wide phenomenon, evidence from this visit only addresses the use by engineering faculty. However, review of SLOs is a part of the district's syllabus review process, statewide SLOs are incorporated in all course syllabi across the district, and there are district policies and procedures in place to support creating and using SLOs (e.g., ongoing professional development).

Faculty believe in the importance of SLOs and put considerable thought and effort into their development. They use SLOs to guide course content, assignments, and assessments. They also believe in the value of SLOs to students as they transfer to four-year educational institutions and transition to the world of work.

Students, also, see the value in SLOs. Students rely on the stated SLOs as a check against and guarantee that what they learn in courses is relevant and useful. Their work-based learning experiences further confirm for them the value of their education and the SLO approach.

Institution D

Site Description. Institution D is a large public state university consisting of 11 schools. The institution had a student population of 36,419 undergraduates enrolled in the fall of 2014. The psychology department alone has 1,436 undergraduate students majoring in Psychology and 368 undergraduate students in Neuroscience.

Student Group Interview. Six students from the psychology department were interviewed. Students discussed the ways instructors inform Student Learning Outcomes (SLOs) throughout their courses. Students stated that the majority of the time professors reviewed course objectives minimally because the syllabus includes SLOs. However, when SLOs were mentioned, the majority reported that professors vaguely discussed them. One student mentioned that informing students on SLOs during class was "dependent on the professors." Students also noted that when professors are explaining SLOs they do not explain in depth or the "bigger picture" of the learning objectives; instead professors articulate "how to succeed in my class" or "how to do assignments."

All students agreed that in higher level courses professors thoroughly explain SLOs. According to the students, professors will explain the applications of the courses and how they will apply these learning objectives in their "everyday life." Students also reported receiving "constant feedback of the learning objectives." Students are aware of the differences of student learning objectives in their lower level courses vs. the higher level courses. They feel that there is a "disconnect" between the ways professors reinforce SLOs throughout courses.

Assignments and grading criteria support SLOs throughout the duration of the course. Students noted that professors would talk about SLOs when helping the class prepare for exams. They felt that when assignments and objectives are not purposeful their engagement decreases. Students shared that assignments given to them are often about regurgitating facts and not understanding the true meaning behind the learning objective. Students felt that when professors defined the learning objectives it helped them understand the purpose of the course and how it applies to their life and career. Other students mentioned that when professors had clear SLOs it motivated them to learn and be prepared for the class.

Students found SLOs beneficial. They noticed that when professors provided meaningful SLOs they perform better and retain the information. They stated being engaged in the class and able to apply the skills they learned in other areas. Students also mentioned that their studying efforts change because they had to apply their knowledge in different ways than traditional rote memorization. One student mentioned that SLOs are beneficial to all students because they are able to "weave their existing knowledge with new knowledge" that is being taught.

SLOs are also beneficial for career and job outlooks. One student mentioned the importance of professors articulating the learning objectives. He said that when student learning objectives are not communicated then one does not know what valuable skills they can bring to the world. Another student mentioned that student learning outcomes help prospective job seekers convey what they are able to do and not just that they have a degree in psychology. Students also agreed on the importance of having more career orientation within their department. Students mentioned that knowing the different realms of the field can also help decipher what career pathway to take. Lastly, they agreed that seeking professors for guidance is the best way to get information about future endeavors.

Students were not aware of the term Tuning.

Faculty Group Interview. Three faculty members and the Director of Pedagogy participated in the group interview. Faculty taught myriad courses in the psychology department.

The SLO approach has been progressively introduced to the faculty in the psychology department. According to the faculty, there are workshops and seminars focused on teaching strategies and course development. There is one full-day faculty retreat that focuses on these approaches. Faculty mentioned that although new professors are not mandated to attend the retreat, they receive an individual meeting to help them develop a course syllabus and are mentored by a professor who previously taught the course. In addition, the department has developed a database of core undergraduate courses and syllabi that new professors can access.

In regards to part time or adjunct faculty, they expressed that they receive similar support to that of full time faculty and lecturers.

Faculty are supported and expected to implement SLOs into their coursework. However, faculty is not mandated to implement SLOs due to issues related to autonomy. Faculty mentioned that the majority of them have clear understanding of SLOs, but that "the conventions of college (quizzes, papers, etc.)" take over. They stated that they tailor the "usual" college conventions to SLOs. At the moment, the psychology department is working on SLOs at the program level.

