

TEACHING FOR SUCCESS

K. Patricia Cross

Harvard Graduate School of Education

Education today is deep into "The Politics of Excellence," and thus your theme for this conference is both fitting and timely. The public schools, and more recently, institutions of higher education, have been bombarded with reform reports, legislation, and threats of legislation to improve the quality of education. With the generous use of hyperbole that is common to most reform movements, a national campaign for excellence in education has been launched. Nothing less, we are told, will save our nation from the "rising tide of mediocrity" that threatens "American prosperity, security and civility" (National Commission on Excellence...1983, p.5).

The search for excellence is far broader than education, of course. The business world, for example, seems quite concerned about the quest for excellence--at least if we are to judge by the sales of books extolling the virtues of excellence in business. Peters and Waterman set out In Search of Excellence in 1982, reportedly found it in America's most successful corporations, and Peters then teamed with Austin in 1985 to write a second best seller entitled A Passion for Excellence thereby boosting the hyperbole a couple of decibels from the "search for" excellence to a "passion" for it.

Prepared for the 52nd Annual Meeting of the Faculty
Association of California Community Colleges, March 15, 1987,
Pomona, California.

Given our national passion for excellence, it is understandable that education should be the starting point. Fortunately, perhaps, education as a profession has a lot of accumulated experience in looking for excellence. For the past fifty years, educational reform efforts have appeared in cycles, each about a decade long (Sizer, 1983, p.1). The history of educational reform is that we generate intense criticism of the schools, followed by reform-minded commissions and study groups. We then reform the curriculum, raise standards, restore prestige to teaching, and then somehow it is all swept away again by the rising tide of mediocrity.

John Gardner wrote one of the most articulate and thoughtful books on excellence in 1961. He observed that one of the "absurdly obvious truths of which we must continue to remind ourselves" is that there are many varieties of excellence.

"In the intellectual field alone," he wrote, "there is the kind of intellectual activity that leads to a new theory, and the kind that leads to a new machine. There is the mind that finds its most effective expression in teaching and the mind that is most at home in research. There is the mind that works best in quantitative terms, and the mind that luxuriates in poetic imagery.

...There is a way of measuring excellence that involves comparison between people...and there is another that involves comparison between myself at my best and myself at my worst." (p.152)

There are many kinds of excellence, and at the center of the community college philosophy is the conviction that each student should have the opportunity to develop excellence in some area of human performance. Unfortunately, I think, our current

educational reform movement defines excellence in rather narrow ways.

Many of the reports attribute the erosion of quality in education to the permissiveness of the 1960s and 70s and reason that the solution is to swing the pendulum in the opposite direction, toward more control, more requirements, and tougher standards. These prescriptions call for simple corrections of perceived excesses of the past. Not enough homework?--assign more. Not enough testing?--require more. Too many electives?--insist on more requirements. These undimensional corrections might be labeled the swinging pendulum solution. A pendulum is in constant motion, but it never goes anywhere. It simply swings from one extreme to the other. Indeed, the momentum gained from a swing to the left provides the energy for the swing to the right.

If we are not more thoughtful about the goal of quality in education and how to attain it, we will spend the 1980s correcting for the permissiveness of the 1960s and 1970s, and we will spend the 1990s correcting for the over-regulation of the 1980s. We might, I suppose, recommend more modest corrections, but that would simply slow down the pendulum, eventually stopping all movement.

The spiral staircase would appear to be a more apt metaphor for educational reform than the swinging pendulum. Whereas the swinging pendulum involves retracing old ground, the spiral staircase rises to new levels. We may circle back to look at old problems from new perspectives, but our motion is constantly upward to a higher plane of action. Educational institutions of the 1980s are operating in a different plane from those of

the 1950s, and no one is more aware of that than community colleges who are dealing with large numbers of students who would not have attended college in the 1950s. We need to find some new perspectives on educational reform if we are to avoid educational faddism and swinging pendulum solutions.

I would like to address myself to three new perspectives today. The first might be labeled "Creating Environments for Success," the second, "Teaching for Success," and the third "Taking Action."

Creating Environments for Success

Although I poked a little fun earlier at the excesses of the business world in their passion for excellence, their research and writing on how to develop the human capital that is so essential to productivity in the 1980s, has some powerful messages for educators. Leaders in business are now paying a great deal of attention to the environments in which people work.

The general conclusion from research on the question seems to be that people will perform at their best in environments that encourage and reward excellence and that demonstrate respect for individual workers. There is a shift today from scientific management techniques to the cultivation of environments which nurture people and their ideas. Excellence necessarily begins with people.

