To the Graduate Council:

I am submitting herewith a dissertation written by Robert Wesley Fisher entitled "Enhancing Intrinsic Motivation to Learn Through Attitude Change." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

William H. Calhoun, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor
and Dean of the Graduate School

ENHANCING INTRINSIC MOTIVATION TO LEARN THROUGH ATTITUDE CHANGE

A Dissertation

Presented for the

Doctor of Philosophy

Degree

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Robert Wesley Fisher

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ABSTRACT

One of the cornerstones of modern education has been the behavioral model of operant conditioning. Behavior is controlled through the selective use of reinforcement and punishment; students work to obtain rewards and/or avoid penalties. However, recent research has indicated that a dependence on extrinsic motivators can weaken or destroy the joy of learning. An *intrinsically motivated* student is driven by a desire to learn, whereas an *extrinsically motivated* student is focused on grades, attention, or some other external payoff. When extrinsic reinforcers become the primary goal, students develop strategies and shortcuts to achieve them at the expense of actual learning. This study investigated ways to help students overcome their fixation on grades and rediscover the intrinsic enjoyment of the learning process.

Although many variables influence a person's motivation, this study focused on attitudes, since these often dictate behavior. The intervention strategy was designed to help students rethink their old extrinsically-oriented attitudes about grades and learning, and then to expose them to more self-directed views.

Fifty-one undergraduate students were given pretest and posttest attitude surveys, and their responses were compared to see if their orientations were affected by the intervening attitude change program. A separate control group of twenty-six students were given pretest and posttest versions of the survey, but were not involved in the intervention strategy.

A *t*-test analysis showed a moderate but significant shift toward the intrinsic orientation in the experimental group. No change was found in the control group, suggesting that the shift in the experimental group was influenced by the attitude change program.

Further analysis of student patterns of response showed that grades dominate their motivational hierarchy. Curiosity and interest are important, but these are often sacrificed in the pursuit of high grades. Those students who showed the greatest degree of change toward the intrinsic orientation expressed views that focused less on grades and favored challenge and independent thinking.

Follow-up interviews were conducted with some of the subjects and these revealed that students' attitudes—and their motivation to learn—are greatly influenced by the teacher. Ultimately it is up to the student to assimilate and process information, but an enthusiastic and engaging teacher can help stimulate the students' interest.

Two other non-traditional course formats were investigated for those factors that enhance intrinsic motivation. First an analysis was conducted of student reactions to a Senior Seminar course which emphasized critical thinking. Also, data from a research project of students taking Independent Studies were reviewed.

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CHAPTER I

INTRODUCTION

As a college instructor for the past ten years, I have experienced many of the joys and woes of teaching a wide variety of students. One of the aspects that has been most disheartening is to see how few students approach their studies with an *intrinsic* interest in learning. For many students, the motivation to study is primarily *extrinsic,* focused more on earning a grade rather than actually learning something. I have seen students toss their class notes in the garbage can after taking an exam; the information had no value to them beyond the test. These students were not studying to learn, they were only memorizing the information (usually without understanding) long enough to pass the test.

For a disproportionately large number of students, the educational experience is not a wonderful adventure in learning but a tedious set of requirements they must fulfill with the least possible amount of effort. The students themselves are not entirely to blame. Most of them grew up in an educational system that overemphasized evaluation, thus causing them to become focused on what grade they get more than what they might learn. They were shaped to pursue rewards and avoid punishments, rather than encouraged to develop their own talents and interests.

As a teacher of young adults, I see how this externally oriented attitude is detrimental to their academic, professional, and personal fulfillment. My students are paying large sums of money to get a college degree, but many of them don't invest themselves in the learning process. My students claim they want to have successful careers in psychology, but many of them do very little to learn the skills and develop the experiences that will help them become competent.

Out of this arose my interest in studying intrinsic motivation, particularly in how I might apply it to help students rediscover the joy of learning and make the most out of their academic journey.

The case I am trying to make revolves around the following points:

• *In most educational settings, the predominant models of instruction rely heavily on extrinsic motivators, leaving intrinsic motivation uncultivated.* The current educational system has been widely criticized for conditioning students to work for extrinsic rewards and neglecting intrinsic ones. There is a growing body of literature that indicates that the love of learning is undermined when students are compelled to work for petty extrinsic rewards such as gold stars, papers marked 100, or A's on report cards. To offer a prize for doing a task is like declaring that the task is not worth doing for its own sake. Such an overemphasis on extrinsic motivators does students a disservice by not encouraging a more intrinsically oriented view of learning.

• *Behavior that is motivated to maximize rewards and minimize punishments does not produce the best type of learning.* At the beginning of this century, John Dewey (1913) made a case for interest-based (intrinsic) learning over effort-based (extrinsic) learning. He believed that effort-based learning, with its emphasis on rote memorization and performance, was too mechanical and merely resulted in trained habits. Education that is interest-based, he felt, produced learning that was pleasurable and satisfied certain psychological needs. Later research has supported this idea, indicating that classroom experiences that promote intrinsic motivation produce learning that is deeper, more permanent, and more personally gratifying than learning based on drill and repetition.

• *The educational experience should do more than help students learn a predetermined amount of knowledge.* There is much more to education than memo-

rizing facts. Students should learn to think for themselves, and know how to find information when they need it. Education should also help students gain a strong sense of self-worth and self-understanding. These outcomes are frequently confused with their more superficial counterparts: standardized test scores reflect memorization of facts, and conformity to norms is interpreted as adjustment (Deci, 1992). So while it is possible that learning can be wholly controlled from the outside (externally-regulated), the ultimate goal of education should be the development of self-regulation for learning.

• *Cultivating an intrinsic orientation in individuals may have beneficial effects beyond the classroom.* There are so many necessary things students need from an education to succeed in life: how to acquire knowledge and how to use it, an awareness of their own values and how they relate to the values of others, a sense of responsibility about contemporary issues and problems, how to communicate and cooperate with others, and how to integrate their various skills and abilities into a unified experience to fulfill themselves as individuals (Dressel & Marcus, 1982). None of this will be possible if students don't move beyond a superficial interest toward school. They will squander their academic experience with minimal learning and a stunted self. Only by developing an internally directed system of beliefs and behaviors can a person be truly equipped to fulfill their potentials.

In summary, I believe there is a serious problem in the way most educational settings are not balanced in their methods of motivation. As the review of literature will show, an overemphasis on extrinsic motivators can undermine the joy of learning for its own sake and put the focus in the wrong place. Just as important, a self-directed orientation can not only improve learning, but have beneficial effects on all aspects of a person's life.

CHAPTER II

REVIEW OF THE LITERATURE

Defining Intrinsic Motivation

The bulk of research addressing intrinsic motivation is relatively recent. Only in the last 25 years, with the weakening of Behaviorism's dominance of contemporary psychological thought, have researchers been able to deal freely with a construct that suggests internal causation. With the rise of cognitive science came an interest in and willingness to explore human motivation and behavior in terms of intra-psychic influences, not just external determinants (Gardner, 1987). Those who have studied intrinsic motivation seem to agree that it "comes from within," but disagree on exactly what this motivation is and what conditions bring it about. As Kohn (1993) points out, "It is not at all obvious what is meant by the phrase *intrinsic motivation.* What appears at first blush an uncomplicated idea reveals itself as a tangle of possibilities."

The natural curiosity of children is often used as the benchmark of intrinsic motivation. Children spend hours engaging in spontaneous activities such as drawing, coloring, building things with blocks, dressing dolls, and making their toy animals walk and talk. In motivational terms, we say that this behavior is *intrinsically* motivated. It is freely chosen by the child, it is spurred by the child's curiosity and interest, and it leads the child to explore, manipulate, and learn (Deci, 1975). The reward for such behavior seems to come from within, some internal satisfaction that is not necessarily tied to an external payoff. In contrast, *extrinsically* motivated activities are undertaken as a means to an end—to achieve some outcome other than just the enjoyment of the activity itself. The reward is an external objective such as money, attention, or a high

grade. However, the disbursement of these extrinsic reinforcers is generally controlled by others and not the self (Lepper, 1983).

To be intrinsically motivated means one engages in an activity for its own sake, because of one's "own interest and involvement in the task" (Amabile, 1985). The activity provides some type of internal pleasure or gratification, but it is in trying to identify the source of this satisfaction that researchers differ. Among the inner states that may be aroused by intrinsically motivating activities are the desire "to feel good" (Pretty & Seligman, 1984), an "orientation toward learning and mastery" (Harter, 1981) or "a need for competence and self-determination" (Deci & Ryan, 1985). Sternberg & Lubart (1991) have proposed that intrinsic motivation may be more task-specific, and that there may be "as many motivators as there are interesting tasks." Csikszentmihalyi (1991) responds that "what motivates us are not many interesting tasks, but a single propensity to enjoy interaction with challenging tasks."

Other researchers feel that intrinsic and extrinsic motivation are not mutually exclusive, but may be intertwined in a complex way. They suggest that many intrinsic motives were once extrinsic, but have become "internalized" (Chandler & Connell, 1987; Deci & Ryan, 1991). A child who is taught certain rules on how to act responsibly may internalize a commitment to these principles, and in doing so come to feel a sense of self-determination about them.

Intrinsic motivation does not only relate to the *process* of doing something, it can also include the outcome. "It may be possible for one's purely intrinsic motivation as an artist to be geared as much to the product that results as from the creative act that preceded it. Satisfaction in the doing is different from satisfaction in having done, but both might reasonably be considered intrinsic" (Kohn, 1993).

Finding a clear definition for intrinsic motivation has proven to be elusive. The significant point, however, is that research continues to show that *what people do cannot be completely explained by forces outside the self.* These internal motives may be difficult to pinpoint, but when successfully tapped they can be used to make one's life activities more personally meaningful and satisfying.

Historical Development of Views on Intrinsic Motivation

Several well-known psychologists proposed theories of motivation that have served as a foundation for later research. Along with his classic hierarchy of needs, Maslow also proposed a second hierarchy of cognitive needs which consists of the desires to know and understand (Maslow, 1968). He argued that people find pleasure in satisfying curiosity. It is a characteristic of psychologically healthy people to be attracted to learning, and pathology results when people are exposed only to monotony and dullness. He suggests that meeting these cognitive needs is satisfying in and of itself:

> "Insight is usually a bright, happy, emotional spot in any person's life. The overcoming of obstacles, the occurrence of pathology upon thwarting, the wide spread occurrence (cross-species, cross-cultural), the never dying (though sometimes weak) insistent pressure, the necessity of gratification for the fullest development of human potentials, the spontaneous appearance in the early history of the individual, all these point to a basic cognitive need" (Maslow, 1970).

Maslow points out that even though these needs are innate, they must be nurtured. "Children do not have to be taught to be curious, but they may be taught, as by institutionalization, *not* to be curious" (Maslow, 1970).

Allport's concept of *functional autonomy* suggests that a behavior can become motivating in and of itself, even though it was engaged in for some

other, specific reason (Allport, 1961). Motivations can become "self-sustaining" and functionally independent. A person may undertake a field of study at first because it is required, but in time the individual may become totally absorbed in the work, perhaps for life. The original motive is lost, and what was once a means becomes an end. Allport cited many examples of individuals who found their creative passion itself the motivation for behavior with little or no tangible reward.

Premack (1959) has suggested that the motivation underlying behavior varies according to the *value* of that behavior in a given situation. What might be motivating in one condition may not be motivating in another. The term *value* implies intrinsic motivation, but Premack assessed value by the amount of time spent or how frequently an organism engaged in an activity. He did not speak of value in terms of any intra-psychic motivation. Henry Murray (1938) has suggested that motivation is determined by an elaborate set of Needs and Presses. Needs such as *succorance* or *harmavoidance* are impacted by environmental forces that "press" upon us in particular ways. Here again the emphasis is on external influences over internal ones.

The current views of intrinsic motivation can be traced back to the work of noted educator John Dewey. In one of his classic books (Dewey, 1913) he contrasts interest-based learning vs. effort-based learning. He believed the two are *qualitatively* different: effort-based learning is mechanical and produces trained habits, while interest-based learning produces pleasure and satisfies psychological needs.

Two other influential early researchers in this area are Robert White and Daniel Berlyne. In one of the most frequently cited sources in literature relating to intrinsic motivation, White (1959) offers a then-radical view of motivation—

one that is based on psychological needs rather than one determined by drives, instincts, or external rewards. In particular, he focuses on the need for competence, which he defines as "an organism's capacity to interact effectively with its environment." He proposes that organisms are driven to engage in mastery attempts, and that the successful gratification of this need produces inherent pleasure.

Berlyne (1960) focused his research on curiosity and interest. Using animals, he observed that some types of behavior, such as manipulating objects and exploring novel spaces, seemed to have no direct relation to reinforcements. Curiosity is generally elicited when the situation offers variety, complexity and novelty. He defined intrinsically motivated activities as those that people engage in for their own sake and not because they lead to an extrinsic reward. He suggests that these activities bring about certain "internal" consequences which the person experiences as rewarding.

Among the most prolific contemporary researchers, Edward Deci has written extensively on the concept of intrinsic motivation, defining it as a psychological construct and addressing its effect on behavior (Deci, 1971). He argues that the two dominant associationist theories—Skinnerian operant theory and Hullian drive theory—are not adequate for understanding human motivation. He describes intrinsic motivation as a psychological need and relates it to competence and autonomy.

Deci and Ryan (1985) expanded their view of intrinsic motivation to include the concept of *self-determination.* To be self-determining means to "engage in an activity with a full sense of wanting and free choice—to act in accordance with, or to express, oneself." Self-determination describes the behaviors that emanate from within as opposed to from without. They have also proposed that it is pos-

sible, through the developmental processes of internalization and integration, for an extrinsic regulatory process to become part of the self. Thus, extrinsically motivated behaviors can be either self-determined or non-self-determined depending on the extent to which their regulatory processes have been integrated into the self (Deci & Ryan, 1991).