Faculty shared the ways SLOs are used in their courses. One faculty member stated that the course goals are defined in the syllabus. Professors find that the SLOs help them organize teaching concepts and ways they can help students apply them. Another faculty member mentioned that SLOs helps him structure undergrad core courses with deeper analytical thinking skills and ways to apply them to real world situations. It helps them further define the specific skills students will need to learn in the real world. Faculty used SLOs as a way to reflect on their teaching methodologies and strategies. SLOs help faculty decide the type of skills they want them to know when they leave the class. They tailor the assignments to meet the SLOs by creating rubrics that inform students what they are expected to learn. Faculty also noted that SLOs help them prioritize the knowledge and skills they want their students to have.

One faculty member was aware of the term Tuning. He expressed support for the process because he did not think employers had a way to contribute to the SLO conversation and Tuning included employers.

Faculty noted that SLOs help them to reflect on their current teaching practices. One faculty member stated that student learning outcome has not changed his teaching methods or approaches, but "crystalized" his thinking when teaching. Two other professors mentioned that student learning outcomes has helped with course development. One mentioned that in his practice it has helped him analyze what should be taught and categorize what student should be learning. In addition, one faculty member mentioned "the hardest thing for me was that I assumed that students would know why we were doing specific assignments(…)going through this analysis helps me think that not everything is so transparent for the student."

Faculty members believe that student learning outcomes increase student motivation. When there are purposeful assignments students are engaged in their course work. Student learning outcomes create cognitive benefits because the courses become more intentional.

Faculty members did not find SLOs too challenging. However, one faculty member stated that some professors found the student learning outcomes to impede on academic freedom. Although, there are professors who are not aligned with the SLO approach, faculty members agreed that they work "together and for the most part support each other."

Faculty members mentioned that their accreditation process has not benefited from Tuning. It was mentioned that during the last accreditation of 2006-2008, the accrediting agency found that there were no student learning outcomes in place. The university mandated that there be student learning outcomes in place so the institution would not lose accreditation.

Faculty members are finding challenges with Tuning in their department related to expectations for community college transfers. Veterans, and online college students. There are issues with the difficulty of courses, skills needed for particular classes, accepting prerequisites, AP credits, and not knowing what the students have actually learned. These issues have not been resolved, but faculty stated that they are "in the works."

Administrator Interviews. No administrators were available from this institution for interviews.

Summary. Student learning outcomes have slowly entered the standards of this institution's psychology department. Although there is a great emphasis and support for faculty to implement student learning outcomes, professors are progressively including them in their teaching methodologies. The use of student learning outcomes has changed the ways professors develop their coursework and in some, changed their teaching strategies. Faculty are aware of the importance of tailoring their assignments to student learning outcomes, but some are allowing the college conventions of writing papers and taking exams to tailor the student learning outcome. Faculty believes that if students had a clear understanding of what they are learning then they are motivated to learn and apply the knowledge into their everyday lives.

Students believe that student learning outcomes are beneficial in their overall educational and career paths. They find the structure of student learning outcomes can help them understand why they are learning certain topics in their classes and better transfer that information to practice. However, students believed that few professors use the student learning outcome effectively. Although they can pinpoint SLOs in their course syllabi, many found that professors convey the SLOs in the assignments and tasks given. For students who have had professors tailor their courses to student learning outcomes, they found themselves engaged in deeper understanding of applying their knowledge in real world settings.

Institution E

Site Description. Institution E is an urban, public Historically Black University with a student enrollment in fall 2013 of approximately 7500 students. Approximately 20-25% of its students come from out-of-state. Just over 80% of students are African American. The University has a comprehensive undergraduate curriculum with more specialized offerings at the master's and doctoral levels. Morgan traditionally has placed strong emphasis on the arts and sciences at the undergraduate level and on the preparation of students for advanced study. In addition, it offers a variety of programs in professional fields, including engineering, business, teacher education, architecture, hospitality management and social work. The Department of History and Geography is the second-largest in the College of Liberal Arts at Morgan State, and it offers a comprehensive range of courses and degrees.

Student Group Interview. Students reported wide variations among faculty in the use of SLOs, "the use of Student Learning Outcomes in courses depends on the teacher. They all have

the SLOs listed in the syllabus. Some teachers go over them on the first day of class. Sometimes, there is a test. Sometimes, they don't go through them at all." The students believe that knowing the goals of the course from the beginning helps them see what is coming and what is necessary to succeed. When the teachers do not address SLOs at the start of the term, students report worrying about not knowing what they need to know before they are tested on it.