There are many explanations for the search for people-based excellence, but I find that the most compelling hypothesis is that proposed by Alvin Toffler, the futurist

author of The Third Wave (1980). He identified three successive waves of economic growth in our history. In the First Wave, land was the capital asset of an agricultural society, and land owners became the barons of a growing economy based on the productivity of the land. In the Second Wave, the machines of the industrial revolution created economic power. Plant expansion, labor saving machinery, and the assembly line became the routes to prosperity. In the Third and current wave, dominated by computers and the production and processing of information, the capital asset is human beings. It is people who are the source of the creative ideas that provide the competitive edge in the information society.

No wonder then that employers, states, and the nation are concentrating so hard on the development of our human resources. For once, interest in people and interest in productivity and profits seem to coincide. How ironic, then, that the environments which have been found to stimulate excellence in corporations are frequently the opposite of what is recommended for excellence in our schools and colleges.

When Peters and Waterman set out to look for corporate excellence, they found it at both MacDonalds and IBM--in the production of the lowly hamburger as well as in the glamour of high tech. Their criteria for excellence seemed not to reside in the prestige of the thing produced, but rather in the attitude and enthusiasm of the workers. They concluded that one of the main clues to corporate excellence lay in "unusual effort on the part of apparently ordinary employees" (p.xvii). There is a

lot to think about in that deceptively simple conclusion. What do the books and reports on educational reform have to say about that? Are there recommendations that stimulate "apparently ordinary" people to unusual effort?

In the first place, there is surprisingly little attention given to "ordinary people" in the current educational reform reports. There is the clear implication that the rising tide of mediocrity is made up of embarrassing numbers of ordinary people, and that if excellence is our goal, then the selection of better students and teachers is the route. Colleges of education are advised to select better candidates; colleges are encouraged to raise admissions standards, and the Federal government is urged to offer scholarships to attract top high school graduates into teaching. There is not a lot said in the education reports about how to stimulate unusual effort on the part of the ordinary people that we seem to be faced with in schools and in colleges.

"Excellent companies," say Peters and Waterman, "require and demand extraordinary performance from the average man" (p.xxii). Since the tips for getting such extraordinary performance are scattered throughout their book, let me select a few of them and measure them against the recommendations of the educational reform reports.

"We observed, time and again," wrote Peters and Waterman, "extraordinary energy exerted above and beyond the call of duty when the worker...is given even a modicum of apparent control over his or her destiny" (p.xxiii).

With a few notable exceptions, there isn't much inclina-

tion to give workers in education more control over their own destinies. In fact, external top-down control is frequently recommended as the proper antidote to the permissiveness of the 1960s and 1970s. Even the language of many of the recommendations implies an external authority who would regulate, control, and see that the proper check points are established and maintained. Peters and Waterman observed, however, that the encouragement of individualistic entrepreneurial spirit was more a hallmark of excellent companies than central control. The most successful corporations tended, they observed, "to create decentralization and autonomy, with its attendant overlap, messiness around the edges, lack of coordination, internal competition, and somewhat chaotic conditions in order to breed the entrepreneurial spirit." Excellent companies they found "had forsworn a measure of tidiness in order to achieve regular innovation" (p.301).

It doesn't take much reading of the reform reports to conclude that schools, if they follow the recommendations, will do the reverse and forswear innovation in favor of tidiness. The curriculum will be tidied up, goals will be articulated, standardized tests will control transitions, prospective teachers will pursue a core of common learning, and their curriculum will be tidied up to include certain courses and certain experiences in specified sequences. Actually, there isn't much evidence that our current mania for tidiness will result in orderly schools with students and teachers pursuing learning with the contagious enthusiasm so essential to excellence.

Rosabeth Kanter (1983) warns against the mechanical solutions "that meet ever more refined minimum standards." She says "innovation is beginning to be recognized as a national priority" and our "emerging world requires more social and organizational innovation" (1983, p.19). Her solution is "to create conditions, even inside large organizations, that make it possible for individuals to get the power to experiment, to create, to develop, to test--to innovate." "Whereas short-term productivity can be affected by purely mechanical systems," she writes, "innovation requires intellectual effort. And that, in turn, means people. All people. On all fronts" (p.40).

The school reform movement of the 1980s is heavily into creating mechanical top-down solutions that can be quickly implemented. While control and specification may define minimal standards, they may also stifle the spirit of innovation and experimentation that researchers are finding so essential to excellent organizations.