Deci (1992) also relates *interest* to self-determination. Interest is directed toward activities that provide the type of novelty, challenge, and aesthetic appeal that one desires at the time. He maintains that a person is not necessarily interested in the activities he is motivated to do (many activities are simple instrumental and not of interest to the person), but only when the needs and desires of the self mesh with the activity will the person experience interest. He points out that the quality of one's motivated behavior differs as a function of the extent to which the person is interested in the activity.

A close parallel to Deci's research is found in McClelland's well known work on achievement motivation. McClelland and his colleagues developed a way to measure achievement (using a projective story telling technique) and then compared those who were high achievers to low achievers. High A's tend to perform better on a wide variety of tasks as long as their achievement motive is activated. Important for stimulating the achievement motive are meaningfulness and challenge (McClelland, et al, 1953).

Csikszentmihalyi (1975) studied people during different types of recreation to learn what makes these activities enjoyable. By understanding the characteristics of enjoyment, we might apply those conditions to make boring tasks more inherently interesting. Csikszentmihalyi believes that our perceptions of work vs. play (work is required and boring, play is spontaneous and fun) play a major role, as well as certain aspects of the activity. Tasks that challenge us, actively

engage us, and require the use of our skills are likely to produce what Csikszentmihalyi calls *flow*, a state of total absorption and involvement that is very motivating and fulfilling. He has shown how to apply the elements that make an activity intrinsically satisfying to any life situation—sensing, thinking, work, leisure, solitude and relationships (Csikszentmihalyi, 1990).

Elements of Intrinsic Motivation

Distilling from the major research in this area, Deci & Ryan (1985) have identified three key psychological needs related to intrinsic motivation: (1) competence—the ability to interact effectively with one's environment, (2) autonomy—the need to be self-determining, and (3) relatedness—the need to have meaningful relationships with others. Situations that undermine these needs, making a person feel controlled, inferior, and isolated, serve to diminish intrinsic motivation, whereas environments that meet these needs serve to strengthen it (Brophy, 1993; Condry & Chambers, 1978).

An important aspect of intrinsic motivation is *optimal challenge*. Tasks that require people to "stretch" their capacities cause them to experience a greater sense of competence. Several studies have demonstrated subjects' preference for tasks that were moderately difficult (i.e. optimally challenging). Activities that are too easy lead to boredom, and those that are too difficult cause frustration and a feeling of incompetence (Ames & Archer, 1988; Benaware & Deci, 1984; Boggiano, Main & Katz, 1988; Csikszentmihalyi, 1990).

Another important element is *feedback*. When children behave, they look for feedback about their effectiveness, both from the activity (when they push the toy, it moves) and from others (Mommy says, "That's very good!"). Anything that contributes to their experience of feeling competent will enhance their intrinsic

motivation toward the target activity (Brophy & Kher, 1986). Positive feedback, which is aimed at promoting people's feeling of self-confidence, tends to increase the desire to learn (Condry & Koslowski, 1979; Harackewicz, 1979).

Another way to foster intrinsic motivation is to *provide options* to students. When given free choice on which activities to participate in, students will feel a greater sense of autonomy and responsibility. When tasks are rigidly assigned, students feel pressured to respond in a certain way and resent having their activities imposed by someone else (Anderson, Manoogian & Reznick, 1976; Perlmuter & Monty, 1977).

The need for *relatedness* is also a powerful motivator. The activities that children choose are heavily influenced by their social surroundings. They seem especially curious about the activities their parents, teachers and friends seem to enjoy freely. For example, children from homes where the parents spend a lot of time reading are more likely to be interested in reading than children from homes where books are not a part of the social environment (Grolnick & Ryan, 1987; Wlodkowski & Jaynes, 1990).

Undermining Intrinsic Motivation and Learning

Much of the research on intrinsic motivation has been applied to educational settings. These studies have generally dealt with two particular issues: (1) how extrinsic reinforcements can undermine intrinsic motivation to learn, and (2) how intrinsic motivation may be enhanced to strengthen learning. Each of these is important to this discussion and will be reviewed at length.

There is mounting evidence that the use of extrinsic motivators can weaken or destroy intrinsic motivation and the joy of learning (Balsam & Bondy, 1983; Kohn, 1993; Lepper & Greene, 1978; Ryan & Stiller, 1991). There are

several reasons for this effect, all of which boil down to the fact that people's interest in what they are doing usually declines when they are given a reward for doing it. Kohn (1993) refers to the typical reinforcement strategy as "Do this and you'll get that." With this model, a person's focus is on obtaining the *that* and the *this* becomes diminished in value.

One of the earliest studies demonstrating this effect was done by Edward Deci (1971) in which he had subjects work puzzles. Half of the subjects were offered money for participating, the other half were not. He then asked the subjects to wait for the next phase of the experiment. He secretly observed the subjects behavior as they waited and found that, when given a choice, those who had been paid for working the puzzle were less likely to return to it than those who had not been paid. It appeared that working for a reward made people less interested in the task.

Mark Lepper discovered the same effect in Head Start classrooms where certain teachers used rewards to encourage students to play learning games. When no longer rewarded, these students had nothing more to do with the games, but children in other classes who had been allowed to choose activities freely often eagerly played with those very same learning games. Lepper followed up his observations with a study in which some students were promised a special certificate for drawing with colored markers, something the students already enjoyed doing. Observing the children in their classroom over the next two weeks, he found that the students who had been told of the reward showed much less interest in drawing with the markers than other students, and even less than they had demonstrated before the reward was offered (Lepper, 1973). Since these early experiments, several studies have confirmed this finding (Dickinson, 1989; Flink, Boggiano & Barrett, 1990; Greene & Lepper, 1974).

In his book *Punished by Rewards*, Kohn (1993) makes a powerful case against the reckless use of extrinsic reinforcements. He convincingly argues that controlling behavior with rewards is not as effective as the Behaviorists have claimed, and that rewards have a detrimental effect on intrinsic motivation and interest. He gives several reasons why rewards fail, and in each case it is apparent that intrinsic motivation takes a serious blow.

• *Rewards Punish.* Contrary to typical definitions, reward is not the opposite of punishment. Both are utilized to accomplish the same goal: to control behavior. To earn a reward, a person must meet certain conditions, which are determined by someone else. Besides the controlling aspect of rewards, they are also punitive when withheld or withdrawn. When parents or teachers use the threat of withholding a reward, it is the functional equivalent of punishment (Winnett & Winkler, 1972).

• *Rewards Rupture Relationships.* Many reward situations (particularly in school) pit people against one another. Students are forced to compete for grades, undermining a sense of community. They are less likely to help one another, and students who get the top grades are viewed with contempt and jealousy. Feelings of resentment also develop between the persons dispensing the rewards and those who work to obtain them. There is an implicit superiority of the controller over the controlled, and this unequal standing creates a strain on the relationship (Bartis, Syzmanski & Harkins, 1988; Baumeister, Hutton & Cairns, 1990).

• *Rewards Ignore Reasons.* Rewards are often used to change problem behavior, but they do not address the reasons that led to the trouble in the first place. Reward programs are not true solutions, they are shortcuts and quick fixes that mask problems and overlook the underlying reasons. Instead of trying

to understand why a problem behavior occurs, reinforcement strategies work only to remove it (Drabman & Tucker, 1974; Vasta, Andrews, McLaughlin, Stirpe & Comfort, 1978).

• *Rewards Discourage Risk-taking.* When working to get a reward, people do only what is necessary to get it and nothing more. Extrinsically motivated learning is less thorough because the student's attention is directed to a narrow aspect of the learning situation. When the student focuses on producing a specific result to get a reward, his attention is not directed to the deeper and more subtle aspects of the knowledge. Anything not immediately relevant to obtaining the reward is ignored. The person is more interested in quick, predictable, simple activities rather than ones that may require creativity and exploration (Condry, 1977; McGraw, 1978; Vallerand & Bissonnette, 1992).

• *Rewards Cut the Interest Rate.* Rewards often increase the target behavior, but at the expense of destroying the person's intrinsic interest in the task (Morgan, 1983; Pritchard, Campbell & Campbell, 1977). This has been shown to be true in reading incentive programs where children are offered a reward (such as food or baseball cards) for reading a certain number of books. Reading is presented not as a pleasurable experience in and of itself, but as a means for obtaining a prize. This effect can be seen in the result of one reward-for-reading program done with elementary school children:

> "The rate of book reading increased astronomically...[but the use of rewards also] changed the pattern of book selection (short books with large print became ideal). It also seemed to change the way children read. They were often unable to answer straightforward questions about a book, even one they had just finished reading. Finally, it decreased the amount of reading children did outside of school" (Schwartz, 1982).

One educational psychologist has criticized the Pizza Hut food-for-reading program for likely producing "a lot of fat kids who don't like to read" (Nicholls, cited in Kohn, 1993).

There are some researchers who do not view extrinsically motivated behaviors as necessarily contradictory or antagonistic to intrinsically motivated behaviors (Dweck, 1986; Lock, 1968). In some of their later work, Deci and Ryan (1991) propose that it is possible, through the developmental processes of internalization and integration, for an extrinsic regulatory process to become part of the self. Thus, extrinsically motivated behaviors can be either self-determined or non-self-determined depending on the extent to which their regulatory processes have been integrated into the self.

Eison (1981) found that individuals could be motivated by a combination of intrinsic and extrinsic factors. He developed a questionnaire to distinguish between students who were learning-oriented (LO) versus those who were grade-oriented (GO). Although he initially viewed students as being one or the other, he found that subjects fell into 4 groups: high in both orientations, low in both, and high in one and low in the other. Correlating his LOGO questionnaire with other measures, Eison identified some general characteristics from each type. High LO/Low GO students exhibited higher levels of self-motivation and inner direction, held positive educational attitudes, and reported low levels of academic stress and test anxiety. Low LO/High GO students tended to act and think in conventional, concrete ways, demonstrated poor study skills, and had high levels of test anxiety. Students in the Low LO/Low GO group tended to be introverted, frustrated, and have an external locus of control. High LO/High GO students tended to be relaxed and extraverted, but placed great importance on fate and had high test anxiety. The profile that emerged from this last group

was one of students who were interested in learning, but who needed the reassuring anchor of grades to let them know they were doing okay in college.

Enhancing Intrinsic Motivation and Learning

Several researchers have offered paradigms for stimulating intrinsic motivation and learning, primarily in academic settings (Gottfried, 1985; Sansone, Weir, Harpster & Morgan, 1992). Most of these programs address the psychological needs identified by Deci & Ryan (1985) as being related to intrinsic motivation: (1) competence—the ability to interact effectively with one's environment, (2) autonomy—the need to be self-determining, and (3) relatedness—the need to have meaningful relationships with others. Classroom experiences that fulfill these needs will encourage both creativity and intrinsic motivation, and experiences that thwart the satisfaction of these needs will diminish them.

DeCharms (1976) has worked to enhance intrinsic motivation by helping students to become an "origin" (as opposed to a pawn). Origins learn to select their own goals and develop commitment and purpose toward those goals. This is achieved by teaching students self-confidence, personal responsibility, reality perception, and an internal locus of control. DeCharms also outlines several classroom methods to accomplish these goals.

Corno & Rohrkemper (1984) suggest that intrinsic motivation is more likely to be fostered in a classroom that cultivates Self-Regulated Learning (SRL). Using aspects of social interaction, independent study, and student teaching, SRL is designed to increase students' ability to scan, link, organize, and restructure information. This deepening of the students' "associative network" allows them to make more meaningful and relevant connections to new learning.

Voss & Schauble (1992) use interest to make learning meaningful. They sug-

gest that interest derives from personal values, and that the role of education is to make learning valuable to students (and thus interesting). They discuss how creating a positive attitude toward learning does not serve as a substitute for basic knowledge, but provides a foundation and context for its acquisition.

Wlodkowski (1986) has proposed a very thorough model of motivation that breaks down the learning situation into critical periods—beginning, during, ending—and focuses on the specific aspects of motivation that should be addressed at each phase for maximum impact.

(1) In the beginning period, as the student enters the learning process, the two crucial motivational factors are attitude and needs.

- *Attitude*—A positive student attitude should be created toward the general learning environment, the teacher, the subject matter, and the self.
- *Needs*—The learning situation should meet the student's physical, social, psychological and emotional needs.

(2) During the process, as the student is engaged in the main content learning, the important motivational factors are stimulation and affect.

- *Stimulation*—Learning activities should be made exciting, interesting, and challenging.
- *Affect*—The learning experience should appeal to the feelings, concerns, values and passions of the student.

(3) In the ending phase, as the student is completing the learning process, competence and reinforcement are the key motivational factors.

- *Competence*—The student should develop feelings of confidence, accomplishment and skill.
- *Reinforcement*—The student should recognize the concrete and intrinsic rewards that result from learning.

Csikszentmihalyi, who has studied the psychological underpinnings of play and recreation, believes that enjoyment can be built into even the most boring routines. Certain characteristics make activities meaningful: they challenge and "stretch" our capacities, and they give us feedback about ourselves and our world. Csikszentmihalyi believed that in programmed settings (such as school) it is possible to provide students with learning activities that include these dimensions. He summarized the elements that activities should include to make them more intrinsically appealing (Csikszentmihalyi, 1978).

1. The activity should be presented in a meaningful context

2. The activity should offer a broad range of challenges.

3. The activity should be structured so that students can increase or decrease the level of challenge in order to better match their skills.

4. There should be clear criteria for performance; students should be able to evaluate how well or how poorly they are doing at any time.

5. The activity should provide concrete feedback so that students can tell how well they are meeting the criteria for performance.

Instead of setting only one long-term goal, Csikszentmihalyi suggests setting several intermediate goals so that a person can experience the satisfaction of task completion more frequently. He uses the chore of mowing the lawn as an example. Rather than cutting the entire lawn as being the goal, divide the yard into several smaller plots and take pleasure as each of these are finished.

This principle could be applied to school assignments. Long term papers or major projects are often threatening to students, who feel overwhelmed at the amount of work involved. Most put off working on the project until the deadline nears, then hastily throw something together at the last minute. The assignment, rather than being a positive learning experience, becomes a source of aversive feelings and stress that results in little benefit to the student.

