

THE EFFECT OF REWARDS ON STUDENT MOTIVATION

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ABSTRACT. The present study is a literature review focused on investigating student academic motivation in relationship with academic performance. Much research has been dedicated to exploring student motivation, the types of motivations and the impact of motivation on student behavior and classroom performance. A specific line of research has explored specifically how teachers understand the use of rewards in classroom, what is the student outcome as of result of using various motivational strategies, and which are the most effective ways to motivate students. Practice shows that a vast majority of teachers use predominantly rewards to enhance student academic motivation, but recent research shows that extensive use of rewards in classrooms can have a negative impact on student intrinsic motivation, and in the long run, a negative impact on student academic achievement as well.

Key words: *motivation, rewards, teacher education.*

ZUSAMMENFASSUNG. Die vorliegende Studie ist eine Literaturrecherche, die sich auf der Untersuchung von Schülern akademische Motivation in Beziehung zu schulischen Leistungen konzentriert. Viele Untersuchungen waren gewidmet, die Motivation der Schüler, die Arten der Motivation und den Einfluss von Motivation auf das Verhalten der Schüler und akademische Leistungen zu erforschen. Eine bestimmte Forschungsrichtung hat ausdrücklich untersucht, wie die Lehrer die Verwendung von Belohnungen in der Klasse verstehen, zu welche Ergebnisse die Verwendung von verschiedenen Motivationsstrategien führt und welche die wirksamsten Möglichkeiten sind, um Schülern zu motivieren. Die Praxis zeigt, dass eine große Mehrheit von Lehrkräften überwiegend Belohnungen verwendet, um die akademische Motivation den Schülern zu verbessern. Aber, neuere Forschungen zeigen, dass umfassenden Gebrauch von Belohnungen in den Klassenzimmern kann negativ die Schüler intrinsische Motivation beeinflussen und, langfristig, hat dieses Prozess auch einen negativen Einfluss auf Schüler akademische Leistungen.

Schlüsselwörter: *Motivation, Belohnung, Lehrerausbildung.*

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I. Introduction and Purpose

Recent research in teacher education focused intensively on teaching quality and student performance. A bulk of research has focused specifically on student academic achievement and motivation; most specifically on how the use of rewards has been influencing student achievement. Recent research has shown that the use of rewards undermines student intrinsic motivation and thus can negatively impact student academic achievement (Ryan & Deci, 2000). How teachers understand the role of rewards, the impact of extrinsic and intrinsic motivation on student achievement is still part of an ongoing debate in education regarding the use of effective motivational strategies with students.

A person is motivated if they are “moved to do something” (Ryan & Deci, 2000, p. 54). Motivation is the reason a person exhibits a behavior (Guay et al., 2010). If a person does not have an incentive to act, they will be unmotivated to perform a behavior. Motivation plays a key role in education. Students must be motivated in order to comply with school regulations and to excel academically. When people are born, they are eager, curious and ready to learn about the world (Ryan & Deci, 2000). However, as they grow they begin to lose their motivation to learn (Guay et al., 2010). In order to promote compliance and academic achievement, teachers must find ways to motivate students. Encouraging motivation in elementary school is especially vital because it predicts students’ motivation to learn in later grades (Broussard & Garrison, 2004). Students who are highly motivated to learn by age nine will continue to perform better academically later in life than students who are not motivated to learn by age nine (Broussard & Garrison, 2004). Given the importance motivation plays in students’ academic success, teachers have the crucial task of discovering effective means to motivate students.

Academically motivating students and keeping them motivated is one of the greatest challenges teachers face. Teachers regularly use rewards, such as stickers, extra time on the computer and praise, to encourage academic achievement. In the United States, teachers have been using toys to gain compliance from children since as early as the 1800’s (Kohn, 1993). However, research shows that some common forms of rewards can have a negative effect on students’ long term motivation. Tangible rewards, in particular, have been shown to decrease intrinsic motivation. Praise, however, has been shown to increase intrinsic motivation under certain circumstances (Deci, Koestner, & Ryan, 2001; Kohn, 1993). By identifying those circumstances, teachers can effectively use praise to motivate students to excel. Praise refers to “positive evaluations made by a person of another’s products, performances or attributes” (Kanouse, Gumpert, & Canavan-Gumpert, 1981, p. 98). To better understand why praise should be used and how to use praise effectively,

teachers must first understand what motivates students, how rewards can motivate students and what effect praise has on motivation.

II. Theoretical Considerations

Intrinsic Motivators

Intrinsic motivation refers to behaviors done to attain something directly from the activity, such as enjoyment, learning or feelings of accomplishment (Guay et al., 2010). An intrinsically motivated person, for example, will conduct a science experiment because finding a solution provides a sense of pleasure. In order to comprehend the importance of using praise, teachers need to know what motivates students. Students can be motivated either through intrinsic motivation or extrinsic motivation (Guay et al., 2010).

