

Innovation and Inquiry for Student Learning: A Consortium of Community and Technical Colleges

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Bellevue College
Butler Community College
Cascadia Community College
Central Piedmont Community College
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Edison State College
Edmonds Community College
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Georgia Highlands College
Georgia Perimeter College
Heartland Community College
Hocking College
Inver Hills Community College
Isothermal Community College
Lake Washington Technical College
Lorain County Community College
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Middlesex Community College
Milwaukee Area Technical College
Minneapolis Community and Technical College
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Pierce College
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Valencia Community College
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Advancing Student Learning Outcomes in Community and Technical Colleges

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Implementing Pedagogical Uses of Institution-Wide Student Learning Outcomes

Glen Rogers

My focus is on the pedagogical use of institution-wide student learning outcomes and how institutions are making progress in implementing these outcomes for the sake of individual student learning. The authors in this compendium of chapters were invited to write more broadly about teaching, learning, and assessment activities at their institutions, and so, I do not claim to be here summarizing their contributions or even engaging their views to wring out how they challenge or support my own. Indeed, they speak for themselves and their institutions best and what I offer is alongside theirs without seeking the privileged position of the last word. I have chosen to couch the generalizations I am making across the institutions as mine, but they are not mine alone, as I have learned from my dialogue with others in this consortium, which we have called Innovation and Inquiry for Student Learning (IISL). Although many of the chapter authors have chosen to connect their accounts of progress at their institutions with their experiences in this consortium as well, my observations are more dependent on my membership in the consortium, which is why I need to say a little about that grounding. But, in doing so, I note that some chapter authors go further and probe what it means to learn in consortia more broadly. Their view usefully goes beyond their individual institutions and includes observations on other consortia that have supported their work with student learning outcomes, most notably in Washington State (see Chapters 9 and 10). With them I share an appreciation for how educators, and here I include myself, often gain a transformative understanding of their work through consortia. Somehow, a special bonding occurs in identifying shared educational purposes and learning together over time. There is a heightened intellectual and appreciative engagement with colleagues. Why? Perhaps, the biological definition of *consortium* gives a hint. A consortium is: the “persistent intimate association of different kinds of organisms,” which, as Webster elaborates, is usually “with close physical contact.”

As the hosting and coordinating institution to the consortium, Alverno College was arguably the most different, being a four-year undergraduate institution and one that had recently added several masters programs. For Alverno, one purpose of the consortium has been to better understand two-year institutions and elements of educational practices that might or might not be transportable across different contexts (cf., Mentkowski, 2006). Alverno College proposed the

consortium to Lumina Foundation for Education¹ based in part on a strong interest by two-year institutions in Alverno College's workshop on "Connecting Student Learning Outcomes to Teaching, Assessment, Curriculum." We sought—from close, persistent, intimate contact—to learn from our colleagues at two-year institutions how our workshops could more intentionally address their particular needs. At the same time, we sought also to host conditions for participating institutions to learn from each other, including what we as a consortium could learn as a collective and share more broadly (see <http://iisl.alverno.edu>).

Even before our first consortium meeting, teams from participating institutions—as part of their formal commitment to becoming a more learning-centered institution—agreed to complete, with deliberative reflection, a multi-part questionnaire about their approaches to inquiry and use of curriculum-wide student learning outcomes. Collective review of the results would become one of the ways we hoped to learn at the level of the consortium. I focus some on the questionnaire results, which lack the interactive depth of the face-to-face discourse that we in the consortium have all cherished, because these results frame a relatively broad and sharable picture of practices across the institutions. This more distant view complements the other chapters in this volume, where authors have, with thoughtful candor, shared practices at their individual institutions directly. Their more contextually grounded accounts of practice provide the reader a window into the underlying complexities and challenges that implementing the use of student learning outcomes in a curriculum entails.

Both the summary questionnaire findings here in this chapter and the grounded accounts of practice in the other chapters share a common limitation. They recede into the past. An advantage of the narrative accounts in the other chapters is that their attention to the unfolding of events over time is itself a revelatory part of their description of their practices, and a specific future can be projected. Constantly changing practice not only affects how assessment is implemented, with a wizened eye toward flexibility, but also intrudes on how educators share practices with one another. Writing provides needed descriptive clarity and documentation, but cannot keep up with the restless spirit of innovation in practice. The intrusion of ongoing change in writing about practice is perhaps no better represented than in Chapter 4, where David England and Steve Ersinghaus interrupt their story of several changes at Tunxis Community College to say how the college has, through further deliberation since their chapter was first written, revised its approach to embedding student learning outcomes in the curriculum. The dynamic nature of the tasks of defining, implementing, and redefining student learning outcomes could not be more clearly illustrated. No doubt other authors would wish that their stories of change could be updated year-by-year were such a task feasible and effortless. But, inside the real world of change, there are larger lessons in these chapters that will endure, including the need for sustainable and feasible approaches for how an institution addresses change, whether as adaptation to new circumstances, promulgation of new understandings, or ongoing openness to learning. Perhaps this is why Chapter 6, by my co-editor for this volume, Catherine Crain, is so poignant to me. She recounts a history of how the ideals of a Learning College envisioned in the founding of Cascadia Community College are variously understood and realized. For me, the ideals underneath the rhetorical complexities she describes are made compellingly real by how educators at Cascadia have continually negotiated their founding frameworks for practice within the exigencies of

¹ The project was funded in part by Lumina Foundation for Education. However, the opinions and conclusions of the author are his own and do not necessarily reflect those of Lumina Foundation for Education, its officers, or employees.

practice. Here, as in the other chapters, larger lessons are drawn from how change in innovative practices is managed to optimize educational missions and principles that endure as guiding frameworks.

As I take up the questionnaire results, I have a somewhat ambitious parallel task of painting a larger picture of how change happens across institutions. For the purposes of communication, I am stepping back from the detail and variations across institutions to abstract prominent educational features of how institutions implement student learning outcomes. Complementing the set of chapters that narrate change at individual institutions, this chapter is intended to be a guide to educators who are interested in using student learning outcomes to develop a more coherent general education or transfer degree. Thus, my focus is on how student learning outcomes that are defined at the level of the institution might be used to engage students in the task of connecting their academic studies with their lives and livelihoods during and after college. Before getting down to findings from the consortium of two-year colleges and a practical model supporting implementation of educational goals over time, it is useful, or even necessary, to take into account historical and contemporary agendas of the student learning outcomes movement, which condition how various actors will understand and hopefully also support a faculty and student focus on each student's achievement of curriculum-defined learning outcomes.

THE STUDENT LEARNING OUTCOMES MOVEMENT AS CONTEXT

The three decade call to assess what students know and can do remains a persistent feature of debate about the future of education and noticeably shapes current policy and practice in two-year institutions. Two relatively distinct ideals in the student outcomes movement have remained in tension over time. One has emerged in a strong public policy-making voice and has emphasized use of evidence of student learning outcomes in transparent, external accountability to guide public allocation of resources, support consumer choice, and/or drive internal campus improvement initiatives (Alexander, 1986; U.S. Department of Education, 2006). It is important to emphasize that the vision in this strand now generally advocates simultaneous use of aggregate outcomes data for improvement and accountability, but also that use for accountability purposes continue to predominate (Kuh & Ikenberry, 2009). In contrast, the other strand of the student learning outcomes movement emerged in the voice of progressive educational reformers and has emphasized use of student learning outcomes to guide faculty design of curriculum-embedded assessments, to support student engagement, and to encourage faculty to take a more collective responsibility for student learning in undergraduate curricula so that students experience it as coherent and meaningful (Student Learning Initiative, 2002).

