

1

PSYCHOLOGICALLY LITERATE CITIZENS

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We, the authors of this chapter, who made up Working Group 1, were given a broad conceptual question by the conference steering committee: Why should we rethink how we educate undergraduate students?

We answered the question in two ways. First, we adopted the term *psychological literacy* to synthesize all the scholarly and programmatic work on the teaching of psychology produced since the last American Psychological Association (APA) National Conference in 1991 and now being implemented by faculty in American, Australian, and European postsecondary institutions. Second, we created the concept of *psychologically literate citizens* to integrate global, discipline-based efforts to advance an undergraduate paradigm with a broader, transdisciplinary narrative being written in higher education about ethical and social responsibility.

In our readings to prepare for this conference, we discovered that academic psychologists in Australia and Europe, for example, have learning outcomes statements for their majors, comparable to the *APA Guidelines for the*

Undergraduate Psychology Major (APA, 2007a). Their definitions grew out of national contexts that emphasize accountability, similar to the quality benchmarks approach described in the *American Psychologist* by Dunn, McCarthy, Baker, Halonen, and Hill (2007). In contrast to Dunn et al.'s goal of accomplishing liberal learning outcomes in diverse American settings, the multinational and multicultural texts we examined were closer to undergraduate accreditation models as the necessary platforms for advanced professional training, quality control, and geographical mobility for employment. We believe that psychological literacy may now be a global, common denominator outcome among psychology faculty. In addition, it is a readily accessible metaphor to engage wider audiences and important stakeholders whose image of the psychologist derives more from pop-culture stereotypes than from psychologists' long heritage of scientifically based and reflective pedagogy.

We wanted to push beyond creating a synthesis blueprint of best practices from paradigms of discipline-based undergraduate psychology. There is a broader 21st century narrative taking shape in higher education. It is transdisciplinary, multicultural, pluralistic, and based on information-age demands and student populations that are incredibly diverse, multigenerational, and made up of digital natives. Undergraduate psychology has a rich story to tell and deserves to be a wellspring for this unfolding narrative. Psychologists have the opportunity to challenge an ever increasing number of students to be critical scientific thinkers and ethical and socially responsible participants in their communities. Beyond psychological literacy as a synthesis metaphor, the integrative outcome and aspiration of psychology programs should be about graduating psychologically literate citizens for a global 21st century, starting from the very first course in undergraduate psychology.

In this lead chapter, we synthesize important findings and recommendations from task force reports, spotlighting what must be basic reading for departmental program efforts in support of psychological literacy. Our goal is to broaden faculty horizons by describing exciting efforts on behalf of undergraduate psychology education. Finally, we evaluate the transdisciplinary and global conversations taking place in higher education in support of developing psychologically literate citizens.

We organized the chapter as a progression of ideas from defining psychological literacy and its historical antecedents in American undergraduate education to the global disciplinary convergences around this concept to our interpretations of an emerging transdisciplinary narrative and creating the concept of a psychologically literate citizen—someone who responds to the call for ethical commitment and social responsibility as a hallmark of his or her lifelong liberal learning. To illuminate these two concepts, we created case study stories about students and faculty drawn from our collective experiences.

DEFINITION OF PSYCHOLOGICAL LITERACY

Psychological literacy is a complex term. We chose it, consistent with how the word *literate* was first used (circa 1550), to mean “a liberally educated or learned person” (*Shorter Oxford English Dictionary*, 2002, B1). We construe its connotative value in a similar way as higher education’s emphases on across-the-curriculum outcomes such as writing, ethics, numeracy, information literacy, scientific literacy, and critical thinking. Ideally, it can be the defining quality for the 88,134 baccalaureates in psychology now awarded every year because psychology continues to be one of the most popular disciplines in all the humanities, social sciences, and sciences (Snyder, Dillow, & Hoffman, 2008).

Our description is consistent with *The APA Guidelines for the Undergraduate Major* (APA, 2007a). That text was endorsed as APA policy to be read as a “living document” (p. 7) to stimulate continuing faculty engagement for program development, evaluation, and renewal. The guidelines describe five learning goals consistent with the science and application of the discipline and five learning goals consistent with liberal arts education that are further developed through the discipline. For each goal, there are suggested learning outcomes around which a curriculum may be developed and assessed effectively. The guidelines have university faculty members and administrators as their primary audience. Our goal is to broaden that audience and its understanding of psychology by using a powerful and accessible unifying concept.

Psychological literacy means

- having a well-defined vocabulary and basic knowledge of the critical subject matter of psychology;
- valuing the intellectual challenges required to use scientific thinking and the disciplined analysis of information to evaluate alternative courses of action;
- taking a creative and amiable skeptic approach to problem solving;
- applying psychological principles to personal, social, and organizational issues in work, relationships, and the broader community;
- acting ethically;
- being competent in using and evaluating information and technology;
- communicating effectively in different modes and with many different audiences;
- recognizing, understanding, and fostering respect for diversity; and
- being insightful and reflective about one’s own and others’ behavior and mental processes.

