

# Learning That Lasts

## Integrating Learning, Development, and Performance in College and Beyond

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### Chapter Seven

#### Creating the Learning-to-Teaching Connection

Learning-centered education does not mean replacing an emphasis on teaching with one on learning. It does mean taking up the complexity of educators' envisioning the learning-to-teaching connection by making explicit the intuitive bridge from their knowing to acting. When building such bridges from learning-to-teaching in conversation, educators benefit by using learning principles-cast in a usable, transferable language-as bricks and mortar. Once on the bridge, however partially completed, they are free to brainstorm collaborative action principles for learning that lasts-that is, evidence-based guidelines for teaching and advising, two roles that faculty and staff embrace as part of the teaching-learning interaction.

The persistent effort at Alverno College to deeply rethink the learning-to-teaching connection resulted in an educational theory of learning that lasts: a theoretical model of the person-a map of how individuals use transformative learning cycles to integrate domains of growth-and a parallel expression: principles for learning and action. Together, Chapters Six and Seven yield new meaning for learning-centered education. Part Three is another way readers-and their colleagues-can bridge "what educators know about learning" (Part Two) and "what educators know and do about teaching, advising, curriculum, scholarship, and institutional culture" (Part Four).

Building bridges from learning to teaching is an abiding concern for educators as they move from student learning, as a starting point, to rethink teaching. As they formulate what they know about learning-to-teaching, educators imagine or plan what to do with what they know in their own setting. We propose that educators initiate a conversation about learning that lasts as it bears on teaching. To frame it, we provide three tools for helping it along and a design for how the conversation might flow. Such a conversation can be long or short, broad or in depth, begun with expert or novice educators-inspired by the intent to understand their students' learning.

The three tools or strategies can help initiate the conversation because they unpack the complexity of the learning-to-teaching connection. The tools are a practical part of Alverno's theory of learning that lasts, making it understandable and usable to other educational communities. First, we explore the complexity of jointly forging an educators' language of learning-to-teaching to foster awareness of some of the concerns in that endeavor and the benefits of gradually addressing them. To advance a usable language, we offer a second tool: the learning principles for learning that lasts. They reflect the four ways of knowing about learning-including the experience, intuition, and informal reflection that characterizes learning by educating in a learning ecology, as well as formal research, collaborative inquiry, and review of literature and practice (recall Chapter Two). Third, to illustrate the use of learning principles, we pair each with action principles for teaching-advising. The pairing is based on a recent cross-disciplinary

conversation about those learning principles on our own campus, using aspects of a design that acknowledges key turning points in such a discussion. We close the chapter by elaborating this design to capture important questions and processes that would constitute a more extended conversation about learning that bears on teaching across different roles, on any campus.

The process of starting with learning in making the learning-to-teaching connection can build on a group's own learning principles, those articulated here, or from other sources. Although this chapter focuses on the need and context for starting this conversation and then extending it across roles, we know that sustaining it is necessary to making learning that lasts a reality. With that in mind, the chapters that follow in Part Four explore how this kind of conversation can become a significant dimension of any institutional culture.

### **Framing a Conversation About Learning That Bears on Teaching**

Educators deepen their understanding of learning and teaching through discourse, which is shaped, consciously or unconsciously, by the participants' knowledge and concerns about learning. Each individual and group frames what they know in different ways and comes to different solutions. Differences and commonalities will emerge across disciplines.

When a group takes up a conversation about the learning-to-teaching connection, interesting challenges arise at once. If a challenge is to integrate different voices in discussion, then one tool is the development of awareness of a need to forge a common language for discussing the learning-to-teaching connection. If a challenge is to integrate different sources of ideas and evidence about learning, then a second tool is thinking through learning principles that probe the learning-to-teaching connection. If a challenge is to integrate different contexts of practice, then a third tool is generating action principles that illustrate teaching for learning.

A design for collaborative inquiry can organize the three tools into a process for initiating a conversation about learning that bears on teaching. In a beginning conversation, such a design primarily encourages the flow of conversation from thinking through learning principles to generating action principles, with the emphasis on moving from learning-to-teaching and advising. Using this design, faculty and staff might ask each other to consider explicitly what their own students are learning currently, within various disciplines, across different contexts, outside class, and after college, sparking change from within by drawing on the very knowledge, courage, and understanding that makes teaching and advising possible. This implies consciously using language that can break the ice in a cross-disciplinary conversation and ground the discussion in evidence.

### **Forging a Language of Learning-to-Teaching, Integrating Different Voices**

Beginning a discussion about learning often evokes a request for a definition. For our purposes here, learning emerges from educational practice as an integrative, recursive, heuristic activity. In the fullest sense, learning involves thinking through the personal, disciplinary, or contextual frameworks that bear on a situation. It involves engaging in multiple experiences and performances to explore, demonstrate, and consolidate one's learning. It also means ongoing assessment that opens performances up to observation, analysis, judgment, and insight. It means embracing a range of other reflective activities that increase understanding of performance and support the integration of learning into one's overall makeup (for example, making meaning across situations, planning for future action, taking action in a range of contexts). A definition of learning and its

revision may be a product of a conversation, but definition is not the primary purpose.

To move beyond a definition to a discussion of learning as it bears on teaching, educators benefit from jointly forging a living language to capture the elusive learning-to-teaching connection. For example, as we started to share and probe the connection across disciplines, issues of language were immediately on the table-and the dictionary and "using plain English" did not seem to help! We were reminded that to study in each of our disciplines also means to learn the language of that discipline in order to participate in disciplinary discourse. The language must change when new ideas come into being. For a group's conversation to serve their dialectic inquiry about the learning-to-teaching connection, we found that their language must steadily become more accessible across disciplines, roles, and educational settings.

Five kinds of language are germane to the proposed conversation:

- Context-specific language, to discuss across disciplines what is observed in students' learning (for example, "experiential validation of abilities" in and outside of class; students "self assessing in relation to criteria"). A conversation in a different setting would equally need to clarify specific terms.
- Terms and methods that reflect the modes of inquiry used to test educational assumptions and learning principles. These are grounded in various disciplinary paradigms-for example, approaches to studying learning such as deliberative inquiry, cultural psychology, or causal analysis, each with its respective terms (document analysis, thematic analysis, statistical terms).
- Disciplinary and role language that encompasses concepts, terms, and methods that have different meanings. For example, the term hermeneutics has a different meaning in the social sciences than it does in theological studies. The phrase "impact of teaching on student learning" is more common to conversation about policy at the institutional level; in the classroom, faculty refer to "interactive influences of learning and teaching."
- More abstract language that encompasses education as a discipline. Educators across disciplines who teach undergraduates are likely to meet this language because they reference particular learning and teaching theories and strategies, educational values, philosophies and assumptions, or issues about what is valid inquiry in teaching and learning-for example, "development," "perspective taking," "assessment," "personal growth," "scholarship of teaching." Because education is also a profession, it includes the language of commitment and belief.
- The formulation of what educators know about learning as learning principles. Recently learning principles have been derived from collaborative discussions conducted by national associations, which see benefits to formulating principles in order to take more collaborative action toward improving student learning (American Psychological Association Presidential Task Force on Psychology in Education, 1993; American Association for Higher Education, American College Personnel Association, & National Association of Student Personnel Administrators [AAHE, ACPA, & NASPA], 1998; Astin et al., 1992; Engelkemeyer & Brown, 1998, p. 11; Lambert & McCombs, 1998; McGovern, 1993; Mentkowski, 1998).

This chapter extends the national effort to formulate learning principles as part of a language of learning-to-teaching. We also use the strategy recently created by AAHE, ACPA, and NASPA to pair learning principles with collaborative action principles. Thus, the language of learning throughout this chapter is intentionally transferable and cross-disciplinary. It extends the more abstract language of educators' theory building in Chapter Six; and educators can also use it, as a prompt in conversation, to build bridges

to action more easily. We rely primarily on the fourth and fifth kinds of language for the sake of accessibility, while cautiously including the first, second, and third. In this chapter, we amend the learning principles we have previously offered (Alverno College Faculty, 1979/1994) to incorporate new ideas and evidence and to provide a sample of action principles for teaching-advising. Even so, conversations about learning are likely to remain both broad and context based, formal and informal, potentially highlighting the obstacles to using a language of learning-to-teaching. Resolving these problems led to directly transformed student learning, enhanced collaboration for educational purposes, and the promotion of cross-disciplinary talk about evidence for student learning.