Students also report that faculty in the Department of History and Geography have moved to more objective-based grading. This method is designed to ensure students are aware of what they need to know; however, there is variation among teachers in the extent to which this is effective. For some, there is a lot of busy work, "a lot of summarizing, not a lot of synthesizing." Students noted that one of their classes that used SLOs was also their most basic "and useless." Students believe it is hard to implement SLOs effectively because the courses have so many non-history majors. According to student respondents, courses therefore do not focus on what the history majors need. The SLOs get diluted to meet the needs of the non-history major. Students desire more rigorous coursework, which could be guided by more stringent and demanding SLOs.

Students believe that employers do not know the skills obtained by students majoring in history. History majors have skills in analyzing, translating, synthesizing, and comprehension. Alignment of these skills with jobs should happen naturally. In spite of this, these students did not believe that aligning skills with employer needs would serve any great purpose.

Faculty Group Interview. Faculty began by describing how SLOs were introduced to them. Before Tuning, administrators talked about student learning outcomes at one of the faculty institutes (two days of professional development before each semester), when they were preparing for the accreditation cycle. The institution started a committee of about seven people, calling it the Curriculum Development Committee; and linked this committee to the accreditation preparation process. Others were introduced to the process through a key faculty member. That faculty member briefed the department at a faculty meeting and asked for volunteers. Several teachers were already working on assessment and had been struggling to develop authentic assessments. Faculty noted that, "previous efforts, when the institution had a Vice President for Assessment, were narrower than Tuning and focused only on assessment. Tuning is skill-focused, modifying the history major for the realities of non-academic careers." Another faculty member stated, "We have not been communicating effectively about what we do for society. We need to start communicating with the larger society about what the students know and what they can do when they finish, how it prepares them for the job market, to be active citizens, and for lifelong learning."

The department has made a lot of changes because of Tuning. The SLO conversations were occurring before, but they weren't yielding anything actionable. Although Tuning was described as, "broader than the department's work", it has guided what they have done. The history department changed the numbering of courses to make it more strategic (and sensible), added a capstone course, eliminated the comprehensive exam at the end of the major, and reconstructed the curriculum to move students toward the capstone course. Each assignment in

each course has a rubric for assessing the SLOs for that course; however, the department is still prototyping and redesigning course curricula; and the faculty have not gone beyond the rubrics. The department's restructuring of its core curriculum was occurring concurrently with a redesign of the institution's general education curriculum. Thus, the department was able to start a completely new disciplinary core with this year's incoming fall class.

According to the faculty members interviewed, the institutional administration has not gotten in the way of Tuning, but has not actively supported the process. Faculty then provided a number of examples to support this assertion. One faculty member stated, "Although the administration provides a conference room for meetings and offer a lot of workshops talking about outcomes, they aren't monitoring what is going on." Another was disappointed that, "the Faculty Institute is the only thing the administration provides." It was clear that the department's lead faculty led the Tuning process.

It also was noted that data can be an obstacle. Faculty stated that, "people don't like to collect data, but faculty need a feedback loop—how the students are doing—to reshape courses." It also was noted that Tuning is starting to change the way faculty define assessment. The department is "shifting to being more individualized and less oriented toward just generating data."

Administrator Interviews. The administrator interviewed began with a brief history of the development of SLOs at the institution. The respondent noted that the College of Liberal Arts was the first to use the SLO approach. About six years ago, the institution's assessment and accountability system needed to be established, university-wide; and they hired an Assistant Vice President for Assessment and Evaluation, who was tasked with ensuring each department had a mission, objectives, and SLOs that aligned with college/unit/university objectives and strategic plan. The university has five strategic goals and SLOs are under the student success goal. Each department identified how they were promoting success. Additionally, all of the courses were expected to align to learning outcomes, which then led to student retention and graduation. The administrator noted that, "the university is very committed and faculty are beginning to say more about how it gets to their classrooms."

The institution also provided professional development. However, these were developed primarily to address assessment and did not directly focus on SLOs. Department chairs attended a training session on evaluation and assessment. At the training, the president of the another university spoke regarding how public discourse about the humanities fails to demonstrate how the skills of the humanities are translatable to many fields of employment. According to the administrator, because the university does not have a center for learning and teaching professional development offerings had to be crafted through non-required workshops and noted, "overall, faculty have to figure it out on their own, but formal measures that are required by assessment and evaluation are not intuitive."