Another approach would be to break down assignments into a set of shorter, less threatening exercises. A long term paper could be divided into a series of chapters that are turned in sequentially instead of all at once. Segmenting tasks into achievable increments offsets the intimidation factor that promotes procrastination and allows students a periodic sense of accomplishment.

Kohn, who argues so persuasively about the dangers of overusing extrinsic rewards, also outlines components of an educational environment that encourages intrinsic motivation. The following points are outlined in Kohn's book *Punished by Rewards* (1993).

(1) *Begin a De-grading Process.* The importance of grades must be diminished, since they take the focus off of learning (Barrett & Boggiano, 1988; Kirschenbaum, Napier & Simon, 1971; Laird, 1986). Kohn suggests limiting the number of assignments that receive grades. All other work would be evaluated in the form of substantive comments. If possible, reduce the number of grades to two: *A* and *Incomplete*. This implies that any work that does not merit an A is simply not finished yet. Helping students improve becomes more important than evaluating them; learning takes precedence over sorting. Kohn also recommends bringing students in on the evaluation process. This can be an important learning experience in itself and makes the students feel less controlled.

(2) *Learning as Discovery.* Shifting students' attention away from their performance is only half the battle. Their motivation must be tapped along with creating a sense of discovery (Katz, 1986). Some examples:

• Allow for hands on-learning. People learn most effectively when they can see, touch and do, not just sit at a desk and listen.

• Give reasons for an assignment. If a learning task is valuable, its value should be explained to students. This gives activities meaning and purpose rather than being pointless requirements (Nolen, 1988).

• Elicit curiosity. A simple principle that is often overlooked is to provoke curiosity through suspense or the unexpected. Learning situations are more engaging when framed with questions like "What do you think will happen next?" or "Why did this happen?" or "Why do you think he did that?" A skillful exploitation of this technique even pulls older students into tasks (Chance, 1992; Raffini, 1993).

• Set an example. Teachers should model for students their own exploration process. They can work through solutions out loud, question the conventional wisdom, or show how they make sense out of a piece of writing that is hard to understand. They could talk about what they find enjoyable about learning, and let students see them reading or engaging in intellectual pursuits for pleasure (Sansone & Morgan, 1992).

(3) *Utilize the Three C's.* Kohn also cites examples of sparking interest through the proper utilization of Content, Choice, and Collaboration.

• Content. Many of the tasks students are assigned in school are not worth doing. These activities often rely on rote memorization, involve very little creative thought, and are not meaningfully connected to the children's lives or interests. The learning is decontextualized, or as Kohn puts it, "We give students a brick of information, followed by another brick, followed by another brick, followed by another brick, until they are graduated, at which point we assume they have a house. What they have is a pile of bricks, and they don't have it for long." Students are required to do things like memorize the chief exports of Peru, read chapter 11 and answer the even numbered questions that follow until the bell rings, or copy down facts from the encyclopedia about the digestive system and turn it in as a report. No wonder students become turned off with the whole process. They do what they have to because they have to do it,

then they put it out of their minds (Lepper & Hodell, 1989; Ryan, Connell & Grolnick, 1992).

The current system of education, which in many ways is a remnant of a century-old model used with factory workers, relies heavily on drill, standardization, and rigid control. Kohn believes we must move away from this old ineffective model and develop a more engaging, relevant curriculum. One way is to teach basic skills by nesting them in real-life concerns. When things are taught in isolation, they are harder to understand and harder to care about. Rather than offer students a bribe to manipulate naked numbers, we should relate addition and decimals to their curiosity about their own physical growth. Rather than having students answer questions about semi-colons in a textbook, we should discuss punctuation as they write a story about traveling back in time to the dinosaur era. Students have lives and interests outside of school, and course content should reflect these realities (Karinol & Ross, 1977; Ross, 1975).

• Choice. Most school curricula are developed by teachers (or some far removed educator) and then imposed on students. The pupils have no input in determining what and how they will learn. When students are deprived of self-determination, it diminishes their motivation and interest. On the other hand, numerous studies have shown that when given a chance to participate in decisions about schoolwork, students are more more excited about learning and score higher on tests (Amabile & Gitomer, 1984; DeCharms, 1972; Fiske, 1991; Ryan & Grolnick, 1986).

Students can been involved at all stages of the learning process: they can help decide which topics to cover, what tasks to work on, what materials to use, or which lab experiments to undertake. They could be consulted on how they think a particular topic might best be studied. Students could also be allowed to

decide the medium by which they report on a topic (an essay, a play, a video, a computer program). Giving students a choice does not mean that teachers surrender all control. The instructor provides guidelines with broad parameters within which the students can choose how to learn. The key is finding the right balance between direction and choice to help students feel a part of the process and less controlled (Fisher, 1978; Thompson & Wankel, 1980).

• Collaboration. Most school environments are set up in such a way that students are pitted against each other. They are forced to compete for grades arranged in distributions with artificially scarce As and Bs, thus their peers become potential obstacles to their success. Students are often seated at separate desks, reminded constantly not to talk, and given solitary seatwork assignments followed by solitary tests (Jackson, 1968/1990).

Building on the ideas of Dewey and Piaget which emphasized the sharing of information and ideas, new modes of instruction have emerged that utilize collaborative learning (DeCharms, 1983; Kohn, 1992). Students work in pairs or small groups, challenging each others ideas and wrestling with problems together. Research shows that participation in a well functioning cooperative group leads students to feel more positively about themselves, about each other, and about the subjects they study. They also learn more effectively when working with others than when working alone (Johnson & Johnson, 1985). The strength of the collaborative model is that it puts several heads together. It stimulates thinking in an environment of interaction and social support. It mirrors the way people solve problems in the real world, where we consult others and often work in groups to tackle challenges. Rather than teaching students how to be alone in a crowd, school should teach them how work with others more effectively.

Other Benefits of Intrinsic Motivation

Research on intrinsic orientation has found beneficial effects beyond learning. Maddi & Kobassa (1981) propose that intrinsically motivated people may be temperamentally more resistant to stress and more healthy. They suggest that certain personality dispositions (specifically commitment, control, and challenge) help to reduce the effects of stress. Three scales that measured these tendencies were correlated with the Holmes & Rahe Life Events Survey and a symptoms status questionnaire. The results gave evidence that persons high in the three dispositions dealt more effectively with pressure and experienced less illness.

Another study demonstrated that Type A behavior patterns, such as the tendency to compete, set deadlines, and seek evaluative feedback, focus on extrinsic motivation rather than intrinsic motivation. Although Type A persons appear to be highly motivated, they are also shown to be high in tension, pressure, and negative emotion. The authors suggest that helping Type A persons shift to a more intrinsic motivational focus might relieve some of their experienced stress, while permitting them to maintain a high level of commitment and motivation (Lawler, et al, 1991).

Another study related intrinsic motivation and curiosity to better overall adjustment (Maw & Maw, 1965). Using several different personality, affective, and attitude measures, the results indicate that high curiosity children show better overall adjustment on both personal and social dimensions, such as being more self-accepting and self-sufficient, more tolerant, more responsible, and more mature.

CHAPTER III

THE ATTITUDE CHANGE STUDY

Introduction

This research attempted to answer two specific questions:

1. How do students vary in their ratio of intrinsic vs. extrinsic orientations?
2. Is it possible to develop an educational environment in which intrinsic motivation is increased?

The hypothesis behind the attitude change program was that students will become more intrinsically motivated if they recognize that (1) learning is exciting and stimulating in itself, (2) learning and doing well is in their own best interests, and (3) to make the most of their education they must invest themselves in the process and take responsibility for their own learning. The intervention program was designed to appeal to the psychological needs that Deci & Ryan (1985) identified as being related to intrinsic motivation: *competence*—the ability to interact effectively with one's environment, *autonomy*—the need to be self-determining, and *relatedness*—the need to have meaningful relationships with others.

Method

Subjects

The subjects in the experimental group were 51 undergraduate students enrolled in the Psychology of Learning course at Lee College in Cleveland, Tennessee. They consisted of 22 males and 29 females. Although the class was made up predominantly of psychology majors, there were also approximately 10 education and human development majors.

A separate control group made up of 26 students in a Personality Theory course were given pretest and posttest versions of the survey, but were not involved in the intervention strategy.

Materials

The inventory used to assess motivational attitudes was the "Scale of Intrinsic Versus Extrinsic Orientation in the Classroom" developed by Harter (1981). This instrument was originally designed for use with elementary school students, so the wording was upgraded to apply to college age subjects without altering the meaning of questions (i.e.: references to "kids" were changed to "students," "teachers" changed to "professors"). The questionnaire was also abbreviated to 15 items, using questions from the three most pertinent subscales: Preference for Challenge, Curiosity/Interest, and Independent Mastery. For each item, students were to choose one of two options which most reflected their own view (i.e.: "Some students read things because they are interested in the subject" BUT "Other students read things because the professor assigns it.") Students then marked whether this view was "really true" or "sort of true" for them. Each item had a possible range of 1 to 4, with 1 representing the most extrinsic view and 4 indicating the most intrinsic view (see Appendix A).

The attitude surveys were given at the beginning of the course to assess student orientations before the attitude change program. This pretest data was used to determine the ratio and degree of differences in student orientations. At the end of the semester, the surveys were readministered as a posttest to determine if a significant change in orientation had occurred as a result of the intervention strategy.

Procedure

After the pretest administration of the questionnaire, a program to reshape the students' attitudes toward learning was employed. This strategy for cultivating intrinsic motivation was structured around the following four dimensions:

(1) *Focus on career goals.* To help students crystallize for themselves what their goals are, specific class discussion time was devoted to having students identify what career they envisioned for themselves. Students were asked the following types of questions to explore the rationale behind their goals:

- What made you choose this as a possible career?
- What do you feel are the important contributions a person in this field can make?
- What particular talents or abilities do you think you can bring to this area?
- Why do you think this career will be personally fulfilling?

Along with class discussion, students wrote down these goals in a more formal fashion. By taking the time to more closely examine their values and motives, students might realize that this career choice arose out of their own desires and ambitions and was not forced upon them by someone else.

(2) *Focus on career success.* To follow up on discussions of career goals, students then explored what particular skills and experiences they must develop in order to succeed in their chosen area. They were asked, "Do you think you could go out right now and do a good job in your field?" Most responded that they were not ready, not trained, not psychologically prepared. This led to the next question: "What do you need to know in order to be an effective teacher, guidance counselor, child psychologist, or marriage and family therapist?" These discussions were designed to help students take the hazy idea of a "career" and reduce it down to specific learning tasks. It now became very important to the student

to learn about such topics as human motivation, personality differences, child development, or counseling strategies. Studying these subjects took on a new relevance as students recognized that this is what will make them competent in their chosen profession.

(3) *Focus on career training.* Next, students discussed which specific courses and what types of extracurricular activities would provide training in the necessary skills for them to be effective. It was presented to the students that their major—be it psychology, education, or whatever—is designed to lay the foundation for developing these skills. Ownership was emphasized as students were shown that their major program is not just a series of requirements they must fulfill to appease their professors, but is actually a program to help prepare them to be competent in the area they have chosen. Studying, learning and doing well in their courses became something they do for themselves and serves their own best interests.

(4) *Focus on intrinsic motivation.* To underscore the point of these exercises, the concept of intrinsic motivation was discussed in detail and related to the students' career and educational goals. Students were taught the difference between intrinsic and extrinsic motivation and how each plays a role in learning. Discussions focused on the joys of learning and why their motivation to study should be determined by their own interests and desires and not by grades.

Throughout the semester, emphasis was constantly placed on students taking charge of their their education. To help communicate this attitude, a list of eight principles was drawn up called "The Smart Student's Manifesto for Taking Responsibility for Your Own Learning" (see Appendix B) which was adapted from Robinson (1993). This was copied onto an overhead transparency

and frequently utilized in class sessions. Each of the ideas expressed in the manifesto was discussed at length, as well as the "fallacious student attitudes" they are trying to counteract. The following are examples of how each principle was approached.

1. Nobody can teach you as well as you can teach yourself. *(Fallacious student attitude #1: "If I have an interesting teacher I'll learn something, but if I have a boring teacher then I probably won't get much out of the course.")* Students must realize that the outcome of their educational experience depends on what they invest in it (Ames, 1992; Glasser 1969, 1990; Goodlad, 1984). Their success does not hinge on whether or not they have good teachers, exciting courses, or engrossing textbooks, but on whether they choose to *actively* engage themselves in the learning process. Many students have the attitude that teaching is something that is done *to* them, that it's up to professors to pour facts into their head. The students were shown the flaw of this perception and how it causes them to take a passive approach to learning. If a student takes a subject and makes it his own, he will always have a profitable experience, no matter how good or bad the teacher may be.

2. Merely listening to your teachers and completing their assignments is *never* enough. *(Fallacious student attitude #2: "The paper is supposed to be 10 pages, but I think I can make it if I use wide margins, big type with double spacing, and count the bibliography and title pages" or "Is this going to be on the test?")* This minimal approach to learning is a common problem with students, the result of a mindset formed over many years in reward-oriented schools. Yet to do only what is expected results in limited gain and a mechanical approach to life. Such a narrow focus discourages exploration, risk-taking, cre-

ativity, and incidental learning, producing what Kohn (1993) calls an "orientation of unreflective expedience." Learning activities are seen as undesirable chores rather than opportunities for enrichment. The students were shown how assignments could be turned into challenging and stimulating platforms to pursue a deeper understanding. Teachers provide the framework, but true personalized learning must be completed by the individual.

3. You are in school to learn to think for yourself, not to repeat what your teachers and textbooks tell you. *(Fallacious student attitude #3 "Why spend extra effort trying to understand a subject if all that is usually required on tests is to put down what the textbook says?")* Many students do not recognize the value of truly understanding something. The following points (adapted from Robinson, 1993) were used to reshape the students' perception about understanding:

- There is nothing admirable about resisting learning and remaining ignorant.
- Memorizing empty facts is not the same as understanding.
- Understanding is an active, multi-stage process (it is like working a puzzle—first you sift through the pieces, work on the edges, then gradually fill in the holes).
- The ability to understand and comprehend information is a crucial life skill.
- Learning is not boring; *not* learning is. It is impossible to be bored when you're learning because you're busy doing things and expanding your mind.