My conclusion from these recent works is that until we can stimulate the ordinary people who inhabit our schools and colleges to "unusual effort" we will not have lasting excellence in education. Certainly, concern about minimal standards is necessary, but it is hardly sufficient, and we may be doing more harm than good in the long run if we send forth messages that educational excellence can be legislated and regulated from state offices without also working at the task of creating climates of excellence in local colleges.

Peters and Waterman suggest that one of the ways to

stimulate unusual effort on the part of ordinary people is to make people members of winning teams while also recognizing each individual as a star in his or her own right. "Each of us," they say, "needs to stick out--even or maybe particularly, in the winning institution" (p.xxiii).

Here I have to hand it to the reformers. I don't think there is one of them anywhere who does not want schools to be proud of their programs, proud of their teachers, and proud of their students. They sincerely, and even desperately, want education to field a winning team. It is also quite clear that they recommend rewarding outstanding achievement. There will be special encouragement for outstanding students; there will be master teachers, plus travel funds and extra bonuses. All of this recognition will be done on a competitive basis, with the appropriate reward going to the winners. So far, so good. Winning people on winning teams seems a sure-fire formula for success.

But that isn't really what Peters and Waterman observed in excellent companies. They found that excellent companies, "turn the average Joe and the average Jane into winners" (p.239, emphasis added). That is a bit more difficult, it seems, than recognizing winners. The tough problem is not in identifying winners; it is in making winners out of ordinary people. That, after all, is the overarching purpose of education. No one in education, I think, works harder at that task than community college educators. Yet historically, in most of the periods emphasizing excellence, education has reverted to selecting winners rather than developing them.

Peters and Waterman insist that there is no reason why organizations cannot design systems to support and develop winners. Most excellent companies, they say, build systems "to reinforce degrees of winning rather than degrees of losing" (p.57).

At IBM, for example, sales quotas are set so that 70-80 percent of its sales people meet their quotas. As a less successful company, only 40 percent of the sales force meets its quota during a typical year. "With this approach," say the researchers, "at least 60 percent of the salespeople think of themselves as losers. They resent it and that leads to dysfunctional, unpredictable, frenetic behavior. Label a man a loser and he'll start acting like one" (p.57).

There is much in the present educational reform movement that should frighten us if, in fact, winning is important for ordinary people. Peters and Waterman observed that less-than-excellent organizations take a negative view of their workers. "They verbally berate participants for poor performance....They want innovation but kill the spirit of the champion....They design systems that seem calculated to tear down their workers' self-image" (p.57).

That sounds a lot like what we are about in the educational reform movement of the 1980s. We are telling college administrators that they are not spending their limited resources wisely. We are telling teachers that they are not to be trusted to enforce standards. We are telling students that they are losers and threatening them with loss of further educational opportunity if they don't shape up. It is very

hard to feel like a winner anywhere in the educational system today. But, the critics will object, how can you improve the educational system if you don't face the facts? Fair question.

The "facts" seem to be that there are some excellent schools and colleges out there, that there are some exceptional teachers, that we do know something about making teaching and learning more effective, that high expectations are important to performance, and that political and financial support are absolutely essential. We also know that expectations for students are not high enough to demand their best performance, and that until students experience success as a result of their own efforts, it will be hard for them to feel like winners. We also know that unless community college teachers see evidence that students are learning, it will be hard for them to feel like winners.

Now the question is, what do we know about making "average" students into winners? Community colleges have worked hard at that in the past. What have we learned about how to teach for success?

Teaching for Success

One of the better applications of research knowledge on teaching and learning in higher education is found in the recent educational reform entitled, Involvement in Learning (Study Group on the Conditions of Excellence in American Higher Education, 1984). The committee of educational researchers who prepared the report conclude that "The quality of undergraduate education

could be significantly improved if American colleges and universities would apply existing knowledge about three critical conditions of excellence--(1) We must help students to become involved in learning, (2) We must hold high expectations for student performance, and (3) We must provide assessment and feedback on student learning.

The research findings of the past twenty years show quite conclusively that students who are involved in almost anything on the campus are more likely to learn and less likely to drop out than students who remain on the periphery (Astin, 1985). Students who live on campus are significantly more likely to graduate than commuters. This positive effect occurs in all types of institutions and among all types of students regardless of race, gender, ability, or family background. Holding a part-time job on campus, participating in athletics, student government, honors programs and almost anything else that brings the student into closer contact with faculty and fellow students seems to result in a closer identification with the college with the attendant positive effects on student retention.