### **"New Language" as a Learning Strategy**

As Alverno faculty tried to adapt their language of learning-to-teaching for wider discussion, on and off campus, they realized that it was rooted in their experience of teaching. It was difficult for them to discuss the processes and consequences of learning, or their emerging ideas about the nature of teaching, apart from the contexts with which they were familiar (Riordan, 1993). Thus, amending the learning principles for this chapter meant renewed efforts to craft a language that makes explicit the learning-to-teaching connection. We expect that readers who use the principles initially to reflect on their own knowledge about learning and then to study learning as it relates to their teaching will transform our language into their own context-specific dialect. Thus, the language of learning is constantly evolving and adapting, as conversation communities pull apart or overlap.

Faculty at this college persisted in developing a common language of learning because it began to serve a pedagogical purpose. The studies on student as learner (Chapter Three) showed us that the faculty's language, unfamiliar and abstract though it first seemed to students, explicitly enabled students to integrate their learning. Clarifying that language helped students build their own concepts. As they internalized the language of learning, students carried its constructions—"process," "models," "frameworks," "self assessing," "integrating"—with them into future learning situations even as they evolved their own language for these ideas. In so doing, they taught faculty this insight: Language fosters transfer of ideas. The language of learning can become a resource that is independent of where the language was learned.

Mastering, transforming, and using one's language of learning (Mezirow, 1991) fosters learning that lasts because it provides linguistic tools for concept development. To learn a field of study, a student has to learn about how to learn it; the content-process dichotomy is a false one. At the same time, a language of learning moves beyond the typical discourse of the disciplines. It includes expressing how to make metamodels in the discipline explicit (theories, frameworks, heuristics, methods), how to demonstrate learning outcomes in performance in the major field (using performance criteria), how a practitioner in a discipline "thinks, does, and feels" the discipline. Faculty and staff began to see the implications for themselves: Learning effectively means developing, revising, and depending on mental models about learning.

### **"New Language" and Collaboration**

As educators, we are continually testing idioms and usages that work well to build consensus across disciplines, but we also need context-specific, technical terms for our discourse to become more deeply meaningful (cf. Harris, 1985). A broadened and deepened language also serves communication among colleagues across higher education, because meaning making requires attention to a number of fundamental issues and common tasks in the field. Then, tensions around terminology (for example,

judgment or action, design or implementation) can become dynamic and productive rather than barriers. For example, educators struggle to develop a language where learning and teaching are not immediately bifurcated, but each informs the other. They are unlikely to separate learning from its context, for example, while interacting with students. They do not separate "ability" from "content," "content" from "process," or "process" from "outcome" while they are teaching. Neither do most educators separate knowledge from performance, theory from practice, or emphasis on the disciplines from emphasis on learners. Nor do most educators, in practice, sever the "is" from the "ought" or divide the ideal from the feasible. Rather, they link what learners are actually learning with what ought to be learned, in order to project what can be learned.

A language of learning also helps faculty to connect contexts and colleagues across undergraduate education. Merging our own and others' disciplinary and pedagogical scholarship can help us reconstruct our knowledge; it can help us reflect on and self assess our role performance, supporting the interdependence of research and teaching. We expect, along with Mezirow (1991), that ongoing exploration and development of a language of learning, in conversations for envisioning learning that lasts, will serve all educators.

### **"New Language" and Evidence**

Jointly developing such a language means that much of the conversation ("What is learning? What can be learned?") becomes a search for definitions, concepts, and evidence. Once a cross- disciplinary conversation turns to comparisons among various sources of ideas, then the nature of evidence, its form and epistemology, becomes a topic. Faculty and staff who uncover outside advances in learning theory and practice also create such advances themselves. To do either requires an evidence base in a language of learning that integrates emerging evidence from cognitive scientists as well as from teaching-advising practice. The need for evidence arises in part because claims for causality permeate an educator's language of teaching. Even so, that assumption of causality encounters constant challenge from each discipline, because each has a different perspective on what is good evidence. Causality in a collaborative conversation implies using a range of sources of ideas and kinds of evidence if participants are to generate principles that anticipate collaborative action. A benefit is that participants can begin to formulate, use, or revise learning principles for integrating different sources of evidence.

### **Thinking Through Learning Principles, Integrating Different Sources**

To elaborate their ideas about learning in a usable form, many educators translate them into a set of learning principles-the "transferable" part of the learning-to-teaching connection-because they integrate many different sources of substantive ideas about learning (for example, theory, experience, inquiry, understanding of current students). Some educators may not yet have formulated their learning principles and may initiate their conversation by using principles from various sources that resulted from collaborative inquiry (American Association for Higher Education, American College Personnel Association, & National Association of Student Personnel Administrators, 1998; Lambert & McCombs, 1998). We also offer a set of learning principles here, as a way of initiating a conversation. Learning that lasts is integrative; experiential; self-aware and self reflective, self assessed and self-regarding; developmental and individual, transitional and transformative; active and interactive, independent and collaborative; situated and transferable; deep and expansive, purposeful and responsible.

The learning principles in this chapter have a two-decade history in Alverno faculty and

staff collaborative inquiry. They are most often in revision, with periodic published updates (Alverno College Faculty, 1979/1994). Structuring a process that anticipates the revising of learning principles by educators with different roles, levels of expertise, and experience requires a systematic method if it is to integrate the many ways educators learn about learning, probe what key learning processes and experiences enable learning that lasts, and surface, explore, critique, and expand learning principles. We have used a deliberative inquiry method where a smaller group works ahead of time incorporating new ideas about learning into evidence-based learning principles to make a large group conversation feasible using a design. This method is a common one in developing principles of good practice at the national level (Chickering & Gamson, 1987). (The deliberative inquiry process that undergirds the update in this chapter is described in Appendix G.) We assume that any educators, whether using their own, ours, or others' principles, will challenge the worth of any set of learning principles as part of generating action principles. We also anticipate this benefit: Sooner or later, participants will revise any set of principles to adapt (not adopt) them for their own use, and those learning principles will better reflect the nuances of the learning-to-teaching connection.

Thinking through learning principles can guide our action as educators. This is no simple matter of listing theoretical principles or applying research results to practice; even the term applied learning seems too unidirectional and narrow to describe this process. Recall that learners go through distinct, transformative learning processes or cycles to connect reasoning and performance, and self-reflection and performance. This process is complex and challenging for students and alumnae; we can expect it to be no less so for ourselves. During this transformative conversation, each of us can expect to take our restructured knowledge about learning back into our teaching and advising situations and reconstruct that knowledge again in our situated performing.

### **Generating Action Principles, Integrating Different Contexts**

Learning principles often do not suggest more than very broad learning conditions. Corresponding action principles for teaching and advising are a necessary part of the conversation. Educators do not dichotomize learning and action principles in practice. However, learning principles are intended to be more comprehensive and transferable than action principles; the latter are much more situated yet transportable. The benefit is that action principles are closer to actual practice. As axioms, they reflect how educators integrate different contexts of practice as well as a host of day-to-day teaching and advising experiences.

### **Bridging Learning Principles and Action Principles**

In creating an action principle from a learning principle, educators perform an act of individualized and collective interpretation, orienting their understanding toward a future action. Action principles represent educators' integration of their current perspective with their long-term, empirically based picture of learning that lasts. They join their past and most recent inquiries with their current teaching practices. "If-then" statements, formulated as action principles, can capture the dynamic between teaching and learning; they are at the heart of what enables effective teaching. Learning and action principles reflect conscious understandings that the faculty or staff member keeps focused on while planning, carrying out, and reflecting on teaching or advising. Of course, action principles are only a beginning for design-an anticipatory action-and only one outcome of the interpretive act of constructing connections to a theory of teaching from a revised theory of learning. In a particular setting, such principles are further mediated by the thinking, judging, and acting of each educator in response to that of the students (see

Chapter Eight).

