Tomlinson testified on Goal 5 of the National Education Goals, which states that "every major American business will be involved in strengthening the connection between education and work," and particularly on methods to assess progress toward that goal in higher education and postgraduate training. The testimony proposed that the National Education Goals should maintain a "check and balance" approach to progress assessment by evaluating how qualified businesses are to contribute to the competence of the target populations, what these businesses contribute to the partnership, and how they contribute. Participating businesses should demonstrate competence in contributing to this goal in ways that are supportive of and informative of environmental ethics and socio-economic equity. Specifically, (1) student participants in partnerships should be able to demonstrate how or why each level of skill that they learn contributes to the ultimate product, goal, or gain; (2) high-tech instructional services should employ staff to assist users in developing competencies; (3) student support service programs for disadvantaged and minority college students should be established where they do not exist and carefully assessed where they are in place; and (4) critical thinking, communication, and problem solving assessments should include relevant, contemporary tasks. Attached are the text of Goal 5 and a list of assessment elements.

(JB)
Testimony: Public Hearing on the Recommendations of the Goal 5 Task Force Report of the National Education Goals Panel on Postsecondary Education and Collegiate Assessment

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Testimony for the National Education Goals Public Hearing at the AERA Annual Meeting, Atlanta, April 16, 1993.
Testimony: Public Hearing on the Recommendations of the Goal 5 Task Force Report of the National Education Goals Panel on Postsecondary Education and Collegiate Assessment

I respond through a variety of lenses, vantage points, or perspectives which include my focus on minority and multicultural concerns, on postsecondary developmental education or academic support services, and on citizenship preparedness through issue awareness and shared perspectives of common ground. More specifically, my responses are directed by my experience as a female and African-American assistant professor of reading in the Division of Developmental Studies at the University of Georgia, as a principal investigator for the National Reading Research Center (funded by the Department of Education) and, as a member of the national teaching faculty for the Kettering Foundation's National Issues Forum program.

I will address the recommendations in the Report to the National Education Goals Panel from the Task Force on Assessing the National Goal Relating to Postsecondary Education (National Education Goals Panel, 1992) in the order of discussion of the objectives presented in the Task Force report (See Appendix A). Primarily, I will address both concept and means of assessing progress toward meeting Goal 5 in the areas that are of most critical concern to me.

I will begin with a response to the first objective of Goal 5—that "every major American business will be involved in
Postsecondary National Goals

strengthening the connection between education and work." My response to this proposition is that, while we assess the abilities and levels of proficiencies that adult Americans gain from business and education partnerships, we should maintain a "check and balance" approach by also assessing 1) how qualified these businesses are to contribute to the competence of the target populations in postsecondary education 2) what these businesses contribute to the partnership, and 3) how they contribute.

In keeping with the goal of developing knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship, participating businesses should demonstrate competence in contributing to this goal in ways that are supportive of and informative of environmental ethics and socio-economic equity. Perhaps, if businesses meet, maintain, and impart these basic standards to employees and students, then our qualitative as well as quantitative assessments of how well adult Americans meet the second objective of Goal 5 will indicate more meaningful preparedness for global challenges and citizenship participation.

In meeting the second objective, all workers who do have the "opportunity to acquire knowledge and skills from basic to highly technical" [levels] in public and private institutions or business enterprises should be able to demonstrate an understanding of how or why each level of skill or proficiency
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that they are taught contributes to the ultimate product, goal, or gain of the work that requires this skill. (One of the "side effects" from failing to teach to this end in schools and in the workplace is that students and workers often fail to identify or realize the relationship between the acquisition of skills performance and their optimum potential in the workplace and smaller or larger communities.

In response to the third objective for Goal 5, on a substantial increase in the "number of high-quality programs, including those at libraries . . . to serve more effectively . . . part-time and mid-career students," a "check and balance" assessment seems appropriate here also. High quality programs that utilize high-tech instructional and information services should be accountable for employing staff to assist users in developing user competencies, and the users--students in post-secondary education--should be able to demonstrate such competencies. There are large numbers of part-time and mid-career students who are enrolled in institutions of higher education, but whose daily schedules are so tight that they are limited in the amount of time that they can spend accessing information themselves, even though library technologies have speeded these processes up. Also, since many part-time and mid-career students have not been born and bred on the new technologies that high quality programs will use for the delivery of services, they are often intimidated. The Department of
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Labor/NCES Study is aligned with this concern to the extent that it lists the "understanding and use of technology" as one of five skills to be assessed.

From my experience in postsecondary developmental education (also known as academic support services) and my perspective of the history of these programs, my response to the fourth objective of Goal 5 is as follows. In order to increase the proportion of qualified students, including minorities, who enter and persist, there is a need for careful assessment of the existing support programs and the establishment of such services where they do not exist. Where high quality programs of academic support have been implemented for several years and monitored on the basis of student performance from enrollment to completion of degree, students who received this assistance have performed as well as those who entered and studied at the same institution without receiving these services. In addition, these students have, in many cases, outperformed their non-provisional or regular-admit cohorts in some disciplines of study and have also persisted to degree completion in significant numbers.

