

*Incentive Motivation
#2*

SAEOPP

JOURNAL



Journal of the
Southeastern Association
of Educational Opportunity
Program Personnel

Ernest W. Brewer, Editor



**MONOGRAPH SERIES 1-3
SPRING 1995**

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Incentive Motivation Psychology: An Exploration of Corrective Learning Behavior

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Introduction

This monograph is primarily concerned with the identification and analysis of incentive motivation psychologies (IMPs) as they relate to incentive programs. Conclusions about the effects upon learner outcomes are drawn and methods for planning and implementation are explored.

To begin a discussion of incentive motivation psychology, a term selected to describe the overt relationship between “incentive” and “motivation” in learning psychology, it is important to examine contexts of other approaches to behavior modification. Incentive motivation psychology involves a deliberate instructional plan to elicit specific learner outcomes through a system of intrinsic and extrinsic rewards. Although the rewards themselves vary, and their application may greatly influence learner behavior, two distinct types of incentive motivational psychology can be identified and distinguished in terms of program application, course implementation, and student evaluation.

Intrinsic Incentive Motivation (IIM)

The first and most prominent form of incentive motivation psychology is intrinsic incentive motivation. Intrinsic incentive motivation is a motivational strategy that derives its reward system from the learners themselves. The lesson itself becomes the stimulus to learn; hence, it is intrinsic in context. The incentive to learn—what motivates one to pursue mastery—is psychological gratification derived from the skill mastery itself or some part of it. The intrinsic reward is based primarily upon whatever personal satisfaction one receives from the skill mastered. The intrinsic reward relies on the lesson and its presentation only for the gratification, and thus may be interpreted either as a reward or

incentive to learn, since both are gratifications. Consequently, this form of incentive motivational psychology is more commonly employed, because the vast majority of teachers do not use any other type of reward system, at least outside primary education classrooms (Anderson & Palmer, 1989; Brandes & Ginnis, 1986; Brewer, Dunn, & Olszewski, 1988; Cohen, 1988; Elliot, 1989; Frank, 1988; Goodlad, 1975; Hanushek, 1989; Lepore, Kiely, Bempchat, & London, 1989; Pallas, Natriello, & McDill, 1989; Silvernail, 1986).

Research further suggests that the effectiveness of intrinsic incentive motivational reward strategies depends upon *advanced organizers*. Advanced organizers are instructional design systems which educators develop to implement instructional activities, using tables of specification and charts dealing with the material to be mastered in order to demonstrate interrelationships. For example, competency-based academic materials—organized horizontally into content “strands” and vertically into hierarchical “levels” in ascending order of cognitive difficulty—make up the math, algebra, and reading/language adult basic skills curriculum adopted by several Veterans Upward Bound TRIO programs in the southeast region.

Such strategies emphasize varying degrees of cognitive skills. When implemented within such an instructional design model, the goal becomes the motivation making learning more active or more like play (Benes & Kramer, 1989; Block, 1985; Carroll, 1963; Denton & Seymour, 1978; Egan, 1983; Flanders, 1964; Goodlad, 1975, 1988; Guskey, 1985; Kember & Harper, 1987; Knowles, 1986; Lepore, et al., 1989; Pallas, et al., 1989; Peck, 1989; Slavin, Karweit, & Madden, 1989; Wilen, 1987). Consequently, the motivational incentive comes from the lesson itself as it engages the learner and from what each student gains, or believes they gain, from it.

The implementation of incentive motivation psychology is a helpful way to achieve desired learner outcomes because it takes many different types of instructional situations into account (Anderson & Palmer, 1989; Anderson, 1981; Benes & Kramer, 1989; Bloom, Hastings, & Madaus, 1971; Brophy, 1982; Carroll, 1963; Eggen & Kauchak, 1988). For teachers who use advanced organizers and stress the cognitive domain, intrinsic incentive motivation is a natural incentive phenomenon in the classroom.

Reward contingencies may be *counterproductive* for some learners, if they involve or emphasize material goods that move attention away from the act of learning itself and toward the mere expectation of a reward. Empirical research demonstrates the potential for negative impact of misapplied material rewards upon students who may, for example, perform in expectation of an *extrinsic* reward without really mastering the desired outcome (Anderson & Palmer, 1989; Anderson, 1981; Benes & Kramer, 1989; Block, 1985; Brandes & Ginnis, 1986; Duttweiler, 1988; Flanders, 1964; Haroutunian-Gordon, 1988; Kember & Harper, 1987; McKeen & Walbesser, 1975; Tenebaum, 1988). Most TRIO project directors and staff have experience with certain students who try to use the project to gain stipend checks more so than to learn and prepare for success in postsecondary education. Intrinsic incentive motivation can, however, motivate learners to achieve if the gratification they feel is the result of mastering desired skill outcomes.