By making learning and action principles explicit, the educator also demonstrates an awareness that he or she is a bridge in a larger and shared program for educating the student. The educator is responsible for setting up the connections between learning principles, his or her own teaching, and the learner's learning, and these relationships are imbued with an awareness of the whole curriculum. In conversation, a clinical educator in nursing put it this way: "If learning is integrative, I am responsible for knowing what other faculty have taught and what this student has learned, so that I can create connections to what the student can be learning in a new situation." She also notes that she uses shared beliefs, assumptions, or principles to guide her teaching (cf. Donald Schn's "theory in use," 1987): "What I consciously say to myself and to my students as a teacher becomes key in creating practice. For example, I voice' theoretical perspectives from nursing and observations gathered from my former practice to my students-while they are observing me working with a client. I model my synthesis of nursing and learning theories. This is how I integrate my discipline as a framework for student learning, with the principle, learning that lasts is integrative.' It's one way I am mindful about how disciplinary learning interacts with teaching."

Learning and action principles should meet several criteria. They should bring together the maximum diversity of voices, sources of ideas and evidence, and contexts of practice. Further, they should integrate what is learned and what ought to be learned with what can be achieved. They should be constructed in an iterative, interactive process and expressed in a usable language that connects learning to teaching, and should be amenable to continual, evidence-based adaptation with a concern for transferability or transportability to other groups or settings.

### **Learning and Action Principles for Learning That Lasts**

Learning principles realized through action principles, together with relationships among the domains of growth and transformative learning cycles, make for an educational theory of learning that lasts. And so we explicate principles of learning that lasts in relation to the in-depth inquiry in both Parts Two and Four, giving these principles more meaning because they are grounded in an integrated theory, research, and practice. We elaborate action principles with direct quotations to reflect selected, individual voices from the 110 faculty and staff members who contributed to twenty-one group conversations (see Appendix G).

### **Learning That Lasts Is Integrative**

The learner begins to integrate, to continually make connections and create new wholes out of multiple parts: his or her knowledge and ability, individual abilities needed in a given situation, and abilities and the situation or context. The learner is enabled to integrate and develop historical, scientific, and artistic concepts and frameworks by thinking with them and interacting with them in specific situations. Students learn to integrate by challenging themselves to continually differentiate, to break open ideas and concepts in their development of understanding. Some begin with the whole, others with parts in varied orders, pulling things apart to come to different ways of reconnecting them uniquely. Such learning creates a more sensitive and complex understanding of differences and how things fit together. Integrative learning that lasts extends, deepens, and secures the learner's knowledge and ability.

In designing developmentally appropriate learning experiences, educators recognize the affective or emotional dimension as central to learning. They do not segment learning as

a cognitive process or set aside the development of empathy or a tolerance for ambiguity. Emotional development is not just a condition, input, outcome, or consequence of the learning process; it is something educators deliberately plan for. A sound learning process involves the learner's career and personal aspirations, prior learning and experience, maturity, subculture, and family situation, to name a few. As students process what they have learned, they are making connections and constructing new, related understandings. Student and alumna interviews showed various forms of integrative learning that students constructed as they interacted with the curriculum and took up postcollege challenges.

To think of learning as performance is often to think in terms of acting out, or applying, what is learned. This misdirects. Performance is the integration of knowing and doing-in class and off campus. It is a kind of learning in which a student is actively engaged and involved, whether it be in creating a painting, solving an experimental design problem, or developing a public relations strategy for a business. Students see integration of knowing and doing as an ongoing interactive process in which both knowledge and experience are repeatedly transformed, and so it encourages transfer of learning. Thus, learning as integrative is intertwined with learning as experiential. Developing as a competent performer means internalizing curricular abilities. And so, faculty expect students to integrate curriculum abilities in their performance as they advance.

Educators can create conditions that enable learners to integrate domains of growth (reasoning, performance, self-reflection, and development) through transformative learning cycles. First, learners are able to integrate knowing and doing (that is, reasoning and performance) when educators provide experiential learning opportunities that simultaneously require integrating concepts in the disciplines and integrating abilities in performance. For example, the learner can gain an effective awareness of how historians take stances, explore the evidentiary bases for interpretations, and interact with the broader community by doing the inquiry into differing primary sources for a particular historical event and then interacting with others around alternative interpretations. Second, students are able to self assess their strengths and weaknesses in their work (integrating self-reflection and performance) when educators consistently insist on this and create learning opportunities that develop self-confidence, self-awareness, professional identity, and performance capabilities. Feedback develops and extends self assessments, enabling students to evaluate and think through their actions and more broadly envision roles and responsibilities. Third, learners can effectively integrate awareness of their particular roles, responsibilities, and social identities with an understanding of independent and interdependent learning (integrating self-reflection and development) when educators create diverse, safe, and challenging opportunities for students to explore their horizons through new approaches to learning and new perspectives. Effective learners find courage to make distinctive commitments within their vision of collaboration.

Based on this synthesis, the Alverno faculty and staff have developed, through discourse, a few examples of action principles. They tuned in to the several forms of integration that learners use to connect knowing and doing: synthesizing concepts; combining knowing, feeling, and doing to consolidate knowledge and abilities; integrating curriculum abilities in performing.

If learning is to be integrative so that it lasts, then:

- Curriculum abilities need to inform and connect teaching, learning, and assessment and be expressed through a coherent educational system.
- A curriculum needs to include opportunities for self-reflection, especially on

how learning in multiple contexts affects who the learner is becoming as a professional and a person.

- Learning strategies need to emphasize doing what one knows, so that learners can experience the process and come to see their own performance in all its dimensions. Learning strategies also need to involve students in exploring the many dimensions of themselves in relation to the different dimensions of their fields of study.
- Faculty need to collaborate within and across disciplines, creating developmental experiences that move from the more discrete to the more integrative.
- Faculty need to develop learning and assessment strategies that create opportunities for students to make connections across a variety of contexts, incorporate new ideas, break open prior connections, and make new ones.
- Faculty need to encourage a developmental outlook-and approach integration developmentally-by connecting theory to data, then data to theory, examining what is consonant and what is dissonant over a number of semesters and courses.

In generating the "if-then" action principles as a group, faculty and staff as individuals also articulated several corollary insights in conversation. As one noted: "In thinking about a course, major, or program, faculty strive to create coherence. However, integration is fostered by coherence within diversity. So I also work with the multidimensionality of a concept, issue, or situation; draw on diverse sources; and engage students in exploring the complexity involved." Another group member said: "I ask students to look at different perspectives. Sometimes they understand their own perspectives better after examining others', so it's important to make the environment challenging as well as supportive." Said another: "Continually ask questions that encourage students to reflect on the relationship among the various concepts they are learning." Another commented: "Learning experiences should include explicit periods of reflection for students to analyze the expression, demonstration, or use of their abilities in varied contexts." Said another: "Integration is developmental, and novice students need multiple opportunities to grow in their ability to integrate." One faculty member noted, "Students experience knowing and doing more as discrete moments in their learning, even though faculty encourage their integration." Therefore she suggested organizing learning experiences for intermediate students so that they have some fidelity with future performance settings and more directly guiding beginning students to consider how their disciplinary learning connects to doing something with **it**.

### **Learning That Lasts Is Experiential**

The learner learns experientially by connecting knowing and doing, theory and practice. Experiential learning is both active and situated, as well as integrative. It begins with experience but does not stop there; experience becomes the basis for students to develop abstractions reflectively based on familiar content. These abstractions become experiential hooks that students can consciously connect with disciplinary abstractions, which otherwise might have little meaning or purpose for them. Designing experiential learning asks educators to reconsider the principles of active learning and situated learning in the light of the need for reflection on experience. Experiential learning also calls on learners to think during experience. One way performers learn is by pursuing analytical inquiries in a problem-solving context, using their knowledge base to frame useful questions, seeking needed information, drawing conclusions, and persuading others. Individuals also learn from the experience of others. Students continually learn from observing and modeling their performance on that of peers and faculty. They learn by analyzing history, literature, consequences to the behavior of others, and the outcomes

of world events.