Consider the following two collective experience case studies (and the vivid anecdotes used in chap. 4, this volume) and how they illustrate psychological literacy as an important learning outcome with lifelong benefits.

Case Study 1: The Psychology Major Parent

A father learns from his son's teacher that the boy has been bullying other students. The teacher recommends that the father place his son in a program to improve social skills and offers the name of another parent who could attest to the program's effectiveness. The father wonders whether the problem is severe enough to warrant such intervention and talks it over with his wife, who was a psychology major.

Remembering her many discussions with a faculty mentor and her peers, the wife was uncomfortable basing their family's decision on personal testimonial. She suggested they research the techniques used in the local school program and the qualifications of those who designed it. She insisted on knowing whether the program had been evaluated for its effectiveness.

During college, after taking several thematic courses, she served as an undergraduate research assistant for a biological psychologist who conducted studies on psychoneuroimmunological aspects of aging women's health. Her faculty mentor was a stickler for data-based versus common-wisdom conclusions about diagnoses and treatment interventions.

Whatever their decision, this mother, her spouse, their son, and potentially other teachers and students reaped the benefits of the psychological literacy learned during her undergraduate career.

Case Study 2: General Psychology's Vital Legacy and Civic Discourse

A local newspaper broke the story of a planned group home for the developmentally disabled in an affluent suburban community. Although the town residents were mostly college educated and upper middle class and supported the concept in the abstract, they suffered from the not-in-my-backyard syndrome. Their contention was that it would not be good for their children to see and be exposed to the behavior of young adults at the group home. They also worried that property values would decline. Vehement opposition was the norm. Town meetings were held to defuse the situation.

One resident had taken a general psychology course in college and learned about similar communities where group homes had successfully been integrated into the community. His instructor's theme for the whole course was on challenging common stereotypes about human behavior through critical thinking and effective arguments.

The resident spoke eloquently at a town meeting, emphasizing the humanity of the young people who would be served and reflecting on his professor's discussion of the many variations of human behavior. This general psychology student alumnus suggested the townspeople look for data instead of relying only on their assump-

tions. He asked them, too, to consider whether their perceptions would be different if they had a sister or brother or child with the needs of this population. As empathy began to develop, the attendees became more open to considering the proposal and thinking beyond their surface reactions to a perceived problem.

Despite having taken only one course in psychology, this student eloquently articulated the scientific approach to problem solving and understood the group dynamics of stereotyping and prejudice in the community situation. He demonstrated the core concepts of psychological literacy that can become even more sophisticated beyond the first course in the discipline.

As illustrated in the two case studies, a basic psychological literacy is a reasonable expected outcome, even after just one course. Introduction to Psychology is now a centerpiece of general education requirements in the American curriculum; it is the second (behind Basic English Composition) most frequently taken course by college graduates (National Center for Education Statistics, 2008). This literacy becomes more sophisticated in the nursing or education or business administration major who is required to take general psychology and 2 to 3 other cognate courses (e.g., abnormal and health psychology, adolescent psychology and tests and measurement, group dynamics and organizational and industrial psychology). We expect that psychology majors, having taken 10 to 12 courses organized around established goals (APA, 2007a), are very sophisticated in their understanding and application. Achieving these outcomes is a developmental process mapped by Halonen et al.'s (2003) rubric for scientific thinking. It is a cognitive and affective process that intersects with other liberal learning outcomes and the increasing emphasis on critical thinking being required in humanities, social sciences, and ethnic and gender studies undergraduate courses, for example. At the program level, Dunn et al.'s (2007) quality benchmarks are an effective guide. In Exhibit 1.1, we adapted these authors' schema in the domains of curriculum, student learning outcomes, and faculty characteristics that best promote the achievement of psychological literacy.

HISTORICAL ANTECEDENTS

Arriving at a convergence about learning and assessing outcomes and a disciplinary paradigm for undergraduate education did not happen overnight (see McGovern, 2004; McGovern & Brewer, 2003, 2005; Puente, Matthews, & Brewer, 1992, for historical reviews). APA sponsored multiple national conferences and surveys of undergraduate education (Lloyd & Brewer, 1992), beginning after World War II and continuing with the 80 psychologists who gathered at the University of Puget Sound in 2008. The St. Mary's Conference in 1991 was an energizing catalyst that continued with the Psychology Partnerships Project (Andreoli-Mathie & Ernst, 1999) for the production of a cornucopia of materials listed as follows in chronological order:

EXHIBIT 1.1
Quality Benchmarks for Psychological Literacy and Becoming
Psychologically Literate Citizens

Curriculum

- Executes curricula so students demonstrate psychological literacy;
- Sequences curricula to reflect developing student cognition;
- Provides balanced curricula so students are able to evaluate and integrate elements of a multifaceted discipline, and can articulate the outcomes of transdisciplinary learning;
- Integrates multiple perspectives in a critical, complementary manner;
- Infuses ethics training at appropriate levels of the curriculum;
- Integrates diversity and global issues at multiple levels of the curriculum; and
- Systematically plans for community activity (e.g., service learning) to help students integrate their learning and become psychologically literate citizens.