The assessment/evaluation push was top down and, according to this administrator, driven primarily by cost concerns. The administrator lamented that response to these initiatives were mixed and noted, "it is much more difficult to get it to the individual lecturer, as it is not the

same perspective. They want academic freedom. It was received well by senior administration. The middle tier of department chairs varied in reaction."

The administrator believes a SLO-based approach will help student performance. The respondent stated the approach, "is designed for students to be able to know what they are getting out of the courses and to help a range of student learners. It shouldn't matter who teaches the class." The administrator believes this is a cultural shift about what college is and faculty have to be engaged in a different way. The goal is for students to be employed, but also about making them educated people who are, "able to question, engage, and decide—to ask the kind of questions that can transform the world."

Summary. Although the administration has put in place a process for developing and integrating SLOs, the expectation is that faculty will take on the responsibility for action. Faculty feel this pressure, but do not believe the administration supports the efforts. Faculty desire greater resources and guidance; and they believe the lack of these two indicates a lack of commitment from the administration.

Students experience wide variations among faculty when it comes to making SLOs explicit. Also, students experience differences among faculty related to the extent the SLOs are referred to throughout the course. Students attribute the lack of rigor in their courses to the fact that too many of these courses include a large proportion of non-history majors. Students also would like to see a greater focus on skills as SLOs and not on knowledge, which they believe would have greater appeal to employers.

The administrator described a top-down approach to developing SLOs that is driven by assessment and evaluation. Professional development started with assessment issues. The administrator sees for students in SLOs, but doesn't clearly link student impact to the process. Ultimately, the administrator admits that the extent to which faculty have bought into the process is spotty.

Institution F

Site Description. Institution F had a student population of approximately 21,000 students in 2014. Hispanic students comprise over 42% of the student population.

Unlike many other two-year colleges in its state, Institution F does not have strong ties to the local four-year university. The engineering departments, which were visited because they are the discipline that was Tuned, does not have transfer agreements with the university. It was explained by Institution F faculty that the four-year institution is not interested in developing agreements because they do not trust that students from the college have the skills, knowledge, or experience necessary for success at the four-year institution.

Student Group Interview. Twelve students participated in the student group interview, which took place during an engineering class session. Students interviewed held positive attitudes about the engineering program at Institution F. Connections to faculty members vary

with some faculty "focused more on the book than the job, but many provide good support for engineers." They noted that employers are impressed with sample work students provide from their classes, "I applied for a job from Craigslist and just sent them some class assignments and they wanted me right away."

Students noted that teachers review course expectations and objectives at the start of their courses. Students also identified ways in which student learning outcomes (SLOs) are reinforced throughout the course. One student stated, "It's pretty obvious and helps me to figure out what I should know from each chapter [in the text]."

Students also believe a SLO driven approach benefits students by ensuring they know what is important "in the real world."

Students had not heard of the term Tuning.

Faculty Interviews. Three engineering faculty members were interviewed individually at Institution F. One was an adjunct faculty member who had considerably less experience with SLOs than the other faculty members who were interviewed.

As elsewhere, it was noted that the Texas Higher Education Coordinating Board (THECB) provides each department with student learning outcomes for each of the courses taught. However, faculty do not find these to be useful when they develop their course syllabi. One faculty member stated, "The outcomes developed by the THECB are not measurable, the action verbs are not correct, and there are 26 for one of my courses."

The SLO approach was not introduced to faculty systematically. It was noted that faculty had some training, but mostly they speak with more their peers who have more teaching experience. Other faculty brought experiences with SLOs from employment at other institutions. It was noted that, "Institution F is pretty poor at supporting this type of stuff."

Faculty noted that a SLO approach has influenced their teaching and assessments. With clear learning outcomes, they have a better idea of what their assessments should target. Additionally, "we are getting away from a lot of lecture and moving to more laboratory and hands-on practice."

Faculty were not aware of the term Tuning.

Administrator Interviews. Two administrators were interviewed about the use and integration of SLOs at Institution F. They had a different perspective on SLOs at their institution than did faculty or students. The administrators believed the institution was more systematic, purposive, and supportive of faculty and integrating a SLO-driven approach at Institution F. However, the administrators use the terms *course objectives* and *student learning outcomes* interchangeably. It is unclear whether this represents a core misunderstanding or is merely a language specificity issue; either way it can result in faculty confusion.