Students described self-sustained learning as a process of experiencing, reflecting, forming new concepts, and testing their judgment and abilities in action. Alumnae also experienced learning as a continuous process. They tied knowledge, theory, and experience to productive action; applied abilities in action, asked for responses, and adjusted accordingly; self assessed and integrated and adapted abilities; and demonstrated a sophisticated integration of thinking and performing in context. Off-campus internships were key experiences for both older and younger students that validate these experiential learning principles and their learning in the ability-based curriculum. Important experiential features of off-campus learning situations are a complex performance- demand structure, in which students can test their ability to transfer what they have learned to actual work contexts; feedback from an independent environment; and the opportunity to observe oneself at work and to test the ability to appraise one's own performance. Through off-campus internships, students were able to articulate connections between their college learning and future professional expectations. They came to key insights on how to read organizations and what it meant to demonstrate professional responsibility. Experiential learning in the classroom and in internships confirms the learner's abilities and enhances individual identity. At the same time, experiential learning validates the meaning of curricular abilities for postcollege settings.

In the action principles, faculty and staff acknowledged that students use experience to ground disciplinary abstractions, to develop their capacity to think abstractly, to envision and internalize their future roles, and to develop interpersonal abilities for thinking collaboratively with others.

If learning is to be experiential so that it lasts, then:

- Faculty need to work with students to support them in actively constructing their learning, by moving from a specific and concrete context toward broader principles and reflecting on their experiences and abstractions in relation to disciplinary understandings.
- Faculty need to take responsibility for coaching students in the art of developing and using abstractions in the disciplines and in effectively organizing their knowledge for action and understanding.
- Faculty need to create structured reflection guides, encouraging students to stand back from their experience in order to probe all aspects of learning- affective and cognitive, social and individual.
- Faculty and staff need to help students recognize that varied situations, in and outside the classroom, provide opportunities to experience and reflect on their application of disciplinary concepts and their practice of professional behavior, and ongoing development.
- Faculty need to create opportunities for students to identify real-life applications of concepts and to interact with community resource people and agencies in order to gather and try out new ideas.

Given the evidence for the role of abstract thinking in student performance in the curriculum, faculty and staff emphasized that "Students need practice in relating examples that connect abstractions to concrete experiences that are meaningful in their lives. Teachers take on a corresponding responsibility for keeping in touch with current cultural idioms, and for inquiring into students' experience and upbringing." Another educator concluded, "Teachers need to guide students deeper into the discipline and encourage them to relate abstractions to experience outside their own milieu sooner

rather than later." Because students do not find disciplinary abstractions meaningful in the same way that faculty do, faculty suggested being explicit in class about how abstractions connect to the student's current experience, internships, and future roles. The role of reflection on internships in relation to discipline knowledge and outcomes is essential. One educator argued, "We need to assist students to move between concrete contexts and broader principles. This implies bringing broader principles to bear on actual experiences and drawing broader principles from actual experience. It involves inductive and deductive reasoning."

### **Learning That Lasts Is Self-Aware and Reflective, Self Assessed and Self-Regarding**

In order to take more and more responsibility for developing abilities, learners need an increasing understanding of what they are doing in relation to what they aim to do. Being aware is thus an essential part of learning. If a learner understands what was clear and meaningful about an explanation of a biological theory or a sociological framework, she can determine future strategies for effective presentations. If another understands why he was unable to hold a group's attention, he can work on improving. A successful active and reflective learning process includes learner engagement, self assessment, and feedback. Reflective self assessment helps learners to shape future performance, based on understanding both their past and present work and their intellectual processes.

Curricular elements support self assessment and awareness of self in a variety of ways: the use of explicated abilities, performance criteria that integrate knowledge and ability, discussions with peers and faculty, the use of feedback on performing and learning progress. Assessing multiple performances-in diverse settings with supervisors and faculty, in groups, and in reflection-leads to a different kind of mindfulness about learning. Such a structured awareness operates as a learning cycle. By making the interaction of performance and self assessment an object of the student's learning, the faculty give students more opportunities to be reflective, that is, to consider thoughtfully their growth as learners and performers who are developing a professional identity.

Curricular structures for judging performance, and their common language, make learning in disciplines and professions more visible to students. Their efforts to learn to think, in varied disciplinary frameworks, interact with their performances; this interaction results in clearer understanding of a field of study. As students work with their experiences and new forms of reasoning and analysis, they engage in learning at levels of increasing sophistication. Even as they move into denser and more complex material, their expanding awareness of curriculum abilities (including constructing and monitoring performance) enables them to navigate the rapids.

Students develop confidence that they can transfer their knowledge and abilities to new settings through performances, when they see themselves do it. Knowing what they can do across settings leads to self-regard in that learners appreciate their own ways of doing things. Similarly, self-reflection and individual development interact as students actively engage the breadth and diversity of approaches and views they have encountered. More generally, the faculty's attention, empathy, feedback, and coaching support students' taking hold of their learning. For example, through coaching, students learn to focus on self assessment for improvement. Reflection on past performance and envisioning future performance provide a transformative link that enables students to develop a learning identity and begin to connect their values and goals to who they are and can be, as professionals and persons. Asking students to reflect systematically on their own values and those implicit in the views of other individuals, cultures, organizations, and professions leads them toward a valued self-awareness and developmental

transformations. These learning cycles persist past graduation.

If learning is to be self-aware and reflective, self assessed and self-regarding so as to last, then:

- A curriculum needs to provide opportunities for reflective self-awareness and feedback on that awareness; it needs to encourage balanced self assessment of identified strengths and weaknesses in performance and focus on how abilities are manifested.
- A curriculum needs to connect the process of becoming self-aware with future professional roles and goals, and encourage critical attention to the explicit and implicit criteria for practicing within professional roles.
- A curriculum needs to incorporate a range of self assessment modes in order for students to gain many different types of views of their performance (for example, listening to themselves, reading their own work, viewing themselves on videotape, giving solo presentations, and interacting in groups).
- Faculty need to fulfill various roles: providing context for self assessment, guiding discussions, encouraging responses, offering resources, modeling the value of self assessment (for example, articulating the principles that inform their teaching behavior, monitoring their own approach publicly, referring to sources in relation to their own personal thinking).
- Self assessment needs to be taught and learned developmentally; it needs to become more and more sophisticated and complex as students move on.
- Self assessment needs to incorporate students' goal setting over time (including projects, majors, professional planning).
- Curriculum needs to facilitate moving students toward an increasing integrity in self assessment. It does this through insisting on the credibility of the evidence offered (if the student provides no evidence, the self assessment cannot be considered adequate). Students are held to standards of credibility; they meet criteria. Faculty should make sure that the standards for credibility are in published criteria where kinds of criteria ("format," "content," "performance") are differentiated.
- Faculty members must fulfill various roles: providing context, articulating frameworks, guiding discussions, encouraging responses, valuing the self assessment process, offering resources.

The interacting groups discussed how students grow in their capacity to observe, interpret, analyze, and judge their performances in relation to planning future performances and ongoing development. Students' perspectives reinforced the faculty's realization that self assessment was central to the student's growth as a learner. In generating action principles, faculty and staff focused on their active role in fostering self assessment and self-awareness in student learning: "Create self assessment prompts that reflect the learning experience; ground self assessment in a specific content/ framework/context; include self assessment in learning; and teach the principles of self assessment as well as the meaning of criteria and their value." Another noted that "It is important to create settings that are communal, conducive to risk taking, open-ended." "Yes," said another, "the goal of peer assessment is making the other person better.' It is then nonjudgmental and nonthreatening, and results in more honest critique. Assist learners to balance self assessment between attention to development of skill and a holistic attention to personal development, intellectual and emotional." A member of the group added that curriculum should not require that an entire self assessment framework for learning be laid over every self assessment. For example, planning future performance is not appropriate to every self assessment. Commented another, "Because intuition and intuitive actions are based on integration of past learning, a series of disciplinary frameworks to draw on is essential in order for a student to arrive at a

performance."