The educational reform strand has been less prominent. This makes it important to understand its goals and progress independent of its tension with accountability demands. In the public policy arena, its early national voice was reflected in the publication of "Involvement in Learning" by the Study Group on the Conditions of Excellence in American Higher Education (1984). The involvement report focused on the four-year undergraduate degree and gave prominent attention to effective educational practices in outcomes assessment, including formative feedback to students on their performance on assessments and the need for faculty to think about how their subject matter contributed to the development of the capacities learned in the curriculum. At the center is an integral link between "knowing and doing" throughout the curriculum. Key persisting elements in the educators' outcome reform movement have included definition of curriculum-wide student learning outcomes beyond just subject-matter content; pedagogy that

engages students in the practice of the disciplines as frameworks for learning; student assessment-as-learning (with feedback and self assessment); and educating for student identity as a learner, professional, and contributor to civic life (Bransford, Brown, & Cocking, 2000; Chickering & Gamson, 1987; Colby, Ehrlich, Beaumont, & Stephens, 2003; Darling-Hammond, 2000; Engelmann, 2007; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005; Mentkowski & Associates, 2000; Pascarella & Terenzini, 1991, 2005; Riordan & Roth, 2005).

The reform and accountability strands remain linked by an interest in what an undergraduate degree means. What can graduates do with what they know? Although they also rhetorically share goals of improving student learning outcomes, they differ nonetheless in whether assessment best begins with a focus on improving individual student learning outcomes versus aggregation of data to improve the learning of future students through “data-driven” changes in curriculum and instruction. Of course, a great deal of miscommunication happens precisely because the shared ideal of “improving student learning outcomes” can yield very similar rhetoric for very different approaches.

Alongside interest in the pedagogical usefulness of outcome-based education, educators from two-year institutions have wondered whether briefer curricula tuned to students who are intermittently pursuing degrees can yield integrated learning. On the one hand, organizing teaching, learning, and assessment in two-year institutions around student learning outcomes is widely seen as a way of focusing institutions on higher-order student learning and building coherence into the curriculum (O’Banion, 1997, 1999). On the other, memorization still predominates as a learning strategy (e.g., Community College Survey of Student Engagement, 2006). Progress in implementation of outcomes-based curricula may be a related concern. In a national survey (N=259), Wilson, Miles, Baker, & Schoenberger (2000) found that a third of presidents at two-year institutions said they had fully implemented an agreed upon definition of 21st century learning skills in their curricula, but also, that less than a fifth indicated such outcomes were fully integrated into their curricula. Almost none indicated faculty routinely assessed for these in their courses or documented course outcomes beyond grades. More recently, among four-year institutions (N=434), Hart Research Associates (2009) found that more than three-quarters indicated that their institution has a common set of learning outcomes for all students and almost as many indicated that their institutions assess student learning outcomes across the curriculum in courses. Tellingly, however, less than forty percent of the institutions with outcomes indicated that “the majority of the students understand their institution’s intended goals or outcomes for undergraduate learning” (p. 1).

The present report updates, in somewhat greater detail, progress in the implementation of outcomes-based education in two-year institutions and addresses the achievements and challenges faculty face in the pedagogical implementation of institution-wide student learning outcomes. Questions guiding the present study more specifically focus on:

- To what extent (and how) are two-year, outcome-based curricula being implemented to scaffold student learning through outcomes that are defined at the level of the institution?
- What are typical features of progress?
- What is the potential for future progress?

An emergent goal of the study was to develop models of progress that two-year institutions can use to:

- envision long-term goals for the pedagogical implementation of institution-wide student learning outcomes,
- evaluate progress in incremental steps, and
- anticipate benefits that accrue along the way.

My focus here is on *institution-wide* student learning outcomes and their contribution to the coherence of general education or the transfer degree. Some may have a parallel interest in the pedagogical use of *program-defined* student learning outcomes independent of their relationship to institution-wide outcomes, but that is not the focus of this exposition. Instead, my focus is on how institution-wide outcomes connect with and assist in coordinating program, course, and more specific articulations of student learning outcomes.

METHOD

The present research might be placed in any number of traditions. One of the most relevant is action research inasmuch as both Alverno researchers and the consortium institutions' inquiry teams are active participants in a particular endeavor to further progress in what might be broadly called outcomes-based education. The present study uses mixed methods with some emphasis on both survey data and prolonged interaction with institutional representatives in a range of informal ways during consortium meetings. An action-research frame usefully points toward describing the practitioner-based, as well as theoretically-based, frameworks within which researchers are working and which guide their interpretative perspectives.

Interpretative Perspective

My perspective is shaped by many factors. It is of particular relevance that I have served as a member of the Alverno College Educational Research and Evaluation department for over 25 years and as a member of the coordinating planning team for the IISL consortium since its inception. The frameworks that I bring as an educational researcher are enlivened by (some might say biased by) my understanding of Alverno's ability-based curriculum. I have worked closely with my Alverno colleagues in long-term studies of the curriculum's effects on student and alumnae learning outcomes (Mentkowski & Associates, 2000; Mentkowski & Doherty, 1984; Mentkowski & Rogers, 1993; Rickards et al., 2008; Rickards & Guilbault, 2009; Rogers, 2002; Rogers & Mentkowski, 2004).

Alverno College has had its ability-based curriculum since 1973 (Alverno College Faculty, 1976/2005). Informed by its practice-based perspective on "student assessment-as-learning" (Alverno College Faculty, 1979/1994), the college has hosted a summer workshop on assessment for over 35 years, which is currently entitled "Connecting Student Learning Outcomes to Teaching, Assessment, Curriculum." The name of the workshop accurately conveys Alverno's underlying commitment to putting individual student learning at the center of assessment. This commitment shapes the approach that I and my colleagues take when we assist institutions with developing plans for assessment at the level of the program and institution. Alverno's emphasis has been on integrating various levels of assessment—student, program, institutional—by grounding each in the curriculum-embedded assessment of student learning outcomes (Loacker & Rogers, 2005). In this embedded approach, each level of assessment is grounded in an educator's primary role of optimizing and evaluating individual student learning and also in a

student's primary role of learning and demonstrating that learning. The fundamental characteristic of embedded assessment is that it assumes that a focus on individual student learning drives assessment in the courses.

At Alverno, student learning of the curriculum-wide abilities is distinctively scaffolded (and sequenced) by defined levels of abilities, which are appropriate to where students and courses are in the curriculum. Alverno faculty use their collective articulation of broad criteria for levels of the general education abilities to coordinate their articulations of more specific disciplinary-informed criteria for their course outcomes and course-embedded assessments. Students are conversely expected to not only use these explicit articulations to guide their performance in a disciplinarily appropriate way, but to also infer how what they are learning in one discipline about an ability informs their capacity to transfer it, through metacognitive awareness, beyond the discipline. And so, student assessment-as-learning at Alverno emphasizes particular educational principles, including formative feedback, student self assessment, and developmental sequencing of curriculum-defined abilities, all of which include a focus on student transfer of abilities (Alverno College Faculty, 1976/2005, 1979/1944, 2000). At the same time, students know that they must successfully and cumulatively demonstrate the required curriculum-defined abilities in their courses in order to graduate. This assists their transfer of their learning as well, because students find that they must demonstrate the "same" ability across different disciplines and that when they are asked to demonstrate higher levels of the abilities later in the curriculum, these higher levels do indeed assume that they have mastered earlier ones.

And so, my perspective as an educational researcher within Alverno's ability-based curriculum has enlivened and deepened my engagement with my colleagues in the consortium institutions. Through intimate and persistent contact we have explored differences and similarities. We have learned about each others' assumptions and how to be clearer in articulating our own. The questionnaire and interpretations of the findings provided one way of broadly exploring what we were learning together about curriculum-defined outcomes and their assessment in two-year colleges.

Sample

The Inquiry and Innovation for Student Learning (IISL) consortium is a sustained and interactive project involving teams from 42 participating two-year institutions, varying in size and geographical location within the U.S. As each institution entered the consortium, a self-identified institutional team completed the extensive questionnaire regarding learning outcomes and related curriculum practices. The coordinating team at Alverno encouraged institutions to choose as respondents teams of individuals that were standing committees, such as assessment committees. These teams were intended to be ways to extend deliberative inquiry in relation to implementation of student learning outcomes on each campus. Returned questionnaires listed the names and titles of between 2 and 14 individuals who gave input on the responses. The median size of the team of respondents was 7.5. Teams were generally diverse, with over half including all of several roles: administrators/deans, institutional research/assessment specialists, and instructional faculty. All other combinations of these roles occurred at lower frequencies, which were similar to each other, except that no teams were comprised only of instructional faculty or only of institutional researcher/assessment specialists.