To illustrate the difference between memorizing and comprehending, a simple test was given to determine if the student really understands a concept:

(1) Can you define the concept in your own words?

(2) Can you give examples of it?

(3) Can you explain its relationship to other concepts?

If the student can answer these questions, then he likely has a good grasp of the concept. Of course, understanding doesn't happen automatically. It's not enough to simply be exposed to information; it's the student's job to actively assimilate and process the material

4. Grades are just subjective evaluations, not the Holy Grail. *(Fallacious student attitude #4: "The grade is what's important")* Throughout their school years, students are taught that getting good grades is crucial. Unfortunately, high marks become the goal in and of themselves, and students develop strategies and shortcuts to achieve them at the expense of actual learning (Schwartz, 1990, Lepper & Greene, 1978). Ironically, they are not taught that good grades will naturally follow if they become genuinely absorbed in their studies. The bottom line: grades are just subjective opinions of the professor, influenced by a number of different factors. A preoccupation with grades diverts the student's focus from where it belongs—on learning (Kutner, 1990).

5. Your primary objective in school is to learn and receive training in your career area. *(Fallacious student attitude #5: "My professors are sadistic ogres who pile on the work so I won't have time for any fun.")* Students often lose sight of the fact that their primary task in college is to learn, at least that is what they are paying for. However, many get caught up in the numerous distractions of campus life and put learning on the back burner. Studying becomes something that interferes with their social calendar and recreational activities. The students were reminded that no matter how good a time they are having at college, if they don't come away with the necessary skills to be competent in their career, they have wasted their time and money. That is what studying and learning are all about, and their professors are trying to help them achieve this important life training.

6. Subjects do not always seem interesting and relevant, but being actively engaged in learning them is better than being passively bored and not learning them. *(Fallacious student attitude #6: "This subject is dull, I'm never going to use it in my life, so why bother?)* Here an attempt was made to tie intrinsic motivation to curiosity. All humans are born curious, but along the way this natural inquisitiveness becomes hidden under layers of socially conditioned expectation of reinforcement. Students' bored attitude toward learning derives from a mindset that cannot see value in something unless there is some reward or external payoff (Wild, Enzle & Hawkins, 1992). They have forgotten that learning itself can be fascinating, captivating and enticing. By appealing to that part of a person that wants to learn for no other reason than to know, every subject becomes potentially meaningful (Lepper & Cordova, 1992). An intrinsically motivated person can always find something interesting about a topic. If he finds himself distracted and bored, it means he's not learning and he does something about it.

7. If you're doing it for the grades or for the approval of others, you're missing the satisfactions of the process and putting your self-esteem at the mercy of things outside your control.

8. Few things are as potentially difficult or frightening as genuine learning, yet nothing is so rewarding or empowering. These last two points best summarize the thrust of the program—Learning is an exciting, satisfying, and rewarding experience, and it is best directed by the individual. All the principles in the manifesto represent an attitude toward learning, and attitudes can be taught. It was the goal of this intervention program to help students see the flaws in their old unproductive attitudes toward learning and to see the enriching effect these new attitudes could bring. The greatest accom-

plishment of a teacher is to help a student discover the joy of learning. When learning becomes internally directed and intrinsically satisfying, no artificial prods or reinforcers will be necessary, and the student will reap greater benefits from his educational efforts (Deci & Ryan, 1985; Csikszentmihalyi, 1990, Zuckerman, Povac, Lathin, Smith & Deci, 1978).

Finally, another thread that ran throughout the intervention was the idea that learning is not just something a person does in school; it is a lifelong process. Students should work hard for themselves, because ultimately they alone must live with the consequences of their education. Developing an intrinsically motivated attitude into a lifestyle can help a person find the most rewarding dimensions in anything he does. True gratification—like true learning—comes from within. Albert Einstein recognized this:

> The most important motive for work in the school and in life is the pleasure in the work, pleasure in the result, and the knowledge of the value of the result to the community. In the awakening and strengthening of these psychological forces in the young person, I see the most important task given by the school. Such a psychological foundation alone leads to a joyous desire for the highest possessions of men: knowledge and artist-like workmanship (quoted in Robinson, 1993).

Results

The attitude survey was administered at the beginning of the psychology of learning course to assess the students' intrinsic/extrinsic orientations before any intervention had begun. The questionnaire consisted of 15 items, each with a possible score of 1 to 4. A mean score was then obtained for each student on the survey. Higher means indicated more intrinsic orientations and lower means reflected more extrinsic orientations. Data from the pretest are summarized in Table 1.

TABLE 1
Pretest: Attitude Survey

N	Mean	Std. Dev.	Min. Score	Max. Score
51	2.71	.374	1.73	3.40

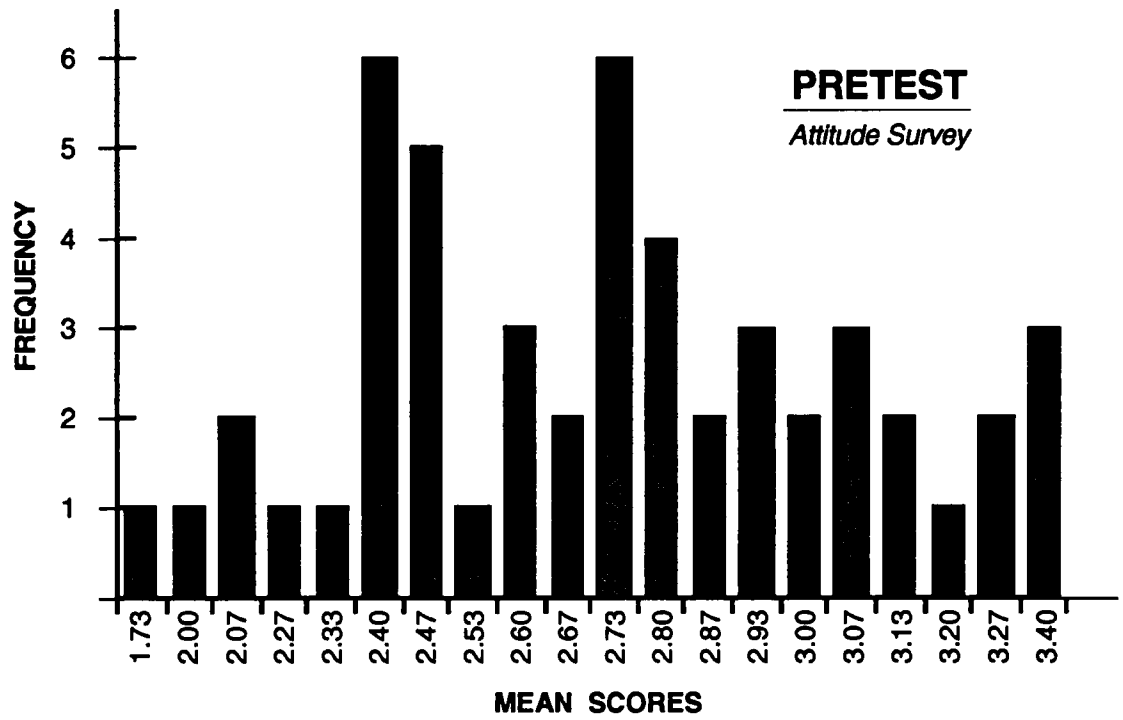
For the 51 subjects, the average mean score was 2.71 on the pretest. The attitude change program outlined in the methods section above was then implemented throughout the semester, along with the regular psychology of learning course content. At the end of the semester, a posttest administration of the questionnaire was given to the students to compare with their responses on the pretest. The students' overall mean score increased slightly to 2.80 on the posttest, as seen in Table 2.

TABLE 2
Posttest: Attitude Survey

N	Mean	Std. Dev.	Min. Score	Max. Score
51	2.80	.422	1.47	3.33

Frequency distributions of the data present a clearer picture of the scoring patterns between the two tests. These distributions are graphically represented in Figure 1. A visual comparison of the two graphs shows a more normally distributed set of means for the pretest, but scores skewed toward the intrinsic side on the posttest.

Table 3 shows a complete listing of student means for the pretest and posttest, as well as the mean difference scores between the two tests (posttest minus pretest).



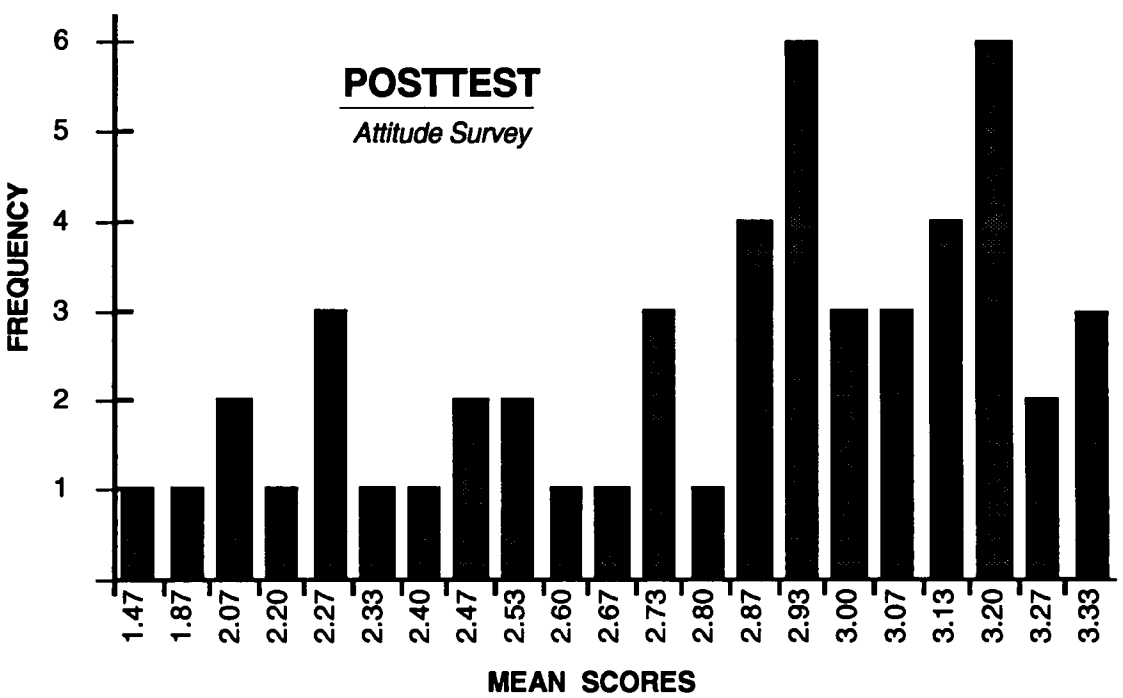


FIGURE 1
Frequency Distributions of Mean Scores: Attitude Survey Pretest & Posttest

TABLE 3
Attitude Survey: Pretest, Posttest, and Difference Score
(Posttest Minus Pretest) For Each Student

Student Number	Pretest Mean	Posttest Mean	Difference Score
1	2.26	2.33	0.07
2	2.00	1.87	- 0.13
3	2.53	2.40	- 0.13
4	3.26	3.20	- 0.07
5	2.73	3.33	0.60
6	2.47	2.47	0.00
7	3.07	3.27	0.20
8	1.73	1.47	- 0.27
9	2.93	3.33	0.40
10	3.13	3.20	0.07
11	3.40	2.87	- 0.53
12	2.80	2.87	0.07
13	2.73	3.07	0.33
14	2.40	2.07	- 0.33
15	2.40	2.93	0.53
16	3.26	2.93	- 0.33
17	2.60	3.13	0.53
18	3.00	3.13	0.13
19	3.20	3.00	- 0.20
20	2.46	2.80	0.33
21	2.40	2.27	- 0.13
22	2.73	2.93	0.20
23	2.93	2.93	0.00
24	2.60	2.47	- 0.13
25	2.73	3.13	0.40
26	2.47	3.13	0.67
27	2.87	2.67	- 0.20
28	2.47	2.53	0.07
29	2.73	2.27	- 0.47
30	3.07	3.20	0.13
31	2.67	2.73	0.07
32	2.60	2.73	0.13

TABLE 3 (continued)

Student Number	Pretest Mean	Posttest Mean	Difference Score
33	2.80	3.33	0.53
34	3.13	3.20	0.07
35	2.93	3.00	0.07
36	2.47	2.60	0.13
37	2.06	2.93	0.87
38	3.40	3.20	- 0.20
39	2.40	2.53	0.13
40	3.40	2.87	- 0.53
41	2.80	2.73	- 0.07
42	2.33	2.27	- 0.07
43	3.07	3.27	0.20
44	2.87	3.00	0.13
45	3.00	3.07	0.06
46	2.06	2.20	0.13
47	2.67	3.20	0.53
48	2.80	2.87	0.07
49	2.73	3.07	0.33
50	2.40	2.07	- 0.33
51	2.40	2.93	0.53

As table 3 indicates, approximately 2/3 of the students had a positive difference, meaning they had a more intrinsically oriented score on the on the posttest. Was the attitude change strategy successful? Was there a meaningful shift in student attitudes toward a more intrinsic orientation?

A *t*-test comparison of the two surveys shows that, at a .05 confidence level, there was a significant change in attitudes toward the intrinsic view. As a group, the students showed a mean increase of .090, as seen in Table 4.

TABLE 4
T-test: Posttest Minus Pretest
Experimental Group

N	Mean	T	Prob > [T]
51	.090	2.059	.0448

The data from the experimental group was compared to that of the control group, 26 subjects who were given pretest and posttest administrations of the survey but were not involved in the attitude change strategy. As Table 5 shows, the control group showed very little difference between the two tests.

TABLE 5
T-test: Posttest Minus Pretest
Control Group

N	Mean	T	Prob > [T]
26	.013	1.397	.1842

The lack of significant difference in the control group supports the conclusion that the shift toward an intrinsic orientation in the experimental group was likely due to the intervention strategy.