Student learning outcomes: Skills of psychologically literate citizens

- Writing—implements systematic developmental plan for required writing;
- Speaking—requires developmental oral performances that may culminate in presentations in professional contexts;
- Research—requires scholarship as a performance obligation that integrates content and skill;
- Collaboration—embeds multiple collaborative activities requiring preparation and feedback so that students learn how to listen with empathy and understand the group dynamics of teamwork, conflict resolution, and social engagement; and
- Information literacy and technology—refines use of both sets of skills through systematic learning.

Faculty characteristics

- Models the qualities of psychologically literate citizens as members of diverse academic communities;
- Engages students through effective and creative pedagogical strategies;
- Pursues developmentally appropriate research agenda;
- Develops successful strategies to secure resources that enhance autonomy;
- Pursues enhanced opportunities for community service that can benefit from faculty expertise;
- Enacts the values of the discipline through service and leadership roles in organizations;
- Demonstrates accessibility with appropriate boundaries and actively mentors;
- Models ethical behavior and facilitates its promotion by others; and
- Initiates professional development and renewal activities for teaching and learning.

Adapted from "Quality Benchmarks in Undergraduate Psychology Programs," by D. S. Dunn, M. A. McCarthy, S. Baker, J. S. Halonen, and G. W. Hill, 2007, *American Psychologist*, 62, 650–670. Copyright 2007 by the American Psychological Association.

- *The Teaching of Psychology: Essays in Honor of Wilbert J. McKeachie and Charles L. Brewer* (S. F. Davis & Buskist, 2002);
- *Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists* (APA, 2003);
- *A Rubric for Learning, Teaching, and Assessing Scientific Inquiry in Psychology* (Halonen et al., 2003);

- *Toward an Inclusive Psychology: Infusing the Introductory Psychology Textbook With Diversity Content* (Trimble, Stevenson, & Worrell, 2003);
- *Measuring Up: Educational Assessment Challenges and Practices for Psychology* (Dunn, Mehrotra, & Halonen, 2004);
- *Best Practices for Teaching Introduction to Psychology* (Dunn & Chew, 2005);
- *Internationalizing the Undergraduate Curriculum* (Lutsky et al., 2005);
- *National Standards for High School Psychology Curricula* (APA, 2005);
- *Standards and Outcomes: Encouraging Best Practices in Teaching Introductory Psychology* (R. A. Smith & Fineburg, 2005);
- *Handbook of the Teaching of Psychology* (Buskist & Davis, 2006);
- *APA Guidelines for the Undergraduate Psychology Major* (APA, 2007a);
- *Quality Benchmarks in Undergraduate Psychology Programs* (Dunn et al., 2007); and
- *Teaching, Learning, and Assessing in a Developmentally Coherent Curriculum* (Appleby et al., 2008).

Like our chapter 3 colleagues who wrote about curriculum and our chapter 9 colleagues who wrote about desired outcomes, our readings and analyses of all these resources led us to the conclusion that there now is a consensus in undergraduate psychology education that includes

- defined and measurable student learning outcomes,
- multiple measures and methods to assess these outcomes,
- a sophisticated pedagogy for diverse student populations who are now citizens of a global community, and
- quality benchmarks required for academic reviews and program development.

These are the means to achieve what we label as *psychological literacy* as we try also to capture the imagination of broader audiences and constituencies. As we describe in the next section, our judgment about this consensus was reinforced by discovering similar outcome statements from psychology faculty groups around the world.

PSYCHOLOGICAL LITERACY IN A GLOBAL CONTEXT

Many of us were ignorant about the outcomes and processes of global psychological education before we met to consider this question: Why should we rethink how we educate undergraduate students? The more we learned,

the more we found psychological literacy as a global concept even more compelling.

Ministers of education and university leaders from 29 European countries met in Bologna in 1999 to create a European Higher Education Area (EHEA). By 2007, participating countries numbered 46. They meet biennially to arrive at consensus objectives that will not homogenize national educational systems but provide tools to connect them. By 2010, the EHEA hopes to define comparable degrees completed in a three-cycle structure (bachelor's, master's, doctoral degrees) with generic descriptors for each cycle based on transparent learning outcomes, competencies, and credits for qualifications within the first and second cycles. The operational goal is to shift from a degree structure based on years of study to a European Credit and Transfer System that is student centered and outcomes based. All participants are committed to actively promote graduates' mobility, quality assurance in programs, and emphasize lifelong learning that will make the EHEA globally competitive for faculty and students.

From another two continents, 27 ministers and senior officials from across the Asia-Pacific region issued The Brisbane Communique in 2006 with comparable statements about higher education quality assurance principles. They also committed to meet biennially to integrate their work with the European Bologna Process.