The administrators presented a systematic approach to introducing and institutionalizing SLOs beginning in 2006 with development. From 2010-12, administrators report they moved toward measurement and mapping SLOs through to graduation requirements (core graduation competencies). They note that course-specific performance on outcomes go to faculty and that

department chairs get aggregated data and, "there is an expectation that faculty will use this course information for improvement." They also believe that the application of SLOs, "is just short of being completely in our culture."

Administrators noted that their work with SLOs mirrors the expectations of their accrediting agency (SACS). They note it is not a fad or just discipline driven, "we are never going to move toward less accountability."

The administrators were aware of the term Tuning. But when asked to explain it, their explanation was not sufficient as it was not perceived to be a process. They defined Tuning as, "a concept that defines a pathway or pipeline beyond our district." They noted, however, that it encourages students to, "understand they are here to attain a transfer major—to think about applying their knowledge and degrees at the next step."

Summary. There appears to be a gap between the administrators perception of the development and implementation of SLOs at Institution F and the reality experienced by faculty. Administrators report a systematic and thoughtful process for implementation. Faculty, on the other hand, do not report being well-informed or supported about the efforts.

Where there is awareness of the SLO approach, it is perceived as being beneficial. Faculty and students report benefits. Faculty note changes to their teaching and assessments. Students report greater clarity about course content and links to employability.

Tuning, *per se*, was not well-known. Where interviewees claimed knowledge, their explanations left a bit to be desired.

Institution G

Site Description. Institution G had a student enrollment of 1867 students in fall 2014. Of these, 1637 were full time and 1805 were undergraduates. Less than 10% of the student population came from out-of-state.

Institution G was established in 1891 as a normal (teaching) school for "teaching and training teachers of the colored race to teach in the common schools of [the state]." In 1937 the school changed from a two-year normal school to a four-year teachers college. In 1971, Institution G became part of the newly defined state university system.

There is considerable pride in the history of this institution and the history department fulfills a role as institutional historian. In fact, one of the professors in the department currently is working on a history of Institution G. Offering two degree-granting programs: a BA in History and a BA in Political Science, history majors interested in teaching at the secondary level can acquire a minor in Secondary Education. Additionally, people who have already acquired a bachelor degree can take classes toward licensure in Secondary Social Studies. Additional minors available through the department include American History, Black Studies, Political Science, Public Administration, Geography, Global Studies and Pre-Law.

Student Group Interviews. Five students participated in the student group interview. Students interviewed were positive about the department. However, they expressed concern about the institution's viability and especially about non-STEM (science, technology, engineering, and mathematics) departments, noting that a number already had been cut (pharmacy, art, theater, and others). They believe the administration of Institution G are not focused on the student experience—they reported many instances of errors in transcripts, registration issues, etc. that the department faculty assist the students to rectify, "I switched from education to history and it took a year to be transferred over by the administration. They always put me in the wrong program. It took a professor coming in and telling them. My original advisor was dead and they still were trying to get his approval."

Students noted variations among faculty in the introduction and specificity of student learning outcomes (SLOs) in course syllabi. There is agreement on a statement of what the history program SLOs are, but individual course SLOs are not tailored and rarely revised.

Students also noted variations among faculty in the extent to which SLOs are supported and reinforced throughout the course. Faculty who participated in Tuning are more likely to be aware of, and make explicit, the SLOs and support them. One student noted, "I think in their minds they do, they're checking it off. But it isn't translated to us."

Students strongly believe the assessments are relevant to what they're learning. They see the link between assessments and SLOs. They think assessments are more related to skills than specific content, "the point is demonstration of knowledge and skills." It was noted by students that this was a clear result of participating in Tuning, as the faculty who participated changed the focus in this way (from content to knowledge and skills) and other faculty followed.

Students also believe a SLO driven approach benefits students. They noted that it helps to organize the course for them and helps them to understand what they, as students, should focus on. It also leads to development of, "my toolbox. So I'll be more useful later."

Students firmly believe that the SLOs in their courses are related to getting skills for a job. However, they see a failure on the employment side with employers not getting past "seeing us as teachers or archivists." Students believe they need to do a better job of identifying for employers the many varied skills that comes with a history degree.