The member institutions entered the consortium in two cohorts. The first cohort was comprised of 24 institutions. These founding institutions were selected based on a history of innovation and depth of connection with ability-based education workshops and consultations offered by Alverno College, the coordinating institution. Institutions from Washington State were over-represented in the founding cohort because we, as a coordinating team, were aware of the state’s strong support for progressive assessment practices and of the established capacity of selected institutions to reflect on their practices. The second cohort—18 new institutions—joined in the third year (2007–2008), six of which previously participated in the 21st Century Learning Outcomes Project (2001). Two representatives from each founding institution in the consortium have met annually across three years in a workshop that is grounded by collaborative inquiry and sharing across institutions. The new cohort of institutions met twice in similar format. Indeed, the first year of the new cohort’s attendance at the consortium meeting overlapped with the last year of the founding institutions, though they were also in somewhat separate tracks that recognized their different developmental needs.

Consortium Questionnaire

The questionnaire, based on review of the literature and practice-based experience, included sections on faculty use of institution- and program-wide outcomes and perceptions of faculty and student experience with institution-wide outcomes. For example:

In your group’s judgment, to what degree are faculty using these institution-wide outcomes in their **courses to:**

Design assessments of student learning	<input type="checkbox"/> NOT AT ALL	<input type="checkbox"/> RARELY	<input type="checkbox"/> SOMETIMES	<input type="checkbox"/> FREQUENTLY	<input type="checkbox"/> ALWAYS
Give formative feedback to students	<input type="checkbox"/> NOT AT ALL	<input type="checkbox"/> RARELY	<input type="checkbox"/> SOMETIMES	<input type="checkbox"/> FREQUENTLY	<input type="checkbox"/> ALWAYS

To test, extend, and clarify preliminary interpretations from analysis of the questionnaires from the 24 founding institutions, we added further questions probing faculty and student experiences at the new institutions. This part of the questionnaire focused further on the curricular use of institution-wide student learning outcomes.

Prolonged Engagement Context and other Data Sources

Although the consortium project began with a questionnaire that was completed by teams at the participating institutions, prolonged engagement with the representatives of the consortium provided critical data for understanding the practices and progress of the institutions in defining and using curriculum-wide student learning outcomes.

During each of three consortium meetings, representatives from the institutions engaged in numerous activities that made their work public to other members, including the Alverno coordinating team. These activities included formal panel and podium presentations, roundtable discussions, and structured poster events, where defining and assessing student learning outcomes was a significant shared focus. In what were intentionally “free and frank discussions”

participants probed—in the context of these activities—each others’ practices and frameworks. They also reiteratively and formally reported out to the consortium coordinating team on their own personal and institutional progress in relation to consortium goals and their institution’s goals. And they worked together to develop recommendations for other institutions pursuing outcomes-based assessment (see <http://iisl.alverno.edu>).

My work as co-editor for this volume extended the length and depth of my interactions with the consortium participants in relation to their experiences in implementing student learning outcomes at their institutions. The chapter authors prepared multiple drafts in response to probing questions from the editors and each other about the ideas, practices, and unfolding character of events at the institutions. In the same vein, participants during the consortium meetings also had opportunities to explore the educational practices at Alverno and its frameworks through its writings, presentations, and student panels. This mutual sharing of practices and accompanying discussions has greatly increased the depth of my understanding of the range of consortium institutions’ work with student learning outcomes and more generally the distinct perspectives that educators at two-year institutions have.

Analyses

The primary objective analyses presented here are descriptive, focusing on the frequency of various uses of student learning outcomes as reported in the initial questionnaire. These analyses serve as an objective reference point for interpretations that draw on the larger body of observations noted above. The interpretations were consolidated in a proposed model that describes a succession of stages in the implementation of learning outcomes. As another check on interpretations, the questionnaire findings and proposed model were interactively presented to the full consortium at the third meeting. Analyses examined whether the differently recruited cohorts of institutions differed in their responses. This was deemed important because the two cohorts had been recruited differently.

RESULTS AND CONCLUSIONS

The vast majority of participating institutions (90%) indicated that they have defined institution-wide student learning outcomes that represent expectations for all associate degree graduates. For others, this was the very task on which they were focused. In comparison, about 80% of two-year colleges in the U.S. have a common set of learning outcomes that apply to all students (Kuh & Ikenberry, 2009). But, if identifying institution-wide student learning outcomes is a first task for faculty, what tasks follow in making pedagogical use of them?

Frequency of Pedagogical Uses of Institution-Wide Outcomes

Almost all founding institutions indicated that faculty were frequently using institution-wide student learning outcomes to articulate learning goals (see Table 11.1). Somewhat fewer ($p < .05$), indicated faculty frequently used these institution-wide outcomes to organize student learning experiences. Among founding institutions, these faculty uses of institution-wide learning outcomes were directionally more frequent than for the design of assessments of student learning, but, even so, a majority of the founding institutions indicated that faculty *frequently* or *always* used institution-wide outcomes to design assessments of student learning (see Table 11.1).

Table 11.1. For Selected New and Founding Institutions, Percentage Indicating Faculty Use Institution-Wide Student Learning Outcomes Frequently or Always

Faculty Use of Institution-Wide Outcomes in Courses	Frequently or Always	
	Founding (<i>n</i> = 22)	New (<i>n</i> = 14–15)
Design assessments of student learning	54%	29%
Articulate learning goals	86%	27%
Organize student learning experiences	68%	27%
Give formative feedback to students	36%	20%
Determine student success in courses	32%	13%
Document each student's achievement (beyond grade, certification, degree) (new in 2008)	—	7%

Note. Only includes institutions indicating there are defined student learning outcomes that represent expectations for all associate degree graduates.

However, these faculties showed much *less frequent* use of institution-wide learning outcomes for giving formative feedback to students (see Table 11.1). This relatively infrequent use of formative assessment might indicate either (a) variations among these institutions in their visions for the use of institution-wide outcomes, (b) greater challenge in faculty implementation of this labor intensive practice, or (c) level of progress in a sequenced implementation of outcomes. Most likely it was a combination of these explanations (cf. Rogers et al., 2008).

New institutions relative to founding institutions reported being less far along in implementation of institution-wide student learning outcomes (see Table 11.1). Nonetheless, most new institutions indicated that faculty experienced their work with institution-wide student learning outcomes as *considerably* or *greatly* focusing attention on the needs of learners (see Table 11.2). At about half of these institutions, faculty experience with institution-wide learning outcomes was predominantly described as *considerably* or *greatly* “compelling for rethinking [their] own teaching,” “supporting assignment-specific assessment,” “coordinating teaching, assessment, and learning,” and “integral to teaching approaches” (see Table 11.2). These findings are congruent with a conceptual shift from a teaching to a learning paradigm (Barr & Tagg, 1995). For example, a move toward a focus on student learning may mean an educator is rethinking his or her assumption that improving teaching is primarily about better presentation of information. About half of the institutions also indicated faculty *considerably* or *greatly* experienced use of outcomes as about “communicating with students about learning,” compared with only about ten percent who experienced it as about “framing formative feedback to students.”