Student responses to individual items was also analyzed. In Table 6, each questionnaire item was ranked for both tests and overall (lower number rankings indicate more extrinsic scores for that item, higher rankings indicate more intrinsic scores).

TABLE 6
Individual Item Means and Ranks

Item #	Pretest Mean	Pretest Rank	Posttest Mean	Posttest Rank	Overall Mean	Overall Rank
1	2.86	12	2.94	12	2.90	12
2	2.62	7	2.59	5	2.61	5
3	2.39	4	2.41	1	2.40	3
4	2.82	11	2.86	8	2.84	10
5	2.76	9	2.94	13	2.85	11
6	2.25	2	2.43	2	2.34	2
7	2.80	10	2.72	7	2.76	9
8	2.37	3	2.88	9	2.62	6
9	3.45	14	3.25	14	3.35	14
10	2.47	5	2.90	10	2.68	8
11	2.65	8	2.68	6	2.66	7
12	3.55	15	3.51	15	3.52	15
13	2.98	13	2.92	11	2.95	13
14	2.61	6	2.55	4	2.57	4
15	2.10	1	2.45	3	2.27	1

The data indicate a shift toward an intrinsic orientation, but other insights can be gleaned from the information in these Tables. Which items showed the greatest degree of variance between tests? Which students showed the the most change, and are there any clear patterns in their responses? Can we learn anything from follow-up interviews with some of the students involved in the study? These are important questions, and they are dealt with in the discussion section that follows.

Discussion

Attitudes and Learning

This research project was based on the premise that a desire to learn resides in us all. For many people it may not be evident on the surface, but that natural curiosity still exists inside them waiting to be activated. Thus, given an environment in which they don't feel controlled and in which they are encouraged to think about what they are doing (rather than how well they are doing it) students will generally exhibit a high level of motivation and appetite for challenge. The problem for many people is that their desire to learn has become moribund, beaten down by a constraining, controlling educational system. The best way to revive it is set up conditions that stimulate interest and influence students to take charge of their education.

For this study, I chose to focus on student attitudes. Robinson (1993) describes an attitude as "the way you define and interpret your experiences . . . the sum total of your beliefs, assumptions, expectations, and values." It determines the way you look at the world and how you respond to it. Since our behavior is directed by our perceptions, why not go straight to the source? The attitude change program was designed to help students recognize false beliefs that discourage, restrict, and deflect learning. These old patterns of thinking were then countered with attitudes that emphasized the satisfactions of learning and personal responsibility (see the "Smart Student's Manifesto" in Appendix 2).

Changing these attitudes is difficult. They are deeply rooted, shaped over many years in a school system that conditions students to work for extrinsic rewards. It would be presumptuous on my part to think I could displace these firmly entrenched perceptions with one short program. But if I could make a

dent, or find a small chink in the armor, it might be enough to cause the students to start reassessing their beliefs. The modest change in attitudes demonstrated by the subjects in this study may be the first signs of a gradually evolving intrinsic orientation.

Creating an awareness of the problem was one of my initial goals. Many students are blind to their dependence on extrinsic incentives. Helping them to see this tendency in themselves and how it undermines their own personal interests can pave the way for change. Some students in the class had a vague knowledge of intrinsic motivation, but they had not related it to their own behavior. I knew the idea was getting through when the students would ask sarcastically "Do we have to know this?" or "Is this going to be on the test?" They may still have been grade grubbers, but at least now they recognized they were grade grubbers.

The data in this study indicate a general change in attitude, but they do not tell me if there was a corresponding change in behavior. It would take a different type of procedure to assess that. I thought about using the students' course grades as a measure of behavior change, but good grades reflect extrinsic motivation as much or more as intrinsic motivation. *However, if the attitudes change, I could infer that the behavior will eventually change, since attitudes dictate behavior.* My entire strategy rests on this foundation.

Intrinsic motivation proved to be as difficult to measure as it is to define. There were only a handful of surveys related to this topic, so finding an adequate instrument was a challenge. The Harter questionnaire used in this study had established reliability and validity, but it was designed for elementary-aged subjects and as such the items were worded in a simplistic fashion. Even with upgraded language, the questions were transparent enough that the college students could detect what each was trying to assess. A more effective survey

would have evaluated their attitudes in a less obvious manner. For future research in this area, I have already begun developing my own instrument to measure intrinsic motivation.

Despite the limitations of the questionnaire, there are insights that can be gleaned from the data by analyzing the way students responded to to the items and by looking at the patterns of those who showed the greatest degree of change.

Student Patterns of Response

Using the data in Table 5 above, a closer look at the top five ranked items—those that students responded to most intrinsically—reveals some clear themes:

(1) Item 12—*Some students are curious and find that a lot of things they learn in their classes are really interesting BUT Other students are not very curious about the things they learn in their classes.* This item had an overall mean of 3.52, indicating that most of the students felt that their classes were interesting. They acknowledged that they are curious about their course content. If the curiosity is there, then why do many of them often do poorly in their classes? Robinson (1993) feels that all students want to learn, they just have never been shown *how* to learn. As a result they encounter a great deal of difficulty and don't learn. Many learning environments don't cultivate that curiosity and it withers on the vine.

(2) Item 9—*Some students ask questions in class because they want to learn new things BUT Other students ask questions because they want the professor to notice them.* The purpose of this question was to see if teacher approval was a major factor influencing student queries. With an overall mean of 3.35, it is clear that being noticed by the teacher is not the primary motivator for the sam-

pled students. This kind of attention-seeking is more prevalent with young children. College students are probably more interested in the approval of their classmates than that of the professor.

(3) Item 13—*Some students know they didn't do their best work on an assignment when they turn it in BUT Other students have to wait til the professor grades it to know if they didn't do as well as they could have.* This item tests whether students evaluate their accomplishment by how much effort they put in to an assignment, or use the grade received as the criteria for success. Most of the students surveyed (overall mean 2.95) said they did not need grades to know whether or not they did a good job. What is less clear was whether the students value the effort over the grade. A person may realize that he put very little investment into an assignment, but if he still gets an A, then is everything OK? If a student is motivated to learn, then a good grade on a shoddy piece of work would feel hollow.

(4) Item 1—*Some students like to learn things on their own that interest them BUT Other students think it's better to do the things the professor says.* This item suggests that the students like to pursue their own interests (mean 2.90) instead of just following the professor's lead. This lack of dependence on the teacher is a characteristic of older students, whereas younger children often look to the authority figure for guidance. Harter (1981) also found this effect in her original study with the questionnaire, noting that independent mastery increased as the students aged.

(5) Item 5—*Some students read things because they are interested in the subject BUT Other students read things because the professor assigns it.* As with Item 1 above, this question examines the extent to which the student's choices are influenced by the teacher. Their answers were consistent with item 1, con-

veying a preference for their own interests (mean 2.85).

In summary, the basic themes expressed by the students in the the top 5 items were:

- A general curiosity about things they study
- No strong need for teacher attention
- An awareness of their own efforts and performance
- A preference for their own interests
- A lack of dependence on the teacher

These promising patterns don't hold up when we look at item 15, which had the lowest overall—or most extrinsic—mean (2.27). When asked why they study hard, the students indicated it was to get good grades more than a desire to learn. Thus, *despite their curiosity and preference for their own interests*, most students admitted that good grades was the primary motivation behind their efforts.

This is the real issue. How did priorities become so turned around that we sacrifice our curiosity and interests on the pagan altar of grades? This type of idolatry robs people of the intrinsic satisfactions of learning and puts their ego into the hands of forces beyond their control. The students' curiosity is not dead, it is just shoved aside in the scramble for high marks.

The Shifters

Of the 51 subjects, eight showed an increase of .40 or more on their mean score from the pretest to the posttest. These were the students who demonstrated the greatest degree of change *toward* an intrinsically motivated orientation. I will refer to these eight students as the Shifters. Taking their increase as an indication that they responded favorably to the attitude change program, a clos-

er look at their response patterns was warranted. Table 7 shows each Shifter's point change from pretest to posttest across all items.

TABLE 7
Point Change for Shifters: Pretest to Posttest

Item #	Shifter A	Shifter B	Shifter C	Shifter D	Shifter E	Shifter F	Shifter G	Shifter H	Total Change
1	–	–	+2	–	+1	+2	+1	+1	+7
2	–	–	+1	+1	–	+1	+1	+3	+7
3	+1	–	+1	–	+1	+1	–	–	+4
4	+1	–	+1	–	–	–	+1	+2	+3
5	–	+1	+1	–	-1	+3	+1	+1	+6
6	–	–	-2	–	–	–	+1	–	-1
7	–	+2	–	-1	–	-1	–	–	0
8	+3	+2	+1	+1	+1	+2	+1	+1	+12
9	–	–	–	+1	+1	–	–	–	+2
10	–	+1	+2	+1	+1	+1	+1	+3	+10
11	–	+1	+1	+1	–	+1	–	+1	+5
12	–	-1	–	+1	-1	+1	+1	+1	+2
13	–	–	–	+1	+2	–	–	–	+3
14	+1	–	+1	+1	+1	–	–	+1	+5
15	+3	–	+1	+1	–	+1	+1	+1	+8
Sum	+9	+6	+8	+8	+6	+12	+7	+15	

As the table shows, item 8 (*Some students think that what their professor thinks of their work is most important BUT For other students what they think of their work is most important*) showed an increase across all eight of the Shifters. Concern about the teacher's evaluation of their work is characteristic of students with a preoccupation with grades. If you ask grade-oriented students

what they got out of an assignment, they would respond, "I got a B." It doesn't matter how much they may have learned, if the teacher doesn't like it then it's worthless to them. Unfortunately, this attitude is reinforced by many parents whose first inquiry about their children's schoolwork is "What grade did you make?" A much better question to ask is "What exciting things did you learn in class?" Each of the Shifters moved toward a more personal estimation of their work's importance, which is a step in the right direction.

Seven out of eight Shifters showed an increase on item 10 (*If a subject is hard to understand, some students want the professor to spell it out for them BUT Other students would first like to try and understand it themselves*). A student who is not interested in learning will usually take the easy way out of a difficult problem—ask the teacher. Extrinsically motivated students prefer a rigidly structured approach to learning. They want the teacher to tell them exactly what they need to know, and exactly how they will be evaluated. An intrinsically motivated student would prefer to figure things out on his own. Instead of shaping students who ask, "Is this going to be on the test?" we should create students who say, "OK, these are the important concepts, now let me learn about them in my own way." Most of the Shifters showed a transition toward this type of independence.

The Shifters also showed a marked change on item 15, which was one of the most telling items (*Some students study hard to get good grades BUT Other students study hard because they really want to learn things*). They showed a general tendency to place less importance on grades and to study out of a desire to learn. One does not have to be in school to learn; learning can occur anywhere. Ironically, most school environments seem to hinder learning more than promote it. People learn best when pursuing their own interests without being

assigned or coerced to do so. All people want to learn, we just have to create an educational atmosphere that capitalizes on this curiosity rather than suffocating it.

Follow-up Interviews

Seventeen of the students were interviewed personally after the conclusion of the study to get their reactions to the program and to gain further insights about their attitudes toward learning. These students were asked how the program affected their perceptions about how they studied, and what ideas had the greatest impact. As expected, the students who were interviewed tended to fall into two groups: those who saw themselves as intrinsically motivated to begin with, and those who admitted to being grade-oriented.

The latter group was more likely to be affected by the program. These students expressed a greater awareness of their motives for studying. Some said they were more serious about their major and would work harder to retain what they learned. Whether these comments reflected genuine sentiments or were made primarily to please the teacher is difficult to determine.

Several students voiced their dislike of forced grade distributions. Limiting the number of good grades was seen as a vile practice. As one student put it, "The teacher should set a standard and anyone who meets it should get the grade—even if it's the whole class. If the teacher is really effective, most students should get A's anyway."

Six of the students told of their plans to become teachers and expressed how some of the concepts discussed during the program would influence how they taught. They realized that learning was not just memorization, but cultivation. However, one interviewee who had just completed a year of student teaching

shrugged and said drily, "All of this idealistic talk about stimulating intrinsic motivation and the joy of learning is nice, but when you have one teacher in a class of 26 seven-year-olds all day long, you take the path of least resistance." This sardonic comment opens up a whole new issue: how can teachers kindle intrinsic motivation in the typical over-crowded, under-equipped classroom?

Of all the themes running through the interviews, the one that came up most often was the idea that the teacher plays a pivotal role in motivating students. Most of the students felt that an enthusiastic and interesting teacher helped to make students more likely to warm up to a subject and want to learn about more about it. One student commented, "Having a good teacher makes it much easier for me to get involved in the learning process." Another said, "I have had teachers so boring that they made even interesting subjects dull. When that happens, I tune out."

Along these same lines, the literature is full of stories about engaging teachers who sparked their students' curiosity. Authors frequently pointed to a teacher in their past who inspired them and pulled them into the learning process. Clearly, the teacher is a key player in helping students form attitudes about learning—both good or bad. A teacher who emphasizes grades undermines learning for its own sake. A teacher who makes learning tedious and dry stifles curiosity. Yet a teacher who makes knowledge vivid and accessible can shape positive attitudes toward learning that can last a lifetime. Thus, an important aspect of teacher training should be *how* to teach, not just *what* to teach. The teacher's role in influencing intrinsic motivation is an area that needs more study to determine what kinds of things teachers can do to enhance it. The next chapter, which focuses on a successful seminar format, explores some of these methods.

CHAPTER IV

SUPPLEMENTAL STUDY I: STUDENT REACTIONS TO SENIOR SEMINAR

Introduction

To supplement the findings of the attitude change project, two separate analyses were conducted to investigate how students responded to course formats that encouraged more self-directed involvement. The first of these studies examined a UTK Senior Seminar that minimized teacher-dominance and grading pressures, while requiring students to take an active role in the course.