Extrinsic Incentive Motivation (EIM)

Extrinsic incentive motivation (EIM) stresses the important link between learning and external motivational reward systems. Extrinsic incentive motivation can help control time-on-task problems for at-risk learners who already have difficulty mastering desired skill outcomes (Anderson & Palmer, 1989; Bloom, et al., 1971; Duttweiler, 1988; Kember & Harper, 1987; Knowles, 1986; Peterson, 1989; Silvernail, 1986). Research further suggests that extrinsic incentive motivation is statistically more effective than intrinsic incentive motivation. Further, extrinsic incentive motivation associates learning behavior with positive (material) rewards (Brophy, 1982; Duttwiler, 1988; Egan, 1983; Hanushek, 1989; Pallas, Natriello, & McDill, 1989; Patrick, Furlow, & Donovan, 1988; Popham & Baker, 1973; Silvernail, 1986; Tenebaum, 1988).

Statement of the Problem

There is demand for an effective learning motivational psychology that will improve student skill mastery through intrinsic and extrinsic systems of rewards. In the past, little specific research has focused on the effectiveness of intrinsic rewards—those which identify the nature

of the reward system within a learning activity. Intrinsic incentive motivation has frequently and naively been taken for granted.

Much skepticism has surrounded the issues of the effectiveness and value of extrinsic rewards. Biases against overt rewards, often seen as unnecessary by some teachers, have impeded scholarly study of extrinsic incentive motivation. The result has been intermittent studies about each, but none that fully consider the impact of both approaches together. Considering intrinsic incentive motivation and extrinsic incentive motivation together can ease the tension between the two strategies. Some prefer intrinsic incentive motivation because it centers on the learning activity as a reward. There is a perception that extrinsic incentive motivation represents "bribery." On the other hand, there are those who perceive extrinsic incentive motivation as a reality-based response to otherwise unmotivated students.

Statement of the Hypothesis

The purpose of this monograph is to explore the effectiveness of extrinsic incentive motivation (EIM) and internal incentive motivation (IIM) to determine which is more suitable in any given learning situation. It is hypothesized (a) that all students can learn, (b) that learning may be made more accessible to students, and (c) that intrinsic and extrinsic incentives can provide useful alternatives for dealing with otherwise nonresponsive students, when teachers and educational specialists plan carefully and incorporate extrinsic, intrinsic, and motivational strategies in their instructional design.

Discussion of the Problem

Considerable research supports the importance and positive effects of incentive programs (Anderson & Palmer, 1989; Ausbel, 1978; Block, 1985; Bloom, 1968; Bloom, et al., 1971; Brandes & Ginnis, 1986; Brewer, et al., 1988; Carroll, 1963; Denton & Seymour, 1978; Duttweiler, 1988; Guskey, 1985; Silvernail, 1986; Slavin, et al., 1989). The central problems for educators are (a) how to evaluate the relative advantages and disadvantages of different incentive strategies, (b) how to determine which is most appropriate in a given situation, and (c) how to decide upon the most practical means of learning incentive development and

implementation. There can be little doubt that some form of incentive motivation may improve student performance.

Relative and Non-Relative Student Interest

Before implementing any incentive motivation psychology, educators should evaluate student learning styles and behavioral habits within the classroom. Intrinsic incentive motivation (IIM) is more appropriate when students are able to master a desired outcome that has relevance and importance to them. Student motivation is enhanced if the student is already interested in mastering the desired skill outcome. For example, many teenagers tend to be interested in taking and mastering an automotive repair course, something that often seems of practical utility to them because of their keen interest in car ownership and maintenance. The incentive to learn is part of the student's desire to master proper auto maintenance, a practical and useful skill. There is a logical *end* to the course, as well as an ever-present *utility*.

In a similar way, college bound students are often more motivated to take advanced placement, pre-college courses, because they meet students' expectations and fairly immediate needs. Such courses possess an intrinsic utility for the students by their very nature, because they help prepare them to meet both short-term goals and long-term goals related to success in more difficult college classes. Educators can determine relative student interest by considering student records and assessing their ability to attain the desired skill outcomes (Bloom, 1968; Bloom, et al., 1971; Carroll, 1963; Guskey, 1985). Although the process of evaluating student academic and personal records can be laced with perils for unprepared teachers, it can nevertheless expose relative student interest in various courses and provide groundwork for internal incentive motivation development and implementation. If student "successes" —perhaps as determined by grades, teacher comments or achievement test scores— seem to indicate likely skill mastery (i.e. students appear to grasp new concepts easily due to familiarity or proclivity toward a given field), then intrinsic incentive motivation can be an effective model.