The problem for community colleges is that it is extra-ordinarily difficult to get students involved in the life of the college. Because residential living and student activities are not significant aspects of the community college environment, the burden of involving students falls heavily on classroom teachers. Some teachers, especially those in community colleges do quite well at involving students in learning, but on the whole the typical college classroom doesn't demand much involvement on the part of students.

Lecturing to students has long been decried, yet it is the overwhelming method of choice for college teachers. It is estimated that teachers in the average classroom spend about 80% of their time lecturing to students, who are attending to what is being said only about half of the time (Pollio, 1984). Added to the evidence of rather poor attention in the first place is the finding that the curve for forgetting course content is fairly steep. A generous estimate is that students forget 50% of the

Research shows that community college teachers are more likely to strive for student involvement in the classroom than are teachers at the four-year college level (Wilson, et al., 1975). And they are also somewhat less likely than their counterparts in four-year colleges to make the unwarranted assumption that students are learning when teachers are talking. Where many community college teachers seem to fall short is in failing to hold high expectations for student performance.

Dick Richardson, who has done research in community college classrooms, claims that the response of many teachers to the perceived poor quality of today's students is to reduce cognitive demands to rather low-level skills. Thus instructors and students may jointly buy into classes with low-level cognitive demands in an unspoken agreement to make education less demanding for both students and teachers (Richardson, et al., 1983).

If students and teachers are to take pride in their accomplishments, then they have to accomplish something worthwhile. That moves me to my third and concluding question which is what actions might we take to make community college teachers and students winners who can take pride in their

accomplishments?

Taking Action

Perhaps it is obvious by this time that I believe that the two research themes that I have talked about today--one from research on climates of excellence in corporations and one from research on student learning--are sound principles on which to base action.

I might summarize by stating two principles of my own:

1) Excellence in student learning is directly related to excellence in teaching.

2) Excellence in teaching is a function of the extent to which teachers are involved in their work, treated like professionals, and encouraged to teach as well as they know how.

It may not be amiss to apply the research-based conditions for excellence in learning to teaching. Teachers should be involved; they should receive frequent feedback and evaluation; and they should be held to high expectations.

I contend that policies that support those conditions are likely to result in better education, whereas policies that undercut them will result in long-term losses for education.

Let me give one example of a concrete suggestion for action that incorporates the principles I have been talking about. Last week at the annual meeting of the American Association for Higher Education, I elaborated on the development of a new breed of college teacher that I call a Classroom Researcher. A Classroom Researcher is a teacher who uses the classroom as a laboratory, collecting data on student learning

and using a variety of research methods appropriate to the study of teaching and learning in his or her particular subject matter. The purpose of the research is to provide immediate and appropriate feedback to teachers on what students are learning. The advantages are these:

1. Teachers need feedback on their accomplishments as much as students do. For most teachers, the intrinsic rewards of helping students learn are just as important as any extrinsic reward we can provide. Immediate feedback on performance measures that are credible to teachers themselves is an important reward in itself and an appropriate stimulus to improvement. Thus, I think it is important that teachers collect their own information on student learning. I am not opposed to collecting information on student learning at institutional and state levels as well, but if we want to make an impact on teaching, feedback should be immediate and credible to teachers.

2. While it is clear that good teachers have certain characteristics in common--knowledge of their subject and enthusiasm for teaching it, for example--good teaching cannot be universally defined; it is not the same in history as in auto mechanics. Research in cognitive psychology, while useful in pushing back the frontiers of knowledge, has not proved useful in actual classrooms because of the complexity of applying the knowledge to different types of students, in different subjects, with different teachers. If teachers want to understand how to improve their own teaching, they will do well to study the impact of their actions on their students.

In developing the concept of classroom research, I start with the premise that excellence in edur begins in the classroom. We need to know what teachers are trying to accomplish in their own classrooms.

Ironically, that is one of the least researched questions in higher education. We rarely ask teachers what they hope I will learn from them.

