Articles

The issues of goal setting, interest, and reward in self-regulated learning

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Abstract

Self-regulated learning (SRL) is the theory developed in the field of educational psychology. SRL is based on the idea that behaviours are regulated by the self-concept. This self-concept is the basis of the social cognitive theory which does not depend on students' innate motivation (intrinsic motivation) at the initial stage of learning. This study examines three motivation-related factors in the concept of SRL: goals, interest, and rewards followed by the suggestion of a students' learning model for University EFL classrooms.

keywords : self-regulated learning, motivation, self-concept, academic learning

1. Introduction

In the field of educational psychology, theory and research on self-regulated learning (SRL) has grown since mid-1980 (Zimmerman & Schunk, 2001) and influenced on various fields in academic learning including English as a foreign language (EFL). Self-regulated learning is based on the idea that behaviours are regulated by the self-concept. This self-concept is the basis of the social cognitive theory offered by Bandura (1986). The emphasis of this theory is on self-evaluative mechanisms, where the perception of self plays an important role in behaviour. When students evaluate their own progress in their learning, they have a sense of achievement and perceive a personal efficacy in their performance. This positive evaluation, or perception of self, leads to an increase in self-motivation and self-directedness. As such, their future behaviour becomes more self-regulated. Self-evaluation of one's own performance thus becomes a source of the personal regulation of behaviour.

Many self-regulation theorists view learning as a process. Among them, Zimmerman (1998) postulates an academic learning cycle with three major phases: forethought, performance or volitional control, and self-reflection. The forethought phase involves the setting of the stage for learning. Forethought process types include goal setting, reflection on previous learning, self-efficacy beliefs, strategic planning, and raising intrinsic interest. The performance or volitional control phases involve the actual learning efforts and performance and can be further divided into three subgroups: attention focusing, self-instruction and self-monitoring. Of the three, self-monitoring is closely related to students' self-efficacy. The third self-regulatory phase, self-reflection, involves activities after learning efforts. The four types of self-reflection processes are self-evaluation, attribution, self-reaction and adaptively. Self-reflection leads to, and influences, the forethought phase and completes the self-regulatory cycle.

In the last several years, the increasing number of self-regulated learning researchers have focused on their roles of motivational processes such as goals (Schunk & Zimmerman, 2008). This study examines three motivation-related factors in the concept of SRL: goals, interest, and rewards. After examining these factors, a students learning model including them for University EFL classrooms is suggested by the author.

2. The role of goals in self-regulated learning

2.1. Goal orientations

Goal orientation concerns the purposes behind engaging in achievement behaviour, rather than specific target setting or how individuals set their goals. For example, goal orientation theory is concerned with why students want to study hard to achieve good grades and how they approach the tasks. Goal orientation focuses on the individual's "orientations" to the task at hand, more specifically, their general purpose for achievement (Pintrich, Conley, & Kempler, 2003). Although there are variations in labels, researchers generally agree that there are two distinctive orientations that individuals have, mastery goals and performance goals (Pintrich & Schunk 1996), also categorized as learning goals and performance goals (Covington, 2000). I have adopted the mastery and performance labels, since they are most commonly applied in achievement goal research.

Mastery goals
Mastery goals focus on an individual's desire to increase his or her level of competency, understanding and appreciation for what is being learned (Covington, 2000). For example, if students want to learn to master a task or try to gain an understanding or insight related to that task, they learn according to a mastery goal orientation. Mastery oriented students are willing to develop new skills, understand their work, improve their level of competence and achieve a sense of mastery based on a self-referenced standard (Ames, 1992).

Performance goals
In contrast to mastery orientation, a performance goal orientation focuses on relative ability and how that ability will be judged by others. For example, if a student wants to learn for the purpose of achieving the highest grade in the class, that student learns based upon a performance goal orientation. The public recognition that one has achieved better than others or performed in a manner superior to others is critical (Ames, 1992). These individual's desire or sense of success is based on their perception of their ability to perform relative to others and, often, as perceived by others, so that the learning itself is only a way to earn that success.

In general, achievement goal research has shown that mastery goal orientation is linked to positive achievement activities. In contrast to performance goals, mastery goals lead to more cognitive engagement, especially involving the use of deeper processing strategies and self-regulated learning strategies (Pintrich and Schunk, 1996).