The Association of Universities and Colleges of Canada issued their statement about the Bologna Process in 2008 with their intention to engage with their European partners in this now-global renewal process in higher education. The disciplinary product of the Bologna Process that captured our attention was the EuroPsy, a European certificate in psychology.

It is beyond the scope of this chapter to describe the sociopolitical-economic assumptions and operational details of global activities on undergraduate education in general and in disciplinary psychology in particular. We offer only a sampling to introduce the reader to a larger vision about psychological literacy that we see emerging outside of American higher educational institutions. Interested faculty members will find practical information at the home Web site of the Association for International Educators (<http://www.nafsa.org>), and more conceptual and political essays at the home Web site of the Institute for Higher Education Policy, which tracks postsecondary education issues around the world (<http://www.ihep.org>).

Europe

In the Bologna Process, faculty from every academic and professional area of study meet regularly to define their outcomes and assessment strategies. The European Federation of Psychologists' Associations agreed on standards for the first phase or cycle (bachelor's degree). Programs must provide a broad introduction to the knowledge and skills of psychology as a scientific

discipline. Second-phase or second-cycle (master's degree) programs must prepare students for autonomous practice in a chosen field of applied psychology. J. E. Hall and Lunt (2005), Lunt (2002, 2005), and Peiro and Lunt (2002) have provided excellent introductions, summarized aptly in this way: "The nature, extent, and implications of this process are still unclear, in particular whether it is part of a 'harmonization' or 'convergence' project or rather more of a comparability and equivalence initiative" (Lunt, 2005, p. 86).

The *EuroPsy: The European Certificate in Psychology* (2006) promotes quality assured psychological services for consumers and mobility for practitioners across Europe. The first phase or cycle must include an orientation to psychology (e.g., methods, history, specialty fields), explanatory theories (e.g., cognitive, psychobiology, developmental, social, clinical and health, work and organizational psychology, psychopathology), technological theories (e.g., psychometrics), skills (e.g., assessment, interviewing, test construction, group interventions), methodology (e.g., experimental, qualitative and quantitative methods, statistics, data acquisition and analyses), academic skills (e.g., bibliographic skills, reading and writing, ethics), and an understanding of nonpsychological theories (e.g., epistemology, philosophy, sociology, anthropology). The second phase or cycle must prepare students to be specialized practitioners after completing a master's degree or may lead to advanced study at the doctoral level.

The Bologna Process and the EHEA also promote country-by-country translation statements for specific majors. For example, the United Kingdom's (UK's) Quality Assurance Agency for Higher Education (2007), on the recommendations of the British Psychological Society, the Association of Heads of Psychology Departments, and the Higher Education Academy Psychology Network, published benchmarks, recognizing that "psychology is one of the most popular subjects in HE [higher education] in the UK. It is the largest scientific discipline and the second largest discipline overall" (p. 1).

The defining principles for UK undergraduate psychology programs include scientific understanding, multiple perspectives, real-life applications of theory to experience and behavior, role of empirical evidence for theory and data collection, research skills, and developing increasingly sophisticated levels of knowledge for appreciation and a critical evaluation of the human experience. The UK statement defines measurable learning outcomes in subject knowledge and in subject-specific and generic skills. Our analyses suggest that these outcomes are very similar to the American psychology goals and learning outcomes (APA, 2007a). The sections in the UK statement on teaching, learning, assessment, and benchmark standards also matched with the best practices in assessment described in the APA handbook *Measuring Up: Educational Assessment Challenges and Practices for Psychology* (Dunn et al., 2004) and the quality benchmarks statement in Dunn et al. (2007).

Australia

In Australia, undergraduate psychology programs provide their students with broad foundational knowledge as well as research methods skills, data analysis, and report writing in a 3-year course of study, followed by an honors year prior to graduate professional training (Australian Psychology Accreditation Council, 2008). In a comprehensive national study, Lipp et al. (2006) evaluated the methods used in teaching psychology in 33 Australian universities and recommended that the next steps should be to delineate graduate attributes (i.e., outcomes) for development and assessment in undergraduate psychology (see Cranney & Turnbull, 2008, for how the delineated outcomes overlap with APA, UK, and Bologna student learning outcomes). Lipp et al. also recommended that the quality assurance methods implemented by most universities should be consistent with best practices for continuing renewal (e.g., employer surveys, senior capstone surveys). Undergraduate programs must intentionally integrate internationalization, indigenous issues and cultural competence training, and also promote increasing indigenous participation at all levels of psychology training. Moreover, Lipp et al. argued that it was essential for faculty to articulate their goals and learning outcomes to students beginning with the very first course in psychology.

The Australian Learning and Teaching Council that sponsored the Lipp et al. (2006) study group funded another study group by Cranney et al. (2008) to articulate a vision statement titled "Psychology Leading Australia Toward Better Health and Wellbeing." These authors asserted that in a global world psychologists must educate many public audiences, that ours is both a discipline and a profession, and that both scientific and practitioner activities contribute to individuals' and societies' well-being.