As with the attitude change study, the focus was on those needs most closely associated with intrinsic motivation—competence, autonomy, and relatedness. When a course appeals to these needs, how do students respond? Do they enjoy the course more or less? Do they like the freedom or miss the structure? Does it stimulate a desire to learn?

The Senior Seminar course, with its informal and student-oriented format, followed a model that should help stimulate intrinsic motivation. The students wrote papers about their reaction to the course, and these responses were used to assess their attitudes toward the format and how it impacted them.

Method

Subjects

The subjects were 26 undergraduate psychology majors enrolled in a Senior Seminar course at UTK. They consisted of 10 males and 16 females. The course is not required, so all students were enrolled voluntarily. Most of them were in their final semester of undergraduate work.

Materials

For a final paper, the students were asked to give their reaction to the Senior Seminar course. Specifically, they were asked to (1) comment on the class format, (2) identify what was the most valuable idea they gleaned from the readings, (3) select one thing they gained from the class and explain why it was such an important experience, and (4) give an overall reaction to the course.

These papers served as the source for evaluating the students' perceptions and behaviors. No page limit was set, and the papers varied in length from 2 to 14 pages.

Procedure

Initially, each of the students' papers was read through to determine response patterns. Responses were evaluated on general reaction to the course, how much they learned and what they learned, and what specific aspects contributed to their enjoyment or dislike of the course. As the patterns began to emerge, a list was created of the various types of comments made.

The papers were then read a second time to count the number of times each view was expressed. Student comments were tabulated according to the list of response patterns. This compilation is included in Table 8.

During the second reading, certain statements that summarized students' reactions were highlighted. These were selected by how clearly and succinctly they reflected the students' feelings. Many of these remarks were quite articulate and reveal a lot about how the students perceived and responded to the various aspects of the course. A list of some of these representative comments is found in Table 9.

TABLE 8
Tabulations of Student Reactions to Senior Seminar Course
N = 26

Student Comment	Occurrences
Enjoyed course	23
Had time to think and reflect	7
Encouraged to think for oneself, instead of being told what to think	9
Liked sharing with peers	15
Challenging/stimulating	4
Enjoyed working in groups	9
Built friendships/relationships with classmates	10
Interacted with/learned about professor	4
Exposed to other viewpoints	17
Allowed to express own opinions	17
Enjoyed casual atmosphere/relaxed pace	19
Felt less grade pressure	15
Identified with others/found things in common/not alone	11
Learned valuable lessons about self/life	12
Learned more than in traditional course	9
Too unstructured/wanted more guidance	2
Didn't like sharing	1

TABLE 9
Representative Comments About the Course

"There were no right or wrong answers, just our opinions."

"I am able to remember things when I am under no pressure to remember them."

"[Instead of a grade] I would rather get more personal satisfaction and knowledge from a course."

"Individuality and creativity were valued over just meeting some standard norm."

"The class gave me an excuse to read and reflect upon myself more...I wrote papers and actually enjoyed it—that is a first!"

"Twenty years from now I won't remember one tenth of the facts and figures I was made to learn in college, but I will remember the general lessons taught by books like *Illusions* and *Please Understand Me*."

"It was nice to actually know the names of most of the people in the class and better yet, have conversations with them!"

"Hearing other students relate to various parts of different books gave me a sense of relief that I was not the only one asking these kinds of questions."

"I enjoyed the freedom [in this course]. You gave us an inch, but I refused to take advantage of that. I chose to learn."

"[As adults], the need to be told when to do something is a thing of the past."

"I could draw my own conclusions without hearing the teacher's opinion first"

"I am not accustomed to reading something in a class and thinking about *my* interpretations of it."

"I've learned things that were not facts, but the way of life."

Results and Discussion

A look at the response patterns and representative comments in Tables 8 and 9 shows that the the students responded favorably to the non-traditional format of the Senior Seminar course and saw it as a positive experience. 90% of the students stated that they enjoyed the course. Specific aspects of the class that a majority of the students mentioned were the relaxed atmosphere, the lack of grade pressure, and the building of relationships with their peers. They also enjoyed sharing with their peers, being able to express their own opinions and being exposed to other viewpoints. Negative reactions were also tabulated, but these were minimal. Only two students felt that the class was too unstructured, and only one expressed being uncomfortable sharing with "strangers."
No students said they disliked the course, but several had disparaging comments about other classes.

The favorable response to the format contributed to the students getting more out of the course. Several expressed that they learn better when the pressure to perform is not applied. Learning was presented as something to be savored and not a chore. As a result, the students found more meaning and satisfaction in their learning. Several said they learned more in this course than in most traditional courses, and that the learning was not restricted to facts but dealt with important lessons of life.

The students also appreciated being treated like intelligent adults. Assignments were not laid out in rigid detail, and their opinions were actively solicited. The lack of grading pressure let them feel free to express their views honestly. They did not have to agree with the teacher! Many students remarked how the flexibility allowed them to actually enjoy what they read and wrote instead of worry about how it would be evaluated.

The format for this Senior Seminar course has been evolving for a long time. The UTK professor who teaches the class has been streamlining this model over a number of years and written about his purpose behind it (Calhoun, 1993). The success of the course is due to how it is conducted. An examination of the rationale behind the course design and how it meets the needs associated with intrinsic motivation will offer insights into what makes it effective.

Purpose and Design of the Course

The Senior Seminar is designed as a capstone to the undergraduate psychology program and helps the student tie together all the various threads of the discipline. The course follows the model of *Ganzeit Psychology*, a holistic viewpoint traced back to Wilhelm Wundt. This view says that psychology must address all aspects of human nature, particularly the areas of acting (behavior), thinking (cognition), and feeling (emotion). These areas are interrelated and cannot be separated when dealing with psychology as a discipline or with individuals. By helping students to see the broader picture of how psychology describes human nature, they can integrate these dimensions into a single holistic view.

Rather than emphasize memorization, the course focuses on reading, critical thinking, and expository writing. Students read and report on several books from a reading list. The list includes some semi-popular works in addition to more traditional sources as a way of enticing the students to find that reading can be fun. The students are given a lot of flexibility on how they report on the books to the class, and they are encouraged to voice their own opinions and ideas.

Students also write reaction papers—as opposed to traditional term papers—on a concept, historical figure, or a book. The papers are not meant to be encyclopedic reports on a topic, but rather a thoughtful response to the ideas they

encounter. They are urged to react candidly and openly and not hesitate to express their views. At first, many students don't believe that the teacher wants only their reaction, but with experience they learn to relax and write freely.

These papers are not graded in the usual manner, such as red penciling their sentences and pointing out errors. The teacher writes comments, but never ones that are judgmental or condescending. Rather these comments encourage the students to be more open and to risk something of themselves. By building trust with the students, the teacher is able to help them overcome their fixation on grades and enjoy the experience of learning for its own sake.

Autonomy, Competence and Relatedness

Each of the basic needs associated with intrinsic motivation are met in the Senior Seminar course. The flexibility of the course gave students a sense of autonomy. Assignments were not rigidly dictated and the readings and papers were open ended. Students were free to express their opinions and to pursue their own curiosity and inclinations. Ideas and creativity were more important than robotically following directions. Viktor Frankl (1984) has said that a teacher should be like an optometrist who tries to help students see more clearly rather than to define what it is they are to see. Rather than simply spoon-feeding information, the teacher should be a mentor and friend who provides illumination so that students may discover important truths for themselves.

The relaxed attitude toward grading relieved students of performance pressures. Courses that emphasize "requirements" go against the grain of autonomy. It is always more appealing to do something you want than something you have to. Thus, it makes sense to design a course which gives students enough room to do some things they want to do.

It is also important for students to feel competent in what they are doing. One of the things that diminishes a sense of competence is the constant pressure of evaluation. When everything a person does is being judged, it creates tension and insecurity. However, treating the students like adults, encouraging them to express their views, and developing a sense of trust with the teacher all helped the students gain a certain confidence. Many were wary at the beginning, but the non-threatening atmosphere allowed them to relax as the course unfolded. Several students stated in their papers that when the pressure is off they can flourish. The teacher gave them positive feedback and communicated to them that what they had to say was worthwhile. This made the students willing to take risks and expand their efforts. Rather than assuming that the students were lazy and disinterested, the teacher proceeded as though they were eager to learn and wanted to get the most from the course. Students can sense this type of attitude and will respond positively to a concerned, enthusiastic teacher. They also respond to content that is relevant and meaningful. These students wanted things which would help them work in an applied setting. Rather than being a cold dispenser of facts, the teacher strived to show students the connection between theory and application.

The course also exploited the students' need for relatedness by having them work in groups to discuss readings, prepare reports, and write group papers. Collaborative learning minimizes competition and opens up avenues for teamwork and the development of relationships. One of the most popular aspects of the class was the students getting to know one another. Instead of their classmates becoming "opponents for the grade," they became friends. The group experience also helped the students develop important skills. Most employers want students who can give a presentation, lead a group, and work within a group.

In summary, the Senior Seminar course de-emphasized or avoided all the things that stifle creativity and intrinsic motivation: evaluation, competition, over-control, restricting choice, and performance pressures. Instead, it encouraged a self-propelled approach to learning. It gave the ball back to the students and allowed them to run with it (without the "coach" calling all the plays). That's how a person learns to excel at the game.

CHAPTER V

SUPPLEMENTAL STUDY II: STUDENTS TAKING INDEPENDENT STUDY

Introduction

The second study examined a pool of data from a project conducted on students taking Independent Study. Those who enroll for Independent Study have selected to do work on their own, outside the structure of a typical course. This data was reviewed for the kinds of work that students do independently and for their opinions of the process. Since this experience is a choice made freely by the students, a look at the various aspects of Independent Studies may offer some insights about intrinsic motivation.

Method

Subjects

The subjects were 130 graduate and undergraduate students enrolled for Independent Study at UTK. They consisted of 57 males and 73 females. As with Senior Seminar, Independent Study is not required so all the subjects were doing so voluntarily.

Materials

The data examined in this second study were collected by an undergraduate student for—appropriately enough—an Independent Study project (Munsey, 1993). To collect this information the researcher reviewed the departmental contracts of 130 students doing Independent Studies. These contracts, drawn up with the supervising faculty member, specified the duties and tasks of the

Independent Study, how much time per week was to be spent, and how the student was to be evaluated. Some of the subjects were interviewed personally to gain some appraisal of their satisfaction about the project.

Procedure

This data was reviewed with the following questions in mind: What is the appeal of doing work independently? Are Independent Studies attractive because they offer a way to pursue topics of interest in a fashion not generally available in traditional courses? What about when the topic is chosen by the supervising professor? Is the prospect of more autonomy a motivating factor for taking Independent Studies? What kinds of things do the students do? What do they think of this experience? Upon review of the data, some of these questions were not clearly answered.

Results and Discussion

The most common Independent Study projects involved writing a paper, collecting and analyzing data, conducting experiments, proctoring,and laboratory research. These are graphically represented in Figure 3. Other frequent duties were peer advising, testing subjects, observations, and attending meetings. Most of these involve non-traditional academic experiences. They go beyond the "listen-to-lectures-and-take-a-test" model that make up the majority of their classes. Humans like variety, and perhaps one of the draws of Independent Study is that it offers something different. It frequently involves a more hands-on type of learning and important practical experience. It also appeals to the students' need for relatedness by allowing them to get to get better acquainted with their professors and their professors' research.

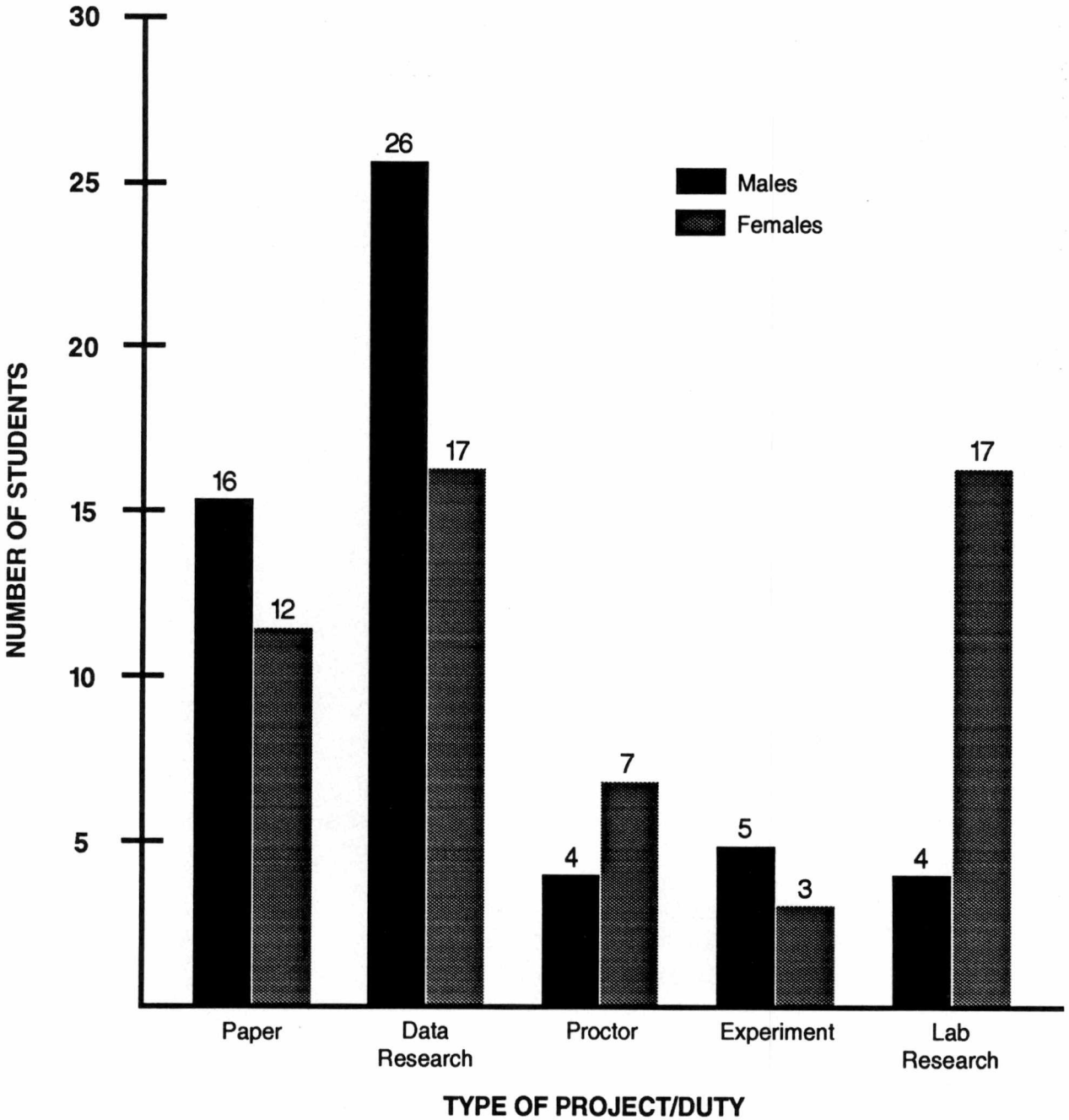


FIGURE 2
Independent Study Projects/Duties
Comparison of Males to Females

The way Independent Study students are graded is also non-traditional. The most common forms of evaluation were oral exams, number of hours spent, and subjective review by the professor. This departure from standard grading practices offers other, more flexible ways to be evaluated. Many students prefer less rigid types of assessment, those that allow for them to better demonstrate what they have learned.

