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ABSTRACT

This paper examines some prominent criticisms of higher education and contends that systems theory is a means of understanding the nature of the problems by taking into account the complexity of interconnections among several factors. Problems discussed include: (1) inflated grades awarded to today's university students do not reflect their true abilities; (2) many university graduates cannot write coherent sentences or express themselves orally; and (3) today's young executives lack the work ethic. The problem of grade inflation is traced to the use of student evaluations of faculty performance, whereby students receiving higher grades tend to submit higher evaluations for the professor. This has given students significant power in determining grading standards. Students' lack of expressive language skills is attributed to their talents not being developed because college examinations are generally objective tests that can be computer-graded. Students are not prepared for the world of work because their irresponsibility is infrequently punished. Use of college entrance examinations that measure one's ability to achieve, rather than specific knowledge, teaches students that there is a schism between education and the "real world." Several obstacles to returning to a system where classrooms are controlled by professors and pay raises are decided by one's superiors and not one's students are cited. (Contains 20 references.) (JDD)

SYSTEMS THEORY IN THE IVORY TOWER*

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Abstract

It is argued that systems theory provides one way to understand the current disenchantment with higher education. The relaxation of grading standards during the Vietnam era concomitant with the introduction of student evaluations created a self-perpetuating educational climate which has spiraled out of control. These events have lead to a situation wherein the student has become a psychological customer of higher education rather than a product of the educational system. The situation, even though understood more clearly, is not likely to change soon. (85 words)

SYSTEMS THEORY IN THE IVORY TOWER

With great frequency we read or hear of the failure of American students to measure up to the standards and achievements of their foreign counterparts. We have heard of the lack of American students' abilities in mathematics, geography and history to name only a few subject areas. We have discovered that American students spend less time in the classroom than their foreign counterparts and more time in front of television sets than virtually any other group of young people in the world. It may be that the only thing now more predictable than the message of the doomsters is the spate of explanations which is sure to follow each new revelation of American student shortcomings. Moreover, such explanations are almost always single factor essays. The explanations describe one thing which, if corrected, would solve the current problem and make us once more the educational envy of the world.

No doubt part of the push toward one dimensional answers comes from the admonition of governmental officials, parents and simply concerned citizens to "do something." It is interesting that the "something" we are urged to do is singular not plural. In the summer of 1991 William Brock headed a commission on preparing the nation's teenagers for future jobs. This commission found that schools have failed to train students in such job related skills as planning, decision making and teamwork. Brock was quoted as saying, "It really doesn't cost a

dime to teach physics in a way that forces people to learn how to reason" (Associated Press, 1991). Such exhortations suggest that without expending any public funds whatever it would be possible for today's students to be more adequately prepared for the world of work. In this particular case, the "something" we needed to do was to teach classes in a new way.

By extension, the statement also implies that educators, by doing an inadequate job, are co-conspirators in the present educational dilemma. The same sort of dissatisfaction is heard when descriptions are offered of the "do nothing professor" in higher education (Sykes, 1988; Wilshire, 1990). When government commissions gain access to the media and are allowed to offer innuendos of ineptitude, answers need to be forthcoming. Mr. Brock's statement deserves a rebuttal which goes beyond a simple denial. Perhaps this essay can provide that response.

As an overview, one might easily pose the question of how charges such as Mr. Brock's have become increasingly common. Indeed, the fact that this paper is being written at all is powerful evidence of the conflict between the institution of formal education and the society which that educational system was meant to serve. Moreover, we might also ponder the issue of how American education has drifted so far from the days when the student who achieved all A's was held in high esteem because of the rarity of that event. It is clear that the university of the

1990's is a rather different place from the hallowed halls many of us remember from our youth. What is more, the diversity between that memory and today's reality have introduced areas of conflict which are both theoretical and practical.

The systems approach

In organizations simple answers are rarely accurate and accurate answers are rarely simple. In that vein, there does seem to be a method which offers a means of understanding how a dynamic system functions and the answers found may materially assist us in solving the problems we face. That analysis is called the systems approach (Bertalanffy, 1956, 1962).