Carroll's early research into time-on-task stresses the separation of a student's ability to learn from the rate of speed it takes to learn (1963). A key prerequisite toward any type of skill mastery is the ability

to learn. Students must be capable of skill mastery before any type of progressive learning can occur. If a learner is unable to master a given skill, then the intrinsic incentive motivation strategy is virtually fruitless and cannot work. At the core of Carroll's research is the assumption that students can learn, but often do not because their cognitive skills are stalled at some stage of mastery. Carroll's research supports our first hypothesis with respect to student capacities for learning.

Non-relative student interest, can have an equal impact on the decision to use either intrinsic incentive motivation (IIM) or extrinsic incentive motivation (EIM). In instances where students cannot find any utility value in their coursework or cannot relate it to their own needs, present or anticipated, intrinsic incentive motivation would likely be ineffective. Potential intrinsic rewards in problem-solving would likely be undercut by the lack of student motivation to learn. Except for highly motivated students, who may perform well in such "non-relative" courses as a means to a larger end (e.g., to maintain a high grade point average needed for college admission or to complete a course or graduation requirement), extrinsic incentive motivation seems more appropriate, particularly for at-risk students such as those served by TRIO programs.

Intrinsic Incentive Motivation (IIM) Observations

In any situation, intrinsic incentive motivation (IIM) strategy works best if it is coupled with an advanced organizer (Ausubel, 1978; Lane, 1988) and any one of the four major instructional design models: deductive, concept-attainment, integrative, and inductive (Brandes & Ginnis, 1986; Brophy, 1982; Eggen & Kauchak, 1988; Hughes & Hall, 1989; Peterson, 1989; Slavin, et al., 1989; Tenebaum, 1988). If teachers wish to equate the incentive to learn with the gratification of achievement—that is, mastering the skill—then advanced organizers set up the "game of learning" and the instructional design model provides the rules of play (Block, 1985; Duttweiler, 1988; Eggen & Kauchak, 1988; Lane, 1988). Problematical learning becomes an active process in conjunction with advanced organizers, particularly where teachers guide their students through an assignment in order to stimulate higher level cognitive skills. The use of tables and charts which students complete using mate-

rial recently covered in class best exemplifies the advanced organizer. Such a strategy provides the ideal model for how an internal incentive motivation can become an effective incentive motivation psychology. By making learning more enjoyable through advanced organizers, motivation to learn increases because of the lesson, not the reward. Advanced organizers reduce complex skill outcomes to a puzzle that learners reassemble. Intrinsic incentive motivation (IIM) assumes that students who master a skill are motivated by the satisfaction of accomplishment and their progression in a class merely reflects the positive behavior by their desire or motivation (Block, 1985; Bloom, 1968; Bloom, et al., 1971; Carroll, 1963; Guskey, 1985).

Extrinsic Incentive Motivation (EIM) Observations

The other distinct type of incentive motivation psychology is extrinsic incentive motivation (EIM). EIM does not rely upon reward or gratification stemming from the learning activity itself; instead it extends some type of external or material award, gift, or prize for student mastery. The external reward may involve varying degrees of material rewards such as extended privileges, monetary tokens, or items of value. As with all extrinsic incentive motivation, the reward serves as an inducement to perform—whether competitively for an individual or as a group contingency reward, based upon performance.

Unlike intrinsic incentive motivation (IIM) which is dependent upon some type of emotional reaction to a lesson stimuli, extrinsic incentive motivation (EIM) can be broken down into four distinct types of reward contingencies. They distinguish competitive external rewards from non-competitive rewards, as outlined by Silvernail (1986):

1. Individual Reward Contingencies (IRC) [non-competitive]
2. Group Reward Contingencies (GRC) [non-competitive]
3. Individual Competition Contingencies (ICC) [competitive]
4. Group Competition Contingencies (GCC) [competitive]

Although Silvernail does not extend consideration of these reward contingencies to intrinsic incentive motivation, his discussion of rewards and competition seems to parallel teacher development and implementa-

tion of advanced organizers, implying that competition involves intrinsic reward within the system.

Individual Reward Contingencies (IRC). Individual reward contingencies (IRC) are the most common extrinsic incentive motivation; they provide rewards “. . . according to a predetermined standard for each individual” (Silvernail, 1986, p. 28). This type of external reward seeks to motivate all students and may not tend to encourage excellence for a universal reward, a point Cohen (1988) makes in his discussion of commitment and choice in a universal system of instruction. Further, individual reward contingencies can function in the same fashion in an intrinsic incentive motivation. Under such circumstances, the intrinsic incentive to learn remains within the lesson and within the student.