One student had heard of the term Tuning. The student attended a conference and the final session was about Tuning, "I didn't think it would benefit me because I was about to graduate. But it was great to see historians lining up and saying our students are going to offer you this. Especially for students who are finishing with their bachelor's degree—I'll have options beyond teaching."

Faculty Group Interview. Five faculty members were present for the faculty group interview, including the department chairperson and faculty who participated in the American Historical Association Tuning effort.

The SLO approach was inherited from a previous administration. The department was trying to create a three-course sequence to help students learn how to do research and historical writing. The department then started refining their move from course objectives to SLOs. Then

they added assessments. The university followed the history department, especially after it was clear they were not meeting the accreditation standards of the Southern Association of Colleges and Schools (SACS).

There does not seem to be broad institutional commitment to an SLO approach beyond the accreditation requirements to engage in one. Faculty are provided stipends to attend training related to SLO development. The institution also brings in outside consultants. Faculty noted that "mostly this effort is related to accreditation."

Faculty believe they have strong SLO development for early course sequences, but need to continue to work on upper division courses. They are involved in "tiering" or ensuring course outcomes feed into program outcomes. They began with their three capstone courses, which build on different skills and mapped back to identifying how a 300-level course is different from a 200-level course. Faculty were in agreement that, "we gave it a lot of thought and did it very thoroughly. Mapping the curriculum—how do courses lead to another, match to program SLOs, etc."

SLOs are presented to students are part of their course syllabi and program information. However, faculty did not relate that they refer back to them during the course of a semester. As students noted, faculty seem to be more aware of SLOs and how they related to teaching and assessment than is discussed with students. However, faculty present a more nuanced approach to introducing their SLOs throughout the term, "I don't read them on the first day of class. I assume the student reads them. We're not encouraged to do so because it doesn't start the course off right—too boring. I refer to them during the year." Faculty note that students come to their classes with a focus on course content (e.g., history is about memorizing dates) and the challenge is to communicate to students that this is about skills and "we need to remind them as they slip back into focusing on what they should know for a test."

Faculty are more thoughtful about their teaching and assessments as a result of their SLO strategy. One faculty member stated, "Everything I teach now has to do with those outcomes. It has made me a more attentive professor." Another noted, "I'm more thoughtful about the design of my assessments; ensuring they lead to developing a set of skills." Finally, a faculty member stated, "When you know you have to gather evidence to assess student learning outcomes, you need to modify your teaching. It changes the way you teach when the focus is on what students learn and not what you teach."

Faculty do not find the approach challenging because it has become the way they do things over time, "it's really second nature for us." Instead of being a challenge, faculty note that it keeps them from simply lecturing and provides them with a structure and assists them to be effective teachers.

The faculty have heard the term Tuning. They participated in the national Tuning effort of the American Historical Association and also statewide efforts.

Faculty noted that the greatest lesson learned is that history is, in fact, data driven, "we're more like STEM than we are like English."

Administrator Interview. The interim vice chancellor for academic and student affairs was interviewed for this effort. She has been with Institution G for 25 years, mostly as a faculty member.

The administrator noted that all academic programs have SLOs at the department or discipline level. All were recently revised to bring them in line with national program standards. There is a university assessment plan that has strategic goals and outcomes, along with action steps. From these are derived the academic program outcomes, which are used to assess what a student should know and be able to do upon graduation. Then it is up to the faculty to take the program outcomes and distribute them across the curriculum.

The driving force for the application of SLOs has been accreditation, "when you have that body saying this is the direction we expect you to go, it went a long way toward furthering the discussion. There was some pushback, 'it's my class and I'll teach it the way I want.' But we had to bring everyone on board. Some were convinced with argument and some with data."

Summary. The history department at Institution G are steeped in SLO development, links to assessments, and focus on student skills. In fact, they seem to lead their institution in many ways. There are considerable institutional concerns at Institution G presently. However, these have not stood in the way of effective SLO development and using an SLO approach at the history department. Faculty and students, alike, appreciate that a focus on SLOs (and the Tuning effort) serves to make historians more marketable in the workforce.

Conclusions

In this section we summarize findings related to the four questions driving this study. We also provide a number of bulleted conclusions for easy discussion and reference.

The Initial Four Questions

What has been the impact of Tuning on faculty in the following areas: (a) assessments; (b) course syllabi; (c) development of course-level SLOs; (d) discussions with other faculty members; and (e) course sequencing within a degree program or department?