Systems theory would suggest that complex problems are not the result of one thing gone wrong but an interplay of many things. Moreover, in human affairs it is not uncommon for individual problems to produce results in which the combination of two seemingly diverse elements produces an outcome which is more unpredictable than either of the single elements of the problem would suggest. In brief, when a problem is approached as a system most of the difficulties we face are found to be the result of interconnections among several factors which, when combined, result in undesirable effects. In the analysis of complex societal problems, the systems approach has much to recommend it.

Systems theory as a means of analysis has received corroboration in recent years from some surprising quarters.

This corroboration is sufficiently powerful that the word "theory" in systems theory may even be said to be misleading. In his short life, George Ramsey produced an astonishing array of accomplishments. Not the least of these accomplishments was a line of mathematical thinking which has come to be known as Ramsey theory (Graham, Rothschild & Spencer, 1980). Ramsey began by considering relatively simple questions such as: how large a group would be necessary such that three persons either knew one another or did not know one another? (The answer is six.) In essence, Ramsey raised the issue of how large a sample was necessary before a pattern, either three people mutually acquainted (one pattern) or three persons unacquainted (an alternate pattern) began to emerge. The logic of this process may be extended to virtually any size group and extrapolated to a myriad of contexts.

The practical implications of Ramsey theory are immense. Ramsey theory, taken to its logical end, implies that randomness is impossible given a sufficient number of observations. Ramsey has established that definable patterns will emerge in data sets regardless of the initial distribution. Moreover, this is particularly true in large data sets. Given a sufficient number of observations, Ramsey theory leads to the inevitable conclusion that randomness is mathematically impossible. If randomness is impossible, then a pattern must exist; patterns can be analyzed.

Using Systems theory in the educational domain

In order to understand the important interrelationships in the area of education, let us examine only a few of the more prominent criticisms of higher education today. Among these are: (1) the inflated grades awarded to today's university students do not reflect their true abilities, (2) many university graduates cannot write coherent sentences or express themselves orally, and (3) that the work ethic of today's young executives is sadly lacking. The question to be addressed is what are the causes, antecedents and relationships among these problems?

Analysis

The problem of university grade inflation certainly did not begin yesterday, but there was a time in the past when grades were much lower, on average, than they are today (Burgess, Kentel, Littrell, & Metzcus, 1979; Carney, Isakson, & Ellsworth, 1978; Felder, 1979; Potter, 1979; Taylor, 1975). It is reasonable to ask when the change began. In retrospect, the grade inflation seems to have started around the time of the Vietnam conflict (see also: Goldman, 1985). The predicament in those years was that poor grades became synonymous with a death sentence, at least for males. More than one young man appeared at my door to protest that a poor grade would mean that he would be sent into combat to serve as cannon fodder. Whether or not the student was correct is not the issue. The student's tears and pleas were genuine because he thought he was going to die. However much one values academic rigor, few university teachers

are going to sentence a person to death over a few points on an exam. Naturally, the only fair way to administer such a program was to give equal grades for equal effort. Thus, the grade of the prospective combat soldier got raised but so did the grade of everyone else. Time wore on and the new, more lenient standard began to sit more and more lightly on the shoulders of classroom teachers. What began as a temporary solution to a moral dilemma became a way of life. The war may have ended but the relaxation of academic rigor did not. What started as a plea for mercy has become an accepted and expected criteria for evaluation.

Almost unnoticed, and concomitant with the Vietnam era, was another significant change on the American campus. Students began to evaluate their courses using attitude/opinion questionnaires (Doyle, 1983). Initially, these student evaluations were meant to assist instructors in making needed alterations in their courses and enhancing their teaching. Once more, over time, these evaluations began to take on added significance. What we had was a measure of student satisfaction and perhaps even classroom climate. Finally, there seemed to be a way to measure the unmeasurable. We had discovered a yardstick for effective teaching. The reasoning was and is that the superior teacher will be recognized by students and that such recognition can be measured and quantified. By evolution, these student evaluations became tools not only to determine what classroom changes need to be made to enhance learning, but also to determine pay raises for

professors. In fact, student evaluations are now so universal that few institutions of higher learning exist where student evaluations are not part of normal classroom activities.