This data offered only minimal insights into the students reactions. Most of the subjects found the Independent Study to be a positive experience. 55% were enrolled for at least their second semester of independent work. The majority indicated that they enjoyed the project and would do it again. Only 5 subjects said they would not sign up a second time. A more detailed survey of the subjects' reactions to the Independent Study would have been helpful. Specifically, what aspects of the process were most appealing? Was it the work being done, or just being free from the constraints and requirements of a traditional course?

We can only make modest conclusions from this data. In summary, students generally like the Independent Study experience, and seem to be drawn to the non-traditional aspects. Adding variety and practical experience also seem to be incentives. However, a more detailed survey of student opinions would need to be done to understand the role of intrinsic motivation.

CHAPTER IV

CONCLUSION

I had several objectives when I undertook this research. I have grappled with these ideas ever since I started teaching, and I am sure I will continue to investigate them for as long as I work with students. I don't realistically expect to find a solution that works for everyone; a momentous revelation that will cause all students to become intrinsically motivated. However, I do believe it's possible to discover new and better ways of engaging students in learning. The strategies I utilized here are only starting points, signposts that point down paths I intend to keep exploring.

My primary goal in this program was to help students recognize that learning is a stimulating and satisfying experience. I wanted to help them overcome their fixation on grades and rediscover the intrinsic enjoyment of the learning process. Students place such great pressure on themselves to perform that they seldom see past the "requirements" and "assignments" to the knowledge underneath.

At the same time, I also wanted to help them succeed in an educational environment in which they would be graded and evaluated. It is naive to think that intrinsic motivation alone will produce A's. School is a game, and one must learn the rules to win. Milton (1973) has noted that "grades become the base of the learning pyramid and one cannot attempt innovations without giving it due consideration." However, working for good grades becomes a pitfall when it causes one's curiosity to become stifled. If one keeps the proper perspective, it is possible to do well in school while preserving the natural thrill of learning.

I also tried to help students see the importance of preparing for their career. Its easy for students to carelessly fritter away their time in college, only to graduate with a mediocre GPA and inadequate professional training. Many of the foundational skills for a successful life are learned in the four years set aside for a college education. If that opportunity is wasted, it is precious time that cannot be regained.

Horace Mann, the early American educator, once said "a teacher who is attempting to teach without inspiring the pupil with a desire to learn is hammering on cold iron" (cited in Henry, 1945). In other words, you can't make a lasting impression if the metal is hard. How many times have we as teachers tried to get through to a student whose resistance to learning was solid and unyielding? Fanning the flame of intrinsic curiosity is what heats and softens the metal to make it malleable.

One of the issues that came up frequently in discussions with students during this research is the teacher's versus the student's role in the learning process. Where is the line drawn between the teacher's responsibility to teach effectively and the student's responsibility to learn? Student often blame their poor performance in class on the instruction, accusing the teacher of being too boring or too difficult. To some extent, these are valid arguments. A teacher's job is to impart knowledge, and to use whatever means possible to present the information in an accessible and engaging way. A teacher who is unenthusiastic, dull, distant, unintelligible, or oppressive can cause students to become disenchanted with learning, and this is an unpardonable sin. As this study has demonstrated, there *are* methods that teachers can use to engage students and arouse their curiosity. Teachers who neglect to do so are failing to carry out their duty.

However, the responsibility for learning is shared. Teachers are a major influence on student motivation, but they cannot *make* students learn. The teacher may be a well-prepared and interesting communicator, but if the student doesn't actively assimilate and process the material then the teacher's effort is wasted. The old saying "You can lead a horse to water, but you cannot make him drink" applies here. Ultimately, the student chooses whether to make the effort to learn.

Some teachers believe they can force students to "drink" by pushing the students' heads into the trough. This only causes them to gasp and gag and develop an aversion to learning. However, if teachers make the water enticing and refreshing, students will lap it up eagerly. As a college professor, my goal is to cause students to say, "Wow! I *want* to learn more about that!" That excitement is what teachers should be trying to stimulate.

Whenever I talk about learning and motivation I am reminded of an incident that occurred several years ago when I was working on my Master's degree. I was taking a course in family counseling and one of the assignments was to write a major term paper. As the professor was passing them back, one of my classmates leaned over to show me the big red "A" written on the front of his paper. Grinning broadly, he said, "How 'bout that, huh? Not bad for a paper I didn't even write!" He proceeded to tell me about how he had procured a term paper from someone who had taken the class previously, replaced the cover page, and turned it in. He was quite proud of the fact that he had earned an "A" without having to do anything, that he had pulled one over on the professor. I congratulated him on his successful subterfuge, but inside I was struck by his utter lack of interest in learning the material. I may have been one of the "suckers" who spent days working on the paper, but at least I had something to show

for my grade—knowledge. My classmate's "A" might help increase his GPA, but did it do anything to enhance him as a person? Would he be glad he avoided this opportunity to learn when someday he found himself without the skills to do his job? Didn't he realize the main person he was cheating was himself?

I have seen this same disinterested attitude in a great many of my students. It is discouraging not just because it makes my job harder, but because I see them missing out on so many meaningful things. Their preoccupation with grades is only part of a larger problem, that of basing their choices on externally determined factors as opposed to inner directed ones. It also signifies a passive attitude, one that lets others dictate what is important. Intrinsic motivation doesn't apply only to learning in school, it is a lifestyle.

I constantly raised these issues for the students to consider and wrestle with personally. These are lessons that can have an impact far beyond the classroom. My hope is that the seeds I planted take root.

BIBLIOGRAPHY

BIBLIOGRAPHY

Allport, G. (1961) *Pattern and Growth in Personality.* New York: Holt, Rinehart & Winston

Amabile, T. (1985) "Motivation and Creativity: Effects of Motivational Orientation on Creative Writers." *Journal of Personality and Social Psychology* 37: 221-33.

Amabile, T. & Gitomer, J. (1984) "Children's Artistic Creativity: Effects of Choice in Task Materials." *Personality and Social Psychology Bulletin* 10: 209-15.

Ames, C. (1992) "Classrooms: Goals, Structures, and Student Motivation." *Journal of Educational Psychology* 84: 261-71.

Ames, C. & Archer J. (1988) "Achievement Goals in the Classroom: Students' Learning Strategies and Motivation Processes." *Journal of Educational Psychology* 80: 260-67.

Anderson, R., Mannogian, S. & Reznick, J. (1976) "The Undermining and Enhancing of Intrinsic Motivation in Preschool Children." *Journal of Personality and Social Psychology* 34: 915–22.

Balsam, P. & Bondy, A. (1983) "The Negative Side Effects of Reward." *Journal of Applied Behavior Analysis* 16: 283–96.

Barrett, M. & Boggiano, A. (1988) "Fostering Extrinsic Orientations: Use of Reward Strategies to Motivate Children." *Journal of Social and Clinical Psychology* 6: 293–309.

Bartis, S., Syzmanski, K. & Harkins, S. (1988) "Evaluation and Performance: A Two-Edged Knife." *Personality and Social Psychology Bulletin* 14: 242-51.

Baumeister, R., Hutton, D. & Cairns, K. (1990) "Negative Effects of Praise on Skilled Performance." *Basic and Applied Social Psychology* 11: 131–48.

Benaware, C. & Deci, E. (1984) "Quality of Learning With an Active Versus Passive Motivational Set." *American Educational Research Journal* 21: 755–65.

Berlyne, D. (1960) *Conflict, Arousal and Curiosity*. New York: McGraw Hill.

Boggiano, A.., Main, D. & Katz, P. (1988) Children's Preference for Challenge: The Role of Perceived Competence and Control." *Journal of Personality and Social Psychology* 54: 134-41.

Brophy, J. (1983) "Conceptualizing Student Motivation." *Educational Psychologist* 18: 200–15.

Brophy, J. & Kher, N. (1986) "Teacher Socialization as a Mechanism for Developing Student Motivation to Learn." In Feldman, R. (ed.) *The Social Psychology of Education: Current Research and Theory*. Cambridge: Cambridge University Press.

Calhoun, W. (1993) "Capping the Psychology Major's Experience: The Senior Seminar." Poster presented at the Fourteenth Annual Conference on the Teaching of Psychology, Tampa, Florida.

Chance, P. (1992) "The Rewards of Learning." *Phi Delta Kappan* Nov.; 200–207.

Chandler, C. & Connell, J. (1987) "Children's Intrinsic, Extrinsic, and Internalized Motivation: A Developmental Study of Children's Reasons for Liked and Disliked Behaviours." *British Journal of Developmental Psychology* 5: 357-65.

Condry, J. (1977) "Enemies of Exploration: Self-Initiated Versus Other-Initiated Learning." *Journal of Personality and Social Psychology* 35: 459–77.

Condry, J. & Chambers, J. (1978) "Intrinsic Motivation and the Process of Learning." In Lepper, M. & Greene, D. (eds.) *The Hidden Costs of Reward: New Perspectives on the Psychology of Human Motivation.* Hillsdale, NJ: Erlbaum.

Condry, J. & Koslowski, B. (1979) "Can Education Be Made More Intrinsically Interesting to Children?" in Katz, L. (ed.) *Current Topics in Early Childhood Education.* Norwood, NJ: Ablex Publishing Co.

Corno, L. & Rohrkemper, M. (1984) "The Intrinsic Motivation to Learn in Classrooms" in Ames, R. & Ames, C. (eds.) *Research on Motivation in Education*, Vol. 2. San Diego: Academic Press.

Csikszentmihalyi, M. (1975) *Beyond Boredom and Anxiety.* San Francisco: Jossey-Bass.

———. (1978) "Intrinsic Rewards and Emergent Motivation." In Lepper, M. & Greene, D. (eds.) *The Hidden Costs of Reward.* Hillsdale, NJ: Erlbaum.

———. (1990) *Flow: The Psychology of Optimal Experience.* New York: Harper & Row.

DeCharms, R. (1972) "Personal Causation Training in the Schools." *Journal of Applied Social Psychology* 2: 95-113.

———. (1976) *Enhancing Motivation: Changing the Classroom.* New York: Irvington.

———. (1983) "Intrinsic Motivation, Peer Tutoring, and Cooperative Learning: Practical Maxims." In Levine, J. & Wang, M. (eds.) *Teacher and Student Perceptions: Implications for Learning.* Hillsdale, N.J.: Erlbaum.

Deci, E. (1975) *Intrinsic Motivation.* New York: Plenum Press.

———. (1992)"The Relation of Interest to the Motivation of Behavior: A Self-Determination Theory Perspective." In Renninger, K., Hidi, S. & Krapp, A. (eds.) *The Role of Interest in Learning and Development.* Hillsdale, NJ: Erlbaum.

Deci, E. & Ryan, R. (1985) *Intrinsic Motivation and Self-Determination in Human Behavior.* New York: Plenum Press.

Deci, E. & Ryan, R. (1990) "A Motivational Approach to Self: Integration in Personality." In Dienstbier, R. (ed.) *Nebraska Symposium on Motivation*, Volume 38. Lincoln: University of Nebraska Press.

Dewey, J. (1913) *Interest and Effort in Education*. Boston: Riverside Press.

Dickinson, A. (1989) "The Detrimental Effects of Extrinsic Reinforcement on Intrinsic Motivation." *The Behavior Analyst* 12: 1–15.

Drabman, R. & Tucker, R. (1974) "Why Classroom Token Economies Fail." *Journal of School Psychology* 12: 178–88.

Dressel P. & Marcus D. (1982) *On Teaching and Learning in College*. Jossey-Bass.

Dweck, C. (1986) "Motivational Processes Affecting Learning." *American Psychologist* 41: 1040–48.

Eison, J. (1981) "A New Instrument for Assessing Student Orientation Toward Grades and Learning." *Psychological Reports,* 48, 919-924.

Fisher, C. (1978) "The Effects of Personal Control, Competence, and Extrinsic Reward Systems on Intrinsic Motivation." *Organizational Behavior and Human Performance* 21: 273–88.

Fiske, E. (1991) *Smart Schools, Smart Kids.* New York: Simon & Schuster.

Flink, C., Boggiano, A. & Barrett, M. (1990) "Controlling Teaching Strategies: Undermining Children's self-Determination and Performance." *Journal of Personality and Social Psychology* 59: 916–24.

Frankl, V. (1984) *Man's Search for Meaning*, Third Edition. New york: Simon & Schuster

Gardner, H. (1987) *The Mind's New Science*. New York: Basic Books.

Glasser, W. (1969) *Schools Without Failure.* New York: Harper & Row.

Glasser, W. (1990) *The Quality School: Managing Students Without Coercion.* New York: Harper Perennial.

