Chapter 20 Classroom Innovation: A Design Primer

Introduction

I began my professional career at Procter & Gamble Company in 1956, working as an internal consultant and researcher. My intention was always to move on to university teaching, however, and in 1960 I was recruited to teach at Yale by Chris Argyris. Between leaving Procter & Gamble and beginning at Yale, I spent the summer with the National Training Laboratories at Bethel, Maine, learning to facilitate T groups under the tutelage of Warren Bennis.

So it was that when I arrived at Yale, I was thoroughly steeped in the principles and practice of experience based education, and I wanted to structure my classroom as much like a T group as possible. By that I mean that I wanted my students to take responsibility for setting their own goals, and for managing their learning, while I served in the capacity of facilitator, coach and counselor.

My first attempts at putting this naive scheme into practice failed. Most of my students saw me as incompetent, rather than permissive, and they resented what they saw as my unwillingness to do my job. I had no support for my experiments from senior colleagues, either, who advised me to direct my creativity into my research, where it would do my career some good. However, I persisted. I had never much liked school myself, from the day I began kindergarten right through graduate school, although I did well in my studies. I only discovered the real excitement of learning when I went to Procter & Gamble and was given a free hand by a very permissive boss, who asked only that I find ways to make myself useful as a psychologist. My

experiences in T groups opened further vistas of self managed learning to me, and I was passionately committed to a new vision of empowerment in learning.

I had help from Howard Perlmutter, who came as a Visiting Professor in my second year at Yale. He shared his concept of "social architecture," in which one designs social structures so as to channel the flow of energy and facilitate the connections and interactions that will aid the goals of the designers. At first, I had wanted to neutralize my own authority and minimize the influence of grades in my classroom. Freed from coercion in my classroom, students had withdrawn their energy in order to devote more time and attention to teachers who demanded more. Now I saw that I could use my power to set learning goals and standards to keep students' energies in my classroom, at the same time as I gave them a lot of freedom to explore and experiment within that setting. I began to experiment with using the social needs of students, their wish to create and maintain good relationships with one another, to motivate excellent work in my courses. I not only had students working in groups, but I gave them the power to influence one another's grades. Year by year, as I learned to use social architecture more creatively, the performance *and* satisfaction of my students rose. At the end of my last semester at Yale, I received the kind of reward I most appreciated—a rave review in the Yale students' own guide to courses and teachers.

"Classroom Innovation: A Design Primer" grew out of a long distance relationship with a fellow worker in the experience based classroom, Philip Runkel at the University of Oregon. We corresponded for a time, and then decided to

collaborate in editing a book that would bring together the innovations of colleagues who were exploring similar issues on campuses across the US. I had by this time left Yale, and I went overseas before the piece was written. At the time I regarded it as my legacy to those who would come after, as I did not expect to work again in academia. As it turned out, the principles I put forward in this paper were directly applicable to my future work in designing education and training for business and industry, as will be seen in the two papers following this one. Reviewing the paper now, I see in it not only a set of guidelines for the design of learning experiences, but also the rudiments of a philosophy of design for organizations of all kinds: communities, businesses, etc. The more recent paper, "Building Attunement in Community through Social Architecture," in this volume, shows how I believe this way of thinking can be applied to the design of intentional communities.

Classroom Innovation: A Design Primer

Our purpose is to draw some guidelines from behavioral science that will enable the university teacher to design innovative courses and classroom situations that will work. A classroom that works is one where the learning processes and outcomes occur as intended, and where the qualities of social interaction between students and teacher and among students support the intended learning. This paper is not intended as a treatise on learning theory; it is an attempt to extract from learning theory some practical implications for the conduct of teaching in the university classroom. Principles and concepts are presented that have relevance for the decisions teachers have to make when they depart from the well-trodden paths of

tradition and strike out into the wilds of educational experimentation. I have called this paper a primer because that is all I know how to write. The applied art has not advanced to the point where we can write advanced works on social engineering and design. The most I aspire to is to transmute some of my own experience into concepts that indicate the choices that have to be made in designing educational systems for higher learning and to explain why I believe some choices are better than others.

Before going ahead, I should like to be clear about the value position from which I am writing. This is not an paper about how to design learning situations for any learning goal whatsoever; it deals rather with the problems of maximizing values I believe are important. The values are the same as those put forward in a previous paper on the design of cross-cultural training by Harrison and Hopkins (Harrison and Hopkins, 1967*). I believe there are close parallels between the problems of transition from one's own culture to another and the problems of living and learning in a society in flux such as ours. Our culture requires people to become increasingly adaptive and responsive to change. This fact implies a number of changes in the appropriate goals of university education, and these changed goals underlie the design principles of this paper. Instead of educating in preparation for one career, we need to educate for multiple and sequential roles, even while we do not know what the demands of the roles will be. We need to build education as a lifelong process taking place both inside and outside formal institutions. We need to convert students from institutionally directed education to self-directed education. We need to move students from

reliance on authoritative sources of information toward developing and evaluating their own sources. We need to move from a focus on the content of learning to an equal or greater concern with the process of learning. Students in our classrooms need to learn how to continue to learn, and not merely to learn the facts, principles, and theories we present to him there. We need to change educational systems in which the learner is primarily a passive recipient of learning, by designing systems in which students actively create their own learning. We need to move from a criterion of learning that stops with achievement measured in the classroom, toward a focus on application in the real world.

The rapid pace of change requires the student to "own" his learning. He should be prepared for active, self directed exploration and inquiry throughout life. A major design objective is thus to maximize freedom of the learner.

I further believe that there is a relevance gap between the focus of much university education and the situations in which that education is to be applied. The gap is not so pronounced where the aim of education is instrumental—the acquisition of specific knowledge and tools for producing goods and services. It becomes large when questions of values, goals, and emotionally charged choices are involved in the application of learning. We are better at training people how to do things than we are at helping them learn to make choices; we teach students what they need to know to serve the needs of a profession, or organization, but we give them little help in deciding whether the goals of that profession or organization are worthy of commitment.

I believe that our higher education usually makes it easy for our students to split their values from their behavior—a splitting that is central to the alienation endemic in our culture. The separation of facts and theories from values and emotions that we foster in the name of rationality and objectivity continues into organizational and professional life, where it contributes to performance without commitment and action without responsibility.

Since this paper is primarily a design primer rather than a critique of university education, I shall not belabor the connection between rationalism in the classroom and alienation in society. I do want it to be dear that I believe classroom design should lead wherever possible to significant encounter for the student with the values, choices, and dilemmas embedded in subject matter, and that the encounter should be as real, involving, and emotionally significant as possible. This does not mean anti intellectualism. Rather, it is a bias in favor of involving the student in a real way with meaningful and important issues requiring choice, commitment, and consequences.

All classrooms are complex social systems. However, university classrooms have had a ritualized, stereotyped character that makes it possible for both students and teachers to perform their respective roles with very little understanding of the forces and processes involved in the system. Everyone knows it is the role of the professor to lecture, make reading assignments, give examinations, evaluate assigned work, and assign grades reflecting the student's achievement in a course. Everyone knows it is the student's role to attend lectures, identify and take notes on those contents the teacher regards as important, and to do the same with assigned reading.

The whole is to be held ready for production on demand: in class, in papers, and in examinations.

We are introduced into this ritual at the age of about six, and we stay with it until we are in our early twenties—longer if we become graduate students and teachers. Graduate students learn the ritual so well that usually it is not necessary to train them to be university teachers; they have played opposite the teacher so long that they know the role—they have in effect understudied it. Although it is a nervous, scary experience to face one's first class as a university teacher, this is usually because we do not know if we will be able to live up to the demands of the role, not because we do not know what those demands are. Most of us quickly learn to perform adequately if not brilliantly, moving with little stress from the audience to the stage.

When our rituals fail to produce the expected results, we face a sudden increase in our need for knowledge and concepts that will help us separate what is efficacious in our teaching and learning from what is merely ritual; we need concepts that will furnish better guidelines to what is wrong and what to do to correct it than a system of blind trial and error. Since most of us are trained more in the ritual of the classroom than in its art and science, we resort to trial and error for improving our classrooms. We begin by trying to improve our practice of the ritual: better lectures, assignments, tests, and so on. We experiment with smaller classes, with ungraded assignments, and with group grades for group assignments.