Across the two-year institutions in the consortium, *student* active use of institution-wide student learning outcomes was generally infrequent (see Table 11.3). For colleges with defined institution-wide student learning outcomes, three-quarters of the founding and half of the new institutions reported that students were “generally aware” of these. But only a few institutions (5 of 25), saw students as using the institution-wide outcomes to gain confidence in their learning. Other student uses of learning outcomes—such as guiding their approaches to assignments and self assessing

Table 11.2. Institutions' Description of Faculty Experience in Work with Institution-Wide Student Learning Outcomes

Faculty Experience With Student Learning Outcomes	Extent Experienced		
	Not at All	Slightly or Moderately	Considerably or Greatly
Focusing attention on needs of learners	0%	40%	60%
Compelling for rethinking own teaching	0%	47%	53%
Communicating with students about learning	0%	47%	53%
Supporting assignment-specific assessment	0%	47%	53%
Complying with external accountability	0%	47%	53%
Integral to teaching approaches	0%	53%	47%
Coordinating teaching, assessment, and learning	0%	53%	47%
Scoring student work for institutional assessment	0%	60%	40%
Integral to what to teach	0%	67%	33%
Developing curriculum coherence	0%	67%	33%
General education review of courses	13%	53%	33%
Aggregation of data	0%	73%	27%
Aligning institutional decisions with student learning needs	7%	67%	27%
Suggesting revisions to prerequisites	20%	53%	27%
Curriculum deliberation on student performance	0%	79%	21%
Evoking teaching evaluation anxiety	7%	73%	20%
Framing formative feedback to students	0%	87%	13%
Clarifying meaning of the degree	7%	80%	13%
"Add-on" Assessments	7%	80%	13%
Disconnected from classroom teaching	27%	67%	7%
Imposition on autonomously teaching	0%	100%	0%

Note. Includes institutions for which there are defined student learning outcomes representing expectations for all associate degree graduates, n = 15.

their performance—were seen as even more infrequent (see Table 11.3). Nonetheless, Table 11.4 shows that for those new institutions where students were aware of institution-wide learning outcomes, four of eight teams reported that students experienced institution-wide learning outcomes as *considerably* or *greatly* connecting learning with post-college demands or as vital frameworks for lifelong learning. This suggests that faculty may have predominantly used institution-wide outcomes as a way of communicating with students about the meaningfulness to their lives of the learning goals in their courses and programs. None of the eight new institutions where students were aware of the outcomes indicated that students strongly experience institution-wide learning outcomes as supporting thoughtful self assessment or a learning collaboration with faculty (see Table 11.4). None indicated that students experienced the institution-wide learning outcomes as *considerably* reflecting the meaning of the degree. The pattern of these findings on student use of institution-wide outcomes is broadly congruent with Hart Research Associates' (2009) findings that the majority of students at four-year colleges do not understand these outcomes. But, for two-year consortium institutions, the questionnaire observations are more detailed and more specifically clarify how students were and were not using institution-wide outcomes in their learning and meaning-making.

Table 11.3. Across Selected New and Founding Institutions, Percentage Indicating Frequent Student Use of Institution-Wide Student Learning Outcomes

Student Use of Institution-Wide Outcomes	Frequently or Always (<i>n</i> = 25)
Develop a sense of competence as a performer in a discipline or profession	20%
Gain confidence in themselves as effective learners	12%
Select courses	12%
Guide their approach to completing assignments	8%
Self assess their performance	8%
Establish their own learning goals	4%

Note. Only includes institutions indicating there are defined student learning outcomes that represent expectations for all associate degree graduates and students are generally or somewhat aware of the learning outcomes.

Table 11.4 might suggest that at some institutions students are experiencing the institutional outcomes as strongly connected to “feedback on” their “performance.” This contrasts somewhat with the more consistent reports that faculty are infrequently using institution-wide learning outcomes to give students “formative feedback” (see Tables 11.1 and 11.2). This difference across items on frequency of feedback suggests that students who have been graded on rubrics are expected to be able to summatively infer their level of achievement of the student learning outcomes based on their rubric scores, but are not frequently given formative feedback that would help them cumulatively shape their performance toward the intended institutional outcomes. Indeed, several conversations with representatives have reinforced this conclusion. Some initial conversations yielded shock that faculty would be expected to use embedded assessments to give students *formative* feedback on *institution-wide outcomes*.

Table 11.4. Institutions' Description of Students Experience Institution-Wide Student Learning Outcomes

Student Experience With Institution-Wide Student Learning Outcome	Extent Experienced		
	Not at All	Slightly or Moderately	Considerably or Greatly
Connecting learning with post-college demands	0	4	4
Vital frameworks for lifelong learning	0	4	4
Connected to feedback on performance	0	5	3
Articulated in assignment rubrics/criteria	0	5	3
What they can do with what they know	0	5	3
Thinking about how to be effective	0	5	3
Requiring sustained work across courses	0	5	3
Linked to course-level requirements	1	4	3
How learning connects across disciplines	0	6	2
Rhetoric disconnected from learning	1	6	1
Supporting how to learn content	0	6	1
Educational jargon	2	5	1
The meaning of the degree	0	8	0
Supporting thoughtful self assessment	0	8	0
A learning collaboration with faculty	0	8	0
Completing self assessment tick marks	2	6	0
Something they can recite	3	5	0

Note. Includes institutions for which there are defined student learning outcomes representing expectations for all associate degree graduates and students are generally or somewhat aware of them, *n* range = 7–8

Task Steps in Pedagogically Implementing Outcomes

As early as the second year, I discussed with founding consortium members my observations. I noted that mass or small group communications to students about institution-wide learning outcomes appeared predominate relative to more grounded and individualized formative feedback (Rogers, et al., 2008). From prior research at Alverno and the experience-based commitment of my Alverno colleagues, I was aware that when faculty gave outcome-based, formative feedback to students through classroom-embedded assessments it had powerful effects on student learning (see Loacker & Rogers, 2005; Mentkowski & Associates, 2000). In

particular, rigorous analyses of in-depth longitudinal interviews of Alverno students showed how deeply students could internalize an institution's learning outcomes as frameworks for constructing their approaches to being effective in various situations. In these interviews, Alverno students attributed the depth of their learning of the abilities taught in the college to the individualized feedback they received, alongside their own self assessments.

Continued discussion with consortium representatives and elicitation of what they would recommend to other two-year institutions continued to surface challenges that faculties face and that sometimes limited their operative pedagogical visions. Often what most obviously siphoned off a faculty's progress in improving the integral pedagogical use of embedded assessments were competing implicit and explicit communications that the first priority for assessment in their institution was to produce documentation of student learning outcomes for accreditation purposes, including, of course, any derived improvements for future students. Although this tension between integral pedagogical purposes versus more distal accountability purposes did not go away, representatives from a number of institutions seemed, over time, to become much clearer about communicating how teaching and learning were integral primary purposes for assessment. Perhaps as a result, these challenges have not overwhelmed the educational reform ideals that the consortium representatives have held, or perhaps, recommitted themselves to achieving within the supportive context of the consortium. A very few institutions had dropped out of attendance at the meetings, and maybe for some of them "overwhelmed" is a good descriptive term, but to what extent and in what way we cannot say.

From these questionnaire results and extended collaborative discussions with institutional representatives, I inferred a broad description of a path toward full implementation of institution-wide learning outcomes for the purpose of the optimization of each individual student's learning.

- Step 1: Faculty articulate student learning outcomes across the curriculum.
- Step 2: Faculty develop strategies for communicating with students about how what they are learning in their courses connects with what they will be doing after they graduate. A key component is infusing institution-wide student learning outcomes into syllabi.
- Step 3: Faculty re-organize student learning experiences by integrating the institutional outcomes with the content and methods of the discipline being studied. They also begin to design assignment-specific assessments of student progress toward achieving these institution-wide outcomes. Student assignments now include explicit rubrics linked to course-level requirements on which students receive summative feedback.
- Step 4: Faculty develop protocols and strategies for students to self assess their progress in relation to the institution-wide outcomes. As a whole, institutions in the consortium appear to have only made modest progress in reframing teaching and learning to this degree. Consortium members noted that effective self assessments require pushing and supporting students further along a learning path. Faculty likewise need time and support to develop the relatively distinct teaching skills required to bring students into a transformed learning collaboration (see Table 11.4).
- Step 5: Faculty give formative feedback to students that connects to the institution-wide student learning outcomes (see Tables 11.1 and 11.2). Infrequently achieved, this transformation in teaching entails ongoing and labor-intensive effort.

Identifying Progress and Implications for Further Faculty Work

In evaluative discussions that took place in the third IISL workshop with the founding institutions, participants readily identified the progress of their own schools in terms of these phases. Many reported that they would place themselves between the first two phases or steps: (1) Identifying institution-wide learning outcomes and (2) beginning to communicate with students through course syllabi to foster a growing sense of the role of outcomes for student learning. Others saw themselves as at least starting to move into phase 3. At the heart of this step, faculty would be developing course-embedded assessments that they would use to coordinate teaching for students' mastery of curriculum-wide student learning outcomes in the context of the discipline. This was experienced as very challenging and complicated work. Faculty would need to coordinate their teaching approach and student learning activities with their assessment of broadly defined student learning outcomes. A widely shared ideal among institutions was developing institution-wide rubrics on which student assignments would be evaluated. This seemed to be an effective starting point when it connected with faculty reflections on teaching for the outcomes. A number of institutions appeared to be making substantive progress here, with some percentage of faculty members also developing specific outcome-based assessments for course assignments and giving students *summative* feedback related to the institution-wide rubrics. I have surmised that some students would, as a result, begin to see how course-level requirements are linked to institution-wide learning outcomes, but our capacity to empirically examine this conjecture has been limited.