Tempting as it might be, it is impossible to make a causal statement linking relaxed grading standards and student course evaluations. We cannot go back in time to conduct a controlled experiment. What we can do is note that grade inflation in higher education is almost perfectly meshed with the advent of classroom student evaluations in higher education.

It did not take long for students to learn that two important events had occurred on the college campus. First, the grading standards had been changed. Second, the evaluations which they completed at the end of the term really did, in the long run, have an impact. The import of these events has been profound. Not only did students have a voice in determining course standards but their voice had a real impact. What students did not understand, and most still don't, is the extent of the power which they possess.

It is probably unfair to say a college teacher must be popular in order to purchase groceries, but it is certainly the case that instructor-student differences in the perception of what is and is not academically acceptable will almost always lead to unhappiness for both parties. The partial exception to this statement occurs when the faculty member is more lenient than the students. However, even here, the students tend to

grumble that the slackers among their ranks are getting off easy without really requesting that the grading standards be made more rigorous. On the other hand, if the faculty member's academic standards are more stringent than those of the students, they are sure to respond negatively at evaluation time. Students have a keen sense of how they feel the world should function and they respond very negatively to the slightest departure from their set of accepted standards. For instance, it is "unfair" to correct spelling and/or grammar unless the course is being taught in the department of English. In fact, it is not even "fair" to comment on the existence of such failings even if the shortcomings are not corrected.

Unacceptable faculty behaviors invariably prompt negative student evaluations and, added together over time, these negative evaluations will result in smaller salary increases for the faculty member (Elliot, 1988). To put the matter into its proper perspective, it is well to note that future salary increases are based on a percent of one's present salary; therefore, a small amount of money foregone in year one becomes a very large sum indeed in year twenty. After a few years of smaller than average salary increases, even a dullard is sure to notice. The explanation offered by the personnel committee is always, "Well, s/he has terrible classroom evaluations!" The faculty member will thus be "economically encouraged" to bring their errant

grading standards into focus with the standards of their students.

The encouragement to soften grading standards may have an even wider impact than just one professor's classes. There is now compelling evidence that departments which adhere to higher grading standards suffer the loss of undergraduate majors over time (Shea, 1994). Departments which cling to "old fashioned" grading standards pay a dear price. This observation is made all the more telling when coupled with the fact that departments are funded, at least in part, based on student full time equivalents (FTE). The more students taught by a department, the more resources allocated to the department. It becomes clear that the pressure brought to bear on errant teachers comes from a higher authority than simply one's peers.

The relationship which emerges takes the form of a high and positive association between expected course grades and teacher/course evaluations (Brown, 1976; Marsh, 1984; Shapiro, 1986) . That is, there is a kind of quid pro quo; higher grades for the students translate into higher evaluations for the professor. To complete the picture, the course grades must be awarded as if the student standards are those which are also embraced by the professor. If the professor seems to be pandering to the class, the reaction will be almost as negative as the one reserved for the errant professor (Elliot, 1988). The

crucial element seems to be student perceptions that they are earning the grades. When that perception is present, the correlation between grades and course/teacher evaluations is consistently high (Elliot, 1988).

To complete the picture, one must keep in mind that student assessments of achievement are systematically more lenient than teacher assessments (Hensley & Batty, 1974). This means that in order to play to the perception that the grade was earned it must, of necessity, be higher than would be awarded by the teacher.

Thus, the critics are correct in their assessments. Grades at American colleges and universities have become more generous over the past quarter century. What the critics failed to note are the underlying causal elements in this transformation and the pervasiveness of the trend.

By the same token, the form of the examinations themselves can be altered by the students. Over the years, the type of examinations have changed rather dramatically . There was a time when examination booklets, they were called "blue books," were a staple for university students. Every student was required to bring a blue book to class because virtually all the examinations were essay. Today there seem to be more objective examinations and fewer subjective examinations. The essay examination has all but disappeared from today's college campus. The exams of today

are computer graded with answers recorded on optical scanning sheets read by lasers. Once again an analysis is in order.