Group Reward Contingencies (GRC). Group reward contingencies (GRC) again recognize and reward each group member according to a predetermined standard for each group (Silvernail, 1986, p. 28). Similar to individual reward contingencies, this approach adds the bonus of group work (cooperative learning) and is, perhaps, more effective as a motivational technique. There is a wide body of research to support the positive impact of the Manchester Model (a group/peer learning model developed in the United Kingdom) upon learning among mixed-ability students. Empirical research demonstrates that students tend to learn more effectively in small groups where experiences and knowledge can be shared, rather than held individually (Bloom, et al., 1971; Goodlad, 1975; Slavin, et al., 1989). To the extent that advanced organizers or an intrinsic incentive motivation (IIM) involve active participation by students, they can be scaled to meet the needs of smaller groups—and even, perhaps, function more effectively since students would share learning processes and help one another. In such a case, lesson closure would involve bringing the varied responses from the groups together.

Individual Competition Contingencies (ICC). Individual competition contingencies (ICC) provide a reward based on a relationship to the performance of others and “. . . rewards [that] are dependent upon the relative performance of other individuals” (Silvernail, 1986, p. 86). Obviously, this strategy seeks to resolve the motivational deficiencies of individual reward contingencies by fostering a reward system based upon competition and rewards. Although this strategy solves the need for *competition* in some students who view it as a motivational factor, there may

be a problem for unmotivated students and those who lose out to faster learning students. Certainly the frustration level for slower students can hinder their motivation to learn (Slavin, et al., 1989). Research suggests that the problems which some learners have with subject mastery may not be the instructional presentation as much as the amount of *time* required for some students to attain skill mastery (Bloom 1968; Bloom, Hastings, & Madaus, 1971; Carroll, 1963; Guskey, 1985; Horton, 1981, 1987). Competition may motivate some students to excel; however, as Carroll and Bloom add, the same competition will stifle others. In such a case though, individual reward contingencies may be able to resolve the problems that competition may foster in sensitive students.

Group Competition Contingencies (GCC). Group competition contingencies (GCC) are very similar to individual competition contingencies in that there exists a competitive demand either to attain a reward at the expense of other students or to attain the rewards as quickly as possible (Silvernail, 1986, p. 29). In the first instance, learners are divided into equally numbered groups and each group competes as an entity against the other groups. In the individual competition contingencies, students compete individually and are rewarded based upon solitary performance at time-on-task assignments. For example, if students are given a list of assignments to complete by the end of the week, those students who finish early or who advance the farthest will be rewarded with free time or an incentive of some sort such as money, tokens, and/or prizes. In contrast, group competition contingencies foster cooperative learning in which small groups of students combine their talents to complete tasks. This approach tends to foster peer learning. The faster a group completes a required assignment, the greater its reward will be.

In the second instance, groups compete to finish as much as possible within a given time period in order to achieve the highest possible reward. The reward is based solely upon which group can complete the most work satisfactorily within a given time frame. For example, an educator may offer extra credit or discount coupons (tokens) to the group which can advance the farthest within the given time frame. The other students will not only have to catch up with the most advanced group, but they will receive no rewards or incentives. As long as the concept of the reward system is valued by the students and they actively wish to compete for them, group competition contingencies are an effective ex-

trinsic incentive motivation approach to classroom learning.

Summary of Extrinsic Incentive Motivation (EIM) Contingencies. The four extrinsic incentive motivations (EIMs) demonstrate the range of uses external rewards offer and suggest a plan for implementation, depending upon the type of class and its student composition. If the class is highly motivated, individual competition contingencies are appropriate strategies. If the class is a mixed-ability group, but motivated, group competition strategy is appropriate. By its nature, competition sparks motivation; rewards then serve to heighten the need for success and the teacher approval which becomes associated with competition. Conversely, unmotivated students or mixed-ability groups require a universal, contractual reward based upon mastery, not competition (Bloom, et al., 1971; Silvernail, 1986; Slavin, et al., 1989). Regardless of class makeup and student ability, the variety of contingencies make it likely that a useful motivational tool can be found.

Both intrinsic incentive motivation (IIM) and extrinsic incentive motivation (EIM) offer positive results as incentive programs. All incentive strategies seek to elicit a desired outcome through some sort of stimuli. This supports the second hypothesis that all learning may be made more accessible, through either intrinsic incentive motivation or one of the the four contingencies for extrinsic incentive motivation. The desired outcome is, of course, skill mastery (Brandes & Ginnis, 1986; Duttweiler, 1988; Elliot, 1989; Guskey, 1985; Hanushek, 1989; Pallas, et al., 1989; Silvernail, 1986; Verma, 1989).