Summary of Emerging Perspectives on Psychological Literacy

It is beyond the scope of this chapter to complete a fine-grained evaluation of all that is emerging in each individual country's discussions about undergraduate psychology in Africa, Asia, the Americas, and Europe, although we have much to learn from their individual contexts and developing responses by their psychological associations and higher education groups. In this chapter, we focused on Europe and Australia because their texts illuminated pluralistic possibilities that synergized sociocultural, political, economic, and geographical differences. The value we have placed on pluralism when considering the diversity within American postsecondary institutions and their missions is even more important when trying to expand our horizons for global undergraduate education. Comparing many discipline-based groups' recommendations for enhancing quality, we concluded that in undergraduate psychology there is now a sophisticated emphasis on student learning outcomes that should be judged as deeply responsive to many publics' de-

mands for accountability. The unifying concept of psychological literacy has great potential to capture the imagination of diverse global stakeholders invested in transforming higher education. With common understandings and rigorously defined standards, there still remains a healthy diversity in undergraduate programs. This was a commonly espoused principle in all that we read, with a bright spotlight shining on the universal demands for citizens' well-being and quality health care, and a need for greater commitment to all populations who have still-limited participation in the fruits of economic growth. Psychologists need to be leaders in problem solving in these areas, especially because we can contribute integrated scientific and practitioner strengths.

This conference's question—Why should we rethink how we educate undergraduate students?—could be truly transformative if psychologists probe even deeper: Why and how should undergraduate psychology education enhance the postbaccalaureate global alternatives for psychology's students by promoting psychological literacy? As psychologists understand and challenge their students' assumptions and stereotypes, teaching an ever-increasing diversity of students who take psychology courses and who major in this field, they can now heighten their expectations. Why and how should psychologists achieve the goal of educating sophisticated, psychologically literate citizens—future leaders—committed to acting in socially responsible ways in local, national, and global contexts. Psychologists' collective and sustainable futures depend on achieving this outcome, so they must rethink now. Consider the following case study as a preview of what we consider possible; its themes are consistent with the principles espoused in chapter 2 of this volume.

Case Study 3: Professing Literacy and Citizenship

Each semester, Dr. Cantrell teaches research methodology, analyzing and resolving a problem identified by a community partner. She models how to engage in active strategies for addressing problems encountered daily among the poor, probing her students' assumptions and biases about rural versus urban populations, the differing experiences of racial and ethnic groups, and how new-to-America immigrant families add yet another dimension to their developing sensitivities.

After meeting with the principal of the local elementary school, Dr. Cantrell discovered that very few students were making appointments with the new guidance counselor. The principal was considering terminating the guidance counselor so that monies could be better spent on other staff.

Dr. Cantrell posed this problem to her class: Why weren't the school children meeting with the guidance counselor? She guided her class to generate hypotheses about the problem and its causes and to seek out empirical studies that addressed related issues. They designed a survey instrument and

collected their data, discovering that the children had little understanding of the role of a guidance counselor. They learned that no school counselor programming was undertaken by either the principal or the counselor.

Dr. Cantrell took an extra step so that her students fully understood the scientific and practical implications of this field research experience. They reflected on what knowledge and skills they had gained as a result of the project. They examined how they used theories and methods from their psychology courses and coursework in other disciplines. They evaluated whether their efforts were worthwhile and if they would be confident to undertake such a project by themselves in the future. Dr. Cantrell asked her students what other educational inputs they needed to increase their confidence. The students summarized their reflections in their capstone portfolios.

Dr. Cantrell's project and her methods are not the only means to achieve these ends. The chapters that follow offer myriad approaches, such as service learning internship placements, community partnerships, interdisciplinary collaborations, and problem-based learning. Dr. Cantrell modeled the qualities of psychological literacy and taught her students about its powerful effects. Their real-world experience generated benefits during the semester and will motivate lifelong learning to be sophisticated psychologically literate citizens.

PSYCHOLOGICALLY LITERATE CITIZENS

There is a rich narrative being composed in global higher education about psychologists' social responsibilities and commitments. This story is transdisciplinary, multicultural, multigenerational, and replete with 21st century themes and characters. Psychologists need to build on an already sturdy disciplinary platform for undergraduate psychology and to connect to this larger narrative about liberal learning. We propose the concept of the psychologically literate citizen to connect psychology faculty and students to this narrative, and we offer the following conceptualization to jumpstart discussion among our colleagues and other readers.

Psychologically literate citizens intentionally build on their psychological literacy, integrating it with the interdisciplinary and extracurricular lessons learned during their undergraduate experiences. They try to grow more sophisticated as ethical and socially responsible problem solvers. It is an achievable outcome when faculty provide students with opportunities to use their psychological literacy outside formal learning environments, and they begin to do so of their own initiative to accomplish goals that are important to them, their families, their colleagues, their communities, and to the larger society, state, nation, or world.