Although compliance is important, teachers should use intrinsic motivators to encourage students to excel. To determine the effect of intrinsic and extrinsic motivation on performance, Lepper (1988) asked 797 third to eighth graders to fill out questionnaires in which they were asked the degree to which they were motivated by certain intrinsic and extrinsic motivators (Lepper, Corpus, & Iyengar, 2005). Intrinsic factors included preference for challenge, focus on curiosity and desire for mastery, while extrinsic factors included preference for easy work, pleasing the teacher and getting good grades (Lepper, Corpus, & Iyengar, 2005). They found that kids with higher intrinsic motivation had higher GPAs and standardized test scores, whereas kids with higher extrinsic motivation had lower GPAs and standardized test scores (Lepper, Corpus, & Iyengar, 2005). In another study, Lepper (1973) gave preschoolers a certificate and ribbon for drawing with Magic Markers (Kohn, 1993). Two weeks later he let the kids play with the Magic Markers again but not for a reward. He found that the kids who were offered the rewards were less interested in the markers than they were before they were given the reward and less interested than kids who were not given a reward (Kohn, 1993). He concluded that rewards, even given once, can decrease intrinsic motivation for weeks (Kohn, 1993). The children's perception of why they should play with the markers changed from enjoyment to the attainment of the reward (Cameron & Pierce, 1994). He called this perception shift from self-initiated goals to external goals the overjustification effect (Cameron & Pierce, 1994).

Intrinsic motivation plays a critical role in students' achievement in certain subjects based on their gender (Guay et al., 2010). Guay and his colleagues found that girls were more intrinsically motivated to excel in reading and writing than boys. On the other hand, boys were more intrinsically motivated to excel in math than girls (Guay et al., 2010). They found that this difference is more

prominent in children from ages eight and above (Guay et al., 2010). Students between the ages of five and seven generally maintain the same intrinsic motivation among various subject areas (Guay et al., 2010). Guay and his colleagues argued that the difference can be attributed to children's perceptions of their strengths and weaknesses (Guay et al., 2010). Older children are able to more accurately perceive their relative strengths and weaknesses among different subjects, whereas younger children generally perceive themselves as having the same degree of strengths and weaknesses across all subjects (Guay et al., 2010). Because intrinsic motivation plays such an important role in achievement, it is imperative that teachers find ways to reward children that will maintain or increase their intrinsic motivation.

Extrinsic Motivators

Extrinsic motivation refers to behaviors done to attain something not directly from the activity, such as rewards (Guay et al., 2010). For example, an extrinsically motivated person will solve a math problem even when they have little interest in it because of the satisfaction they will get from a reward.

Over a hundred studies have concluded that extrinsic motivators such as tangible rewards lead to a decrease in intrinsic motivation (Deci, Koestner, & Ryan, 2001). When kids are given extrinsic motivators, they perceive the activity they are being asked to do as merely a means to the extrinsic motivator (Lepper, 1988). As such, they lose their intrinsic motivation to do the activity and cease to do the task once the reward is removed (Lepper, 1988). For example, Lepper (1988) found that fourth and fifth graders rewarded for playing math games played them frequently while they were offered a reward, but once the reward stopped, they no longer played with the games (Kohn, 1993). Kids who were not rewarded continued to play with the games (Kohn, 1993). Extrinsic motivators decrease people's attitude toward an activity (Kohn, 1993). They lead to the belief that "if they have to bribe me to do this, it must be something I wouldn't want to do" (Kohn, 1993, p. 76). Tangible rewards lead kids to exercise the least effort needed to obtain the reward and avoid taking risks (Lepper, 1988; Kohn, 1993). In several studies, when kids received rewards for reading books, they read more books, but the books were shorter, had larger print, and the children demonstrated poorer comprehension than kids who did not receive rewards (Kohn, 1993). Furthermore, kids' interest in books outside of school dropped significantly (Kohn, 1993).