Almost no one likes to be told that he or she is inadequate to a task. This negative message is not only rejected but the source of the negative message is usually berated. When we don't like the message, we simply kill the messenger. There is a simple and effective solution for the ensuing negative student evaluations: Stop giving essay exams. The faculty member learns to provide examinations which are sufficiently free of judgment calls that the student has great difficulty reflecting the responsibility for failure back onto the teacher. By eliminating a source of complaints, this strategy will help to elevate the scores on one's student evaluations thereby influencing subsequent salary increases. Unfortunately, the downside is that students who are never asked to write cannot be expected to learn to write. Thus, every economic force is in place to encourage the behavior of faculty to toe the line or suffer the financial consequences. Numerous students have told me they have never written a term paper in their college careers. Moreover, they report there have been few if any essay exams in college.

Perhaps we are now in a position to understand the criticism that today's college graduates cannot write or orally express themselves. Quite simply, they have seldom been asked to do so. When the majority of one's educational experience is making dots

on a computer sheet, one's powers of expression tend to suffer. As a consequence, these talents remain dormant. Once more, the critics are accurate but the underlying elements make the problem more understandable than before.

Finally, the students themselves have come to view higher education as a service industry. Their power to control faculty classroom behaviors has not been lost on them. By extension, the exercise of control also carries another more far-reaching message. For many students, control means that a superior-subordinate, employer-employee relationship exists. It is not unusual for today's students to remind a professor that they are paying his or her salary with their tax dollars. The implicit message in this comment is that they ask for a measure of control in return for their dollar. As predicted by systems theory, the interaction of student held grading standards begins to manifest itself on course outcomes. In the collective student mind this means that anyone in the room who possesses a modicum of intelligence and displays even minimal effort should receive at least a B in the course. In fairness, students do reserve lower marks for those who do not seem motivated or do not achieve. However, it is rare for students to actually fail one of their peers when they are given the opportunity to recommend grades.

From the viewpoint of the students, they have ceased to be the products of higher education: they see themselves as

consumers of higher education. At my university, for example, it is university policy that no portion of grades may be based on class attendance. This policy is widely understood by students and serves to reinforce one of the most pervasive current student orientations. The general student attitude is that they are paying for a service and that as long as they achieve the standards for the course--which as we have already discovered, they will set by subtle indirection--then all is well. If one of the functions of higher education is to prepare students for entry into the world of commerce, how can we reasonably expect them to show up for work on time or occasionally even at all?

At the heart of this problem is a distinction made in academe which is not made by the world of work. In a university, stupidity and irresponsibility are seen as separate issues. Intelligence is almost always rewarded but not stupidity. Responsibility is almost always rewarded but irresponsibility is infrequently punished. The distinction is either known or is rapidly learned by the students. With great frequency, students appear after the assignment is past due to explain some extenuating circumstance which prevented them from completing the work. They may even admit to having been grossly irresponsible, but they will vehemently deny that they are stupid. It is patently obvious that students have learned the academic world's distinction between the dimensions of intelligence and

responsibility and that the distinction is clearly understood. Incredible as it may sound, such irresponsible behavior is quite often excused. Even when penalties are assessed, they tend to be minimal. But, one may ask, why not make the irresponsible student pay the price? Simple: Because at my university there is an item on the student evaluation form called "concern and respect for students." The enforcement of rigor would come directly out of one's wallet.

By contrast, corporate American makes no such distinction. When a corporate salesperson does not sell the product, no commission is paid. The corporation does not care whether the failure to sell was caused by stupidity or irresponsibility; the commission is not paid. Naturally, young workers may find this a jarring lesson. After all, adherence to the bottom line contradicts everything they have come to expect from their experience. Many in higher education, in an effort to be a "nice guy" and perhaps to enhance a paycheck, have woefully failed to prepare students for real jobs in the real world.

Once more the criticism is apt but, once more, probably for the wrong reasons. There is more than just a grain of truth when we are told that American college students have a poor work ethic.