As we tinker, we encounter and learn the dynamics of the classroom social system in a way we could not when we merely played our parts within the ritual. We

find the system resists some changes, accepts others. Some changes have intended effects, others go badly awry. Some roles we prescribe for students and for ourselves require skills, abilities, and attitudes that they or we do not have. We encounter apparent contradictions: an innovation works in one classroom and not in another, and we begin to search for the reasons.

My own curiosity about the social psychology of learning systems began when I tried to apply, in the classroom, some of the practices I had learned in the conduct of sensitivity training and consulting in industry. To my surprise, it seemed that giving students freedom to direct their own learning was more likely to produce apathy than involvement. To add to my confusion, I found that my *groupy* techniques were eminently successful when I conducted weekend training in leadership for student leaders at other colleges and universities, but when I tried similar things in my own classroom, students were confused and suspicious.

I began to discover that if I wanted to change my classroom I had to learn to use or to neutralize the forces already existing in the system: rewards and punishments and students' reactions to them; values and standards about the appropriate behavior for students and faculty; needs and wants present in students but unmet by the university environment. I began to understand how the students' personal development prepared some of them to welcome and use freedom in the learning situation, but caused others to shrink back from freedom, or abuse k, appearing either too irresponsible or too dependent to use it effectively. I began to see how the pressures from other parts of the university organization and culture limited the

measures I could take in my classroom; for example, I found that when I reduced the pressure of grades on my students they often used the extra time to work on courses of other teachers who were not so lenient.

As my understanding of the forces became more detailed and systematic, I found that my experiments and innovations worked better. Students were more highly motivated and they produced better work. The outcomes of my educational experiments became more predictable. I gained greater skill in diagnosing what was going wrong and in intervening to save a failing experiment. Out of these experiences has grown a rough framework of concepts and principles that serves as a guide in deciding what is important to provide for in designing successful classroom experiences.

The overall aim of this paper is to help the innovative teacher to understand what changes in values, attitudes, skills, and behaviors are implied by his design, both for his students and for himself. He should be able to identify probable sources of resistance to change and be ready to work with them, counting the resistance as part of the job of innovation. The design of a learning system, like politics, is the art of the possible. The ideal classroom will not exist in any university we shall see within our lifetimes. We hope to be able to push much closer to the ideal as our knowledge becomes more systematic, detailed, and accurate.

The value, that we train students to "own" their learning, implies choices among alternative learning processes in the classroom. In this section, I shall discuss three types of learning: conceptual, instrumental, and rote. Ultimately we want to promote

learning that not only results in the mastery of the content of a discipline, but also trains the student how to learn. Traditionally, we have been more concerned with learning content than with learning how to learn. If we are to produce active, self directed, lifelong learners, however, the latter becomes as important as the former—perhaps even more important. Specific content may eventually become obsolete or irrelevant to the learner; what he learns about how to explore the world, to gather and evaluate information, to make and test hypotheses will never be out of date.

The processes of conceptualization and theory building are central to the task of learning how to learn. Practically, the learning activities of discovery and application are the realization of these processes. By discovery, I mean that we expose the learner to a variety of experiences, events, facts, and phenomena, expecting that he will uncover relationships, categories, and concepts that order and explain his experience. The teacher provides the experiences and the student actively makes sense out of them, finding the meaning in the events. The teacher has provided the conditions for learning, but the learning process remains the property of the learner. In the case of discovery, the learner goes from the concrete experience to the abstract theory or concept; hence the learning process is inductive.

Application or hypothesis testing is the deductive obverse of discovery. The concepts and theories are given, and the learner's work consists in applying them to the solution of particular problems or to understanding experience. The teacher

provides the organizing concepts and the learner uses them as tools to manipulate events or to understand them.

Both the inductive and deductive learning processes are active and contribute to learning how to learn. In each case the learner has to do something with what is given him: build theory or test it. Both can encompass the experience of encounter. The experiences of which the learner is asked to make sense inductively can be designed to exhibit values and have emotional impact as well as to be intellectually stimulating. The application of concepts and theory to action may have value implications and dilemmas of choice.

Two examples from my own teaching illustrate the processes. In one course in the psychology of administration, I wanted students to learn and test a theory of motivation deductively. I presented the theory, using lectures and reading assignments. Then I asked my students to conduct interviews among first year students at the university in which they were to elicit as much information as possible about the motives and needs of the first year students and test whether the theory was adequate to account for what they found. Where their results deviated from the theory, I encouraged students to modify the latter, thus beginning the inductive process that should always follow the failure of a concept or hypothesis.

In a different course on group behavior, I asked students to keep a diary of significant events, which occurred during the biweekly unstructured meetings of the course. At the end of the semester, they were to derive concepts and theories of

group behavior from these records of experience. In this example, the students moved inductively from experience to the discovery of concepts.

In both these examples I was concerned not only that the students learn about psychology, but also that they learn about how to use theory and how to learn from experience. I was concerned about the students' learning how to learn as well as about their learning of content. I believe that rote learning is greatly overused in the university classroom, with the result that students commit to memory a great deal of material that never gets related to anything more significant than the next examination. The problem is not that the material that is learned by rote is unimportant, but that we often assume that, once it is learned by that method, the teaching and learning job is done.

Since rote learning will probably be with us for the foreseeable future, we need to find some way of counteracting its tendency to make students passive and uninvolved in learning. For example, the effective modern language methods reduce the rote learning of vocabulary to a minimum and never allow it to interfere with active use of the language in conversation. When we move toward an emphasis on active use of each bit of information to accomplish some result, we are going away from rote learning and toward instrumental learning. The terms of the learning equation shift from *X goes with Y to accomplish result X, do operation Y.* This is obviously a more active process of learning and is more consistent with our values.

Some of the innovative courses described in *The Changing College Classroom* book have large components of instrumental learning of techniques, those of Runkel

and Seiler, for example, and the one by Horn, especially, is built around instrumental learning principles. We should, however, be aware that our choosing to provide students with tools always involves consequences for learning how to learn. The student who works out his own methods of approach most owns his learning. The student who has a wide and free choice of methods and techniques that can be applied to his own goals also has ownership, especially if he is required to make the choice on his own. Obviously, one cannot always make the ideal choice, especially when there is much content and method to be learned. However, the consequences of over controlling the instrumental learning of students may be severe. This is illustrated by an example from industrial experience. A large American chemical company extensively recruited research chemists in Europe for a time during the 1950's to compensate for a shortage of chemists trained in the United States. After several years' experience, however, the company decided that the Continent was not a good source of research personnel. The company discovered that young chemists trained there found it hard to take individual responsibility and to carry projects forward. As one manager put it, "They are so used to having the professor tell them what to do, that if you give them a project, they wait around for someone to tell them how to do it. They have no confidence in their own ability to conduct research." These chemists had learned a general method for doing research (to ask the professor) which did not work when they were left on their own. They had also acquired an image of themselves as low in the ability to generate their own approaches to problems. Though they were well-trained in their basic discipline, their instrumental

learning about how to solve problems required a relationship to authority that was not available in this organization.

To summarize my point of view regarding the selection of learning processes in the design of classroom experiences: I favor giving a high weight to learning how to learn. Conceptual learning processes give the learner most freedom and ownership of the learning process and can best prepare him to be self directed and independent in his future learning. Both inductive and deductive processes are advantageous: the former being the generalization of concepts and theory from experience, the latter being the testing of theory and its application to the solution of problems.

The lower learning processes have less desirable consequences. Rote learning tends to develop a passive and dependent orientation to learning, and instrumental learning is often tightly controlled by the teacher's selection of goals and means to the goals. However, instrumental learning can in part be given back to the learner when the teacher encourages exploration and experimentation in the choice and practice of means to goals.