Recent statistics reported by the Southern Regional Education Board indicate findings in the 15 southeastern states, consistent with other state and national studies, on the number of students entering college who are not ready to do college level work. In the report, Abraham (1988) states that "36 percent--close to four of ten--first-time entering college
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fresheren need additional academic support in reading, writing or mathematics." It should be noted here that numerous institutions of every caliber have delivered such services under various headings since the late 1800s (Tomlinson 1989).

For these reasons, the Table on Persistence and Graduation Rates in Higher Education (Attachment #1 in the National Education Goals Report) should include a column in the reporting format to indicate the numbers of students enrolled in any academic support services at any time during their studies in higher education (See Appendix B). In other words, the table should report more than just "how many," but, instead, report statistics that will help to explain why or how some students persist. (How many students persist to degree completion doesn't explain how or why they do. How many were enrolled in support services or courses does help to explain how or why some students persist.)

The assessment of college graduates ability to think critically, communicate effectively, and solve problems—the fifth objective of goal five—should include tasks that are relevant to contemporary issues and real life problems faced by citizens in their communities and employees in the workplace.

The relevance of the content of problems that students can solve should be just as important as the methods that they learn to use for solving problems. Examples of areas in which assessment can be improved are as follows.
Higher level thinking is often assessed by a student's ability to complete a blank in an analogy using archaic or nonsense words. Logic textbooks abound with syllogisms or propositions that set up arguments including bizarre or unrealistic concepts that must be identified as either valid or invalid statements. The abstract concept does have its function here, but more relevance is needed in practice and assessment.

The question arises of whether or not thinking critically should be just a matter of making a judgement that one alternative is better than all others, because we are so used to looking for right versus wrong, yes versus no, this answer instead of all of the other possibilities, or whether it should be just as much a matter of learning to consider choosing some of the best that each alternative or possible solution has to offer?

Should we expect that group decisions be based on consensus or should we expect students to learn to find "common ground" for action when everyone can't agree on everything, where consensus does not come easily, or where there is no majority vote achieved? If the latter were a more common principle in the teaching/learning process then, perhaps, "gridlock" would not have come to be such a commonplace term today or such a commonplace phenomena experienced by test-takers. Perhaps multiple choice would not be used so often to force respondents to select "one best" answer as often as they do.

Effective communication should be assessed not only by tests
Postsecondary National Goals

of verbal and written proficiencies but also by the ability to listen and interpret accurately. Students ability to receive messages should be considered equally important to their ability to transmit or convey information. Communication paradigms usually include a sender and a receiver. However, we tend to test the receiver's proficiency by their ability to comprehend the written word far more often than we test for proficiency in listening. Our technological revolution has brought us media messages that are more and more often sent in ways that must be received through visual and auditory modalities.

Perhaps the new technology can be used to test listening skills by student's selections from alternative interpretations of short lectures that they hear over headphones while viewing the lecturer on video screens. The test-taker could respond to "aural" multiple choice interpretations by pressing a button to indicate the desired answer. This approach would not be used to replace proficiency in written response, but would expand the array of abilities assessed--since many individuals are more capable of developing skills knowledge through the aural or listening modality. (It should be noted that for many students who are not adept at capturing lectures by notetaking, many written tests of knowledge are testing their memory. If these students do not develop good listening skills, then they cannot adequately remember information that they need to demonstrate high achievement on written tests.)
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The constellation of indicators of postsecondary performance in recommendation #9 of the Report to the National Education Goals Panel (basic skill levels, occupational skill levels and higher order skills) is an important contribution to Goal 5. Tests have too often presented tasks that do not simulate real life job assignments or challenges. Tests have often measured skills that are not representative of the proficiency they purport to assess or skills that are not most necessary for success in a particular field of employment. We should consider carefully the very nature of test construction and its appropriateness.

For example, multiple choice reading comprehension test scores may be used as an indicator of the ability to perform the higher level comprehension skill of drawing inferences—drawing conclusions that are not stated from information which is stated—when, in fact, in the real world, we may often need to exercise competency in drawing inferences or new conclusions from situations for which no multiple choice of alternative possibilities are presented.

Perhaps we need to assess the college student's ability to **generate alternative solutions** to a problem from their creative, analytical, or critical thinking, instead of assessing their ability to "pick one" from given sets of valid and invalid suggestions or choices. Or, if we must test higher level cognitive skills with multiple choices of solutions to a problem,
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perhaps these questions should be constructed so that the student must also indicate (from multiple choices) a defensible reason for why they select one solution to a problem over all others that are offered.

Not only should a constellation of indicators of postsecondary performance be identified, but their relevance to particular vocational, occupational, or professional fields should also be established such that the most important competencies for each field are clearly and adequately presented. This may help to eliminate wasted time in academic pursuits such as courses students take and tests institutions administer for obtaining or granting certifications, licenses, or credentials that facilitate entree into areas of employment which do not actually require the proficiencies that tests have not really tested.