Consortium representatives universally recognized that a great deal of faculty development was required to implement embedded assessment of curriculum-wide outcomes in courses. A number of institutions were making notable progress. For example, Mary Vlisides describes in Chapter 2 how specific concerns that faculty at Madison Area Technical College had in implementing embedded assessment were identified and effectively addressed. She not only notes a range of faculty development resources and activities, but more specifically describes structures that were created to give faculty individualized support in developing course-embedded

Embedding assessment in courses presses home the point that the outcomes must be integral to what students are learning and how faculty teach disciplinary content.

assessments of an institution-wide ethics outcome. Although each pedagogical phase in implementation of student learning outcomes implies a change in how faculty conceptualize teaching and learning, the task of embedding assessment in courses presses home the point that the outcomes must be integral to what students are learning and how faculty teach disciplinary content. The most frequent approach to faculty development in the consortium involved designing institution-wide venues for faculty to collaboratively share examples from practice, discuss conceptual frameworks, and reflect on pragmatic concerns. These were seen as effective for all phases of a pedagogical implementation of embedded assessment and required faculty leadership. Supplemental electronic resources that supported faculty development activities were often developed as follow-ups to face-to-face in-service and as a way to reach out to part-time faculty. The development of part-time faculty was universally seen as the biggest challenge. Time, distance, resources, and roles needed to be negotiated. Allatia Harris introduced the consortium to free electronic faculty development materials called "Getting Results" (<http://www.league.org/gettingresults/web/index.html>). The high video production values, context setting, and relative comprehensive set of topics addressed were appreciated. Ideally, it

was agreed, these resources would be supported with some form of locally structured discussion forums and activities.

There were also challenges for full-time faculty who collectively took responsibility for identifying and pedagogically implementing student learning outcomes. On the one hand, implementing assessment of curriculum-wide student outcomes across courses clarified for them the intended meanings of the outcomes. But on the other this clarification sometimes also surfaced differences in how faculty had understood the outcomes. The proposed institutional steps for pedagogically optimizing student learning outcomes are developmental not only as a potential sequence of steps in implementation, but also in how each step in implementing outcomes inevitably entails a critical encompassing of prior work in earlier steps. Thus even steady progress is not experienced as linear. Faculty members have seemed willing to collaboratively take on the challenging task of revising their prior work when they believed that they would be doing it with a higher level of understanding. It may be that it was experienced as a necessary part of their role as curriculum developers. Frequent revision is the price to be paid for curricular coherence. When assessments of outcomes are systematically and integrally embedded in the curriculum, it can be anticipated that changes in outcomes will require related revisions. A new articulation of institution-wide learning outcomes then requires immediate faculty curricular work in revising syllabi, rethinking student learning experiences, and developing new assessments. In Chapter 5, Phil Speary & Alexis Hopkins describe how several cycles of change have built an increasingly integrated system of curriculum-embedded assessment at Butler Community College. Other institutions were making substantial progress as well, but most institutional representatives, whether in dialogue or questionnaire responses, saw considerable work ahead in consolidating course-embedded assessment of curriculum-wide student learning outcomes.

When assessments of outcomes are systematically and integrally embedded in the curriculum, it can be anticipated that changes in outcomes will require related revisions.

Step 4, developing processes for students to self assess their performance in relation to curriculum-wide student learning outcomes, was generally a more distant concern (see Table 11.3). Nonetheless, consortium representatives had considerable interest in student self assessment processes, and it was seen as the *avant-garde*. Alverno College's extensive longitudinal research on its students and alumnae has confirmed that self assessment can be a powerful learning pedagogy when it is implemented curriculum-wide (Mentkowski & Associates, 2000). This exhaustive research study found that self assessment was key to how Alverno students came to see faculty as collaborators in learning, rather than entirely responsible for it. But it was also a skill that students needed to learn through particular kinds of sustained support, as well as a challenge for some faculty, who also came to believe that they needed to deeply rethink their approach to teaching (Stanley, 2000). It is an open question whether two-year institutions can develop student self assessment capacities in a briefer curriculum. Within the consortium, the pedagogical use of student self assessment of learning outcomes appeared to be infrequent. We are especially fortunate that Mary Anne Grabarek and Peter Wooldridge chronicle, in Chapter 1, their innovative approach to engaging students in both reflection on course learning outcomes and their achievement of them. They have also found that self assessment has engaged students more deeply in their learning and reframed teaching as a collaboration with students. Although their work with student self assessment has not focused students on links with institutional outcomes, the authors report that their findings are

nonetheless leveraging more transparency in student learning outcomes and curriculum development at Durham Technical Community College.

The last step in how institutions develop pedagogical uses for institution-wide learning outcomes, step 5, entails faculty members giving students formative feedback in relation to these outcomes based on course-embedded assessments. On the one hand, about a third of the teams at the founding institutions of the consortium indicated on a questionnaire that faculty *frequently* or *always* gave students feedback on institution-wide learning outcomes. But, on the other, discussions among institutional representatives at consortium meetings did not yield clear examples. These discussions more generally affirmed that fostering self assessment and giving formative feedback were challenging steps to take. In part this was because of implications for restructuring teaching around new, more interactive ways of engaging the student as an individual learner. But also, the amount of work it would take to give (or even learn to more efficiently give) good formative feedback seemed daunting, especially for those who taught relatively large classes. It is worth noting that institutional teams did see faculty as more often giving formative feedback on program-defined student learning outcomes, especially in occupational fields. About half of the institutional teams reported that faculty *frequently* or *always* give formative feedback on *program-level* student learning outcomes. The task of assisting students to see the abilities they are learning as broader than their field may be more difficult for a number of reasons, including the strong identification that students and faculty have with their chosen specialty.

Although student self assessment and formative feedback on institution-wide outcomes appeared infrequent in observed practices, listing these as distinct steps serves a purpose. As longer-term steps, consortium representatives were able to grapple with these pedagogical ideals as something to be achieved. Once the steps were laid out for consortium participants, they were seen as more manageable, something that could be considered, understood, and discussed methodically. Laying out insights about benefits to students that accrue with each of the earlier distinct steps in implementation also facilitated collective discussion, legitimating the value of various kinds of interim progress, but also, discussion of what ideals were feasible, and so, appropriate to a particular context, or perhaps, phase of implementation.

Figure 11.1 shows the full model of steps for the pedagogical implementation of institution-wide student learning outcomes. The first column has a summary of each institutional step. The text in the middle column begins with a description of the associated work that faculty have in implementing the step. The concluding text in this middle column, which is italicized for emphasis, then describes how teaching conceptually changes for faculty as they implement the particular step. Faculty development needs to be directed toward both the specific tasks that faculty must complete at a particular step and toward new frameworks for teaching that optimize student learning in an outcomes-based curriculum. The far right column lists projected benefits for student learning and achievement at each stage of implementation.