Motives, Needs and Goals

An understanding of the motivational aspects of classroom design is badly needed in American universities. A theory of motivation can help the classroom designer make intelligent choices about the needs and incentives upon which he will base his designs. First. Man is a wanting animal. When one need is satisfied, others arise and become motive forces. While it is possible to satisfy a particular need, it is not possible to satisfy all the needs of a person. Although we tend to think of human

needs as fixed and static, they are changing and dynamic, first one and then another emerging, becoming potent, achieving satisfaction, and then fading into the background. Give a man bread and he wants respect; give him respect and he wants love.

Universities, like other social systems, control the behavior of their members through the application of incentives (rewards and punishments). For the incentives to be effective, they must meet important and currently active needs of the members. Otherwise the incentives will not control behavior and the system will begin to break down. When our assumptions about the people's needs turn out to be inaccurate, things can go wrong very fast. The behavior of others in the system becomes unpredictable and uncontrollable. This is happening on university campuses all over the world where many students are becoming inexplicably unresponsive to the incentives applied to control their behavior. It is a reasonable hypothesis that the students' needs have changed, while the incentive systems have not.

Our model of motivation postulates three basic human needs actually or potentially active in everyone. The model is a modification of an original concept by Maslow (1954). *Physio-economic needs* are those for very broadly defined creature comforts: anything from the most basic essentials of existence like food, water, shelter, and clothing, to such unessential but comfort producing incentives as automobiles, dishwashers, and shorter working hours. Social systems for the production and distribution of goods and services originally take much of their motive force from physio-economic needs. *Social needs* are those for love, acceptance, belongingness,

and closeness to others. This need includes all wants and desires pertaining to loving and hating, being close and intimate, and spending time by oneself or with others. *Ego needs* are those for competence, knowledge, status, and respect. Wants and desires relating to self esteem, self confidence, achievement, reputation, and recognition are all included among the ego needs. A given kind of behavior can be controlled by incentives in any one of the three need areas. For example, a student may enroll in a particular course because it is on the path to a degree and an economically secure life (physio-economic need); because his friends are also enrolling in it (social need); or because he is oriented toward the mastery of the subject matter of the course (ego need). We never know exactly what the active needs are that students bring with them to our classrooms, but we can be sure that they are not identical. The most viable and effective classrooms are those in which desirable behavior (work, or learning), from the point of view of the system, can lead to a variety of rewards. In other words, they are classrooms in which people with varied needs can all be rewarded for contributing to goals the teacher also values.

In universities, I have been impressed with the narrow range of rewards (those limited to the ego area) offered in most classrooms for effective performance. We offer recognition for knowledge and competence through grades, academic honors, and the personal respect of teacher and classmates. Some teachers and courses, by no means most, offer exciting opportunities for the intrinsic satisfactions to be taken from the growth and development of one's understanding and intellectual capacities. Very rarely do the formal learning systems of the university provide much in the way

of social satisfactions, and those that have been available informally are being badly eroded by the size and bureaucracy of the universities. Affection and liking between students and teachers become impossible when they spend little time in face to face contact. The same is true for students in their relations with one another when work assignments are individual and when living arrangements are not communal.

In the survey that some of my students made of first year students, the needs found to be the least well satisfied were social needs; my upper-class students have confirmed, in diaries I asked them to keep, that this deprivation is only partially made up after two or three years in the system. The social needs of students are relevant to the designer of classroom processes in two important ways. First, the goals of classroom design, as I have outlined them above, emphasize encounter as a significant educational goal. Learning that is low on encounter is not experienced by students as relevant and will not easily be applied to choices and actions in the real world. Educational systems fail significantly to approach the goal of encounter when students' relationships with teachers and one another are impersonal, lacking in emotional impact, and without important consequences for the individual's social needs. Second, such educational systems fail to motivate significant numbers of students whose social needs are more active and potent than their needs for the ego rewards traditionally offered in the classroom. Social needs of students must be attended to if only to revitalize the classroom and stimulate learning. This means that systems of rewards in classrooms should be designed so that the learning process will

either be intrinsically socially rewarding or will lead to social rewards for the effective and highly motivated learner.

I have been treating needs as though they were to be met directly by rewards or, in reverse, by punishments or the withholding of rewards. However, goal seeking operations vary not only as to the three basic need areas, but also as to the social processes that satisfy the needs. These processes will be assessed according to their levels of influence. Teaching, after all, is a process of influence.

Compliance

At a rather low level of need satisfaction, the individual is prepared to enter into what Kelman has called *compliance* transactions with the environment (Kelman, 1958; Kelman, 1961). He is deprived enough and hungry enough to be concerned mainly with getting the next satisfier and avoiding the next punishment or deprivation. The distinguishing characteristic of compliance is that the person being influenced is oriented to external sources of reward and punishment, and behavior is consequently controlled by the outside agent who administers rewards and punishments. If external sources of satisfaction fail the individual, he has few resources of his own on which to fall back. He is often confused and lost. In the area in which his need is high, he is likely to have underdeveloped values and standards of ethical behavior and to take what he can get when and how he can get it. He is relatively unresisting to exploitation by others, and he will exploit them in turn when opportunity offers. He is oriented to the present and near future and finds it difficult to put off present wants for future advantage.

In the classroom we find dependent students responding to rewards and punishments in both social and ego need areas. Some students work hard for grades, fear failure, go to great lengths to impress the teacher with their willingness to work and their mastery of what he has assigned, and seldom take any risks that might result in punishments, such as disagreeing with opinions of the teacher. They are employing compliance processes in the ego area. Other students exert themselves to be pleasing and likable. They may amuse other students and the professor; they avoid conflict and controversy for fear of offending others; they may spend a great deal of time in socializing to the detriment of their work; their effectiveness as students may be at the mercy of whether the girl or boy friend or the roommates are at the moment accepting or rejecting them. They are functioning at the compliance level in the social area.

From the point of view of the learner, compliance management is most effective when the need is strong and when the individual has few resources of his own to use in achieving satisfaction independently of external sources of reward and punishment. It is least effective when the need is weak or currently well satisfied, and when the individual has readily available alternate sources of satisfaction. From the point of view of the classroom designer, compliance systems are most useful when the response desired from the learner can be closely specified and compliance observed. The effective administration of rewards and punishments depends on one's being able to specify, in advance, the response which one requires from the learner, and then to observe whether the response has been produced, and to reward or not

accordingly. Compliance management lends itself to rote and instrumental learning. It does not work as well where discovery and hypothesis testing, or invention and application, are the major learning processes, because, in these cases, it is precisely the external control of behavior from which we are trying to shake the learner loose. Nor does it work well when the teacher does not control rewards that will satisfy the active needs of his students. Most influence in schools and universities is compliance based, with the teacher as formal authority.

The progression from one level of need satisfaction to another seems to be a developmental process in which stages have to be gone through in a regular order. There are two processes relevant to this moving up and out from dependency and passivity. One is a moving away from others; the other a new kind of moving toward others. The moving away involves a counter dependent orientation in which the individual struggles to free himself from control by others. He shows a new willingness to endure deprivation to avoid domination, secure in his feeling that the deprivation is temporary and, at least to some extent, under his own control. He separates himself from the ideas, attitudes, and standards of others; after having been conforming, he becomes iconoclastic. In the ego area, we now find students rebelling against domination and dependency. Sometimes they avoid schoolwork for extracurricular activities where they can attain recognition, respect, and a feeling of growing competence without submitting to the control of assignments, examinations, and grades. Sometimes they seem to go on a kind of private strike, in which their productivity and their grades take a sudden nose dive. Sometimes they become

argumentative and contentious, challenging the authority and competence of the teacher. In the social area, we find people who are emerging from dependency developing an increased willingness to take risks with love and friendship. They become more likely to fight with their friends and to violate the standards of acceptable behavior. They may exploit the exploiters by trying to see how many people they can have in love with them at the same time, or by using friendship to manipulate others.