Intrinsic Incentive Motivation (IIM) Advantages

There are many advantages to an intrinsic incentive motivation (IIM) strategy. Intrinsic incentive motivation strategy stresses the lesson itself as the center of attention and places an obligation on the teacher to plan lessons using some type of motivation system such as advanced organizers (Ausubel, 1978; Eggen & Kauchak, 1988; Lane, 1988). Gratification does not come from an external reward, which intrinsic incentive motivation might regard as a bribe to learn, but from a personal sense of satisfaction. For example, in an advanced senior English class, students may be expected to complete a major research project on three Shakespearean plays: *Hamlet*, *Othello*, and *Macbeth*. If students have

varying levels of motivation, the teacher could develop an advanced organizer which would ask students to compare various elements in each play, followed by the drawing of conclusions. This would develop skills applicable to writing research papers. An advanced organizer might be developed using the integrative model. Within this instructional model, the teacher would develop the advanced organizer by first identifying content goals in terms of what they want students to master. Then the advanced organizer would be patterned to allow students first to describe; second, to compare data; third, to explain relationships; fourth, to hypothesize theories using the data and relationships noted; and fifth, to generalize. The advanced organizer becomes a *data retrieval device* which students actively engage in all phases of the cognitive learning (Eggen & Kauchak, 1988, p. 171).

Table 1 is an example of an English literature advanced organizer that can serve as a data retrieval system to engage students in learning. In this retrieval system, following a unit on Shakespearean tragedy, students are confronted with a table of thematic elements used to identify the various elements from each play. Students begin to list the couples in each play, what the conflicts are, who the villains are, what misunderstandings arise, what epiphanies are made, and list the foolish characters. As students begin to identify these elements, they can see relationships the three plays share.

Table 1
Data Retrieval System

Thematic Elements	<i>Hamlet</i>	<i>Othello</i>	<i>Macbeth</i>
Couples			
Personal Conflicts			
Villians			
Misunderstandings			
Epiphanies			
Foolish/Comical Characters			

Table 2 illustrates the completion of a data retrieval system from which an educator may direct more complex thinking activities. Educators may ask and direct students to look for similarities between the three plays in terms of conflicts of villains. Such a data retrieval system focuses learner attention more narrowly and better illustrates how to select and analyze components from the three plays—it can help students learn *how to think!*.

Table 2
Example of An Advanced Organizer

Thematic Elements	<i>Hamlet</i>	<i>Othello</i>	<i>Macbeth</i>
Couples	<i>Claudius-Gertrude</i> <i>Hamlet-Gertrude</i> <i>Hamlet-Ophelia</i>	<i>Othello-Desdemona</i> <i>Iago-Emilia</i>	<i>Macbeth-Lady Macbeth</i> <i>Macduff-Lady Macduff</i>
Personal Conflicts	<i>Hamlet-Hamlet</i> <i>Hamlet-Claudius</i> <i>Laertes-Hamlet</i>	<i>Issue of adultery</i> <i>Ambition</i> <i>Iago</i>	<i>Power</i>
Villians	<i>Claudius-Laertes</i>	<i>Iago-Roderigo</i>	<i>Macbeth-Satan</i>
Misunderstanding	<i>Polonius thinks Hamlet is love-sick for Ophelia</i>	<i>Desdemona as adulteress</i>	<i>Who can kill Macbeth</i>
Epiphanies	<i>Claudius killed old Hamlet</i>	<i>Iago misrepresented everyone</i>	<i>Macduff was born by C-section</i>
Foolish/ Comical Characters	<i>Polonius</i>	<i>Claudio (at first)</i>	<i>Porter (Act III)</i>

Teachers may use either a handout, the blackboard, or a transparency. Since the information requested involves low cognitive thinking skills, this activity draws students into the lesson by the relative ease of providing information. From here, the advanced organizer can be used to point out certain similarities among the plays and lead students to apply the basic information to draw conclusions (i.e. use higher level

cognitive skills) about Shakespeare, his heroes, plot lines, and so forth. The physical activity of providing information and the shared process of putting it together and sorting its applications represents the intrinsic reward students receive through intrinsic incentive motivation (IIM) and the skill mastery which completion implies. There is sufficient research to suggest that students learn better and have higher retention if they see themselves successfully mastering desired outcomes (Bloom, 1968; Bloom, et al., 1971; Carroll, 1963; Guskey, 1985; Slavin, et al., 1989). Intrinsic incentive motivation focuses attention on how learning stems from the lesson itself.