Before analyzing the questionnaire data, I had not appreciated how even early steps in implementation had immediate benefits to student learning. In the process of examining the data, I came to understand how these benefits explained some of the excitement that I observed among my colleagues when they implemented something that, to me, had seemed very partial. I was excited to see progress too, but they seemed to think it was making a difference, and here I was skeptical, though perhaps most often privately. I was used to working in an ability-based curriculum

Figure 11.1. Steps Model for Faculty Pedagogical Implementation of Institution-Wide Student Learning Outcomes¹

Institutional Steps in Use of Institution-Wide Outcomes	Associated Faculty Work and Conceptual Changes in Teaching	Associated Benefits for Student Learning and Achievement
1. Faculty articulating institution-wide student learning outcomes	<ul style="list-style-type: none"> • Faculty articulate learning goals • <i>Faculty attention is focused on needs of learners</i> 	<ul style="list-style-type: none"> • Students may become more active learners
2. Faculty using outcomes to communicate to students how their learning is connected to what they will do after graduation	<ul style="list-style-type: none"> • Faculty include institution-wide outcomes in course syllabi • <i>Faculty envision existing course content in terms of its contribution to student learning outcomes</i> 	<ul style="list-style-type: none"> • Some students also gain confidence as a performer in their field
3. Faculty reorganize student learning experiences to achieve institution-wide outcomes	<ul style="list-style-type: none"> • Faculty design assignment-specific assessments of institution-wide outcomes • Faculty give students explicit rubrics for how work will be evaluated, which now connects with institution-wide outcomes • Students receive <i>summative</i> feedback on rubrics related to institution-wide student learning outcomes • Teaching, learning, and assessment are coordinated • <i>How content is selected, learned, and demonstrated guided by outcomes</i> 	<ul style="list-style-type: none"> • Students also begin to see how course level requirements are linked to institution-wide student learning outcomes • Students also infer from success on course assignments a level of competence as a performer in their field
4. Faculty develop strategies for students to self assess their learning in relation to institution-wide student learning outcomes	<ul style="list-style-type: none"> • Faculty develop skills in designing self assessment prompts and engage implications for further transforming their teaching • <i>Faculty engage individual learner's frameworks for understanding and enacting learning outcomes</i> 	<ul style="list-style-type: none"> • Students also differentiate criteria that characterize specific areas of effective performance, and use this understanding to guide their learning and performance • Students begin to see faculty as collaborators in their learning rather than entirely responsible for it
5. Faculty give students <i>formative</i> feedback in relation to making progress toward achieving <i>institution-wide learning outcomes</i>	<ul style="list-style-type: none"> • Projected: Faculty develop skills in giving efficient formative feedback to students in relation to student achievement of institutionally defined student learning outcomes • Projected: Faculty develop a community of judgment in support of further curricular coherence • Projected: <i>Faculty restructure teaching to optimize opportunities for formative feedback</i> 	<ul style="list-style-type: none"> • Projected: More students achieve and excel at institutionally-defined student learning outcomes • Projected: More students see faculty as collaborators in their learning • Projected: Students internalize institutionally-defined outcomes

¹Adapted from Rogers & Rickards (2009).

inaugurated over 35 years ago, one in which a version of all five of the steps in the model worked as an integrated whole. I knew it worked as a whole, and so each part seemed important to a pedagogical use of student learning outcomes. In particular, I knew it was transformative when students themselves used the learning outcomes, or more specifically, when they were asked to use explicit articulations of these outcomes as conceptual frameworks to think about how to be effective on a particular assigned task, to think about how their approach ended up being more or less effective, and to think about how they might improve, including how they might generalize their intentional use of the outcomes as broad frameworks for performance beyond the particular learning task and their singular articulation within a disciplinary context. I knew this was effective in students internalizing curriculum abilities, so that they carried these with them across post-college civic, personal, and professional settings. But, the pattern of data reported above helped me to broaden my view. I began to see better why putting the institution-wide learning outcomes statements into syllabi (step 2, middle column) has been the most typical campus-wide initiative that follows after a faculty has explicitly defined its institution-wide student learning outcomes for the first time. Not only does putting outcomes in the syllabi leverage faculty work toward the next step of developing assessments, which I already understood to be the case, but also, I now came to believe that when faculty embedded outcomes statements in course materials, it more immediately assisted in communicating with students about how what they are learning connects with what they will do with it beyond the classroom. This helped me explain a number of puzzles in the data. For example, participants in the consortium reported a greater frequency of students using the institution-wide outcomes to gain confidence as a performer in the field than using them to guide their approach to completing assignments (see Table 11.3). Thus, even before students behaviorally used the outcomes, they were seen as conceptually using the outcomes to better understand the relevance of the course content.

When consortium participants expressed their ability to see their progress in relation to the steps model, it was particularly meaningful to me because I understood this as not merely validation of the model but also a reflection of how they were directly attending to the larger ideals of educational reform as a distinct metric of progress (see Figure 11.1). Moreover, they seemed freed from seeing their relative progress as confirming a deficit. Instead, we implicitly celebrated any progress in terms of a shared focus on making outcomes assessment intrinsic to students' learning. I have found that I can intentionally replicate this experience with other community college educators, who are able to articulate from their own practice positive examples and conceptual insights that connect with the model.

Conceptual Changes in Teaching

I turn now to clarifying further how faculty conceptualization of teaching might be optimized at each step in the model. As one observation, I note that what faculty may experience most in working with institution-wide student learning outcomes is more *focused attention on the needs of the learner* (see Table 11.2). I have inferred that this focus on the learner occurs in the process of a faculty collectively identifying student learning outcomes. Thus, already at Step 1, important faculty development gains are experienced. Moreover, it is reasonable to believe that this immediate benefit can be intentionally optimized by focusing on the pedagogical usefulness of outcomes. My conclusion that this faculty development occurs as a relatively quick change is congruent with the wide appreciation that many have for Barr and Tagg's (1995) article on "moving from teaching to learning." Of course, the point of the article is not about leaving teaching behind. Rather, it is a reframing of how one thinks about teaching, conceptually

evaluating it in terms of whether students are learning. Outcomes-based education, with its broader collective focus on what and how students are learning, sets up normative conditions that make it less likely that a teacher can effectively disengage from critical reflection by saying, “well, I clearly explained the material.”

A second observation is that almost as many faculty may experience institution-wide learning outcomes as “compelling for rethinking [their] own teaching” and “communicating with students about learning” (see Table 11.2). In step 1, faculty are negotiating shared understandings with other faculty, but by step 2 they must come to more specific terms with institution-wide student learning outcomes in relation to their own course.

I here mean accountable to the student.

When faculty integrate these collectively-defined outcomes into their own syllabi, they are compelled to at least begin *to envision the existing course content in terms of its contribution to student learning outcomes*. This is stronger than focusing attention on the needs of learners in step 1 because it would be a more specifically envisioned and accountable moment. By the word *accountable*, I here mean accountable to the student, whom the teacher stands before every day with the now more explicit responsibility to deliver, in solidarity with the faculty as a whole, a coherent curriculum whose form is represented in the course syllabus. Teaching optimally now means connecting what the student is learning with what he or she will do with that learning.

By step 3, when faculty are reorganizing student learning to achieve institution-wide outcomes, teaching optimally requires reconceptualizing content as a means to assisting students to demonstrate the outcome in a meaningful performance. In a world of knowledge explosion across the disciplines, an educator who is optimally coordinating teaching, learning, and assessment must come to believe that *how content is selected, learned, and demonstrated is guided by the intended learning outcomes*. When outcomes have been defined at the level of the institution, there is an additional question of alignment with course and, often, program outcomes. Of course educators are also independent thinkers in this context. They will and should come to conclusions for themselves about a particular implementation in a course. But this does not mean that their thought process is thereby independent of any collective idea about the curriculum. In outcomes-based education, there is a specific framing idea about how content is selected, which I learned from my Alverno colleagues. This is not as easy for faculty to embrace as it now seems to me. It is important to empathize with and to acknowledge legitimate faculty concerns about a traditional coverage of content. Indeed, expertise is grounded in disciplinary knowledge, including a theoretical understanding of the subject matter. But there are two additional points to be made. First, upon reflection, I can also easily recognize various ways that I use my disciplinary knowledge to communicate, problem solve, and so on, and that these uses integrally count as part of my expertise. Secondly, if I look out over a class of students in a general education course, it would be inappropriate for me to assume that I would only teach to those students who would be going on to graduate school in my field, to as it were, narrowly concern myself only with reproducing my academic expertise. This is why it is a more teacherly moment to choose content for how it assists student learning toward a more general outcome. At step 3, in such a teacherly moment, faculty would optimally choose content not only for how it assists students to connect more discrete knowledge within a discipline and to personally identify with it, but also for how it assists them to master and demonstrate a transferable learning outcome that goes beyond the disciplinary course content.