Identification

It is possible to become fixated or stuck at any stage of development. Dependent and counter dependent orientations can become life styles for individuals or for whole groups and societies. If development continues naturally, however, the moving away of counter dependency is followed by the moving toward of *identification.* With identification, influence takes place through the influenced person's wanting to be like or to learn from a model. The influenced person seeks the influence, out of his own needs for self definition, rather than complying in return for rewards or in fear of punishment or deprivation. Another aspect of identification is the establishment of relationships in which one finds identity and self definition through the way others act toward him. If I am a member of a group that treats me as likable and worthy of friendship and trust, I will be willing to meet its standards and requirements to maintain the identity the group confirms. If I belong to a group or organization holding an elite status in my profession, I will be willing to accept its influence in order to continue to see myself as elite. Any relationship contributing to a

person's own sense of success, competence, or worthiness of love can be a source of influence through the person's desire to maintain that support for his identity. Identification processes are significant sources of influence in the classroom. In Cytrynbaum and Mann's typology, they are found in the teacher as ego ideal and the teacher as person. The popular image of a good teacher is of a person who serves as a model for students, inspires them to the highest ideals, sets them a good example, brings out the best in them. These are ways we have in everyday speech of talking about influence through identification. Identification is also significant in the influences students exert upon one another. Students develop an image of the ideal student that is not at all the same as the faculty's image, which is less likely to embody social attractiveness than is the students'.

Internalization

At a certain stage in the development of the individual, he may develop beyond being greatly dependent on others for the satisfaction of his needs. He may acquire a strong sense of his own identity and a correspondingly clear and strongly held set of values. In the normal course of development, most of us come to operate from internalized values and standards a large part of the time and in a number of areas. We are not honest just because we are afraid of being caught, but because we identify ourselves as reasonably honest persons; we do not give love only to receive it in return, but because we feel love and we see ourselves as warm, loving persons; we do not achieve just for the acclaim and respect of others, we work for the pleasure and satisfaction we find in a job well done. When we are operating from such values and

from our abilities to give, create, and love, we can truly be said to be self directed and to own our own lives. People who are operating in such an inner directed mode of need satisfaction tend to be rather unresponsive to coercive influences or to identification processes. If the rewards or the relationships offered to these inner directed people reinforce their values and sense of self-identity, they respond, but their values take precedence when there is a conflict between inner and outer influences. If such persons can be subjected to massive and unrelieved environmental control, their values and sense of self can often be broken down and they can be made externally directed again. For most of us, this can happen, to some degree, in times of personal stress or deprivation: when we are without money and hungry, or unloved and alone, or failing and unrecognized in our work. Some of the time, however, most of us operate more from our values than from our interests (the latter being defined as getting the most satisfaction for the least effort).

University students may be more subject to external coercion than are the adults they will become. Certainly they are more likely to be deeply involved in the processes of identity formation than they will be later. Many of them, however, operate much of the time upon strongly internalized values firmly rooted in a clear sense of identity. Unfortunately, because of the increasing gap between students' values and those embedded in the structure and operation of the university, the attempts at influence made by teachers are often irrelevant or counter to students' values. When this happens, particularly if the coercive pressures are great enough to make them feel really oppressed, students either do not respond or they resist. Even

when the values of students and teachers are not conflicting, students do not like to have their self direction taken away from them; they react as though the coercive pressures were being used to *dedevelop* them. The self directed student may then avoid direct involvement by playing the game while investing his real concerns and energies elsewhere, perhaps by trying to learn in his own way, while fending off control with whatever means of resistance he can muster; perhaps by trying to change the system by joining university reform movements, or by using the system to further his own needs and values if he can find ways of doing so; or by dropping out of the system. However, he will not fit into the system and be a good, integrated member of it unless it offers him opportunities to direct his own activities according to his own values.

The question for the classroom designer becomes, how does one exercise his responsibility for teaching and at the same time encourage self direction on the part of students? Some part of the answer may be found in the use of the influence process which Kelman calls *internalization* (Kelman, 1958; Kelman, 1961). It has also been called *expert power* (French and Raven, 1959). If we assume the individual's own values as a major driving force, we can still facilitate learning and influence behavior by inducing the individual to see new or different ways to maximize his values. This may be done through giving him information, or by introducing new concepts that help account for events and experiences he has not previously been able to integrate into his problem solving. We do not directly offer the individual rewards and punishments as inducements to learning. We aid him in discovering ways in which he

can increase his own satisfactions, assuming his own needs will provide the stimulus for learning. We do not seek to inspire the student with a vision of what he can become. Instead, we assume that he knows what he wants to become and wants to learn whatever will bring him closer to his own ideals of being and doing.

Different characteristics of the teacher become important in influence through internalization. What is important is the credibility of the teacher and his ability to develop the student's trust in his own competence and motives. This is so because, if the teacher is successful in his influence attempt, the student will personally experience success or failure on his own responsibility. Influence through internalization never takes the responsibility away from the influenced person.

In the process of internalization, the encounter between the student's values and the consequences of his actions is maximized. The teacher is responsible for his own competence and for his own honesty, but he stops short of making choices for the student about what the latter should learn or how he should learn it. He serves as an aid to the student's own learning, not an instigator of it. Influence through internalization facilitates conceptual learning by discovery and hypothesis testing. The teacher facilitates learning of concepts not only through his personal relationship to the student, but also through his designs for learning. Given the increasingly large classes and depersonalizing of relationships between students and teachers, the most effective way to influence by internalization is by classroom design. This means that we design the classroom so that the student can act upon his own values and goals in the process of learning. Sometimes this means that he selects his own learning tasks,

sometimes that he determines his own approach to some task which the teacher sets. The more freedom of choice and action the student has, the more opportunity there is to involve his own goals and values, and to own his learning experience.

Much of the remainder of this paper explores the problems and difficulties we face when trying to move from the traditional compliance based influence systems in the classroom to designs that maximize internalization. The discussions are based on the hierarchical model of learning, needs, and influence processes set forth above and summarized in Table 20.1. "Lower," more concrete, externally directed processes lead by stages of development to "higher," more abstract, internally directed processes. Processes at a given level go together, fit with one another and reinforce each other. Learning process, influence process, and the level of need development at which the student is operating are interdependent.

Compliance tends to result in rote learning and in instrumental learning. Simpler, mechanistic learning processes are favored by deprivation and high levels of need on the part of the students. High need levels make students accept the dependency which accompanies influence through compliance. Appropriate teaching styles and classroom design for the effective use of compliance include clear specification of expectations and reliable reward for performance, frequent assessment of performance, and a firm but fair style on the part of the teacher.

Table 20.1. A Hierarchical Model of Classroom Processes

Influence Processes	**Ideal Teaching Style**	**Design Principles**	**Major Learning Processes**	**Level of Student Need**

				Development Required
Compliance ("lower")	Firm but fair; clear and consistent about what he expects and what are the consequences of compliance and noncompliance.	Behavior and learning desired are clearly specified; success and failure are accurately and frequently assessed; rewards are reliably forthcoming for success, withheld for failure. Source of reward may be teacher or other students, but in either case	Rote learning, including the mechanistic learning of concepts and theories without integration with the individual's values and goals. Instrumental learning through rewarding of correct behavior.	Subsistence: strong needs for rewards offered within the classroom, with little opportunity or ability to obtain alternate satisfiers of the same needs elsewhere. A level of need and lack of resources leading to willingness to endure a high degree of dependency.

		standards of performance are made clear in advance.		
Identification	When modeling: exciting, inspiring and admirable. Persuasive and charismatic. When engaged in self defining relationships with students: empathetic and accepting. Treating the student as though he is what he would like to become,	Maximum contact and interaction between student and identification models (teacher or students): thus, an emphasis on groups and collaborative learning tasks. Need for finding and training persons with whom students	Instrumental learning through modeling effective behavior. Conceptual learning through adoption of the ideas, values, theories of valued and attractive others.	Some confidence in own ability to satisfy own needs. The individual is engaged in the building of a sense of identity and self worth within the need area and is receptive to identification models and to adopting the ideas and standards of

	e.g., responding to the student's competence and likeability.	can readily identify (other students, graduate students). Knowing and working within the values of the student culture.		valued others or of others who value him.
lnternalization ("higher")	Competent, trustworthy. Providing reliable information and useful ways of understanding experience. Providing nonevaluative feedback as to	Learning designs which involve and activate students' own goals and values. Maximum opportunity to set own goals and make choices as to	Conceptual learning through discovery and hypothesis testing. High integration of learning with values and goals of the student.	Considerable confidence in ability to satisfy own needs. Willingness to endure deprivation for periods of time in the service of own values and standards. Strong sense of

	how he sees the student's behavior, abilities, accomplishments. Judging only against the student's own values and standards.	approaches to problems. Designs in which the consequences of thought and action for achieving or failing to achieve the student's own goals can be experienced.		own identity, and well-developed values and standards. An ability to give as well as a need to receive need satisfactions.