The impact of Tuning on faculty varied greatly among and within the institutions visited. The greatest impact was related to discussions with other faculty members and development of course-level SLOs. However, this activities were rarely solely the result of Tuning. Other factors, such as accreditation requirements, also drove these outcomes. Few faculty redesigned their course syllabi or assessments as a result of the SLO development process. Where this occurred it tended to be part of an institutional effort to review these course-related items. One institution noted a direct impact of Tuning on course sequencing. When faculty received SLOs from outside sources (e.g., state boards), they were almost universally derided as poorly written and useless.

What are the administrators' perspectives on the implementation of SLOs at their institution?

Administrators we interviewed tended to present a more systematic and intentional, institution-wide effort than their faculty reported experiencing. There were considerable assumptions about the process, based on knowledge simply that it had occurred. Administrators with a more realistic (and accurate) perspective tended to have been faculty who went through the process themselves, before assuming their administrator role. Administrators with whom we spoke perceived the SLO development process as positive—good for faculty, good for students, good for academic departments, and good for their institutions.

What has been the impact of Tuning on students in the following areas: (a) awareness and transparency of course and degree SLOs; (b) transparency of degree expectations; (c) end-of-course demonstrations of learning; (d) workload and its relation to SLOs; and (e) incorporation of SLOs and expectations into print materials (e.g., course catalogues) and advising?

Students were not aware of Tuning, but were aware of SLOs in their courses. Although students reported that faculty included SLOs in their syllabi, there was considerable variation in the extent to which SLOs were discussed or clearly linked to coursework and assessments throughout the term. Students appreciated when they received SLOs and these links were clear. As with other respondents, there was considerable variation among student responses to questions and probes related to the impact of SLOs. Some students reported increased transparency of course expectations and how the coursework linked to the broader discipline. Students seem to experience three levels of faculty buy-in to SLOs: (a) faculty who are "true believers" and discuss the SLOs, clearly link them to coursework and assessments, and discuss them in relation to the students' futures; (b) faculty who include SLOs in their syllabi and whose instruction, coursework, and assessment seems to be guided by them; and (c) faculty who might include SLOs in their syllabi, but do not go beyond that. Most faculty are perceived to be in the middle group.

What is the level of awareness of Tuning, per se, among faculty and students?

It was the rare student who had any awareness of the Tuning process or term. Some students had a general idea of what Tuning was about, but their descriptions were off the mark. Obviously, faculty who were directly involved in Tuning had high awareness. Other faculty had some awareness based on discussions with their peers who were directly involved. However, a majority of faculty admitted to no knowledge of the term. Administrators had various degrees of awareness, even though their institutions had participated in a Tuning effort. Few were aware of employer or student input. Few also were aware of the ways in which Tuning supported co-development of SLOs at the discipline level across institutions and what was brought back to their institution in disciplines that had been Tuned.

Bulleted Conclusions

A number of conclusions can be drawn across the site visits related to the development and implementation of student learning outcomes (SLOs) and Tuning.

- The use of SLOs is widespread. Every institution expects their faculty to use them at the syllabus level.

- The extent to which SLOs are understood and developed properly varies greatly.

- There are differences in the extent to which faculty are provided professional development and other institutional support related to SLOs.

- Although faculty at almost all institutions are required to submit their syllabi for review, and this review includes addressing SLOs, the extent of knowledge about SLOs among syllabus reviewers varies. This means not all SLOs are developed appropriately.

- There tend to considerable gaps between administrators and faculty in their experience and perceptions of implementing and developing SLOs at the institutions.

- Administrators are committed to an SLO approach for the faculty in their schools. However, it is unclear they understand what a high quality SLO should look like.

- Faculty who participated in Tuning efforts noted that these had a positive impact on their ability to discuss SLOs with their peers and to ensure high quality SLOs are developed by faculty in their department.

- Students typically noted that SLOs are in the syllabi they receive. Most students stated that their teachers review the SLOs at the start of the term when reviewing syllabi. Most students also could see the links between SLOs and course content. Fewer students reported that they understood or saw clear links between SLOs in the syllabus and assessments. Many students stated they trusted their teachers to ensure course content and assessment included what they need to know, understand, and be able to do; even if they did not see the SLOs.