### **Learning That Lasts Is Developmental and Individual, Transitional and Transformative**

Learning is an ongoing, advancing process. Learners build on what they already know and can do, reconstructing their knowledge and ability with new learning, then carrying it forward to another level, which becomes a next potential starting place. This calls for a sequencing of learning goals, outcomes, and tasks, as well as a developmental, coherent course structure. Since this structure is a pedagogical framework and not a matter of how each student learns, it also means building in the kind of flexibility that enables a student to find and fashion an individual pattern of learning. That learning is developmental is a self-evident idea for educators. This means that they take responsibility for making learning meaningfully developmental in the curriculum. In part, that means clarifying outcomes to create multiple points of entry into the learning process for varied learners at varied stages and styles. Individualizing learning requires ensuring that students actively participate in the process by creating learning experiences that demand their individual involvement and their explicit incorporation of how new learning builds on existing knowledge and understanding.

Learners master more than knowledge. Both they and the object of knowledge are transformed. Learning in one domain of the person may parallel or diverge from another; the dynamic fosters what a learner knows and can do. The learner tends to experience this development as psychological; the faculty tend to experience it as pedagogical.

Learning advances in a more spiraling than linear fashion; it is often more differentiating and transitional. Students make transitions, from entering an educational program to mastering it and from a more general education to a more specialized one. These more obvious transitions often give the appearance of more coherence than actually lies beneath these surface markers. More subtle ones emerge day to day and week to week, and they build gradually. It is only when new learning enters the fabric of thought and action, after repeatedly recycling through earlier forms, that learning appears to have a more stable character. Teaching is essential to learning when it is a means for planning and stimulating the transitions that are a necessary next step. Along the way, the learner creates an identity as a learner, performer, contributor, and professional, all of which contribute to constructing the self as a developing person. Cohorts of students also display unique characteristics over time. Some cognitive-developmental patterns are relatively stable, yet differences surface year to year in each group of students. Consequently, a curriculum is always in process. Moreover, a faculty's concern for learning, its assessment and validation, is distinctly individual. This means respecting individual differences in how students approach learning and assessment and drawing out the learning potential from the diversity of individual experiences and performances.

We have learned that embracing the various meanings of the learner's development is essential to a language of learning. The term development often means that student performance is scaffolded to greater sophistication through a curriculum and that learners' capacity to profit from or achieve certain experiences relies on their progressive mastery of ideas more likely learned in a program of study. Teaching must support students in moving from addressing individual criteria in particular performances to understanding how criteria apply across situations and how situations require broader and more complex frameworks. This faculty's description of learning and its performance characteristics such as integration, independence, creativity, awareness, and commitment—each modified by habituality—also opens up the learner's development as a person and a professional (Alverno College Faculty, 1979/1994). Faculty find these kind

of characteristics more evident in advanced student performance.

The learner's developing capacity to integrate knowing and doing in this curriculum with reflective awareness is transformative. Teaching beginning students can be highly challenging because learners at first do not share the same assumptions about their roles and responsibilities in the learning process. As they progress, they develop their own personal sense of integration in their engagements with the broader community. First and foremost, they take increasing responsibility for their own learning, gradually developing the capacity to hold onto personally felt tensions. Such conflicts may arise from taking multiple perspectives on issues in the disciplines or from struggles in their personal life. Along this path, they begin to connect a growing identity as a professional and as a learner to concerns and issues that are larger than their specific career choice. They evidence a complementary dynamic among school, work, civic, and personal relationships, with self as the integrating factor. A transformative learner is concerned with his or her personal future and sees the self as linked inseparably with the future of the human community. Such a learner comes across as a lucid interpreter of life consonant with his or her own experiential background. Reliance on authority and tradition is meshed with a personal synthesis of one's own experiences. Educators who take a developmental perspective on transformative learning acknowledge that restructuring of the self, and how one constructs the world, is neither easy for the student nor complete at graduation. These educators nurture a breadth of perspective and a commitment to a lifelong process.

If learning is to be developmental and individual, transitional and transformative so that it lasts, then:

- Faculty who work with students at a range of developmental stages of learning need to learn from each other about the interconnections between developmental stages and how to structure learning experiences so they are meaningfully developmental across the curriculum. Students need to engage in multiple approaches to learning and in multiple perspectives with flexible supports.
- Teachers need to expect that students take responsibility for developing their learning-discerning its complexity and inferring patterns, seeing relationships, and setting priorities. All of these enable the learner to spiral through learning experiences by which development becomes increasingly cumulative.
- Faculty need to provide students with many diverse modes of learning to help them learn that there are many ways to do things and interpret things-and that there is seldom just one right answer. They need to help students to engage in constructive dialogue around controversial issues. Students need to be guided to accept that the process of engagement is a higher goal than the immediate issue and develop a tolerance for the conflict, ambiguity, and delay that come with learning transitions.
- Teachers need to recognize that each learner has an individual purpose for learning; planning for a curricular outcome should allow for variations in student intentions and goals.
- Teachers need to respect each learner's unique role and investment in the learning process while holding all students to appropriate standards and criteria for achievement.
- Teachers need to incorporate opportunities for students to articulate connections between course and college outcomes and their personal goals.
- Teaching needs to involve considerable diagnostic activity, based on expertise in the discipline and familiarity with learner differences and the clues that signal a learner in transition.
- Faculty need to recall that learning does not move at the same pace across

multiple areas; they must therefore work to interpret needs individually and build bridges with students among learning areas.

- Teachers need to take responsibility to know as much as is appropriate about the diverse cognitions and affective experiences of students and to use that knowledge in designing learning activities.

Insights from the discussion of action principles support the idea that student performance is guided so that it becomes more sophisticated and complex by attending to the specific prerequisites and conditions for growth. "Teachers must understand the role of core skills in the discipline, how to teach these as developing abilities, and then model these as ways to take up academic work—often in advance of current learning activities." Another noted that "The curriculum must enable a student to begin education where he or she is in terms of prior experiences, ability, knowledge, attitudes, emotions, and expectations. Learning calls for faculty to recognize the developmental needs and knowledge of individual students in order to create learning opportunities that are useful to each student. This means that teachers need to ask how criteria make explicit the kinds of scaffolds, transitions, and leaps that students need at various points." Said another, "Teachers may be dealing with performances that represent the lower edge of an ability level, and students may not be ready to move to the next level, even though they meet criteria for a particular performance. Teacher expertise involves knowing the extent of performance data that warrants judgment or validation." At the same time, this faculty and staff also commit to supporting students' overall capacity to take responsibility for their own learning. Faculty and staff take on a role in guiding students toward confronting their obligation for this—a kind of transformative development in the learner's way of being in the world. A faculty member noted, "Learning is a responsibility shared with students. How that plays out is very individual." An advisor replied, "Students must learn to work in self-directed ways."

### **Learning That Lasts Is Active and Interactive, Independent and Collaborative**

Another principle central for student development of ability is that learning is active. Students cannot learn to think or solve problems just by listening to the most informed professor or reading the most erudite text. They test and develop their thinking by thinking aloud; that is, they learn principles of effective problem solving by addressing business problems or designing plans for civic action.

Students also cannot fully learn in isolation; learning is interactive. Today most problem solving is collaborative. In addition, thinking becomes reflective only when confronted by perceptions other than one's own, when educators set it forth in a context where the learner can question as well as be questioned, can affirm, supplement, and extend his or her understanding. In learning interactively, learners develop their knowledge and understanding, their critical thinking, their ability to solve problems and to think and speak credibly on their feet, as well as their ability to interact with others effectively.

A student's learning has to become independent if he or she is to sustain learning and performance as conditions and settings change. Students must take hold of the disciplines and learn to take stances that lead to further learning. Learning is constructed individually, yet it is also based on individual and collaborative performances. In our observation, collaboration means something different from, and more than, interaction or even cooperation. It means an effort as individuals to understand the perspectives of coparticipants and to share with them a mutual responsibility for work, products, and leadership.