Identification presupposes a higher level of independence and an active search for identity and values on the part of the student. It leads to learning which is value relevant and likely to become integrated with the individual's values and goals. Identification depends upon the knowledge and skill in design and personal qualities of the teacher.

Internalization presupposes a degree of value development on the part of the learner, to the point that he is willing and able to endure deprivation and postponement of immediate gratification in the service of learning and of his values and standards. This ability to operate independently of external rewards and

punishments permits self directed exploration and manipulation of the environment. Internalization lends itself to conceptual learning by the methods of discovery and hypothesis testing.

A great deal of design ingenuity is required, particularly when there are fixed principles, concepts, or skills which it is decided in advance are to be taught. The teaching style which facilitates internalization is one of competence, trustworthiness, and honesty. The teacher avoids judging the performance of the learner except against the latter's own standards. Instead, he provides accurate, objective but nonevaluative feedback in which he simply describes what the effects of the student's behavior are without praising or blaming. He provides information, ideas, and help in formulating concepts, rather than being a source of reward, punishment, and external control.

Much of this book is about the attempts of teachers to move toward the constellation of learning processes, and influence relationships we have identified as "higher" in the hierarchy. This is a difficult and risky enterprise, and for each of the reasonably successful projects reported here, there must be scores of attempts which result in the teacher giving up the task and reluctantly going back to more traditional classroom designs and teaching styles.

Traditional Classrooms: Mixtures of Needs and Motives

Classrooms contain students at a mixture of need development levels. These students do not respond to influence in the same ways, but the teacher cannot usually choose his students; he must try to educate them all, or he must work with some and

let the others get along as best they can. The vast majority of students have learned to get along somehow in learning situations where there is much influence by compliance in the ego area. Behavior is manipulated through grades; students are encouraged to compete; competence consists not only in meeting some standard, but in being better than one's fellows. Cooperation between students in their work is usually defined as cheating, either actual or borderline. Along with this basic compliance pattern is a less formal system of influence through identification. Teachers model the behavior they expect from students and do their best to inspire and draw out commitment to academic values. There are few opportunities for self direction and influence through internalization. Those which exist are usually reserved for specially selected students who enter honors programs or independent study.

Side by side with the classroom learning system is the student culture, which is based largely on social needs and motives. The two cultures often conflict, especially where the competitive reward structure of the classroom interferes with the development of friendly, cooperative relationships among students. The style of adaptation to this "normal" classroom culture varies with the strengths of the ego and social needs in the individual student. The student culture has more influence over those with stronger social needs.

Students who have strong needs for the rewards offered by the formal compliance system will tend to be controlled in the way the system is designed to control them. They will attend classes, take notes on lectures, complete assignments

on time, study hard, and write examinations that reflect what they think the teacher wants. They will try to obtain the maximum rewards for the minimum work and may not show a great deal of concern as to the intrinsic value of academic activities.

Students whose level of development is above that of the most dependent relationship are usually in a state of at least partial conflict and defense against the compliance relationships in the classroom. They may try to manipulate or outfox the system, sabotage or rebel against it, or withdraw from it. If there are acceptable identification models available in the persons of the teacher or effective students, this conflict may be reduced. This occurs when the student is able to identify with the values associated with being a good student.

Most of the time, I think, most of our students are rather peripherally committed to formal academic activities and defend themselves against too much influence from the teacher or his classroom design. They respond to the occasional inspiring teacher, but they do not see the classroom as a place where their own values and goals can be pursued. They do not devote more energy and time to work than is necessary to get the rewards they need from the system. They comply, but they do not commit themselves. Instead, they keep their commitment to academic work low, so they can devote themselves to activities that promise more opportunity for growth and identity development. Most students have learned to write the classroom off because it does not satisfy their needs very well.

The teaching experiences reported in this volume suggest that the normal classroom situation is not wholly favorable for the introduction of classroom designs

relying on ego needs satisfied through internalization. Some few students quickly grasp the opportunity for self directed learning and use it. Many others respond initially with some combination of anxiety, confusion, mistrust, resentment, or apathy. One major cause lies in the discrepancy between the social needs of students and the ego based reward structure of the traditional classroom.

Having high levels of ego need, teachers tend to design their classrooms as though social needs do not exist or will not be aroused in the classroom. However, social needs are aroused as soon as students are in the presence of other students or the teacher. Classroom designs often go awry when we fail to take this into account. For example, in this volume it has been suggested that small work groups of students spend a fair amount of time "unproductively." The students themselves report that they feel guilty about the wasted time. I suspect that much of the time seen as wasted is spent in satisfying social needs. Because the satisfaction of these needs is not designed into the task, activities directed toward meeting them are tangential to work and are evaluated negatively. Another common example has to do with classroom participation. Students who are too active in demonstrating their knowledge in class often irritate others because they make them look stupid or lazy by comparison. Students know they may be disliked or avoided by others if they appear too bright in class, and for many whose social needs are strong, this inhibits their performance.

If social needs are not designed into the classroom, they will operate anyway, perhaps in a disruptive way. Furthermore, students' relationships with their peers are a significant part of their life experience, their concerns, values, and goals. The

classroom can hardly be said to be high on *encounter* for the student if we continue to act as though the only important human relationship in the classroom is that between student and teacher. The classroom becomes at least partially irrelevant to the student's values and goals unless his relationships with other students can become a contribution and a vehicle for the learning process.

Using the Social Needs to Foster Learning

If the social needs of students are to become significant in the learning process, students must work together. In practice, this means that we shall want to use groups as learning settings. Groups are not without their disadvantages. To begin with, the opportunity to interact with others affords occasions for social punishments and deprivations (rejection, dislike, boredom, and so on) as well as for satisfactions. Also, people in groups can be happy and satisfied without these feelings being connected in any way with learning. The task of the designer is to connect effective learning with the attainment of social satisfactions by the learner. Several times I have had the experience of designing a course around a term-long group project that counted for most or all of the grade in the course. If the group worked well and was satisfying to its members, all was well. However, if the members of the group had interpersonal difficulties (disliked one another, struggled for power, and so on) members became discouraged part way through the course and began to withdraw from the group activity. This is always a danger when students are required to work collaboratively. Most have had little experience working in groups, since the traditional classroom emphasizes individual activity. They do not know how to work out the appropriate

division of labor, or deal with competition, over- and under-participation, and unwillingness to work on the part of individuals.

I can make some practical suggestions for increasing the likelihood that learning groups will be productive and satisfying to their members and that an occasional failure will not be disastrous for the unlucky individuals in the failing group.

Try to compose groups so that competence is evenly distributed among groups. This can be done by grade point average, by grades on previous tests or projects in the current course, and so on. In this way, each group will have some very good resources as well as some members who have to be helped or carried by the other members. The less effective students will be exposed to more effective ones who may serve as identification models for them. Most students will have had little contact with one another's work habits; working closely with effective students has been shown to have a good effect on the work of underachieving ones. Cahn (in this volume) gives a good example of the process of student modeling.

Try to compose groups so that there is as little interpersonal conflict as possible. Energy that has to be spent in dealing with conflict, competition, and disagreement is subtracted from that available for the learning task. A good deal of work has been done to study the effects of grouping members who have different personal characteristics, and the author has reviewed some of this work in a theoretical paper (Harrison, 1965c). Of particular interest is FIRO-B, the instrument described by Schutz, which measures individual preferences for different kinds of interpersonal

relationships (Schutz, 1958). I have experimented successfully with groups composed on FIRO-B scores to try to reduce conflict and maximize cohesiveness and satisfaction of group members (Harrison, 1965b). For example, I distributed evenly among the groups people with low inclusion scores, so that no group would have too many members who did not really like being in groups. I identified highly dominant people and placed them with others who were more willing to accept influence. I gave each group some members who were not at the extreme on any of the scales.