Extrinsic Incentive Motivation (EIM) Advantages

The extrinsic incentive motivation (EIM) model may be the more useful because it provides an alternative approach for unmotivated students who have little or no enthusiasm for the class assignment. Because the lesson may offer little motivation to learn in and of itself, teachers are faced with a considerable burden when it comes to teaching course material that students do not wish to learn or else feel is superfluous. EIM creates an external, alternative incentive to learn in the form of varying types of tangible rewards. Prior to implementation of extrinsic incentive motivation, three steps are performed.

1. One must determine which skill outcomes to reward, in what manner, and through what medium. It is imperative to set up a predetermined level of mastery that describes the level of competency acceptable for a reward (Silvernail, 1986). In general, each reward should reflect a level of skill competence which, upon mastery, will be externally acknowledged by some kind of reward contingency. Much like the use of advanced organizers in the intrinsic incentive motivation model, some type of distribution system is essential, whether it is open-ended, rewarding students as they go, or closed, fostering competition for rewards based upon speed or level of mastery.

To determine which skill outcomes to reward a teacher may use guides, lesson plans, or course goal statements and objectives. The manner in which learning occurs can greatly influence the distribution of rewards. Self-paced individualized

learning, for example, would require individual reward or individual competition contingencies. Group work would require either group reward or group competition contingencies. Hence, the method of instruction and the prevalent style of learning can affect the reward system.

2. The rate of reward distribution is another important consideration in whether the incentives are competitive rewards or universal perks for mastery (Silvernail, 1986). If a sliding scale of reward values is imposed, slower students may be alienated (Block, 1985; Bloom, 1968; Bloom, et al., 1971; Brewer, et al., 1988; Carroll, 1963; Guskey, 1985; Silvernail, 1986). However, if students are rewarded universally for skill mastery, educators have a better chance for successful attainment of desired outcomes than in an environment of competition. For example, rewards could either be given at the completion of a learning activity or during the learning process itself. An educator could, for example, extend breaks or lunch period or distribute rewards throughout the school year.

TRIO program stipends, for example, may be awarded weekly for "showing up," or they may be deferred and made contingent on certain target behaviors such as being *admitted* to a postsecondary program, or *enrolling* for classes at a target postsecondary institution (PSI).

3. The type of reward is important. There are three principal types: monetary; items of token value; and extended, unshared privileges. In a low-income school district, monetary rewards might mean more to students than token gifts or privileges. Educators could offer token rewards for improved performance, such as coupons, silver and gold discount cards, or a school item (t-shirt, school hat or cup, etc.). In a highly structured school, however, privileges that might achieve more positive results than money or token gifts include rewards such as an extended lunch period or free period. And finally, token gifts such as ribbons, medals, or certificates, may hold greater value in special class situations than money or privileges. The decision as to which type to use for a particular class will affect whether a teacher achieves any external motivational success. It is important to remember that external rewards are expected to motivate students to do what internal motivation does not do—that is, to learn (Silvernail, 1986, pp. 28-29).