The term communicates a palette of possibilities, a more ambitious but absolutely necessary outcome for our graduates and an agenda for faculty as

scientist–educators. The term reflects contemporary understandings of liberal learning by building on psychological literacy but pushes that expectation to ask: How will future leaders solve problems in a transdisciplinary, global, and information age? Psychologically literate citizenship describes a way of being, a type of problem solving, and a sustained ethical and socially responsive stance towards others. (In chap. 4, this volume, the authors use vivid anecdotes and develop systematic proposals for fully engaging the many different students whom psychologists now encounter in their classes.)

A Transdisciplinary Narrative

Since the publication of “Liberal Education, Study in Depth, and the Arts and Sciences Major—Psychology” (McGovern, Furumoto, Halpern, Kimble, & McKeachie, 1991), the Association of American Colleges and Universities (AAC&U) and the APA have synergized efforts on behalf of undergraduate education. The AAC&U’s reports enriched psychologists’ understandings of psychologically literate citizens who become committed to the principles of lifelong learning and problem solving on behalf of a diverse society and social justice.

In *Greater Expectations: A New Vision for Learning as a Nation Goes to College* (AAC&U, 2002), a blue-ribbon panel proposed that faculty educate students to become “intentional learners” (p. 21) empowered by intellectual and practical skills, informed by knowledge and different ways of knowing, and ethically responsible for their personal actions and civic contributions. “A liberal education is a practical education because it develops just those capacities needed by every thinking adult” (p. 26). In a follow-up report, Huber and Hutchings (2004) concluded that “intentional learning” becomes “integrative learning” when the campus, college, or department creates opportunities and spaces for “connecting skills and knowledge from multiple sources and experiences; applying theory to practice in various settings; utilizing diverse and even contradictory points of view; and, understanding issues and positions contextually”; the major fields and professions “serve as the foundations, but integrative learning goes beyond academic boundaries” (p. 13). Humphreys and Davenport (2005) found that when students were asked about the outcomes of their liberal learning during college, they were not very explicit. Their responses stayed at the level of general attitudes and intellectual dispositions (e.g., personal maturity, self-management, teamwork skills) rather than more reflective comments about values or ways to transfer and apply that learning outside the classroom.

Three formative themes are central in the AAC&U’s efforts to renew liberal learning: across-the-curriculum emphases on intellectual inquiry, expanded opportunities for social responsibility and civic engagement, and integrative learning (Schneider, 2003). In *College Learning for the New Global Century: A Report From The National Leadership Council for Liberal Education*

TABLE 1.1
Comparison of Ranked Public Expectations for a College Education With
Those Identified by Transdisciplinary Faculty and Psychologists

Public expectations	AAC&U	APA
1. Career preparation		Career development
2. Sense of maturity	Foundation and skills for lifelong learning	Personal development
3. Civic responsibility	Civic involvement and engagement	Sociocultural and international awareness; applications
4. Leadership skills	Teamwork and problem solving; synthesis and integrative learning	Applications of psychology
5. Postgraduate preparation	Knowledge of human cultures, physical and natural world; quantitative literacy	Knowledge base of psychology; research methods
6. Values, morals, and ethics	Ethical reasoning and action	Values in psychology
7. Tolerance and cultural respect	Intercultural knowledge and competence	Sociocultural and international awareness
8. Problem solving and analysis	Inquiry and analysis; critical and creative thinking	Critical thinking skills
9. Communication skills	Written and oral communication	Critical thinking skills
10. Computer skills	Information literacy	Information and technical literacy

Note. Data from "Summary of Existing Research on Attitudes Toward Liberal Education Outcome for the Association of American Colleges and Universities," by Hart Research Associates, retrieved April 28, 2008, from <http://www.aacu.org>; "College Learning for the New Global Century: A Report from the National Leadership Council for Liberal Education and America's Promise," by the Association of American Colleges and Universities, retrieved April 28, 2008, from <http://www.aacu.org/publications>; and "APA Guidelines for the Undergraduate Psychology Major," by the American Psychological Association, retrieved November 11, 2008, from http://www.apa.org/ed/psymajor_guideline.pdf

& *America's Promise* (AAC&U, 2007), the authors identified four outcomes that should commence in secondary schools and continue at successively higher levels in college: knowledge of human cultures and the physical and natural world, intellectual and practical skills, personal and social responsibility, and integrative learning.

As scientists, we asked the question whether the AAC&U outcomes had external validity. Hart Research Associates (2004) summarized recent survey research on many stakeholders' perceptions of desired outcomes for a college education. In *Should Colleges Focus More on Personal and Social Responsibility*, Dey and Associates (2008) continued to build an empirically based case for the AAC&U student learning outcomes. In Table 1.1, we compare and contrast data from the public perceptions with the blue-ribbon task force statements made by AAC&U (2007) and the *APA Guidelines for the Undergraduate Psychology Major* (APA, 2007a).