Another way of composing compatible groups is to allow members to select their own groups, preferably after they have had some experience with one another. Before deciding, they might discuss, in rotation, the qualities they would look for in a work group member. People tend to be more committed to making a decision work if they have participated in it, and group members who have chosen their own group will not give up as quickly as they would if the choice were the teacher's. This method conflicts with the suggestion made above that groups be composed to have an even distribution of talent. One has to make a choice.

Let the group decide differences in individual rewards. Sometimes students have complained to me that group projects are unfair because everyone receives the same grade, even though some students are unable or unwilling to do their share of the work. The project work is completed at the last minute by one or two highly motivated group members, often working alone. Because it is against the informal standards of students to put pressure on one another to work harder, it is difficult for

students to deal unaided with members' under productivity. The same problem is reported by Culbert, South, and Torbert and Hackman (in this volume).

I have successfully dealt with the problem by having the students distribute rewards (grades) within the group on the basis of individual contribution. Students worked together on a task in four or five-person groups, producing a report to which I assigned a grade. The students then each ranked the others according to their individual contributions to the group product. The average of the group members' rankings was fixed by the grade I assigned to the group's product. Individual members' grades were adjusted higher or lower than this average according to the average rank they received from the other members rating their contributions. The students with whom I used this method accepted it as fair, and the group products were among the best I have received.

Legitimize leadership in the group. Students are encouraged, by the traditional reward structure of higher education, to compete with one another for grades, academic recognition, and entrance into graduate schools and the professions. They become unwilling to accept influence from their competitors; to preserve some friendliness and collaboration in the system, the peer culture develops strong norms in favor of leaving one another alone where scholastic matters are concerned. However, group work requires considerable mutual influence for its success. Since students do not readily develop arrangements for directing and coordinating the activity of group members by themselves, I usually give a push by prescribing or suggesting an authority structure in the group. I often ask a new group to spend some

of its early meeting time discussing what leadership functions need to be performed, and how they would like them performed. Since most students prefer to operate under a chairman, I may ask them to discuss the characteristics they would like in a leader and then to select one of their number for the post. After such a discussion, group members are more likely to select a leader who can be a model they can identify with.

I have also successfully channeled the distribution of grades to individuals through group leaders chosen by students. Again, a group grade, assigned by me to a project, set the average of individual grades, and the leader assigned higher and lower grades to reflect individual contribution. The leader's grade was set by the teacher. The purpose of channeling rewards through the group and legitimizing leadership is to make the compliance influences in the classroom support the effective functioning of the group. Otherwise, some students may correctly view the group as irrelevant to the goal of obtaining high individual grades.

Reduce the threatening aspects of group work. Students may correctly assess their effectiveness as group members to be low. The norms of the traditional classroom legitimize individual treatment of the student by the teacher. I have found that, to legitimize my group design, it helps to explain exactly why I feel the design is appropriate to the learning task and what benefits I expect students to derive from it. I solicit suggestions from students about the design, especially about the grading features, and modify it where there are strong objections. I give students as much

participation in the decision about adopting the design as I can so that they will be committed to making it work.

In addition, it is possible to provide options that reduce the fear of failure. Students can be given a choice whether to do a given task individually or in a group. Group projects can be limited in duration and scope. I now usually use several projects, never longer than two to three weeks. Groups can be resorted for each new project, so that individuals have a fresh start each time. Runkel (in this volume) uses a different procedure for reducing threat and pressure: he gives term-long projects, but permits them to be continued into the following term; the lack of a deadline decreases anxiety and stress.

I do not view the use of learning groups as a panacea for the defects of the traditional classroom. However, groups still offer the best vehicle for students to meet social needs through productive learning activity. Carefully designed and managed, learning groups can increase involvement of students in the classroom, and provide them with opportunities to pursue their personal values and goals in the learning situation.

The Uses of Compliance

If it were possible to make pure *internalization* classrooms productive, this would be an ideal development. Unfortunately, it is usually beyond our reach. In such a classroom, there are no grades, no assigned projects, papers, or examinations. The teacher provides learning resources (readings, lectures, laboratory equipment, for example) but does not prescribe their use. Without rewards and punishments applied

in the classroom, students who are highly oriented to external satisfiers of their ego needs tend to withdraw. They use their energy and time to obtain satisfaction in other course work where the traditional pattern continues. In present-day universities, where most students have to work hard to get good grades and to graduate, nearly everyone is somewhat responsive to coercive pressures. Attendance and effort drop off in non coercive classrooms, except on the part of those few students who are genuinely self directed or who are motivated at the level of identification. From a practical point of view, the noncoercive classroom seems nearly unworkable unless students can be selected for it, or strong identification relationships can be established early. It is as though students' time and energy are attracted to the area of greatest coercion.

For this reason, I take the somewhat controversial position that in classrooms where internalization is heavily relied upon, there must also be some coercive features. I usually assign grades on the basis of some assigned work, but as far as the actual conduct of the work is concerned, the students are given quite a lot of freedom to choose projects, approaches, and learning resources. The power to reward and punish is used to *fence in* the students so that they will stay in contact with the learning situation and to *fence out* the competition and demands of other activities, both curricular and extracurricular. Students are given great freedom as to what they will do in the course, but the traditional rewards of grades are contingent on their applying themselves vigorously to the task of learning.

Such designs, using mixtures of compliance-oriented and internalization-oriented influence, create difficulties for many students. For the student who is quite dependent, who values grades but has little confidence in his ability to obtain them, these designs produce a great deal of confusion and anxiety, because they violate the principles for effective compliance-based learning. The student does not have a clear specification of the behavior desired. He knows he is expected to produce something that will be graded, but often he is not told what to produce, how to produce it, or against what criteria the work will be judged. His attempts to get clarification from the teacher may well be rebuffed. The dependent student may give up, feeling that his chances of getting a good grade are very low.

The mixture of compliance and internalization also creates difficulties for the majority of students whose development in the ego area is high enough for them to take some responsibility and self direction. These students are often engaged in a defensive rebellion against the coercive pressures of the classroom. To the extent that they need the rewards of the compliance system, they will play the game, trying to manipulate the system so as to get maximum rewards from minimum effort. To do this, they need the same kind of information that the dependent student requires: an exact specification of the way the rewards and punishments will be administered. Then they can meet the minimum requirements with little wasted time and effort. Often such students do not value and enjoy learning for its own sake, nor do they have well developed skills for self directed learning. They are not confident that, if they put themselves wholeheartedly into the process of self directed learning, the result will be

intrinsically satisfying or will be highly valued by the teacher. Such students often mistrust the motives and trustworthiness of the teacher. They ask themselves why a teacher suddenly takes an interest in the growth and freedom of students. They may not believe that the choice of project or approach is really free. They may feel that the teacher who offers them choices is keeping back a clear notion about what he will reward, in order to make them work harder.

I have had the experience of getting students to make a provisional commitment to self directed learning, only to lose their involvement midway through the course. It is discouraging. Once it occurred because I set students a group task that was beyond their ability. When the reports were turned in, I graded them on the quality of the products, which was not high. The students had actually put in considerably more time and effort than the reports showed. They felt cheated and punished. They had committed themselves to do a difficult, ambiguous task, had done their best to develop approaches to it, and were now being punished because the projects did not come up to my standard. The feeling of excitement and discovery that had existed at the beginning of the course was replaced by an apathetic despair which was never completely overcome.

Using Identification to Foster Learning

Identification processes are midway between compliance and internalization and tend to be compatibIe with both. Identification offers a key to the transition between the two extreme and antagonistic processes. Unfortunately, our ability to serve as identification models for students is often quite limited.

One of the significant changes which has taken place in higher education during the years since World War II is the progressive weakening of the influence of the teacher through identification. Part of this is caused by increasing class loads and the consequent depersonalizing of the relationship between teacher and student. With increased distance, the establishment of influence through identification depends on the teacher's ability to perform as an inspiring, charismatic lecturer. Skills in establishing self defining relationships in face to face relationships become less relevant because fewer and fewer students spend significant amounts of time in direct interaction with teachers.