We found that collaboration with others symbolized the college years and postcollege

life. Many alumnae practiced a distinctive kind of participative leadership, linked to strong independent thinking abilities. Independent learning appears to have its most striking origins in the interactive engagement of diverse perspectives, approaches, and views. Encountering this diversity serves to propel this transformative learning cycle, connecting self-reflection with the development of independent learning.

When encountering novel situations, advanced learners prepare to develop an independent judgment based on their breadth and depth of understanding in the setting. They gradually work through the implications of their line of thinking and become capable of making a case for their views when others are not well prepared to understand or accept them. Because effective learners can act as individuals and in team collaboration, across roles, they take on leadership responsibilities in situations where learning is achieved in a group or corporate sense. Many thus come to view learning within interactive and collaborative settings as more important than they had thought—something that they need to understand better. Group activities begin as an important basis for learning cooperative action, but learners increasingly value them as opportunities to work across multiple perspectives. This function becomes critical as students learn to regard diversity with respect, use it as a means for testing ideas and constructing alternatives, and think critically and argue their own positions. For alumnae, breadth of activities serves a similar role. More recent studies at Alverno have underscored the significance that students and faculty place on class discussions and other group work as a basis for thinking critically and working with diverse frameworks.

If learning is to be active and interactive, independent and collaborative so that it lasts, then:

- Students need repeated opportunities to work in significant projects that are defined and executed by the group.
- Students need time for collaborative interaction with others and time for individual reflection on their own perspectives in relation to alternatives.
- Many beginning students need to learn a kind of appreciative listening. As they advance, this becomes the basis for synthesizing a group discussion.
- Teachers need to assist students to establish and evaluate collaborative processes.
- Teachers need to encourage learners to make connections between their individual learning experiences and the collaborative process, by providing learning opportunities that invite multidimensional problem analysis.
- Students need repeated opportunities to practice what they are learning in multiple disciplines; this also implies multiple opportunities for evaluation of performance.

Faculty explicitly balance their goals for students' collaborative learning—and related skills and orientations—with independent learning. "Teachers must provide opportunities for students to set goals for their own learning." Another said, "Faculty need to create opportunities for students to give service, and help them to understand both the value of service and its potential for learning." In contrast to the call for independence, some said, "We must foster a capacity for connectedness among teacher, subject matter, client, and student. Students need to develop social interaction skills for collaboration and learn to value collaboration, while teachers need to be flexible in activity design and physical class space and frame the learners' collaborative work to help them make connections beyond immediate tasks."

### **Learning That Lasts Is Situated and Transferable**

Learning is most secure when it is situated in the context of its ultimate use. Practice settings, internships, apprenticeships, mentorships, and simulations can embody needed rationales, means-ends relations, and other situational dynamics that become particularized resources for the learner. In situated learning, learners learn strategies that effectively use the concrete resources of particular settings. They draw on their relationships with other learners to create valued contributions in recognizable fields of practice and construct professional identities that are emotionally and intellectually sustaining.

Students can readily appreciate learning in context, and yet they also can learn to construct models of performance that unify their learning across diverse situations. Although a performance is bound to the specific situation, learning from the situation can be unbounded. The learner comes to perceive his or her abilities both in and beyond the immediate situation; the net effect is that the learner develops a capacity to address and appreciate the uniqueness of each situation, while developing a sense of personal competence and readiness for new and ambiguous situations. Thus, a student's integration of knowledge and ability must be transferable.

Each student needs to make his or her learning part of a personal repertoire, something he or she can exercise in varied situations. Because it is often unclear exactly which aspects of learning transfer, educators try to provide multiple opportunities for students to develop their learning in varied contexts, so that both they and learners can gradually discern what they can depend on to carry from situation to situation. The primary pedagogical concern for transfer is not linked to specific learning alone, but also to the learner's perception of the whole array of abilities. An advanced learner has developed a criterion-specific picture of his or her effectiveness in demonstrating ability, a picture that is congruent with external standards while highlighting what is unique to the individual.

A closer analysis of transformative learning cycles makes the work of transfer even clearer. Students ground their performances in a particular context, learn to construct effective interpretations of their roles and evolving situations in that context, and begin to connect disciplinary learning to real-world performing. By also practicing across diverse settings, undertaking field experiences, and completing various performance assessments in the same ability in different disciplines, they are then able to internalize curriculum abilities as a metacognitive framework for constructing and improving performance. As a result, students can transfer college learning from one context to another, so that performing after college usually becomes a relatively smooth transition.

As students consolidate their learning, they also develop an integrated sense of themselves as learners and performers that helps them function effectively. This identity as a learner and performer enabled alumnae to transfer their college learning to new contexts. Students come to believe in their potential for personal growth as they experience it, developing a constructive attitude toward difficulties and setbacks. Students who actively think about and believe in transfer do transfer college learning to after-college performance. They come to have a strong sense of their own learning, which allows them to shape and reshape performances as situations change.

While learning is situated, reflective learning and a metacognitive awareness seem to be key to abstracting learning beyond the situation. This awareness leads to consolidating relationships among their learning experiences and their individual constructions of themselves, their values, and their vision of personal contributions to the cultures they inhabit.

If learning is to be situated and transferable so that it lasts, then:

- Students need to learn through experience in high-fidelity simulations and practice settings.
- Learners need concentrated practice in specific professional contexts to give depth and agency to their learning.
- A curriculum needs to provide varied contexts in which students can, with meaningful feedback, practice and demonstrate their abilities. As with integrative learning, such experiences need to include explicit periods of reflection so that students can analyze the expression, demonstration, and use of their abilities in varied contexts.
- Learning experiences need to include assignment and assessment prompts, to help students learn what is consistent about a particular ability demonstrated in varied contexts and what is different about it. This feedback enables the learner to develop depth of understanding of the ability and flexibility in using it.
- Teachers need to take responsibility for integrating the frameworks of the discipline's knowledge base into their teaching, so that these frameworks encourage continued learning.
- Teachers need to help the student come to understand that abilities are the mechanisms of transfer to settings external to college. They need to help mature learners see and attend to the connections between abilities they are developing on campus and their development as a professional.
- Self assessment strategies need to assist students to recognize elements of what they have learned that can be transferred to other contexts.
- Faculty who are teaching within a series of courses need to know what is taught when and where, in order to introduce, reinforce, and extend learning. They build learning situations that are highly related to the actual situation so what is intended to be learned is then directly applied.
- Because transfer occurs best when courses are purposefully structured to ensure it, faculty need to create a shared understanding of ability development and a language of learning that enables them to talk across a curriculum.

In these action principles, faculty and staff link the transformative learning cycle that connects reasoning and performance with the one that connects performance and reflection. Another focus is the dynamic of situated and transferable learning. "Transfer is more likely when faculty are very explicit about connections between real world need, new information, and skills to be learned." Another emphasized that "learning must be transferable to nonacademic situations. Experiences in academic settings must move from knowledge to action in a variety of settings, must encourage connections to the learner's life, must engage and demand' participation." One reflected on implications for faculty: "Ironically, the necessity of making one's field meaningful to such a broad and diverse audience of learners actually requires a greater mastery and facility with the essentials of the field than when one is addressing mostly specialists or future specialists." Another noted, "Both student and teacher contribute to envisioning the essentials of the field. The student claims a contribution by framing the relevance of the concepts to everyday living and future professional roles."

### **Learning That Lasts Is Deep and Expansive, Purposeful and Responsible**

As we have reviewed and extended these principles, a prominent theme began to unfold that we introduce here as an emerging learning principle: Learning that lasts is deep and expansive, purposeful and responsible. When learning endures, a learner has the habits of deep inquiry, delving into meaning, developing further levels of expertise, and letting imagination serve productive creativity. Such learning means looking beneath the surface for hidden causes, exploring larger systems, and appreciating nuances. Learning is also

expansive when learners broaden their horizons by inquiring into different purposes and perspectives, trying out different approaches, and diversifying their contributions. From such learning comes commitment with integrity to their own and other purposes, which translates into integrating the self after college.