Goodlad, J. (1984) *A Place Called School: Prospects for the Future.* New York: McGraw-Hill.

Gottfried, A. (1985) "Academic Intrinsic Motivation in Elementary and Junior High School Students." *Journal of Educational Psychology* 77: 631–45.

Greene, D. & Lepper, M. (1974) "Effects of Extrinsic Rewards on Children's Subsequent Intrinsic Interest." *Child Development* 45: 1141–45.

Grolnick, W. & Ryan, R. (1989) "Parent Styles Associated With Children's Self-Regulation and Competence in School." *Journal of Educational Psychology* 81: 143–54.

Harackiewicz, J. (1979) "The Effects of Reward Contingency and Performance Feedback on Intrinsic Motivation." *Journal of Personality and Social Psychology* 37: 1352–63.

Harter, S. (1981) "A New Self-Report Scale of Intrinsic vs. Extrinsic Orientation in the Classroom: Motivational and Informational Components." *Developmental Psychology,* 17, 300-312.

Henry, L. (1945) *Five Thousand Quotations for All Occasions.* New York: Doubleday.

Jackson, P. (1968/1990) *Life in Classrooms.* Reprint. New York: Teachers College Press.

Johnson, D. & Johnson, R. (1985) "Motivational Processes in Cooperative, Competitive, and Individualistic Learning Situations." In Ames, C. & Ames R. (eds.) *Research on Motivation in Education,* Volume 2. Orlando, Fla: Academic Press.

Karinol, R. & Ross, M. (1977) "The Effect of Performance-Relevant and Performance-Irrelevant Rewards on Children's Intrinsic Motivation." *Child Development* 48: 482-87.

Katz, L. (1988) "The Disposition to Learn." *Principal,* May: 14–17.

Kirschenbaum, H., Napier, R. & Simon, S. (1971) *Wad-Ja-Get? The Grading Game in American Education.* New York: Hart.

Kohn, A. (1992) *No Contest: The Case Against Competition.* Rev. Ed. Boston: Houghton-Mifflin.

———. (1993) *Punished by Rewards.* Boston: Houghton-Mifflin.

Kutner, L. (1990) "As Motivator, the Carrot May Be as Bad as the Stick." *New York Times,* November 29, C8.

Laird, M. (1986) "Goodies for Good Work—Giveaways Have Gone Too Far!" *Instructor* March: 19.

Lawler, K., Armstead, C. & Patton, E. (1991) "Type A Behavior and Intrinsic vs. Extrinsic Orientation in Male College Students." *Psychological Reports,* 41, 335-342.

Lepper, M. (1973) "Dissonance, Self-Perception and Honesty in Children." *Journal of Personality and Social Psychology* 25: 65-74.

———. (1983) "Extrinsic Reward and Intrinsic Motivation." In Levine, J. & Wang, M. (eds.) *Teacher and Student Perceptions: Implications for Learning.* Hillsdale, NJ: Erlbaum.

Lepper, M. & Cordova, D. (1992) "A Desire to Be Taught: Instructional Consequences of Intrinsic Motivation." *Motivation and Emotion* 16: 187–208.

Lepper, M. & Greene, D. eds. (1978) *The Hidden Costs of Rewards: New Perspectives on the Psychology of Human Motivation.* Hillsdale, NJ: Erlbaum.

Lepper, M. & Hodell, M. (1989) "Intrinsic Motivation in the Classroom." In Ames C. & Ames, R. (eds.) *Research on Motivation in Education,* Volume 3: *Goals and Cognitions.* New York: Academic Press.

Locke, E. (1968) "Toward a Theory of Task Motivation and Incentives." *Organizational Behavior and Human Performance* 3: 157–89.

Maddi, S. & Kobassa, M. (1981) "Intrinsic Motivation and Health." In Day, H.I. (ed.) *Advances in Intrinsic Motivation and Aesthetics*, New York: Plenum Press.

Maslow, A. (1968) *Toward a Psychology of Being.* New York: Van Nostrand.

Maslow, A. (1970) *Motivation and Personality.* New York: Harper & Row.

Maw, W. & Maw, E. (1965) *Personal and Social Variables Differentiating Children With High and Low Curiosity.* University of Delaware.

McClelland, D., Atkinson, J., Clark, R., & Lowell, E. (1953) *The Achievement Motive.* New York: Appleton.

McGraw, K. (1978) "The Detrimental Effects of Reward on Performance: A Literature Review and a Prediction Model." In Lepper, M. & Greene, D. (eds.) *The Hidden Costs of Rewards: New Perspectives on the Psychology of Human Motivation.* Hillsdale, NJ: Erlbaum.

Milton, O. (1973) *Alternatives to the Traditional.* San Francisco: Jossey-Bass

Milton, O. Pollio, H. & Eison, J. (1986) *Making Sense of College Grades.* San Francisco: Jossey-Bass.

Morgan, M. (1983) "Decrements in Intrinsic Motivation Among Rewarded and Observer Subjects." *Child Development* 54: 636–44.

Munsey, T. (1993) *Independent Study.* Unpublished Paper for Independent Study, University of Tennessee at Knoxville.

Murray, H. (1938) *Explorations in Personality.* New York: Oxford University Press.

Nolen, S. (1988) "Reasons for Studying: Motivational Orientations and Study Strategies." *Cognition and Instruction* 5: 269–87.

Perlmutter, L. & Monty, R. (1977) "The Importance of Perceived Control: Fact or Fantasy?" *American Scientist*, November–December: 759-65.

Premack, D. (1959) Toward Empirical Behavioral Laws: I. Positive Reinforcement." *Psychological Review* 6: 219–33.

Pretty, G & Seligman, C. (1984) "Affect and the Overjustification Effect." *Journal of Personality and Social Psychology* 46: 1241-53.

Pritchard, R. Campbell, K. & Campbell, D. (1977) "Effects of Extrinsic Financial Rewards on Intrinsic Motivation." *Journal of Applied Psychology* 62: 9–15.

Raffini, J. (1993) *Winners Without Losers: Structures and Strategies for Increasing Student Motivation.* Boston: Allyn & Bacon.

Robinson, A. (1993) *What Smart Students Know*. New York: Crown.

Ross, M. (1975) "Salience of Reward and Intrinsic Motivation." *Journal of Personality and Social Psychology* 32: 245–54.

Ryan, R., Connell, J. & Grolnick, W. (1992) "When Achievement is *Not* Intrinsically Motivated: A Theory of Internalization and Self-Regulation in School." In Boggiano, A. & Pittman, T. (eds.) *Achievement and Motivation; A Social-Developmental Perspective.* Cambridge: Cambridge University Press.

Ryan, R. & Stiller, J. (1991) "The Social Contexts of Internalization: Parent and Teacher Influences on Autonomy, Motivation and Learning." *Advances in Motivation and Achievement* 7: 115-49.

Ryan, R. & Grolnick, W. (1986) Origins and Pawns in the Classroom: Self-Report and Projective Assessments of Individual Differences in Children's Perceptions." *Journal of Personality and Social Psychology* 50: 550-58.

Sansone, C. & Morgan, C. (1992) "Intrinsic Motivation and Education: Competence in Context." *Motivation and Emotion* 16: 249–70.

Sansone, C., Weir, C., Harpster, L. & Morgan, C. (1992) "Once a Boring Task, Always a Boring Task? Interest as a Self-Regulatory Mechanism." *Journal of Personality and Social Psychology* 63: 379–90.

Schwartz, B. (1982) "Failure to Produce Response Variability with Reinforcement." *Journal of Experimental Analysis of Behavior* 37: 171-81.

Schwartz, B. (1990) "The Creation and Destruction of Value." *American Psychologist* 45: 7-15.

Sternberg, R. & Lubart T. (1991) "An Investment Theory of Creativity and Its Development." *Human Development* 34: 1-31.

Thompson, C. & Wankel, L. (1980) "The Effects of Perceived Activity Choice Upon Frequency of Exercise Behavior." *Journal of Applied Social Psychology* 10: 436–43.

Vallerand, R. & Bissonnette, R. (1992) "Intrinsic, Extrinsic and Amotivational Styles as Predictors of Behavior: A Prospective Study." *Journal of Personality* 60: 599–620.

Vasta, R., Andrews, D., McLaughlin, A., Stirpe, L. & Comfort, C. (1978) "Reinforcement Effects on Intrinsic Interest: A Classroom Analog." *Journal of School Psychology* 16: 161–66.

Voss, J. & Schauble, L. (1992) "Is Interest Educationally Interesting?: An Interest Related Model of Learning" in Renninger, K., Hidi, S. & Krapp, A (eds.) *The Role of Interest in Learning and Development.* Hillsdale, NJ: Erlbaum.

White, R. (1959) "Motivation Reconsidered: The Concept of Competence." *Psychological Review*, 66, 297-333.

Wild, T., Enzle, M. & Hawkins, W. (1992) "Effects of Perceived Extrinsic Versus Intrinsic Teacher Motivation on Student Reactions to Skill Acquisition." *Personality and Social Psychology Bulletin* 18: 245–51.

Winett, R, & Winkler, R. (1972) "Current Behavior Modification in the Classroom: Be Still, Be Quiet, Be Docile." *Journal of Applied Behavior Analysis* 5: 499–504.

Wlodkowski, R. (1978) *Motivation and Teaching: A Practical Guide* Washington D.C., National Education Association.

———. (1986) *Motivation: What Research Says to the Teacher.* Washington D.C., National Education Association.

Wlodkowski, R. & Jaynes, J. (1990) *Eager to Learn.* San Francisco: Jossey-Bass.

Zuckerman, M., Porac, J., Lathin, D., Smith, R. & Deci, E. (1978) "On the Importance of Self-Determination for Intrinsically Motivated Behavior." *Personality and Social Psychology Bulletin* 4:443–46.

APPENDICES

APPENDIX A

Name _____ Age _____ Classification _____ ☐ Male ☐ Female

Directions: Read each item and decide whether the view on the left or the right best represents your own, then indicate whether it is "sort of true" for you or "really true" for you about the way you feel. PLEASE MARK ONLY ONE BOX PER ITEM. When answering, don't try to analyze your response, just go with your honest feeling. Thank you.

	Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
1.	☐	☐	Some students like to learn things on their own that interest them.	BUT	Other students think it's better to do the things the professor says they should be learning.	☐	☐
2.	☐	☐	Some students like difficult problems because they enjoy trying to figure them out.	BUT	Other students don't like work on difficult problems.	☐	☐
3.	☐	☐	Some students do their assignments because the professor assigned them.	BUT	Other students do their assignments to find out about things they've been wanting to know.	☐	☐
4.	☐	☐	Some students agree with the professor because they believe the professor is right about most things.	BUT	Other students don't agree with the professor sometimes and stick with their own opinions.	☐	☐
5.	☐	☐	Some students read things because they are interested in the subject.	BUT	Other students read things because the professor assigns it.	☐	☐
6.	☐	☐	If some students get stuck, they ask the professor for help.	BUT	Other students keep trying to figure out the problem on their own.	☐	☐
7.	☐	☐	Some students like to go on to work that's at a more difficult level.	BUT	Other students would rather stick to assignments that are pretty easy to do.	☐	☐
8.	☐	☐	Some students think that what their professor thinks of their work is most important.	BUT	For other students what they think of their work is most important.	☐	☐
9.	☐	☐	Some students ask questions in class because they want to learn new things.	BUT	Other students ask questions because they want the professor to notice them.	☐	☐
10.	☐	☐	If a subject is hard to understand, some students want the professor to spell it out for them.	BUT	Other students would first like to try to understand it themselves.	☐	☐
11.	☐	☐	Some students like subjects where it's pretty easy to just learn the answers.	BUT	Other students like those subjects that make them think hard and figure things out.	☐	☐
12.	☐	☐	Some students are curious and find that a lot of things they learn in their classes are really interesting.	BUT	Other students are not very curious about the things they learn about in their classes.	☐	☐
13.	☐	☐	Some students know they didn't do their best work on an assignment when they turn it in.	BUT	Other students have to wait til the professor grades it to know if they didn't do as well as they could have.	☐	☐
14.	☐	☐	Some students don't like difficult schoolwork because they have to work too hard.	BUT	Other students like difficult school-work because they find it more interesting.	☐	☐
15.	☐	☐	Some students study hard to get good grades.	BUT	Other students study hard because they really like to learn things.	☐	☐

APPENDIX B

The Smart Student's Manifesto for Taking Responsibility for Your Own Learning

1. Nobody can teach you as well as you can teach yourself.
2. Merely listening to your teachers and completing their assignments is *never* enough.
3. You are in school to learn to think for yourself, not to repeat what your teachers and textbooks tell you.
4. Grades are just subjective opinions, not the Holy Grail.
5. Your primary objective in college is to learn and receive training in your career area.
6. Subjects do not always seem interesting and relevant, but being actively engaged in learning them is better than being passively bored and not learning them.
7. If you're doing it for the grades or for the approval of others, you're missing the satisfactions of the process and putting your self-esteem at the mercy of things outside your control.
8. Few things are as potentially difficult or frightening as genuine learning, yet *nothing* is so rewarding or empowering.

VITA

Robert Wesley Fisher was born on September 23, 1958 in Fresno, California. When he was nine years old, his family moved to Hawaii, where he lived for the next seven years. He graduated from Atholton High School in Simpsonville, Maryland in 1976.

He completed his undergraduate work at Lee College in Cleveland, Tennessee and graduated with a Bachelor of Arts degree in Psychology in May, 1980. That summer he enrolled in a Master of Education degree in Community Counseling at Georgia State University in Atlanta.

Upon completion of his M.Ed. in 1982, he returned to Lee College to teach psychology in the department he had graduated from two years earlier. He has been teaching there ever since, currently holding the position of Assistant Professor of Psychology.

In the summer of 1984, he took his first course in a doctoral program at the University of Tennessee at Knoxville. For the next decade, while teaching full-time and raising a family, he continued his graduate work. In December 1994, he graduated with a Ph.D. in Experimental Psychology.

He and his wife, Kim, have three children: Emily, Matt, and David.