Pintrich and De Groot (1990) examined relationships between motivational orientation, self-regulated learning, and classroom academic performance among 173 junior high school students. A self-reported measure of each student's intrinsic value was asked in the form of the question "Why am I doing this task?" Performance data were obtained from work on classroom assignments. Their results showed that intrinsic value (mastery goals orientation) is very strongly related to the use of cognitive strategies and self-regulation. They found that

mastery goal-oriented students were more cognitively engaged in trying to learn and comprehend the material. In addition, these students were more likely to be self-regulated and to report that they persisted in their academic work. However, the investigators' results did not reveal any direct link between intrinsic value and student academic performance. They suggested that it is important for teachers to socialize students' intrinsic value for school work, not because it will lead to higher grades, but because it may lead to more cognitive engagement in the day-to-day work of the classroom.

Ames (1992) suggests that mastery goals increase the amount and quality of the time students are actually engaged in learning. She found that mastery goal-oriented students have reported both valuing and using those learning strategies related to attending, processing, self-monitoring, and deep processing of verbal information. Conversely, she found that a performance goal orientation was associated with a pattern of motivation that includes an avoidance of challenging tasks: negative affect following failure, accompanied by self-judgment that one lacks ability, and the use of superficial or short-term learning strategies, such as memorizing and rehearsing.

As previous research has revealed, it is noteworthy that students with mastery goals are interested in acquiring new skills and improving their knowledge. Thus, mastery goals are assumed to have strong positive effects on motivation. On the other hand, students with performance goals are interested in obtaining positive evaluations of their ability and avoiding negative evaluations. Consequently, performance goals are assumed to lead students to develop the desire to prove their ability. However, recent research finds that, in real classroom situations, there is the possibility of one student having more than one goal.

Multiple goals

Wentzel (1999) pointed out that students may have social goals, in addition to other goals, in trying to conduct schoolwork. These social goals include establishing good relationships with teachers, feeling appreciated by parents, and developing cooperative interactions with other students. Among other social and task-related models, the hierarchical nature of goals are emphasized in her study. Goal hierarchies develop over time as individuals are taught to prioritize goals and associate them with each other in a causal fashion (p. 81). For example, students initially might come to school merely because they want to form close relationships with other students (social goals). Over time, this goal might become linked to more specific goals, such as establishing good relationships with certain students or teachers (social goals), which might be accomplished by even more specific goals, such as behaving appropriately, paying attention, or completing assignments (task-related goals). Similarly, children with the desire to demonstrate competence might first achieve subordinate goals, such as learning subject matter, outperforming others or supporting group efforts. Wentzel only indicated the hierarchical pattern itself. Nevertheless, it is possible that during this hierarchical process, students who originally only have social goals or performance goals, ultimately develop an interest in learning itself and, hence, become more mastery -oriented learners.

Mastery and performance goals are considered conflicting and contradictory. Recent studies have demonstrated that these two goals are relatively complementary (Valle, Cabanach, Núñez, González-Pienda, Rodríguez, & Piñeiro, 2003). For example, one student may have a desire to achieve the best mark in the class (performance goals). To achieve that goal, the student tries to study a subject in more depth. In that process, the student starts to have more interest in the subject itself (mastery goals).

As was previously mentioned, it is more realistic to believe that students have multiple goals, for example, combinations like mastery plus performance and other goals such as social goals. In addition, it may not always be the case that one goal is valued more than another. A given student truly may want to do well, grade-wise, to the same degree that he or she wants to learn the material and/or please his or her parents. In addition, one has to remember that one goal can transform into a different goal. Therefore, as Valle et al. (2003) mentioned, the ability to co-ordinate these multiple goals can become important for students to achieve academic success. Irrespective of the types of goals, having clear and personally relevant goals, and gaining the ability to co-ordinate these goals, seems to be the basis for raising one's motivation.

2.2. Who, why, and what on goal setting issues

Many researchers consider goal setting to be greatly related to motivation. When developing an instructional model for the university EFL settings, it is useful to ask these three questions: Who should set goals, why should goals be set, and what kind of goals should be set?