A core theme in the transdisciplinary narrative is a demand for public accountability reported in Hart Research Associates' (2008) *How Should Col-*

TABLE 1.2
Employers' Report Card on Graduates' Preparedness in 12 Key Areas
and Needed Improved Assessments

Area	Mean rating (Range = 1–10)	% well prepared (Ratings of 8–10)	% not well prepared (Ratings of 1–5)
Teamwork	7.0	39	17
Ethical judgment	6.9	38	19
Intercultural skills	6.9	38	19
Social responsibility	6.7	35	21
Quantitative reasoning	6.7	32	23
Oral communication	6.6	32	23
Self-knowledge	6.5	28	26
Adaptability	6.3	24	30
Critical thinking	6.3	22	31
Writing skills	6.1	26	37
Self-direction	5.9	23	42
Global knowledge	5.7	18	46

Assessment practices needing to be enhanced	Employers' recommendations (%)
1. Faculty-evaluated internships or community-based learning experiences	50
2. Essay tests for problem-solving, writing, analytical-thinking skills	35
3. Electronic portfolios of students' work with examples in key skill areas and faculty assessments of them	32
4. Faculty-evaluated senior projects demonstrating depth of skill in major and advanced problem solving writing, and analytical reasoning skills	31
5. Normed tests that compare students on critical thinking	8
6. Multiple-choice tests of general content knowledge	5

Note. Adapted from "Summary of Existing Research on Attitudes Toward Liberal Education Outcome for the Association of American Colleges and Universities," by Hart Research Associates. Retrieved April 28, 2008, from <http://www.aacu.org>. Reprinted with permission of the Association of American Colleges and Universities.

leges Assess and Improve Student Learning: Employers' Views on the Accountability Challenge. In Table 1.2, we summarize the employers' report card on graduates' preparedness and their recommendations for improved assessment practices. Once again, there is an excellent match between the employers' perceptions and the efforts already being made by psychologists for authentic assessments of what we call psychological literacy; even a cursory review of the table of contents in APA's sponsored book *Measuring Up: Educational Assessment Challenges and Practices for Psychology* (Dunn et al., 2004) attests to this match.

We found additional support for our proposal of educating psychologically literate citizens in the cross-disciplinary higher education research literature. After analyzing the results from 2,600 evaluation research studies published from 1990 to 2002, Pascarella and Terenzini (2005) drew conclusions about the main effects of college. Faculty can be confident of the follow-

ing student changes (in order of greatest magnitude): epistemological sophistication or maturity, reflective judgment, liberal arts competencies, declines in authoritarianism and dogmatism, principled moral reasoning, and critical thinking skills (pp. 572–578). Integrating these cross-disciplinary effects with psychological literacy outcomes will require whole-department discussions as well as making explicit connections through curricular requirements and team-teaching efforts with faculty across the campus.

Psychology educators recognize that creating psychologically literate students is a developmental process. Beginning psychology students come to the classroom with strong beliefs and attitudes about the nature of human behavior, some of which are supported by psychological science and some of which are not. They assert an unsophisticated common sense psychology, using sound-bite statements that mimic popular culture and unscientific attitudes and stances. Unlearning such attitudes and beliefs takes a substantial amount of cognitive effort and courage on the part of both educators and students. As faculty, psychologists likely have heaved sighs of relief at simply disabusing students' erroneous preconceptions. Their teaching efforts plant the seeds for lifelong learning effects, as we tried to illustrate in the two student case studies at the beginning of this chapter. Although psychological literacy remains an admirable goal, focusing only on the literacy aspect is shortchanging its powerful effects. Having gained a reasonable amount of psychological literacy does not ensure full-fledged psychologically literate citizens. Cognitive and affective insight must go hand-in-hand with behavioral changes, as we tried to illustrate in Case Study 3.

Why do we propose expecting psychologically literate students to focus on more than themselves, to value applying their knowledge, and to develop the shared virtues of globally oriented values? Citizenship is one of the character strengths of the virtue of justice (C. Peterson & Seligman, 2004). It is a characteristic woven into the fabric of healthy community life and celebrated in historical, multicultural, sacred, and secular texts (Dahlsgaard, Peterson, & Seligman, 2005). Psychologically literate citizens learn to lead by intentionally and courageously using their psychological literacy for sustained community benefit. They do so in large and small efforts at making a difference. We offer the following food for thought about how psychologists sometimes provide their expertise to solve problems, and teach their students to do so in appropriate ways, as well:

- A new parent sees an advertisement for a set of DVDs designed to make children smarter and wonders whether to purchase them;
- a new dog owner wants to teach her dog to be vigilant about strangers but not to bark incessantly;
- a person suffering from depression must decide whether to ask for medication from the family physician or look for a therapist;

- a salesperson struggles to remember the names of his many diverse customers;
- a business manager desires to use effective human resource strategies to increase employee productivity; and
- a Red Cross official wants to educate leader-spokespersons to deliver culturally sensitive and effective endorsements of an inoculation program in another country.