One of the most detrimental effects of tangible rewards is that it forces kids to compete as rivals to obtain the rewards, making classmates their opponents (Kohn, 2006). This prevents cooperation and sharing of resources and knowledge, which leads to higher quality learning (Kohn, 2006). Despite the evidence that tangible rewards are detrimental to intrinsic motivation,

Cameron and Pierce (1994) found tangible rewards to be detrimental only when kids expected the rewards for doing the activity. They claimed “the undermining of intrinsic motivation by extrinsic awards is a myth” (Deci, Koestner, & Ryan, 2001, p. 2). They evaluated several studies where intrinsic motivation was measured by attitude, time on task after removing the reward, performance and willingness to volunteer for future studies without a reward (Cameron & Pierce, 1994). Results found that rewards increased intrinsic motivation for up to a year (Cameron & Pierce, 1994). Results also found that verbal rewards, as well as rewards for performance, increased intrinsic motivation (Cameron & Pierce, 1994). Rewards were shown to decrease intrinsic motivation, however, when tangible rewards were expected for doing an activity, regardless of the level of performance (Cameron & Pierce, 1994). Cameron and Pierce (1994) contended that studies making broad claims against the use of rewards either used ineffective rewards that did not cause people to increase their behaviors or used poorly devised questions to assess attitude, which may have confused people’s liking of the reward with their liking of the activity.

However, researchers in 1996 and 2001 conducted an extensive review of 128 studies which challenged Cameron and Pierce’s claims, while supporting Lepper’s findings (Deci, Koestner, & Ryan, 2001). They found that tangible rewards, both for completion of tasks and for performance, led to decreased motivation (Deci, Koestner, & Ryan, 2001). They also conducted a study which not only confirmed that performance based rewards decrease intrinsic motivation, but that they are the most detrimental rewards when some people receive smaller rewards than others (Deci, Koestner, & Ryan, 1999). In another study, people showing the best performances were given the greatest rewards, while others received smaller or no rewards (Deci, Koestner, & Ryan, 2001). Intrinsic motivation in this group was lower than any other group in the 128 studies (Deci, Koestner, & Ryan, 2001). These researchers concluded that findings described by Cameron and Pierce used some inappropriate procedures and made errors in their meta-analysis (Deci, Koestner & Ryan, 2001). Given the extensive amount of research showing the detrimental effects of tangible rewards, teachers should carefully use extrinsic motivators, and consider whenever appropriate the use of praise to motivate students.

Praise

In order to use praise effectively we must also consider the effect of praise on motivation. Praise can have either positive or negative effects depending on how it is offered and based on the information that it conveys. Praise increases intrinsic motivation when it is focused on underlying processes, rather than traits (Mueller & Dweck, 1998). For example, it is better

to praise someone for using the right strategy to solve a problem, rather than for being an expedient worker. This effect is even greater when children are performing challenging tasks (Mueller & Dweck, 1998). Praise also increases intrinsic motivation when it is perceived as sincere and directed at the student's mastery of a skill without making social comparisons (Henderlong & Lepper, 2002). It is more effective, for example, to praise someone for getting most of the problems correct, rather than getting more problems correct than classmates. Social comparisons are detrimental, in part, because they set the bar too high for what children can be expected to do (Henderlong & Lepper, 2002). Not all children can be above average for every task (Henderlong & Lepper, 2002). To increase intrinsic motivation, teachers should praise a child's effort, rather than his or her ability. Praising effort helps kids attribute their success to internal, controllable factors, giving them a feeling of control over their learning (Mueller & Dweck, 1998). If kids feel in control over their lives, they will accept more risks and challenges (Mueller & Dweck, 1998). On the other hand, praising ability leads kids to believe that their intelligence is unchangeable (Mueller & Dweck, 1998). In order to maintain the appearance of excellence, they will avoid challenges and risks (Mueller & Dweck, 1998). Without challenges and risks, kids will fail to fulfill their potential (Mueller & Dweck, 1998).

Even if praise is given for mastery, process and effort, rather than social comparisons, traits or ability, praise can only have a positive effect if it leads to a feeling of self-determination, rather a feeling of being controlled (Kohn, 1993). Praise diminishes intrinsic motivation when used controllingly (Deci, Koestner, & Ryan, 1999). Praise can only increase motivation if not used controllingly but to affirm the person's competence (Deci, Koestner, & Ryan, 1999). Praised used to control students may decrease intrinsic motivation because the negative effects of the control counter the positive effects of the information on competence (Deci, Koestner, & Ryan, 1999). Sometimes, praise can be received as controlling or demeaning when the teacher's intentions are merely to compliment (Kohn, 2006). Sometimes praise is considered demeaning or dishonest when it is exaggerated (Kohn, 2006). To avoid this, praise should be specific, given only when merited and teachers should be aware of the inflection in their voice.