Part of this change can probably be traced to the increasing specialization and "technicalization" of the disciplines. The academic is increasingly restricted to being an ego oriented model of the competent, knowledgeable professional, rather than inspiring identification with himself as a person with warmth, understanding, concern and wisdom. A further consequence of technicalization is that more and more of the academic's time is spent in becoming and remaining competent in his discipline, and he is less and less oriented toward establishing and maintaining personal and mutually self defining relationships with students.

In addition, the teacher is losing his potency as an identification model for students, along with other members of his generation (parents, professionals, leaders in industry and government, etc.). The orientations of students who are coming to universities are changing from economic, achievement and intellectual goals toward more emphasis on the quality of life and experience. The teacher may well have

sacrificed his own social satisfactions in the pursuit of academic excellence. He is often ill equipped by background and personal values to model the kind of person students want to become.

All these factors seem to conspire to reduce the effectiveness of identification with the teacher as an influence for learning in the classroom. The result is that students turn to other students for their models, developing a peer culture increasingly divergent and out of touch with the values and attitudes of the faculty, and teachers fall back on compliance models of classroom management for lack of effective alternatives.

The remedies for these difficulties lie in the domains of reform of the university organization, redefinition of the role of teacher, and redesign of the training of academics. Such questions are beyond the scope of this book. The question is, what can the innovative teacher do with the resources available to him: himself, his students, and the authority and prestige of his role in the university?

The Choices Available to Us as Teachers

The teacher has choices in two domains: the design of the course, and his own style. In choosing to lead students and himself towards higher learning processes, the teacher must avail himself of all the sources of empowerment that are available to him. It is not enough to have a good design. The teacher must choose his behavior as well. He can choose to lead students toward internalization models or to keep them back in a compliance mode. As an identification model, the teacher elicits reciprocal behavior from his students. They expect him to determine the rules of his classroom

game, even if only so that they can break the rules. His behavior becomes pivotal for movement toward or away from an internalization model. The structure of the course only provides static conditions that permit or inhibit growth. The behavior of the teacher himself is at the center of the dynamics of what actually happens.

Given the fact that most of us are not, in our persons, overly inspiring models for students, I believe we still have a good deal of choice as to the impact of our behavior on the transition to internalization models. In Table 20.2. I compare and contrast compliance-oriented and internalization-oriented behaviors that affect students' freedom and risk taking. In Table 20.3. I make the same kind of comparison for behaviors affecting the depth of encounter with students' goals and values. Each teacher and graduate assistant can apply at least some of the facilitative behaviors without appearing awkward or phony.

Table 20.2. Behaviors Influencing Self-Direction and Risk-Taking by Students

Compliance-Oriented		**Internalization-Oriented**
Making all the decisions about how the course is to be run. Ignoring or turning down attempts by students to change rules, assignments, deadlines, format or subjects. Adhering closely to rules and standards, and showing neither fear nor favor in administering them.		Finding ways to place alternatives and choices before students and to modify the content or conduct of the course in response to student influence. Being approachable and understanding in management of the classroom. Using rules and deadlines as ways of helping students

Avoiding or ignoring feedback from students about their reactions and evaluations of the course and the teaching, and about their needs and desires for change.		manage their time and direct their effort. Being wiIIing to revise or suspend rules when students come up with a better way or when to do so would encourage students to push ahead and take moderate risks. Soliciting and using student feedback during the course, as well as after.
Presenting ideas, facts, and opinion as though they are immutable, demonstrated truth. Winning discussions and arguments with students through superior logic or academic authority. Being careful not to make mistakes or be wrong, and not to expose or publicize one's own errors when they occur.		Questioning and speculating about one's own dogma and discipline. Being impressed by, or convinced by student thought, criticism, and argument. Showing students when they have made a point or changed one's thinking. Taking risks with ideas, admitting the possibility of being wrong. Exposing one's own mistakes, errors, and inadequacies of knowledge and competence without shame.
Presenting only neat, cleaned up end results of thinking and research:		Presenting the processes of thinking and learning in all their

positive conclusions, findings, facts. Focusing on what is known or authoritatively thought. Dealing with the content of the subject, and excluding the processes of search, controversy, and speculation by which knowledge is generated, destroyed, and reconstituted.		untidiness, contingency, and deviation from rule. Discussing controversy and search in the past and present, stressing the shifting, temporary nature of our conceptions of truth. Discussing one's own thinking and research, not in terms of results and certainties only, but in terms of the personal processes of search, choice, evaluation of ideas and findings, and deviation from formally accepted rules of scientific procedure.
Showing mistrust of students' abilities as self directed learners. Providing instructions which prevent students' having to make choices under conditions of uncertainty. Providing guidelines, information, and answers for any problems which students will face in completing assignments.		Showing confidence in students' abilities as self directed learners: by leaving many choices open, providing guidelines and instructions that are incomplete and must be filled in by students, raising questions for which answers are not provided. At the same time, standing ready to provide more support and

		structure when uncertainty and ambiguity threaten to immobilize students' abilities to act.

Table 20.3. Behavior Affecting Encounter: The Involvement of Students' Values and Goals

Compliance-Oriented		**Internalization-Oriented**
"Sanitizing" the subject matter by avoiding value issues, personal goals, and human relevance. Attempting a value free, objective, and detached presentation of issues. Avoiding the action consequences of knowledge and opinion. Limiting students to talking and thinking, short of action.		Emphasizing the values, goals, and personal choices which are involved in or relevant to the subject matter. Being open about one's own attitudes and values regarding the subject matter. Comparing and contrasting one's own values with those of students, others in one's own field, and society as a whole, and encouraging students to do the same.
Presenting one's own values, opinions, and goals as facts. Investing one's point of view with the weight of academic or personal authority. Using one's persuasiveness and ability in		Owning up to one's own values, but without coercing students to adopt them. Being persuasive without being domineering. Reinforcing students when they question values and choices of the teacher, and when

argument and controversy to make students feel inadequate in their own positions or to make them reluctant to expose their values and opinions openly.		they offer alternatives. Being sensitive to the level of persuasion that will stimulate students without shutting them off.
Ignoring or rejecting the values, attitudes, and points of view of the student culture. Alienating the subject matter and oneself from the problems, aspirations, and goals of students. Dealing with intergenerational conflicts as temporary differences between superior, wiser adults and less competent, immature youth. Arrogating special privileges and rights to the older generation.		Learning the values, issues, and points of view of the student culture. Relating these issues to course content wherever possible. Dealing with intergenerational conflict as a controversy between equals, with different goals, interests, and life styles, but with equal access to the truth and equal right to be served.

Using Students' Behavior to Induce Higher Learning Processes

Some facilitative behaviors are possible for each of us, but no teacher can demonstrate them all. Sometimes, other students are better sources of the behavior than we are. There are several ways, varying greatly in formality, to use graduate and undergraduate students as learning models. At the informal extreme, several

experiments indicate that placing effective and ineffective learners together in work groups, discussion sections, or living arrangements results in the less effective students identifying with and adopting the behavior of the more effective ones. Students who are effective learners are, in general, more liked and esteemed by other students than those who are not.

Graduate students used as teaching assistants vary greatly in their effectiveness as role models for students, because they are sometimes too strongly identified with the values of the academic world they are trying to enter. Instead of using the closeness of the graduate to the student culture, we usually try to strip it away. In doing so we make it likely that they will have the same difficulties we have in relating with students. If we can avoid this natural desire to perpetuate ourselves, we can train graduate students to take the role of a mature student rather than that of an immature professor, in their teaching assignments. We can work through trained graduate or undergraduate assistants by establishing close relationships with them and having them, in turn, work closely with smaller groups of students. Graduate assistants can be most effective if we try to select student-like graduates, and then help them be sensitive, effective members of their own generation rather than stiff, awkward members of ours.

Our innovation in these matters has not, perhaps, progressed very far. I believe that the development of techniques and designs for using students to teach students is the most promising area for experiment in higher education. This is true partly because the shortage of teachers and their increasing preoccupation with the

generation and application of new knowledge makes us less effective identification models for our students. There is also an increasing generation gap in values and needs between us and our students. Students are going to take one another for role models anyway; therefore we can and should shape this inevitable process in the service of learning. In this connection the reports of Runkel and Cahn (in this volume) are of particular interest. They show quite clearly how effective students can be in helping one another to learn, while at the same time maintaining their own position as students.