Firstly, who should set goals? If a student can set an appropriate goal, he or she will gain a sense of autonomy. If the student can achieve his or her self-set goal, then it is assumed that the student will gain a sense of achievement or self-efficacy. It has been pointed out by Zimmerman (2008) that we are likely to try to reach goals that we have set for ourselves, rather than ones set by others. That is to say, if the goal is self-set, then it is more effective in guiding self-regulation than a goal set by someone else. However, this is based on the assumption that a student has competence or is motivated to set his or her own goals. Goal choice will be influenced by previous performance and actual ability or skill level (Pintrich and Schunk, 1996). There are many students who are not able to analyze their achievement level or performance, making it difficult for them to set proper goals. When this is the case, it is desirable for others, such as teachers or advisers, to help students set goals.

Secondly, why should goals be set? With appropriate and achievable goals, students are guided towards successful learning without being confused. Goals play an important role in keeping students on the right track. In addition, goals encourage students to continue their work, even when they have problems engaging. Goals will affect students' motivation when students reflect on what has been achieved. For these reasons, goal setting and on-going monitoring should be incorporated in an instructional model. From the SRL perspective, Zimmerman (2008) mentions four motivational influences of goals. First, they motivate students' choice of, and attention towards, goal-relevant tasks and away from goal-irrelevant tasks. For example, after setting the goal to become a scientist, a student may choose to read exclusively on this topic. Second, goals motivate learners to make efforts to achieve them. In this way, a student may work diligently to enter a particular university because that is his or her clearly established goal. Third, goals sustain one's persistence in pursuing them. Fourth, goals influence students' learning by generating greater self-satisfaction and less defensiveness. Students who meet their goals are more likely to have increased satisfaction and positive feelings about themselves.

Thirdly, what kind of goals should students set? There are many different types of goals, such as future goals, immediate goals, hierarchical goals, short-term goals and long-term goals (Zimmerman, 2008). The types of goals students should set depend on the levels of

their motivation or interests. If the students have gained clear future goals and clear motivation to learn towards them, then it will be easy to set more immediate goals. If students have low level of interest or motivation towards their learning, it is desirable for them to have more immediate and clear goals.

As for the ideal goals for students, Locke and Lathman (1990) suggest four principles based on their theory of goal setting. First, goals should be clear and specific. This is more beneficial than setting vague goals or simply encouraging students to do their best. Second, goals should be challenging and difficult, but attainable. Goals that are too easy decrease a students' motivation to perform. Difficult, but attainable, goals lead to greater effort and better performance, which then leads to greater self-satisfaction. Third, goals should be both proximal and distal for students. It is helpful for students to have a series of specific sub-goals that lead to larger distal goals. For example, so that students finish a project on time, it would be helpful for them to divide the project into several tasks and set due dates for each project. Fourth, teachers should provide feedback that increases students' self-efficacy in obtaining the goal. Even for highly motivated students, it is sometimes difficult to continue working towards goal attainment. External support, such as positive feedback, is important in these situations.

Considering the importance of goal setting in relation to students' motivation, the following three points should be considered when an instructional model is developed:
1. Self-set goals are helpful for raising a student's sense of autonomy and self-efficacy, but external support should be provided according to the level of the student's motivation.
2. Once goals are set, on-going monitoring of progress by the student should be encouraged.
3. The type of goal depends on the student's level of motivation and interest. An insufficiently motivated student should set clear, immediate, and specific goals.

3. The role of interest in self-regulated learning

Along with goals, interest has been identified as an important motivational variable. In self-regulated learning, interest is considered one of the mediating variables, because as individual interest develops in an activity, self-regulation also develops as an integral aspect of the performance (Ainley & Patrick, 2006). However, in classroom settings, many teachers encounter students with no interest in their work, at first. It would be useful to examine the role of student interest in the concept of self-regulated learning, so that we can uncover when and how students develop interest in their academic tasks. In this section, two different types of interest, situational and individual, are defined. This is followed by a discussion of the developmental process of student interest. In addition, the interest-related issues of rewards and competing interests are discussed.

3.1. Situational interest and individual interest

In understanding interest as a developmental variable, it is useful to examine recent research that considers interest from two different perspectives. One is interest from the perspective of the situation, or situational interest, and the other is considered from the perspective of the individual person, or individual interest (Ainley & Patrick, 2006). In recent research, it is believed that both types of interest play essential roles in the process of self-regulated learning.