Learning that endures is more likely to be intentional than unintentional, and yet this does not mean that all learning is immediately self-aware. Rather, the learner deliberately thinks through experiences, identifies what he or she has learned, and with this developing awareness, pursues experience for glimpses of insight and tacit knowledge. Most educators acknowledge that learning happens constantly and that much of what is learned does not happen in the classroom. Further, "unlearning" previously held ideas and assumptions becomes a prominent part of college-level learning for both teacher and student. Learning becomes most purposeful when learners not only show learning to learn but also learning to unlearn, deliberately replacing old learning with new. A clear theme is that advanced learners can articulate how they go about learning and purposefully choose what they are needing to learn now. The more common phrase, "learning is goal directed," is closely allied with the educational assumption that education should be purposeful.

Learning that lasts is also responsible, in that learners are responsive to others and take up the implications of what they have learned. What the learner knows and can do implies considering what moral obligations and imperatives are shareable ideals. Learning becomes responsible as the learner gains appreciation for the complexity and value of his or her connection with community, individuality, and human spirit. Learning that lasts is a step toward the kind of learning that many educators believe is true of themselves: that we inquire, broaden, intend, and care.

If learning is to be deep and expansive, purposeful and responsible so that it lasts, then:

- Students need to work with the multidimensionality of a concept, issue, or situation. Educators need to draw on diverse sources of ideas and evidence and to engage students in exploring the complexity involved.
- Educators need to ask students to look at different perspectives and then help them consider the merits of each without having to decide among them immediately. Educators should encourage enlightened stances but also leave the deepest paradoxes unresolved, encouraging students to have concern over how to make ideas useful and to find joy in the sheer appreciation of ideas, self-understanding, and human relationships.
- Students need to examine their own values, intentions, and purposes for learning in order to make thoughtful connections to more general curricular goals and value frameworks.
- Students need to articulate how they integrate course and curricular goals into their personal reasons for studying specific concepts and disciplines in order to realize their responsibility in the learning process and to the learning community.
- Educators need to acknowledge to students, and reflect in their teaching, the idea that learning happens continually in all settings. Further, as educators build learning experiences, they need to probe for learning that is unintentional on the part of the learner. When they make educational goals explicit, they need to consider what learners may know but cannot express. Then students see the goals as more attainable and can more readily negotiate them with faculty.
- Educators need to model interdependent commitment to these goals, continually making a case for them with the learner. This means challenging what learners have already learned and devising ways for learners to "unlearn" as well as to learn attitudes, values, and commitments.

- Higher levels of learning are visible only within the more sophisticated structures of a discipline or knowledge area. Fieldwork, clinicals, and other advanced learning activities elicit students' learning as well as their developing sense of role and responsibility, providing a context that pulls on deeper forms of integration that can lead to lives of meaning and commitment to others. Faculty need to analyze learning activities -including fieldwork sites-for their potential to engage and challenge students.

Using each of the seven learning principles to generate examples of action principles is a bridge to taking more concrete actions in a particular setting. Generating action principles within and across roles is a necessary next step in moving from abstract principles to considering how an educational program on any campus is learning-centered.

### **Extending the Conversation Within and Across Roles**

On any campus, a conversation about learning-to-teaching is especially useful for improving student learning when faculty and staff join it from across diverse roles and disciplines. The resulting dynamic prompts them to engage and influence policy within and across departments, expanding their role as educational policymaker beyond the classroom, advising department, residence hall, or dean's office. Generating joint action principles is a way of constructing educational policy that can lead to improving educational programs. The dialectic of strengthening within roles and connecting across them through conversation can lead to crucial insights about program elements that make changes probable.

### **Generating Action Principles in Role and Context**

In the previous section, how faculty, academic, and student services personnel shape their roles in a cross-disciplinary conversation about learning that bears on teaching is a subtext. Most conversations about learning-to-teaching begin in a particular department. Often they are more informal, targeted, and in depth than a conversation across roles. For example, when generating action principles at a department meeting, faculty in cognitive or developmental psychology will bring forward a depth of understanding about a learning or action principle, both as it affects their teaching and as it reflects their understanding of learning as a specialty in their discipline.

Seven professional staff advisors at a year-end retreat probed just one learning principle in the context of advising beginning students who are negotiating the transition from entrance to college, and later, the transition into the major field (Alverno College Advising Department, 1998). Advisors' conversation yielded action principles for each facet of one learning principle ("Learning that lasts is developmental and individual, transitional and transformative") rather than the broader statements that characterize a conversation across roles. As a result, they were especially cognizant of the need to conceptualize development as a complex phenomenon (developmental); celebrate different purposes, backgrounds, and capabilities (individual); develop trust as a bridge (transitional); and challenge students to grow as active, independent learners who show personal growth (transformative). By the end of this conversation, in Exhibit 7.1, these staff advisors were generating action principles that have implications well beyond their role, because they see their role in relation to that of the faculty. When advisors join roles in conversation about student learning, it is a signal that the conversation is turning to actually making concrete improvements to programs.

## Sustaining a Conversation Across Roles

In our experience, educators both initiate and extend their conversations by raising specific questions that relate most often to instructional design or the problems they see regularly in the classroom. These practical problems vary depending on the way educators understand and experience them in a particular role and context. Such questions often say a good deal about an educator's learning theory, and a group can quickly probe for it. To discuss learning as it bears on teaching releases the educator's creative flow. For example, a conversation that starts with, "How can we improve class atmosphere so that more students come to class and turn work in on time?" can advance to, "How do students develop responsibility for learning to learn-and to unlearn?" The concern "Why do so many students resist moving into groups?" can lead to, "How do students develop skills and dispositions for working together?" The concrete question, "How do we assist students to show their thinking behind their project design so we can facilitate more creativity?" might benefit from asking a more abstract one: "What is the role of practice, performance, insight, assessment, and reflection in learning?" The evaluative concern, "Why do so few theoretical frameworks from courses show up in student experiential logs?" can become, "What is the nature of transfer of knowledge and skills to internships and service?"

A discussion across roles on any campus can lead as easily to new challenges as it can to new insights; without it, some consensus around concrete change is unlikely. Such an extended conversation has a number of turning points that require conscious care. Thus, we elaborate a conversational design to acknowledge those points, so that extending a conversation across roles can be sustained. This extended conversation is likely to yield action principles (or policy) not only for teaching and advising, but also for rethinking an educational program as a whole, and the educator's role in that inquiry and reflection process. The shaded boxes in the design, set out in Figure 7.1, primarily encourage attention to thinking through learning principles in order to generate action principles. In addition, Figure 7.1 opens up connections to considering educational programs as frameworks for learning. A further turning point is toward considering educational assumptions. As the group deepens the discussion of rationales for a program, educators can start to identify their own assumptions and the learning principles that underlie them. The degree to which a group becomes conscious of these turning points and comfortable with them can influence the viability of a policy discussion; it is a stepping-stone to making improvements.

As educators discuss how learning bears on teaching across roles, they often discover how much they share fundamental issues about learning. These issues are connected by a shared concern for what education is and can be, reflecting converging interests and commitments that generally define what it means to be an educator who takes up the common tasks that reflect cogent concerns in higher education (recall Table 1.1). For this reason, educators take up the broad task of thinking through an educational program for its learning-centered qualities with colleagues from various roles. Of course, each role (and each person within it) will differ in standpoint on these fundamental issues about learning, but if a few individuals recognize the turning points, they can help sustain most conversations about learning by tying specific concerns to broader questions and ultimately prompt policymaking. These fundamental issues, important to any educational institution, reappear as background questions in Figure 7.1. Here, we see how these issues are tied to the four shaded components of the design for a collaborative inquiry.

Educators who are asking each other what they know about the learning-to-teaching connection care deeply about the nature of learning ("What is learning?"). From their understanding of human potential, they constantly ponder, "What is learned?" in relation to the dialectic between "What can be learned?" and "What is being learned?" by

students in their care (now, over a semester, in a major, in college, after college). This leads to thinking through learning principles that are bridges to action and to influencing policy.