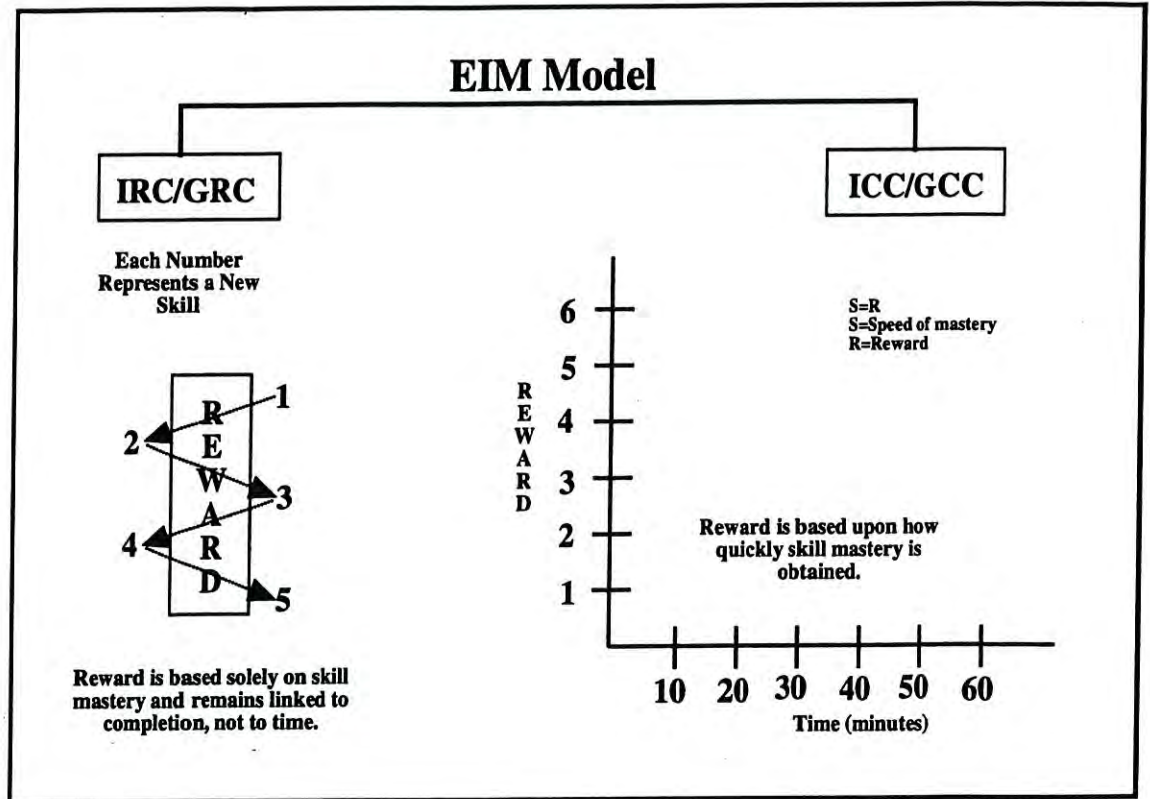


Figure 1. EIM reward distribution.

Figure 1, EIM Reward Distribution Illustration, illustrates how the appropriateness of individual competition contingencies (ICC), group competition contingencies (GCC), individual reward contingencies (IRC), or group reward contingencies (GRC) may be based upon the individual needs of students. In the individual or group reward contingencies (IRC or GRC), rewards are based upon successful completion. Each time an activity is completed, a reward precedes movement to the next activity. In the individual or group competition contingencies (ICC or GCC), rewards are based upon *how quickly* activities are completed. The faster learners complete assigned activities, the more rewards that follow. Note that the two reward systems differ in that while the individual reward contingencies or group reward contingencies permits distribution of the rewards and the individual competition contingencies or group competition contingencies *limit* distribution of rewards only to what is achieved in a given time block. Although extrinsic rewards lead to gratification, the use of a competitive or simple reward-completion system is determined by the relative inclination of students to respond well to either,

and by the learning habits of students who may or may not respond positively to competition. Figure 1 illustrates the differences between competitive rewards, which may couple speed of mastery with student reward, or provide simple reward contingencies which reward completion and mastery regardless of the time it takes.

An educator can implement either individual reward contingencies (IRC) or group reward contingencies (GRC), or individual competition contingencies (ICC) or group competition contingencies (GCC) by structuring the class around non-competitive or competitive reward systems. Teachers should then provide instruction to test for mastery. The differences in design and implementation can be seen in Figure 2.

IRC/GRC	ICC/GCC
1. Establish lesson plan around and instructional design model	1. List goal statements and objectives
2. Complete an advanced organizer	2. Set up a table of reward contingencies
3. Provide appropriate instruction and adjust scope as needed	3. Resume normal instruction, but include rewards
4. Evaluation: levels of skill mastery	4. Evaluation: levels of skill mastery

Figure 2. Design and implementation differences.

In Figure 2 both models approach learning differently and are based upon specific learning theories (Anderson & Palmer, 1989; Brandes & Ginnis, 1986; Duttweiler, 1988; Haroutunian-Gordon, 1988; Lane, 1988; Silvernail, 1986; Wilen, 1987). Educators may determine which approach is the more desirable by matching the model to one's own ideas about learning. Individual reward contingencies (IRC) and/or group reward contingencies (GRC) emphasize the role of the lesson as the motivational stimulus. Such a strategy may be impractical in some classrooms (Brewer, et al., 1988; Brophy, 1982; Flanders, 1964; Gordon, 1984; Hughes & Hendrickson, 1987; Kember & Harper, 1987; Nickerson & Zedhiates, 1988; Pallas, et al., 1989; Peck, 1989; Peterson, 1989; Verma,

1989). Not all disciplines are equally appealing to all students and an external reward system may help to involve students in such situations (Anderson & Palmer, 1989; Block, 1985; Silvernail, 1986). This demonstrates the third hypothesis with respect to the usefulness of intrinsic and extrinsic reward alternatives.

Intrinsic Incentive Motivation (IIM) Disadvantages

There are generally drawbacks to any incentive program. Critics, for example, are quick to point out the contradiction of rewarding learners to get them to perform tasks that are expected. Intrinsic incentive motivation holds an ideal solution for those who may object to overt rewards—there are no external rewards. However, the model does not consider non-motivated students who fail to attain skill mastery and become frustrated. If the gratification is solely intrinsic, then those students will not benefit from an intrinsic incentive motivation (IIM) approach (Bloom, et al., 1971; Slavin, et al., 1989).