Design Issues

I want to look next at a number of design issues that influence the level of learning process at which students will be able to operate. The first has to do with balancing freedom and risk, on the one hand, against the anxiety and fear of failure that many students will experience when exposed to free form (ambiguous) learning designs.

Managing Freedom and Risk vs. Anxiety and Fear of Failure

Freedom and the opportunity to take risks reduce the certainty of reward and increase the possibility of failure. Students whose development toward internalization has not progressed far will experience anxiety and fear of failure when uncertainty and freedom are increased. Moderate anxiety stimulates effort and problem solving activity; higher levels tend to immobilize students, make them withdraw from involvement, or become defensive and antagonistic. Defensive reactions interfere with learning and with the development of effective

student-teacher relationships. Some ways of controlling anxiety and fear of failure through classroom design and teacher behavior are suggested below.

Although a high tolerance for ambiguity is a desirable personal characteristic for the innovative teacher, the production of extreme ambiguity for students is not. Most students need to feel that there is someone in the classroom who knows what he is doing. For example, I spend considerable time during the early days of an innovative course explaining the overall course design, the teaching goals I am working toward, what each project or exercise is supposed to accomplish, and what will be expected of students. Student assistants who have previously taken the course can also reduce anxiety (see Runkel, in this volume). Just the fact that the students have volunteered to come back and help out is probably a powerfully reassuring message to the newcomers.

In the area of grades, students often need to know that there is some form of insurance against risk. One way of doing this is to set a floor under grades, a minimum level of reward which can be obtained for compliance with basic course requirements. This was done by some of our authors. Usually it takes the form of giving a middle grade for minimum performance, e.g., for meeting all assignments. The teacher takes a risk that some students will be undermotivated to perform because of the low level of pressure. He hopes to make this up by the involving and intrinsically motivating characteristics of his design.

To reduce the likelihood of early failure, I give an early project that is fairly easy to do well, and grade it liberally. I indicate clearly where I think students could have

been more effective on the task, but I do not give really low grades unless there is evidence that inadequate time and effort was expended.

Students tend to have time at the beginning of a term for interesting projects, before the coercive pressures of exams and papers in other courses catch up with them. I use the early part of the term for projects that require a lot of outside work and, as exam time approaches, I reduce the workload. I thereby reduce the likelihood of high stress, anxiety, and failure.

I have found that it is easier for students to apply and test concepts and theories, than it is for them to build their own conceptual framework to explain experiences. At the beginning of a course, I usually present students with some concepts and assign to them the task of applying the concepts to data they gather. The project for which the class was asked to interview other students to test a theory of motivation is a case in point. If I want students to build their own theory inductively from experience, I usually hold that task until later in the course.

The concept of choosing one's own level of risk can be generalized to a design principle. Where possible, students should be able to choose among different degrees of structure, direction, and risk in dealing with the same subject matter. Some students might want to build theory; others will be ready only to apply or test concepts; still others will prefer to take an examination on the material. Of course, following this principle can multiply the teacher's work enormously. It is most likely to be needed where there are wide differences in readiness.

Students are more willing to commit themselves to self direction and risk if they have some influence over the choice. When I am about to introduce a task that will make students anxious or violate their norms of the student culture, I usually submit it to debate in class. I explain what it is I want them to undertake, and why. I invite them to suggest objections and modifications, and I accept these if I can. In extreme cases, I have abandoned a project because of student objections.

The need for students to have influence does not stop when the decision is made. When things go wrong it is important to me to receive rapid feedback. For example, I encourage students to let me know, well in advance, if they are going to have trouble meeting deadlines, so that the problem can be discussed in class and the deadline changed if it is unrealistic.

Issues of Content: When Less is More

If one is committed to the development of self direction and the students' ownership of their learning, difficult choices have to be made about content. Unfortunately, it is possible to process a great deal more information in a mechanical and routine way than when the information is to be made relevant to the learner's experience. I have never found it possible to cover as much material in a design maximizing self direction and involvement, as my colleagues can by using more traditional designs. If a student is out interviewing, or observing, or messing about in the laboratory, he cannot be reading or memorizing at the same time.

This has posed no conflict of goals in my classroom. I was not preparing people to be psychologists; I was training them to think psychologically. I did not feel that it

was important that they be able to conduct rigorous research investigations, nor that they have a firm grounding in the basic facts and findings of my discipline. Where there is a good deal of material to be covered, teachers will be in conflict over the desire to train students to become active, involved learners, and the pressure to get on with the job. This is particularly distressing when one's course is a prerequisite for others, and there has been an organizational decision about what students should master at each level. Even if the teacher subscribes to the belief (as I do) that the higher learning of a limited number of concepts is generally preferable to the more mechanical learning of a large number of facts and relationships, he may not have a wholly free choice.

I have only limited help to offer in this dilemma. I believe that programmed and instrumental techniques increase the efficiency of rote and instrumental learning, and save time for higher educational processes. Students can go through texts and programs on their own.

Programmed units can be alternated with projects designed for more active learning. Perhaps passing tests on the informational content of a course could serve as the entrance requirement for more involving activities. In the latter, the focus would shift from the superficial acquisition of a lot of learning to the exploration in depth of a few ideas and concepts. Horn (in this volume) has shown how programmed instruction itself can be made involving and self directed. However, his approach would also run afoul of a departmental decision to cover a fixed syllabus,

since it permits the breadth or depth of focus to be determined by the individual learner.

I believe it is important to separate routine, compliance-based learning activities from self directed projects so as to preserve the integrity of the latter. Students who are under pressure to work on routine mechanical material to be tested and graded will find it difficult to commit themselves, at the same time, to more ambiguously defined and self directed tasks. External pressures should always be reduced when self directed activities are called for. In this way, some measure of internalization can be preserved, even in classrooms where there is pressure to cover a lot of ground.

Summary

I have begun by setting goals for the university classroom: that it maximize freedom, encounter, and learning how to learn. Following on from those goals, I have examined the processes by which learning may take place. The goals can best be met by conceptual learning, through discovery, and through the testing of concepts and theories. Rote learning and the simpler forms of instrumental learning tend to constrict the student's freedom. Material so learned is often isolated from the values and goals of the individual. I have discussed the levels of development, from dependency on external rewards, through the search for values and a stable identity, toward the full expression of one's potential based on internalized values and standards.

At each level, students respond to different kinds of influence processes. Dependent students respond to influence by compliance: giving and withholding relatively tangible rewards. As students free themselves from dependency, they become responsive to influence through identification with the behavior and values of the teacher or other students. As the identity, values, and standards of students become more stable, they become less easily influenced by external rewards, and students have less need for identification models. Influence through internalization processes then becomes effective; the teacher becomes more a consultant to the student's learning activities and less a director or inspirer of learning.

The university classroom contains a mixture of students: a highly dependent minority, a majority seeking values and identity, and another minority that is independent and self directing. This mixture is usually managed by compliance, with supplementary reliance on identification. The minority of dependent students is effectively influenced through this system, while the majority respond with a mixture of defense and compliance. The learning processes stimulated by the traditional system fall far short of the ideal of high freedom, high encounter, and learning how to learn.

It appears that identification, as a transitional process, can alleviate the strains of the mixture of compliance and internalization in the ordinary classroom. Unfortunately, acceptability of teachers as identification models has been reduced by social trends and organizational developments in the modern university. However, it is still possible for teachers to use their own behavior to facilitate movement toward

higher learning processes. We can also design classrooms where graduate and undergraduate students can serve as identification models for others. The social needs of students can be used to facilitate learning through identification. A natural vehicle is the learning group. I have presented some ways of designing and managing such groups.

Classroom innovation can benefit from a conceptual framework and from some practical guidelines. In the end, however, the innovative teacher is engaged in a self directed learning experience of his own. Though he can share important parts of the journey with colleagues and students, the most difficult stages will be the loneliest ones. I hope this paper suggests some ways less hard and long. That is all any guide can do. The choices and their consequences belong to the traveler.