In their move to forming policy, educators consider the abstract and concrete nature of learning and also its prerequisites, conditions, and processes ("How and why does learning happen?"). To focus explicitly on how to learn, with students in various contexts and across time, means educators consider the center of the design: "Who is learning?" and "Who is learning for?" These questions raise the joint interests and commitments, responsibilities and rights of learners, faculty, and other academic personnel, as well as the many groups interested in higher education—a direct connection to considering educational assumptions (for example, "Educators are responsible for making learning more available to the learner by articulating expected learning outcomes and making them public") and a necessary step in shaping educational policy.

As educators develop an understanding of each new group of students, what students can learn now and what they intend to do with their learning, faculty commit themselves to exploring anew the consequences of an education. By exploring how a learner's goals, history, culture, and experiences shape learning, each educator engages with learners' aspirations and values and what it means for learners to enact them in various settings in and after college. By generating action principles, the educator reinforces his or her role in creating and influencing policy, designing and reflecting on practice, and evaluating learning outcomes.

In generating action principles or policy, educators are always implicitly (and often explicitly) engaged in a dialectic with students about "What ought to be learned?" in relation to "What are learners learning?" This is the implicit meaning of a course syllabus, of every comment on every paper; it is the focus of challenge and feedback from instructor to first-year student, or from mentor to apprentice. Its innate tension energizes every lively learning discussion: in a classroom, hallway, counseling office, or on the Internet. The dialectic is a stimulus for considering educational programs as frameworks for learning (for example, general education, disciplines, student assessment, career development) at the level of the course, curriculum, and cocurriculum. In examining these, educators as policymakers are also considering educational assumptions that undergird different programs, and how those curricular and cocurricular frameworks are changing.

As one educator suggested during a conversation about learning as it bears on teaching: "This design is centered on the learner, with the tension between 'Who is learning?' and 'Who is learning for?'" A lot of educational assumptions may or may not begin with learning at its center. So I can see that the question, "How is learning the center of our program?" might easily become part of a conversation about learning that bears on teaching. Too often, learning theories and strategies as they are often taught us are overlaid, and learners are molded to them, rather than the individual learner molding them to him or herself." "Yes," commented another educator. "Usually it is starting with a theory or teaching method and fitting it to the student rather than looking at Where are the students, what do they intend, where do they need to go, or what do you need to do to assist them?" In this design there is not necessarily a beginning or ending; one could jump into the questioning at any point. This makes sense philosophically, because, in practice, we certainly consider who learners are as unique individuals and we tailor things to them." A professional staff advisor jumped in: "Initially, however, learners themselves are not savvy enough to reach out to our assumptions and principles about learning. So as advisors, we are working with learners in a pretty prescriptive, directive way at first so

that after they have a foundation, they can be creative and start reaching out."

Note that the participants immediately reflect on their concrete experience in their own setting. A conversation about learning flows among the many practical problems, questions, and tasks that frame the conversation on any campus and make the fundamental issues about learning concrete. Eventually a conversation about learning that bears on teaching can become part of educators' expertise on any campus, provided it acknowledges the diverse voices, sources of ideas and evidence, and contexts of practice that participants bring to the table, and honors their role in shaping educational policy across an institution. Action principles give life to learning principles by honoring the learning and teaching dynamic; they connect what educators know about learning-to-teaching. Being aware that learning should be integrative, for example, can lead to very different pedagogies depending on the specific teaching context. In this sense, theory, research, and practice become more of an interwoven tapestry than a linear application of one to another. The entire theory of learning that lasts embraces such parallel constructions. Taking teaching seriously involves inquiry on the relationship between student learning and educational processes. Such scholarship will be all the more significant and productive when there are structures and processes in place that support it.

#### **Exhibit 7.1. Generating Action Principles in Role and Context: A Discussion by Professional Staff Advisors.**

If learning that lasts is developmental, then educators have responsibility for knowing where the learner is beginning. But learning is an interactive process. Advisors argued that it is important to communicate to learners that "you are at this level, and now you're going to try to get to the next level"-but that "you will not experience this as chiseled, continuous steps up a mountain." Advisors are particularly aware that different learners blossom at different points in the process. One learner will make progress in a short time at one level, and then "it may take a very, very long time to get where she can make the next leap." For other students, "you can see the light bulb go on-for example, for a transfer student who did poorly in another setting and then finds this curriculum a good fit." Since learning is not linear, advisors need to "celebrate persons where they are, recognize that there's a fuzzy and not distinct starting point, that students are at different points. If something clicks, the learner makes quick progress, but then might plateau, or cycle back through earlier ways of learning."

If learning that lasts is individual, then educators help the learner to think about various consequences to potential actions a student plans to take, rather than direct that learner in one direction instead of another. For each student (direct from high school, or older and work experienced), taking on responsibility for her own learning-whatever shape that responsibility takes-may mean coming to the advising office and saying, "I can't handle this." Advisors don't say, "No, you can't drop that class," or "You have to take this other course first," nor do they turn to the computer and enter a corresponding change in the student information system. Having a conversation about consequences means helping learners find information for making their decisions. Advisors also take responsibility for helping the learner to move on if this setting is really not a good fit. Learning that is individual calls students to take control of their education in relation to the realities of their whole lives, "in spite of external forces that might undermine or even devastate them." Learners, not advisors, ultimately have to make choices in relation to events in their lives and their own values, and "those values may be quite different from ours. What we hope to do is strengthen them in thinking through all of their options instead of limiting themselves to other people's opinions entirely, including ours!"

If learning that lasts is transitional, then educators who are trustworthy themselves develop trust in the learner. They continually recognize that, at some point, students do have to have confidence in this kind of learning. If students imagine that they are just going to take classes-sort of "renting seat time"-they will have to make more of a leap of faith in a curriculum that rests on the idea that learning is transitional but ultimately transformative. "Students who struggle with this idea might be especially bright or experienced, but not able to deal with the kind of dissonance that demonstrating abilities along with content implies: But I have always gotten A's in English,' or I give training workshops across my organization, so why do I have to demonstrate my public speaking in this science course?" The advisor looks for the danger that students might leave college altogether, or return to a learning environment that's more comfortable but where they have not been successful. For a learner who has had particularly harmful experiences in early education, combined with deleterious life events, advisors expect changes in the way the learner views her world, but this can be much too challenging at first. "She may not be used to having a voice and the faculty expect that she develop that, and gradually learn to self assess and talk about her performance-that is very hard. But when she does find her voice, she makes a developmental leap." In seminars for new learners, advisors try to create opportunities to gain students' confidence, to talk directly to them about trusting. "One aspect of this trust comes when staff advisors successfully move students on to a faculty advisor in their major field." However, as another observed, "Some intermediate students have difficulty transferring their abilities from one context to another; they failed to grasp significant connections among concepts. Sometimes we leave them too early." Even as learners become both increasingly independent and collaborative in their learning, they usually begin with structured opportunities, modeling, coaching, and a supportive atmosphere.

If learning that lasts is transformative, then educators help students take an active role, rather than passively select-not just in their studies but also in student organizations, in meetings with faculty and other students, and in life events that happen on campus or in the community that could stunt or stimulate personal learning and growth. Learning that is transformative calls on learners to take up reflection and introspection around the quality of their Valuing in Decision-Making, and for advisors to elicit and support that. There has to be a payoff for spending time self assessing, for gaining knowledge, for improving yourself, if learning is to endure. "If learning that lasts works that way, then it implies that learners can easily have sensory overload because of the variety and depth of what they feel is thrown at them, and what they must wade through-how to make sense of it themselves." That means providing opportunities for learning those skills. Expect students to participate. If they are not engaged in learning that is transformative, they will not succeed. Provide students with structured experiences where learners take active roles, and where learners become seekers, committed to learning new knowledge that is difficult. There are students who do not succeed, at least at that point in time. At registration, advisors often see students who have gone on leave, return, and say, "Now, I'm ready." Advisors admit that there are still some students who might graduate without fully developing learning that is lasting: "That can be painful for the learner and for the faculty. A more transformative kind of learning may not happen until later, well after college."