- Where two-year and four-year postsecondary institutions partner to ensure SLOs are being addressed, there seems to be great benefits. For example, at one site where the college has agreements with the university students transfer easily and with a large number of credits, which leads to shorter times to degree. Alternatively, at another site where there is no signed agreements between the institutions, transitions are more difficult for students.

- Faculty who are provided with SLOs for their courses are less invested in using them than faculty who develop their own. Faculty also have fairly low opinions of the SLOs provided to them by the THECB. They do not find them useful for a number of reasons: there are too many of them for each course and faculty do not believe they are appropriately written—action verbs are wrong, they seem more like course objectives, they are not assessable.

- Typically, only faculty who participated in Tuning, and the rare administrator, knew what Tuning was.

- Faculty and administrators, alike, believe that accrediting agencies expect SLOs for each course. Faculty also noted that having SLOs developed for their courses makes their accreditation preparation easier. In some instances, though, it's believed these also were check box responses.

Appendix A:
Interview Protocols

FOCUS GROUP FOR STUDENTS

(Item 1 is covered in brief informational sheet to be completed at start of group)

1. In which degree program(s) are you enrolled? Which year?

2. To what extent are you informed of the Student Learning Outcomes in your classes and how do your instructors inform you of them?

3. How are the Student Learning Outcomes for your courses supported and reinforced through the duration of the course?

4. How do your assignments/assessments relate to the learning outcomes? Are you aware of how each assessment or assignment relates to specific learning outcomes?

5. How do you think a student learning outcome driven approach could benefit students? In what ways can this approach improve your understanding of what you are learning and why?

6. How can a student learning outcome driven approach assist in preparing you to find a job in your field of study? Let's assume employers are asked to provide input regarding what they want students to know, understand, and be able to do. How do you see this information being incorporated into student learning outcomes and course syllabi?

7. Have you heard of the term "Tuning"? If "Yes" what does it mean to you?

FACULTY GROUP INTERVIEW
(Items 1 & 2 are covered in brief informational sheet to be completed at start of group)

1. How long have you been teaching? How long have you been teaching at the university?

2. What level(s) of courses do you teach?

3. How was the Student Learning Outcomes (SLO) approach introduced to the faculty/academic staff? (for example, briefings, through memos, verbally, etc.)

4. What if any support has been provided by your institution to assist you with integrating learning outcomes in to your work?

5. Have the learning outcomes/competencies of your curriculum/a and its individual units been formulated?

6. How do you use the SLO approach in the course units you teach?

7. Have you heard of the term "Tuning"? If "Yes" what does it mean to you?

8. Has the use of learning outcomes/ changed your teaching, learning and assessment strategies? Could you provide us with examples?

9. Do you believe that the SLO approach improves student performance? Why? Do you believe that students will be better prepared for finding a suitable job?

10. In your opinion which are the main challenges when using this approach in your classes? Is there any formal mechanism to share these challenges with colleagues?

11. Are the learning outcomes of your course presented and explained in class?

12. Does your university/faculty apply a system of evaluation of your course design and delivery? Does it include a review of learning outcomes?

13. Does your regional or professional accreditation process (e.g., required support documentation) benefit from having participated in Tuning; and if so, how?

14. What lessons learned to support the implementation of Tuning at your institution would you pass along to other similar institutions?

INTERVIEW FOR ADMINISTRATORS INVOLVED IN TUNING

1. How long have you been in your present position and in the university?

2. To what extent has the institution been introduced into the LOs/ approach? What's the level of implementation of this approach?

3. Beside accreditation requirements, does the institution have an internal procedure for incorporating the learning outcomes / approach into the (associate, baccalaureate, master and doctorate) programs?

4. As an institution, do you provide faculty members with staff development support (seminars, materials, peer support, memos, mentoring, etc.)?

5. Have you heard of the term "Tuning"? If "Yes" what does it mean to you? Are you using the Tuning approach in your institution?

6. How has the academic community reacted to the application of learning outcomes/? Which are the main challenges and opportunities they faced in using them?

7. Do you believe that the SLO approach improves student performance? Why? Do you believe that they are better prepared for finding a suitable job?

8. Does your university/faculty apply a system of evaluation of your course design and delivery? Does it include a review of learning outcomes?

9. Does your regional or professional accreditation process (e.g., required support documentation) benefit from having participated in Tuning; and if so, how?

10. What lessons learned to support the implementation of Tuning at your institution would you pass along to other similar institutions?