But, how do faculty come to believe that students can learn to transfer institution-wide learning outcomes with some robustness beyond the most immediate connections implied by subject matter? They need to come to believe that they, collectively, can assist students to do so. That is a key purpose for their commonly referencing—in course-embedded assessments—links to more general criteria that transcend any particular discipline. Such criteria need both a level of explicitness, but also an appropriate level of breadth that accommodates. The criterion, “connecting with audience through support for a position/development of an idea” is a transdisciplinary example from Alverno’s institution-wide communication ability, which at level 3 for speaking and writing requires that the student “consistently develops ideas through appropriate use of generalizations, examples, and/or evidence.” Such criteria not only support faculty in coordinating their judgment of student performance, but assists students in more independently constructing effective performance, serving as a shared conceptual resource for thinking about and shaping performance with intentional awareness.

The complexities of just touching on this one idea about how students transfer learning outcomes illustrates how educators must engage in significant collective discourse if they are to develop optimal conceptual frameworks for coordinating teaching, learning, and *assessment* of curriculum-wide outcomes. These step 3 conceptual changes in teaching when assessing for institution-wide learning outcomes can be synergistically supported by considering student self assessment in step 4, but again my account of steps 4 and 5 are more particularly grounded in Alverno’s curriculum.

Alverno faculty (2000) have articulated a framework for how students, as they advance in the curriculum, develop as self assessors of their performance on course-embedded assessments. At

There is a great deal involved in students learning to self assess and in faculty developing prompts that assist students to meaningfully self assess.

step 4, there is a great deal involved in students learning to self assess and in faculty developing prompts that assist students to meaningfully self assess. But, if students are to use curriculum-defined abilities to construct performance with some independence and to transfer a general understanding to various particular and different circumstances, then their habits and skills in self assessing

their performance are critical (Mentkowski & Associates, 2000). When a student completes a pedagogically useful self assessment of his or her performance on an assessment, he or she will reveal a personalized framework for how to be effective in relation to the curriculum-defined abilities. Students learn over time to reference the curriculum abilities—and the more specific criteria articulated for an assessment—in more meaningful ways, which is part of the process of internalizing the abilities as frameworks for constructing and monitoring action (Mentkowski & Associates, 2000). The corresponding optimal conceptualization of teaching at step 4, is the teacher as coach, where teaching becomes more individualized. It is a different kind of teaching work when *faculty engage individual learner’s frameworks for understanding and enacting learning outcomes*. For any model of coherent general education, students would need to personally integrate the breadth of their learning in transdisciplinary frameworks. But in outcomes-based general education, students need to personally integrate their breadth of learning through transdisciplinary models of how to be an effective performer, and it is useful if they articulate how they inhabit these models and for faculty to teach in relation to this uptake of the curriculum into student self awareness.

It is hard for me to think of formative feedback from faculty independent of student self assessment, or rather, the one without the other. Formative feedback (step 5), like self assessment, distinguishes relative strengths and weaknesses in the performance. It is not necessarily exhaustive, and generally better when it does not try to be. That is a key part of making it feasible and projecting the student's continued responsibility for thinking through how to improve. Its purpose is to guide the student toward improving his or her future performance. Thus, as with optimal teaching for student self assessment, the teacher is a coach or guide. In outcomes-based education, students will know ahead of an assessment the criteria (or rubrics) that faculty will use to judge their performance on an assessment, as was noted in step 3. But, formative feedback more specifically assists the student in understanding these abilities and criteria in relation to the relative strengths and weaknesses of his or her performance on the assessment. Students learn how to use and appreciate feedback. Faculty learn how to efficiently give feedback students will use and appreciate. The institution-wide student learning outcomes and the criteria that further define them become a resource for coming to shared understanding about a performance and how to improve. And so, when students demonstrate similar strengths and weaknesses on an assessment, group-level feedback becomes more grounded. In more individualized and dynamic exchanges, feedback takes into account the understanding of the abilities that students reveal in their self assessment. The faculty member's conception of what is optimal teaching changes because, despite the workload involved, nothing is more effective in assisting students to learn and demonstrate the course, program, and institutional learning outcomes. And so, *faculty restructure teaching and assessment to optimize opportunities for giving students formative feedback.*

Some Challenges to a Focus on Pedagogical Use

The model is effective because of its focus on optimizing the use of student learning outcomes for individual student learning and its grounding in the positive ideals of the educational reform strand of outcomes assessment. But, with the new consortium institutions, the questionnaire also intentionally probed for potential negative consequences that pedagogically-based assessment might encounter from any association it might have with assessment that is driven by external accountability frameworks. Implementation of institution-wide student learning outcomes readily gains a sense of urgency from invocation of accountability purposes. This can be, but is not necessarily, a productive motivation in curriculum development. Table 11.2 shows that roughly half of the institutions report that faculty *considerably* or *greatly* experience the institutional outcomes as “complying with accountability.”

Although none of the new consortium institutions reported strong faculty concerns about imposition of institutional outcomes on their ability to teach with appropriate autonomy, about a fifth did report strong faculty anxiety about teaching being evaluated in relation to these outcomes (see Table 11.2). Faculty anxiety about being evaluated can be a concern in implementation, but institutions often were able to defuse it by formally articulating policies that made it clear that assessment data would not be used this way. Actually more worrisome perhaps are the less extreme but consistent reports that faculty are *slightly* or *moderately* experiencing an “imposition on autonomously teaching” (see Table 11.2). In consortium discussions, this concern was generally expressed as a faculty concern about “academic freedom.” Although this may not be an accurate application of the regulative meaning of this term, institutional representatives readily described how some faculty members wielded with strong emotive force their concerns about “academic freedom,” conveying their perception that institutionally-defined student

learning outcomes were an external imposition on their teaching. These concerns seemed to equally reflect how administrators had pushed accreditation concerns to the forefront and/or how faculty members saw teaching as a private endeavor. Such a faculty perspective on external curricular imposition could limit efforts to develop a collective sense of any kind of curriculum-wide pedagogy, but is especially problematic for outcome-based learning initiatives that are aimed at building curricular coherence. What seemed to be lacking in the more problematic discussions back on campuses was the sense that faculty were taking collective pedagogical responsibility for student learning in the design of a coherent curriculum.

Consortium representatives have, I believe, embraced the ideals at the core of the educational reform strand of assessment and are working to build ways of implementing them that also assist with demonstrating accountability. More than anything, this compendium is about bridging the tension between accountability and the pedagogical use of student learning outcomes. And so, I encourage readers to use the Appendix of this chapter to engage this compendium as a whole in thinking through the task of meeting accountability demands while making assessment integral to how faculty think about teaching and curriculum. The steps model described in this chapter may assist in broadly keeping a grounded pedagogical focus at hand. This is both important and a significant challenge. In collaboration with my distinguished colleague, Georgine Loacker, I have contributed elsewhere to describing Alverno's approach to assessment. This approach optimizes course-embedded assessments for the purposes of fostering and evaluating individual student learning, but also addresses how these might contribute to external accountability (Loacker & Rogers, 2005). Our approach is firmly grounded in our faculty's experience as educators teaching for Alverno's institution-wide abilities. At Alverno we speak of a community of judgment because we expect that faculty will be constantly coordinating their interpretations of ability criteria through their shared experiences in using them to judge student performance within and across disciplines (see Loacker & Rogers, 2005; Mentkowski & Associates, 2000; Rogers, 1994).

LIMITATIONS

Some readers may be eager to skip past this statement of limitations and go directly to the more forward looking section on using the steps model. Others may be eager to consider various limitations precisely because they want to be more informed about how to use it. Limitations include those related to estimates of frequencies of practices and those related to analytical and integrative inferences.

Estimating Frequencies of Practices

Questionnaires are, by their nature, imprecise modes of communication. Although strong efforts were made to avoid jargon and to ground the wording of items in concrete language, respondents could legitimately—in their team discussions—differently interpret what scale points such as “sometimes” and “frequently” meant. Teams of respondents are more likely to collectively have knowledge of the frequency of practices, but their reporting may be influenced by a desire to positively project their work, especially inasmuch as this is sometimes the role that administrators legitimately fill on campuses. More generally, it is a challenge to draw firm conclusions about practices when they are not also grounded in on-site observations. This is particularly true when informants are asked to make generalizations about the practices and experiences of others from across their campus.