The alternative to intrinsic incentive motivation includes “tracking” students into lower ability groups of remedial students of doubtful ability for whom there are lesser expectations. But this strategy of segregation by ability may stifle motivation. The problem with tracking is that it can do considerable harm to a student’s self-perception and damage the student’s attitude toward learning (Lepore, Kiely, Bempchat, & London, 1989).

According to a very disheartening report, 19.8% of all students under 18 live in families whose income is below the poverty line. The rate falls only to 11.1% for those 18-64 years of age (Moynihan, 1989). Statistically, the vast majority of those people will remain trapped in a cycle of poverty from which very few can ever hope to escape without successful intervention programs (Gerics & Westheimer, 1988; London, 1989; Schorr, 1991; Stierlin, 1985, 1989). Without some motivation to do well in classes, these same students may be prevented from seeking a better life. Research suggests that first-generation college students—who are usually from among the 19.8% poverty-level students 18 years of age or below—face the most adversity in breaking out of the cycle (London, 1989; Stierlin, 1985, 1989). Invariably, they are also the most vulnerable to being *tracked* into lower-ability groups and hence, distracted from learning.

Extrinsic Incentive Motivation (EIM) Disadvantages

Similarly, extrinsic incentive motivation (EIM) overtly offers a reward system akin to bribery. They move the motive to learn away from the subject or skill itself, toward the mere earning of a reward. If this is indeed the case, questions arise with respect to the quality of the outcome. Is there any clinical evidence to support whether or not extrinsic incentive motivation truly fosters the desired learner outcomes? Do learners retain the desired outcomes after receiving external rewards? Although extrinsic incentive motivations improve the quantity of performance, they have not been demonstrated to improve the *quality*.

While extrinsic incentive motivation may be used as a visible *incentive* to learn, not a *reason* to learn, critics contend that the approach has limited applications with individual competition contingencies or group competition contingencies. However, as long as incentive programs are kept in perspective—something that has not been adequately addressed in current, empirical research—that difficulty may be averted. Research is inconclusive in its suggestions (Silvernail, 1986; Slavin, et al., 1989). Unfortunately, the misapplication of any incentive program can create more problems that it purports to solve; extrinsic incentive motivation is readily prone to misapplication.

Conclusions

Although there will probably always remain some doubt as to the utility of intrinsic motivation psychology (IMP), the value of intrinsic incentive motivation (IIM) and extrinsic incentive motivation (EIM) is obvious in their implications for improved student performance—and as a consequence, for improved motivation to learn. Planning and development of incentive programs is relatively simple once educators determine which type is appropriate for student needs. Once determination has been made as to which incentive motivation psychology to use, educators need to abstract the intrinsic or extrinsic rewards, whether based upon the assignment itself or upon the distribution of some system of external rewards.

For intrinsic incentive motivation (IIM), educators need to plan advanced organizers and pattern lessons around active learning. Although

some degree of motivation is necessary, not all students need be highly motivated for an intrinsic incentives to work successfully. By association, non-motivated students are gratified in the same way that the motivated students are, in the sharing of the learning process.

However, extrinsic incentive motivation (EIM) is more easily subject to abuse; the choice of reward contingencies largely depends upon the accuracy of the teacher's decision to develop and implement the system of rewards. Since extrinsic incentive motivation works best with unmotivated students, and since the aim of an extrinsic incentive motivation is to foster learning by creating an incentive to learn where one does not exist (at least in any strength), the reward must never become the goal, only an incentive. Silvernail's (1986) four types of extrinsic incentive motivation outline possible contingency plans for the use of rewards; however, teachers, tutors, counselors, and program directors should implement rewards only to instill an absent motivation to learn. Such a rewards should not be allowed to become the outcome objective itself.

Future research efforts should focus on the integration of incentive motivation data into effective personality and learning style inventories, such as the 16 Personality Factors or the Myers-Briggs Type Indicator. This effort could divulge which incentive programs may better impact certain categories of learners. Further, a formalized system for identifying potential reward contingencies would greatly ease the burden of organizing reward systems from scratch.

Conclusions that may be drawn from the two incentive models are in their application to learning. For those students who are motivated to learn, an intrinsic incentive motivation (IIM) model is appropriate, even if some unmotivated students are present. Similarly, for those students who lack motivation because the course material seems inappropriate, inapplicable, or non-utilitarian, extrinsic incentive motivation (EIM) offers an alternative to induce mastery of the desired skills. Each model has appropriate applications and may be effectively implemented for either motivated or unmotivated students.

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