Situational interest is generated by specific environmental stimuli (Ainley, Hidi, &

Berndorff, 2002). Through situational interest, people focus attention or react affectively. This type of interest can be initiated by appropriate teaching in the classroom environment. Situational interest represents an immediate affective reaction that may or may not last (Hidi & Harackiewicz, 2000). For example, students' interest may be triggered by a teacher showing a picture of an animal, but students may stop thinking about the animal once the class has ended. On the other hand, a person who randomly picks up a book in a doctor's waiting room may become interested in the content. He or she may later search for another book in order to learn more about the subject.

Situational interest plays an important role in learning, especially when students have little or no pre-existing interest in the academic activity or content area (Hidi & Harackiewicz, 2000). Teachers can raise motivation and facilitate learning by appropriately utilizing situational interest. In this sense, external support may be required to promote situational interest in self-regulated learning.

Individual interest is described as a predisposition to certain objects, events, and activities (Ainley et al., 2002). It is considered a relatively stable motivational orientation, compared to situational interest. Individual interest develops over time and tends to be long-lasting. This type of interest has an association with increased knowledge, value, and positive feelings. In addition, it should be noted that individual interest is viewed as a pre-condition of intrinsic motivation, although many researchers use interest and intrinsic motivation interchangeably (Hidi & Harackiewicz, 2000).

3.2. Developmental nature of situational and individual interest

In interest research, it has been recognized that a high level of interest in activities and tasks may lead students to use more self-regulatory strategies (Hidi and Ainley, 2008). Hidi and Renninger (2000) argued that a student's interest may be triggered by external factors, such as a teacher's lecture. This interest may lead to continued and persistent activity that becomes self-initiated. As that situational interest proceeds, by continuous exposure to, and reengagement with, content, it is no longer imposed on the students, but becomes more individual and autonomous. At this stage, a student's motivation can be considered intrinsic. Hidi and Renninger (2000) characterized this stage as an affective-cognitive synthesis, which may be sustained over longer time periods and combine positive affective qualities. In this stage, students tend to focus attention and perceive the value or importance of the academic tasks. Thus, situational interest is maintained and can contribute to the development of individual interest and intrinsic motivation. This implies that creating a positive environment that stimulates situational interest is effective in leading students towards successful learning.

Based on the conceptualizations and developmental nature of situational and individual interest, Hidi and Renninger (2006) propose a four-phase model of interest development. It is useful to examine this model to understand how situational interest develops into individual interest and to understand the link between interest and self-regulation. Their four-phase model is summarized as follows:

Phase 1: Triggered Situational Interest
In this phase, situational interest can be triggered by environmental features, such as surprising information, character identification in the text, or personal relevance. Triggered interest is typically, but not exclusively, externally supported. The learning environments assumed to trigger situational interest may include group work, puzzles, and computer

activities. Triggered situational interest may be a precursor to the predisposition to reengage particular content over time.

Phase 2: Maintained Situational Interest

In this phase, situational interest is maintained. Subsequent to a triggered interest, this phase involves focused attention and persistence over an extended episode in time or reoccurrence. Situational interest is sustained through the relevance of tasks and personal involvement. A maintained situational interest is typically, but not exclusively, externally supported. Instructional conditions or learning environments may include meaningful and personally involving activities, such as project-based learning, cooperative group work, and one-to-one tutoring. A maintained situational interest may or may not be a precursor to the development of a predisposition to reengage particular content over time.

Phase 3: Emerging Individual Interest

In this phase, individual interest emerges. Emerging interest is characterized by positive feelings, stored knowledge, and stored value. Students seek repeated reengagement with particular content over time. Students in this phase begin to generate their own questions, challenge more difficult tasks, redefine and exceed their task demands in their work, and anticipate subsequent steps in processing work with content. An emerging individual interest is typically, but not exclusively, self-generated. An emerging individual interest requires a degree of external support, in the form of role models. Students may need encouragement from peers or experts to persevere when confronted with a difficulty.

Phase 4: Well-developed individual interest

In this phase, students develop individual interest with a relatively enduring predisposition to reengage with particular content over time. In addition to the features described in Phase 3, students in Phase 4 sustain long-term constructive and creative endeavors and generate more types and deeper levels of strategies for work with tasks. Students consider both the context and the content of a task in the process of problem solving or passage comprehension. Well-developed individual interest promotes self-regulation and is typically, but not exclusively, self-generated. Students in this phase will persevere to work, or address a question, even in the face of frustration. Students with well developed individual interests may also benefit from external support, such as role models or experts in the field. The instructional conditions of the learning environment may include interactions and challenges that lead to knowledge building.