Before we can use praise effectively, however, we must understand how extrinsic rewards motivate students. The two theories that have been proposed are behaviorism and cognitive evaluation theory. According to Watson (1919), all behaviors are physiological responses to stimuli, which he defined as "physical energies" that elicit a behavior (p. 194). He argued that by altering the stimuli a child is exposed to, he could train him to become any type of specialist "even into beggar-man and thief, regardless of his talents" (Watson, 1927, p. 10). The notion that all behaviors can be explained in terms of stimuli and responses became known as behaviorism (Watson, 1927). In

1938 Skinner expanded on Watson's theories and concluded that teaching is merely the act of providing reinforcers to increase the repetition of a behavior. He concluded that there is no such thing as a self or freedom (Skinner, 1990). People are nothing more than biochemical machines (Skinner, 1990). They will repeat a behavior when a reward, which he called a reinforcer, follows a behavior (Skinner, 1950). Unlike Skinner, Deci and Ryan (2001) believed that intrinsic motivation is based on an innate need for competence and self-determination. People are born curious about the world and ready to learn; therefore, extrinsic rewards are superfluous (Ryan & Deci, 2000). External events can increase a person's intrinsic motivation if it promotes feelings of competence and self-determination (Ryan & Deci, 2000). Feedback and rewards can, at times, increase intrinsic motivation because of the information they provide (Ryan & Deci, 2000). However, if given in a controlling manner, the negative effect of the control will counter the positive effect of the information, and lead to a decrease in intrinsic motivation (Deci, Koestner, & Ryan, 2001). These principles are known as the cognitive evaluation theory (Deci, Koestner, & Ryan, 2001). Based on the theories of behaviorism and cognitive evaluation theory, praise should be given repeatedly until the students are achieving at the desired level and praise should be used to promote competence and self-determination.

III. Discussion and Conclusion

Decades of research and over a hundred studies have failed to produce general agreement concerning the effects of rewards on intrinsic motivation. A general review of the literature on rewards, however, suggests that teachers should use caution before immersing their class in rewards. Over a hundred studies have concluded that tangible rewards lead to a decrease in intrinsic motivation (Deci, Koestner, & Ryan, 2001). In turn, research has shown intrinsic motivation to be directly correlated to achievement (Lepper, Corpus & Iyengar, 2005). The negative effect tangible rewards can have on achievement, suggests it may be counterproductive for teachers to use tangible rewards to try to increase students' achievement. However, as Lepper (1988) pointed out, it may be necessary to use rewards if the student does not possess intrinsic motivations for the task. Although Kohn (1993) points out that people are born intrinsically motivated and rewards can only exacerbate the problem if a child has lost his intrinsic motivation, students need to learn the material being taught or they will fall further behind. In an ideal world teachers would have the time and expertise to help every child in the class regain his or her intrinsic motivation. However, with the growing number kids in the classroom, the extreme time constraints teachers face and the complex issues many kids are going through, including divorce, illness, family violence and poverty, teachers

simply cannot resolve the personal needs of every child. After teachers do their best to motivate students intrinsically and to help them resolve their personal issues, teachers need be able to use extrinsic motivators to encourage students who remain unmotivated to learn the material.

A review of the literature on motivation suggests that praise is the most effective external motivator for achievement. Although intrinsic motivation leads to greater achievement, it is not always possible to motivate kids intrinsically. When extrinsic motivators are required praise is best because tangible rewards not only fail to achieve better performance, but they lead to a decrease in intrinsic motivation. According to the theories of behaviorism and cognitive evaluation theory, praise should be given frequently for competence and self-determination. Research also finds that to be effective praise must be specific, honest and directed at mastery, process and effort, rather than social comparisons, traits or ability.

Frequent, specific praise given honestly for mastery, process and effort affects students' intrinsic motivation to excel. At first glance, the research on praise as an extrinsic motivator appears inconclusive. In general, many behaviorists contend that verbal rewards are always effective, while most cognitive researchers argue that praise can be detrimental. A closer look at the research, however, reveals that there are very specific instances when praise is detrimental or effective. By evaluating those instances, we can comprehensively identify the characteristics of effective praise and further increase students' motivation by combining those characteristics. Various research studies have compared two methods of praise; for example, process based praise compared to trait based praise or specific praise compared to general praise. This limited research suggests that praise is effective if it is process based or if it is specific. This can lead some teachers to mistakenly believe that process based general praise is effective. For example, a teacher using process based praise may fail to achieve increased performance from students. This may be because the positive effects of using process based praise may be outweighed by the negative effects of the teacher's use of general, rather than specific, praise. By combining those characteristics of praise that have been deemed effective, we can magnify their combined effect on students' intrinsic motivation. By doing so, we can clarify the most effective ways to praise students.

Amidst the flux of seemingly inconclusive research, both tangible and verbal rewards continue to be promoted as one of the most effective tools for classroom management (Kohn, 2006). However, research supports the importance of using praise, rather than tangible rewards, to better motivate students. By using a comprehensive list of effective praise characteristics, teachers can more effectively use praise to increase student's intrinsic motivation to excel. As a result, their students will become better academically. Teachers will have achieved one of their greatest challenges.

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