~~students' self understanding went about implementing those goals.~~

~~The theme of this conference is "Taking Teaching Seriously."~~

I, for one, would like to know how college teachers think about student learning. To that end, ~~Elizabeth Fideier~~ and I are ~~developing~~ developing a Teaching Goals Inventory (TGI).^{*} It asks teachers to select one class and state the importance of various teaching goals for that class. We are currently in the process of pilot testing an inventory consisting of 46 items distilled from the literature on cognitive and affective goals and outcomes of higher education. The collection of data on teaching goals raises some interesting research questions--for example, ~~do teachers in community colleges espouse different goals from those in liberal arts colleges or universities?~~ Do teachers ^{of math} in physics have different goals from those ^{of} in history? Do the teaching goals of experienced teachers differ from those of inexperienced teachers? Do part-time teachers have different goals from full-time? How do the accumulated goals of classroom teachers relate to institutional goals? Collectively, faculty serving on curriculum committees are quite likely to endorse--and sometimes promise--the development of self-understanding or moral character. Preliminary evidence from the Teaching Goals Inventory indicates that at one college no teacher said moral development was an important goal of ^{his or her} ~~their~~ teaching. How then does it become a goal of the college?

These are interesting questions, and we will pursue some of them, but my major interest in developing the TGI is to provide

~~*Appreciation is expressed to Elizabeth Fideier and~~ ~~graduate students at the Harvard Graduate School of Education~~ ~~have served as research assistants in the project.~~

who

teachers with a profile of their instructional priorities. Once we determine the major clusters or factors of teaching goals, we can devise a set of assessment measures that will tell teachers whether students are learning what teachers say they are trying to teach. That will take the form of a set of feedback devices indexed to teaching goals. ~~Tom Angelo is the research~~

~~assistant in this project.~~ Feedback devices are tools that tell teachers how students are responding to their teaching. They can be simple or complex, well-researched or experimental, traditional or nontraditional. If, for example, a teacher states that mastery of subject matter is an essential goal of his or her teaching, then the traditional classroom test is a fairly good feedback device. *The problem with traditional tests, however, is that* ~~Almost every teacher is interested in content~~

learning to some extent, and we know a fair amount about how to construct tests that are reliable and valid. When I say "we" I mean the profession of education. Most college teachers know almost nothing about the construction of classroom tests. They use very primitive measures because they have never been exposed to existing knowledge about how to construct a test that will ~~provide maximum information about student learning.~~ *They* ~~Tests are~~

often ~~frequently~~ used simply to sort and grade students, *and*

~~The other problem with classroom tests is that they are~~ frequently final exams, *with* and feedback comes *ing* too late to improve teaching for that class. Some teachers, however, have devised simple and effective ways to find out what they need to know

--**Appreciation is expressed to NCRIPTAL of the University of Michigan and to the Harvard Assessment Seminar for funding and to Tom Angelo, graduate student at HGSE who served as research assistant.

about student reactions during the semester. A physics professor at the University of California uses the extremely simple device of "minute papers" to obtain student feedback on classroom learning. He stops class one minute early four or five times during the term and asks students to write the answers to two questions: 1) What is the most significant thing you learned today? and 2) What question is uppermost in your mind at the end of this class session? He reports that this simple device gives him excellent feedback on whether students are understanding and whether there are important questions to which he should respond (Wilson, 1986, p. 199).

When I described "minute papers" at the Harvard Assessment Seminar recently, Fred Mosteller, a distinguished statistician and holder of an endowed chair at Harvard, became intrigued and involved his undergraduate class in Stat 100 in providing feedback on his lectures. After some experimentation, he came up with a modification of minute papers. He now asks students to answer one question at the end of his lectures: "What was the muddiest point in the lecture?" Sometimes, he prepares handouts for the next class period to clarify a point or he may try a different teaching approach.

The point is that here is the simplest of all possible feedback devices sparking interest, experimentation, faculty conversation, and student involvement in the improvement of instruction.

Another feedback device that has become very common on campuses over the past decade is student evaluation of teachers and courses. ~~In two-thirds of the four-year liberal arts~~

~~colleges, academic deans claim that systematic student ratings of instruction are "always used" in the evaluation of faculty~~ (Seldin, 1984). Yet teachers claim that they do not find student ratings, collected for purposes of evaluation, especially helpful in improving teaching. That's perhaps understandable, but it's too bad.

Students are a rich and virtually untapped resource for the improvement of teaching. Research is now reasonably clear that college students are generally reliable and unbiased judges who tend to give the highest ratings to those from whom they learn the most (Gaff and Wilson, 1971; Centra, 1977; Cohen, 1982; Gleason, 1986). No research or evaluation project or faculty development program could possibly hire classroom observers with sixteen years of experience observing teachers day in and day out on good days and on bad with such a good opportunity to judge the impact of teaching on learning. That makes it sad that we don't use students to help teachers as well as to evaluate them, and doubly sad that we don't train students to be careful observers of their own learning. Designing student feedback forms that are collected by the classroom teacher midway through the semester rather than at the end and that offer constructive reactions to teaching would help students be better consumers of education as well as help teachers be better providers of it. Ultimately, of course, all of our information about student learning comes from students, in the form of outcome measures, or value added, or self reports on reactions to teaching.