In keeping with many of these concerns, it seems that, within the Department of Labor/NCES Study, the listing of five skills to be assessed is a realistic beginning to establishing an important interface between various workplace competencies and postsecondary education. The five skills are as follows:

1. Effective resource use
2. Effective interpersonal skills
3. Effective information collection and use
4. Effective system development and use, and
5. Understanding and use of technology (See Appendix C).
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In addition, the assessment design must identify several important points of interface among a wide array of variables—student input elements, environmental elements, and student output elements that factor into "value added" assessments (See Figure 1) (Tomlinson 1989). For purposes of improving accountability, institutional effectiveness, and academic support and achievement, assessments must engage in more defensible approaches to directing and monitoring productivity.

Making assessments meaningful and honest will be a two-pronged effort. On the one hand, assessments of some abilities must be made more rigorous and more relevant than they have been, in order to be meaningful, while traditional assessments of other abilities should be modified or eliminated when they do not actually interface with the vocational or professional challenge for which students seek certifications.

References


Postsecondary National Goals


APPENDIX A

NATIONAL EDUCATION GOAL 5

Goal 5: By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Objectives:

- Every major American business will be involved in strengthening the connection between education and work.

- All workers will have the opportunity to acquire the knowledge and skills, from basic to highly technical, need to adapt to emerging new technologies, work methods, and markets through public and private educational, vocational, technical, workplace, or other programs.

- The number of high-quality programs, including those at libraries, that are designed to serve more effectively the needs of the growing number of part-time and mid-career students will increase substantially.

- The proportion of those qualified students (especially minorities) who enter college, who complete at least two years, and who complete their degree program will increase substantially.

- The proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially.
APPENDIX B

ATTACHMENT 1

Persistence and Graduation Rates in Higher Education*

Table for the National Education Goals Report
Persistence and Graduation Rates in Higher Education
Academic Year 1993-1994, Based on Entering Class of Fall 1993

Table: Persistence and Graduation Rates in Higher Education

<table>
<thead>
<tr>
<th>State</th>
<th>Sectors and Students Included</th>
<th>Entering Class Fall 1993</th>
<th>Enrolled Fall 1994 (%)</th>
<th>Completed Associate Degree or Certificate by June 1997 (%)</th>
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Note: Columns 1 through 5 indicate the sectors and students indicated in the state "composite" figures:
1 - Full-time students at public 4-year institutions
2 - Part-time students at public 4-year institutions
3 - Full-time students at public 2-year institutions
4 - Part-time students at public 2-year institutions
5 - Other

The Task Force is indebted to Charles Lenth, Director of SHEEO/NCES Communication Network, of the State of Higher Education Executive Officers (SHEEO) for staff assistance on this report format. Mr. Lenth's assistance does not represent endorsement by SHEEO of the Task Force's report.

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FIGURE 1

STUDENT INPUT ELEMENTS

Analytical Ability
Aptitude scores and achievement scores (HSGPA, SAT, and ACT)
Appreciation of self, social, and universal understanding
Broad intellectual and aesthetic interests
Campus/community involvement
Choice of major
Ethnicity
Functioning within social institutions
Gender
Geographic Origin
Income
Interpersonal relationships
Loans
Mastery of concepts across major disciplines
On-campus/off-campus residence
Parental Support
Persistence
Scholarships and grants
Sensitivity to ethics, morals, and values
Status
Student Motivation
Study habits
Sources of learning
Use of science and technology
View of life experiences
Writing ability

STUDENT OUTPUT ELEMENTS

Analytical ability
Aptitude and achievement scores (SAT, ACT, GPA, etc.)
Appreciation of self, social, and universal understanding
Broad intellectual and aesthetic interest
Career development
Completion of degree program
Functioning within social institutions
Graduates' perceptions of their education
Graduates' perceptions of their success in the marketplace
Interpersonal relationships
Knowledge
Later-life contributions
Mastery of concepts across major disciplines
Personality/personal development
Representation in career areas
Sensitivity to ethics, morals, and values
Student satisfaction
Using science and technology
View of life experiences
Writing Ability

ENVIRONMENTAL ELEMENTS

Access to programs of the college/institution
Access to resources
Adequate financial support
Administrator attitudes about assessment
Administrator satisfaction
Admission requirements
Changes in institutional finances
Class size
Community interaction
Cooperation between high schools and colleges
Curricula
Dissemination of information to prospective student
Enrollment changes
Faculty attitudes
Faculty satisfaction
Faculty mix
Geographical location
Institutional approaches
Institutional culture
Institutional and student diversity
Litigation status
Organizational health
Per student expenditures
Permissiveness
Placement record
Program accreditation
Protection of special groups/affirmative action commitment
Quality of faculty
Relevance of program to mission
Satisfactory living conditions and security
Scheduling
Selectivity
State and federal support/loans/grants
Student demand
Support services/recreation/tutoring/counseling/advising/financial aid
System openness
Tuition and other costs
Type: public/private/two-year/four-year/university