The findings cannot be easily generalized to institutions nationwide. Although this is a national sample of institutions, the consortium institutions were selected because of their long-standing and demonstrated interest in outcomes-based teaching, assessment, and learning. The differences in responses between the founding and new institutions may indicate that those who have worked more closely with Alverno in the past have had a greater interest in using institution-wide student learning outcomes pedagogically.

Also, the observed frequencies reported in Table 11.4 about student experiences—which include only new consortium institutions and more particularly those where students are generally aware of the outcomes—are doubtful as estimates due to the small sample sizes.

Drawing Inferences

The relative differences in participants' estimations of student and faculty experiences with and uses of student learning outcomes have inspired me to make a number of inferences. They are overstated as evidence. These relative frequencies provide empirical observations that can be shared, which gives them prominence of place. Although I have used a range of other sources of observations to develop and refine this steps model (Figure 11.1), it can be critiqued from a number of perspectives, and it is important to acknowledge these when using the model.

First, although the model delineates a typical observed path of development through the first three steps of implementation, the latter two—implementing curriculum-wide student self assessment and giving students formative feedback on institutional outcomes—are more doubtful achievements. They are aspirational, based more on practices at Alverno than what I have yet clearly observed among two-year institutions.

Second, and contrastingly, some progress can be overlooked simply because it was hidden from a distant view or was in an early stage of implementation at the time of observation.

Third, my perspective as an analyst is shaped not only by my longstanding association with practices within four-year institutions, but also those of a particular four-year institution with an ability-based curriculum.

Fourth, the model focuses on institution-wide learning outcomes, which assumes that coherence of learning at the level of the institution is a forefronted concern for student learning. In particular, students pursuing occupational degrees may have less concern about how their learning is integrated across disciplines. Indeed, coherence of courses across a single discipline or field is a more accessible framework for students and faculty. When integration of liberal arts or general education is not a substantive framework, then an emphasis on explicit connections to institution-wide learning outcomes is correspondingly less compelling.

Fifth, steps may be combined or done in a different order than depicted. In particular, faculties may combine steps 2 and 3, both using the outcomes to (a) communicate to students how they will use their learning and (b) to reorganize and select learning activities in alignment with this focused purpose. Likewise, steps 4 and 5 pedagogically work best in combination.

Sixth, and relatedly, the term “steps” or even “phases,” conveys an overall linearity to progress, which probably miscommunicates. The need to recycle through prior steps to achieve increasing

integration with new steps is not well represented. Moreover, implementation of outcomes-based assessment seems to be full of starts and fits and learning from misadventures, rather than just a pilgrim's progress. Thus, the model oversimplifies. In part this simplification represents our state of knowledge, and in part it follows from the attempt to communicate some of the most critical features of outcomes-based educational reform.

LOOKING FORWARD FROM HERE

The findings descriptively clarify a level of progress at a point in time for a vanguard among two-year institutions implementing student learning outcomes in their curricula. Most specifically, they clarify in what ways the use of institution-wide student learning outcomes by students for their learning remains both an unfulfilled task and a place of modest but also meaningful progress among two-year colleges. Recent findings for four-year institutions indicate that outcomes of general education are becoming well represented in course syllabi and are now most frequently assessed through curriculum-embedded approaches, such as applying rubrics to samples of students or assessment through capstone courses (Hart Research Associates, 2009). But like the two-year institutions in the consortium, neither formative feedback to students nor self assessment processes in relation to institutional outcomes appear to be, as yet, implemented with any robustness. The current findings, in various ways, help explain why students are still often seen lacking understanding or even awareness of their institutions' outcomes and why students so often still report memorization as a frequent learning strategy. Simply put, those interested in educational reform should feel challenged to do more, and the steps model suggests a path forward, one that has been articulated here in the context of a focus on a general education or transfer degree.

Because the steps model articulates benefits to student learning that are likely to accrue at each stage of faculty implementation, it holds the prospect of enabling more institutions to commit to their long-term ideals for optimizing student learning. What those ideals should be will be conditioned by local context and institutional mission. Clearly, educational reform ideals for student learning outcomes are buffeted by the prevailing winds of external accountability. In the context of these pressures, the steps model can serve to keep centered on the pedagogical uses of institution-wide student learning outcomes. By making these ideals more visible as meaningful steps, the model can assist assessment practitioners to realistically manage the tension between perceived progress and educational vision.

Senge (1990) has articulated how better managing the tension between achievement and long-term vision leverages cycles of growth. He notes that institutions do not typically experience the positive feedback loops that self-reinforcing cycles of growth can produce. This is because institutions often fail to pursue the long-term strategies that remove those specific barriers that underlie limits on improvements. Lacking a shared understanding to gird resolve, a required long-term perspective is easily derailed by the natural tendency to pursue short-term strategies that alleviate stress-producing symptoms rather than underlying causes of reduced effectiveness.

In the present context, the steps model acknowledges that pursuing outcomes assessment in a way that integrally focuses on direct benefits for the individual student will confront delays in implementation and impact. In particular, it acknowledges that faculty must embrace and become adept at new ways of teaching and assessing for student learning. But delayed impact will be more tolerable if not too long, and not too long if step-by-step benefits can be promoted. The

findings and steps model suggest that pedagogically-inspired interim steps in implementing embedded assessment of student outcomes promote measurable student learning, including students' sense of competence as performers in their field and their awareness of the broad student learning outcomes that underlie the curriculum. Thus, institutions may not need to have fully implemented their long-term strategies to expect student learning gains. When faculty experience an impact on student learning and see institutional commitment to the educational use of student learning outcomes, the conditions for releasing a self-reinforcing cycle of growth as an educational institution are more firmly in place. With success, faculty development can become a welcomed, ongoing process of educators learning from each other in a climate of trust, where sharing challenges in promoting student learning is a sign of success. Here, there is potential for further cascading effects. As curricular frameworks for promoting student learning outcomes gain momentum in practice, accreditation-oriented goals for demonstrating student learning can be more firmly linked to faculty roles as teachers and curriculum developers. Features of the steps model that make it a support include:

- Institutions can self assess their current progress in relation to the pedagogical use of student learning outcomes.
- Institutions can communicate and keep a focus on pedagogical purposes.
- Institutions can manage expectations by identifying next steps for initiatives in relation to a longer-term vision in implementing uses of outcomes.
- Strategies for optimizing *interim* benefits in student learning gains can be discussed and appreciated.
- Ideals for implementing the pedagogical use of student learning can be compared and adapted to a local context and what is achievable.
- Next steps in faculty development can target both specific concrete tasks and the most salient conceptual changes in teaching.
- Collaborative faculty roles in developing teaching, learning, and assessment can be forefronted.

In sum, each step on the way is expected to promote interim gains in student learning. The model suggests where institutional researchers should look for these intermediate learning gains. Each step is also expected to help build a community of educators more committed to and better at their calling. Step-by-step, faculty developers can build the conditions for faculty learning the skills and conceptual frameworks that underlie new ways of teaching for and implementing institution-wide outcomes. Each step in the process reveals new horizons, and educators can choose to step forward into these horizons with shared purpose. They will need to make their own way, together.

APPENDIX

WORKSHEET for Identifying Barriers and Approaches to Implementing Institution-Wide Student Learning Outcomes for Two-Year Degree-Seeking Students

Persistent Tasks	Barriers Encountered	Effective Practices in Addressing Barriers
Articulating (and communicating) institution-wide student learning outcomes	E.g., Too many outcomes within a single framework	E.g., Developing overarching outcome categories that integrate knowing and doing
Building institution-wide learning outcomes into curriculum	E.g., Curriculum is loosely organized to accommodate non-degree students and optimize flexibility in delivery	E.g., Using matrices to audit teaching for learning outcomes by courses
Implementing assessment of institution-wide student learning outcomes FOR individual student learning	E.g., Faculty experience with how to progressively teach and assess for student learning outcomes are limited	E.g., Organizing sustained interactive faculty development
Sustaining Learning-Centered Assessment	E.g., Assessment coordinators communicate in abstract assessment jargon	E.g., Creating environments for sharing best practices <i>and safely acknowledging struggles and limitations</i>

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