Classroom research is primarily aimed at individual teachers for classroom use, but it would also seem to be an ideal way

to engage departmental faculty or ~~teachers of multiple sections~~ in discussions of teaching goals and the assessment of accomplishments.

We need, of course, to recognize that some measures of student learning are quite difficult to construct. Some people have spent entire careers trying to measure creativity or critical thinking or ethical behavior. It is a truism that we know the least about measuring the things that are most important to us as educators. I don't think that means that we wait until the "experts" have devised the appropriate measures. Most college teachers are bright, creative people, with high motivation for devising measures of student learning outcomes. Moreover, there is increasing evidence that academic skills are best studied in the context of subject matter content.

We need the full participation of classroom teachers in this reform movement. Our national goal to improve the quality of undergraduate education necessarily ^{makes (Go to p 16)} ~~starts in the classroom.~~
~~Most of the research on college student outcomes that is being~~
highlighted in Involvement in Learning and other reform reports consists of interpreting research on college students that has been conducted over the past twenty years. It is heavily weighted toward full-time students of traditional college age. As valuable as that research is in demonstrating the importance of creating campus environments that are supportive of and conducive to learning, the college environment has already changed. The learning environment for many students today is not the campus but the classroom.

3. Teachers, like students, need to be involved intellectually in their work. If we want to return dignity and pride to the profession of teaching, we need to make teaching more intellectually interesting and challenging.

Discipline-based research is not a mission of community colleges nor an interest of most community college teachers. But teaching the same subject year after year without refreshment and renewal can become tedious. Classroom research has self-improvement as a goal, and self-improvement is a source of never-ending challenge and interest. It involves people in a way that externally imposed standards do not, and it is uniquely geared to the level of individual development.

4. Classroom Research should be the special province of teaching institutions, i.e., community colleges, state colleges, and liberal arts colleges. We in higher education have greatly overvalued research at the expense of teaching, building a hierarchy of institutional excellence that places research universities at the top and community colleges on the bottom. That false prestige hierarchy is most certainly not the route to improved education for undergraduates. Teaching institutions need to have their own dignity, worth, and intellectual challenges.

INSERT (16)
~~In conclusion,~~ classroom teachers ~~are~~ the linchpins in the politics of excellence. The quality of student learning is inevitably linked to the quality of classroom teaching.

Recommendations, legislation, and assessment can offer guidelines and point the way. But if improvement of student learning is the goal, classroom teachers must be the means.

3/9/87

REFERENCES

- Astin, Alexander. Achieving Educational Excellence. San Francisco: Jossey-Bass, 1985.
- Brethower, Dale M. "Research in Learning Behavior: Some Implications for College Teaching" in Stephen C. Scholl and Sandra Inglis (Eds), Teaching in Higher Education. Columbus, Ohio: Ohio Board of Regents, 1977.
- Gardner, John. Excellence. New York: Harper and Row, 1961.
- Kanter, Rosabeth. The Change Masters. New York: Simon and Schuster, 1983.
- McLeish, J. The Lecture Method. Cambridge Monographs on Teaching Methods, No. 1. Cambridge, England: Cambridge Institute of Education, 1968.
- A Nation at Risk. National Commission on Excellence in Education. Washington, D.C.: U.S. Department of Education, 1983.
- Peters, Thomas and Austin, Nancy. A Passion for Excellence. New York: Random House, 1985.
- Peters, Thomas J. and Waterman, Robert H. Jr. In Search of Excellence. New York: Harper and Row, 1982.
- Pollio, Howard R. "What Students Think About and Do in College Lecture Classes." Teaching-Learning Issues, No. 53, Spring 1984. Knoxville: University of Tennessee Learning Research Center.
- Richardson, Richard C. Jr. and Associates. Literacy in the Open-Access College. San Francisco: Jossey-Bass, 1983.
- Sizer, Theodore. Horace's Compromise: The Dilemma of the American High School Today. Boston: Houghton-Mifflin, 1984.

Study Group on the Conditions of Excellence in American Higher Education. Involvement in Learning. Washington, D.C.: National Institute of Education, October 1984.

Toffler, Alvin. The Third Wave. Toronto: Bantam Books, 1980.

Wilson, R.C. and others. College Professors and Their Impact on Students. New York: John Wiley, 1975.

3/9/87