Undergraduate psychology—whether in one course, several, or a full major—offers the very best potential of liberal learning. It is at the juncture of the humanities and the sciences where students gain the human-focused values and the scientific tools necessary to see and to care about the human condition and to improve it. The 21st-century world has shrunk. Global problems intersect with local problems. Human behavior has both constructive and exciting and destructive and depressing consequences and possibilities. Psychologically literate citizens must learn to patiently and persistently work through the still-existing divisions among peoples and to challenge their prejudices and lack of full understanding about the differences of age and generational cohorts, class, disabling conditions, ethnicity, gender, race, religion, and sexual orientation. Psychologists must educate students who can act as stewards to help ensure the survival of the planet and to actively contribute to the betterment of all peoples.

Recall the opening question for this chapter: Why should we rethink how we educate undergraduate students? The more we read from the transdisciplinary narrative, the more new questions emerged for us. How can faculty and students learn to teach and to learn sustainably? How can psychologists motivate their students, colleagues, families and neighbors, and thus themselves to think ethically about individuals and systems? Educating others about the science and practices of psychology has consequences for the health of local, national, and global communities. Psychologists have built effective programs to achieve and measure the literacy outcomes. Is it now time to make the commitment to educate themselves and their students as psychologically literate citizens and to engage in new scholarship on teaching and learning to discover how best to achieve this outcome?

In our final case study, we illuminate the potential in making such a commitment. (In chapter 4 of this volume, readers meet Clarice, another undergraduate exemplar with a similar story.)

Case Study 4: From Online General Psychology to a Lifelong Commitment

Maxine Cooke-Mendoza lives in a southern rural county and represents a congressional district with African American, Asian, Latino, and Anglo populations. Despite their many, many differences, her community

has worked through several economic and social catastrophes and has tried to demonstrate traditional values whereby neighbors speak to each other, volunteer their time to help others, and generally care about those who are less fortunate.

After high school, as the oldest sibling in her family, she went to work full time but took several online courses through her local community colleges. She discovered psychology and became an asynchronous learner and active participant in the introductory course designed by an enthusiastic and highly interactive instructor. She recalls how he constantly addressed students' real world questions with empathy and with many "minihomilies" about the importance of critical thinking and scientific analyses of problems.

After three semesters, without the financial resources to attend college, she enlisted in the military so that she could later reap the educational benefits afforded to veterans. Little did she know that she would need both the medical and the educational benefits. In a wartime combat environment, she was wounded severely and lost both her legs. Three years of rehabilitation followed. Dealing with both depression and dread about the future while hospitalized, she recalled often the lessons learned from her introductory psychology instructor and called him. He got her involved in an online program to finish her associate's degree, and after being discharged, she enrolled full time in the local public university with psychology as her major.

Maxine always felt challenged to participate in developing her own academic program. There were great interactions among students and professors, allowing real dialogue to grow and flourish. Her courses were intellectually challenging, but she thrived most on the feedback from regular assessments of what and how she was learning. Hands-on experiences beginning with her experimental methods lab, followed by community data gathering projects in social psychology, and a service learning capstone internship consolidated her personal confidence and inspired her emerging commitments. It took 4 more years for her to complete her baccalaureate, and through an unexpected set of circumstances, Maxine was nominated for local political office and won. Three years later, she was elected to her current statewide legislative position.

She thinks it important to ask and does, often: How did an undergraduate degree in psychology prepare someone first for the military, then for devastating medical problems, then for success as an online student, then for full-time undergraduate work and off-campus civic engagements, then for getting elected, and now for surviving the rigors of political office? Although Maxine would not be familiar with the term psychological literacy, its critical ingredients underlie the answers to all the above questions. It helped her to think more clearly about complex problems; understand the dynamics of multiethnic team work and conflict resolution; probe her assumptions about health and wellness; and critically evaluate alternative decisions about her educational, medical, and career options.

After graduation, she wanted to "give back" in gratitude to all those who had helped her. This lifelong motivation and how she lives is what psychologists envision for alumni who become psychologically literate citizens.

RECOMMENDATIONS AND CONCLUSION

We celebrate the continuing disciplined work, reflection, and creative energy of the many psychologists who built a well-defined paradigm for undergraduate education. Psychologists' students can be justifiably proud of their choice to study psychology. What they learn will be of lifelong benefit.

Psychologists must narrate this story to university administrators, employers, legislators, and the American public. Outcome stories, like our case studies, inspire, and motivate.

Our story's theme is psychological literacy. Its main characters are psychologically literate citizens in American and global psychology settings who contribute to the creation of a transdisciplinary narrative.

After evaluating the importance of psychological literacy for future undergraduate education outcomes, we have only one recommendation: Read the next chapters to discover many innovative means for achieving psychological literacy and for increasing the numbers of alumni we can truly call psychologically literate citizens.

These are ideas whose time has come and just begun.