Who is to blame?

On another front, perhaps we should not be too critical of

the students. There appears to be blame enough to accommodate everyone. After all, students are simply responding to the cues given to them by the world and some of those cues are telling indeed. In order to gain entry into universities and colleges, the students must complete a standardized test of their abilities. This test, the Scholastic Aptitude Test, is widely used and is well regarded in higher education. Interestingly, the students are informed that there is no real way to prepare for the test. It is a test which measures one's ability to achieve not one's specific knowledge. In short, the test to enter college and to get on with one's life has little to do with what was learned in high school. Society has informed them rather clearly that the schism between education and the "real world" is both deep and fundamental. Fairly large numbers of them conclude that their time has been wasted reading Shakespeare, learning who won the battle of Trafalger, or locating the island of Madagascar. Their vague suspicion that high school was largely a waste of time and little more than an institutionalized baby sitting service seems confirmed. The university is little better. When they think about it, most students realize that business decisions are not addressed by making dots on computerized forms and that the problem solving demanded by the real world will not be accomplished by selecting the correct answer from the four or five provided on a standardized form. It

is easy to see how students could become cynical in their view of education.

There is an apocryphal story in which the students systematically frown when the professor moves to the left hand side of the room and smile when the movement is to the right hand side of the room. By the end of the class period, the professor is leaning against the right hand corner of the room. The point the story is to illustrate the power of reinforcement to alter our lives. The situation outlined here is no less apt but perhaps not so amusing.

Why not simply change the system?

At this point the astute reader is no doubt convinced that the analysis provided by systems theory is both simple and straightforward. All we need to do is return to those simpler times when classrooms were controlled by professors and pay raises were decided by one's superiors not one's subordinates. Unfortunately, the world is not so easily altered. There are several obstacles to that course of action.

First, at many larger universities there is a large and well established bureaucracy that has evolved to administer student evaluations. One of the truisms of organizations is that their creation and growth is easier to manage than their demise. To illustrate, the recent economic recession has forced my university to dismiss 81 persons from the payroll. None of those

persons were central administrators. Trying to correct the system may well meet with the resistance of the system itself.

Second, we now have a generation of university professors whose only experience in colleges has been exactly that described in this essay. For them, this is the way college operates. The exceptions made twenty-five years ago are the norms of today. What is more, the parents of today's students are products of the same system. Under these circumstances, changes will be difficult to implement.

The final problem in correcting the described shortcomings are the expectations which have been bred into the students. Today's students enjoy the power they possess and they are unlikely to relinquish that power without some form of protest. To point out how deeply this power is ingrained, a recent survey of faculty vulnerability was completed at Central Michigan University. The authors, Buerkel-Rothfuss and Blok (1990), found that almost one-third (28 percent) of the responding professors reported being verbally threatened by unhappy students. One out of five (21 percent) reported that they have received crank phone calls at night and one of ten (8 percent) have had their cars vandalized. These data go well beyond the problem of pay increases and speak to the issue of physical well-being itself. To cite a case which may serve as a wakeup call for academics everywhere, in the spring of 1992 Professor David Eshelman of

Central Missouri State was murdered by a student unhappy with his grade. Clearly, any functional changes in the system will involve much more than teaching problem solving in physics classes.

Coda

The function of this essay has been to illustrate that the problems of American higher education and student preparation are not single-issue problems but multi-faceted ones. Thus, the solutions to these problems must take into account the complexity of those interrelationships. The thesis here is a simple one: in order to solve problems one must understand the nature of the problems and systems theory is a means of understanding even convoluted problems.

On a more practical level, for the assertion offered by Mr. Brock that it is educators who are at least partly to blame for the current educational crisis an answer is now in order. In the sense that those of us in higher education have allowed a system to develop in ways which not only allowed excesses to occur but actually fostered the excesses, we are guilty as charged.

At the end of Romeo and Juliet the Prince says to the gathered crowd that "all are punished." In looking back over the events of the past few decades, it is clear that the line has more relevance than any of us might find comfortable.

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