Hidi and Renninger (2006) claim that external support may be required during all four phases, although the types of support may change as student interest develops. They propose that external support contextualized in content is particularly critical in the early phases of interest development. Educators can help students feel positive about their emerging abilities in many ways, such as offering choices of tasks, building a sense of competence, promoting a sense of autonomy, and offering positive affective responses. It is also important to note that external support with social factors is effective in promoting both situational and individual interest. A teacher might be able to utilize his or her control of social factors to increase a student's interest. These social factors may include cooperative learning, such as group work, pair work, interviewing, and small group projects. Teaching other students and sharing knowledge are also effective in promoting a sense of empowerment and confidence (Hidi and Harackiewicz, 2000). It is important, especially for students with limited competence of the content, to have a secure environment where they feel they can make mistakes or ask questions without feeling embarrassed. For example, even though there may

be no questions raised by the students when a teacher checks for understanding, students may start asking questions of each other and confirming what they have learned when they are allowed to talk to each other in the class. These self-generated questions may lead to a deeper understanding and stored knowledge of the content.

Hidi and Renninger (2006) propose that Phase 1, Triggered Situational Interest, may develop into Phase 2, Maintained Situational Interest. However, even if situational interest is not triggered, as the knowledge accumulates enough to reach the point that students understand the content clearly, or can use the acquired skills to perform specific tasks, students may suddenly jump to Phase 3, Emerging Individual Interest. It is not unusual for students to comment that, at first, they did not have any interest at all, but that they continued studying because they were forced to, and as they began to understand the content more, they began to enjoy it.

4. The role of rewards in self-regulated learning

The Issue of rewards is particularly important in students' learning because it is hypothesized to influence the student motivation process. The terms "rewards" and "positive reinforcement" are sometimes used interchangeably and become confused (Cameron and Pierce, 2002), so it is useful to specifically define them. Positive reinforcement involves procedures that increase or strengthen certain behaviours. A behaviour is likely to be repeated if certain kinds of consequences follow. These consequences are seen by learners as being rewarding or satisfying. When rewards are shown to strengthen behaviours, they are equated with positive reinforcement (Cameron and Pierce, 2002). Therefore, the difference between "rewards" and "positive reinforcement" is that rewards do not necessarily lead to better performance, whereas positive reinforcement always does.

When people act based upon intrinsic motivation, they do so because they find the activity itself interesting or enjoyable. In such a situation, extrinsic rewards for the activity that people have already enjoyed are considered to provide supplementary justification for their acts. Traditional theories have tended to assume that when people who are already motivated receive extrinsic rewards, they lose their justification for, and motivation to, work on a task (Cameron and Pierce, 2002). When extrinsic rewards are absent, or too weak, people attribute their actions to their own desires and abilities (Pintrich & Schunk, 1996). Previous experimental research on rewards and intrinsic motivation has primarily illustrated that rewards are seen as effective in getting people to start an action, however, rewards for an activity people already enjoy have been found to have a detrimental effect on intrinsic motivation (e.g., Deci, Koestner, & Ryan, 1999). This theoretical point of view is based on the Cognitive Evaluation Theory, begun by Deci in 1971.

Research into self-regulated learning generally supports the positive effects of rewards on motivation as a whole, in contrast to the Cognitive Evaluation Theory, which generally proposes that there are negative effects of external rewards on intrinsic motivation (Cameron and Pierce, 2002). One of the reasons for this disagreement is the difference in the nature of target activities. While most of the experiments in Cognitive Evaluation Theory are conducted in non-educational laboratory settings, for example, puzzle-solving tasks, self-regulated learning uses mostly educational settings. This is a significant difference, because educational settings have their own uniqueness.

In school settings, there is a positive social value in knowing that learning is beneficial

or valuable. In addition, the tasks themselves have the possibility of raising students' self-concepts, self-evaluation and perceptions of self-realization. For example, if students work hard and reach a stage of perfect understanding of a subject, they may have a sense of achievement. They may also feel that they are doing something very meaningful for their academic growth. However, it is usually difficult to have a similar perception of themselves from just solving a puzzle in a laboratory.

The important point here is that social cognitive theory views external rewards as essential aspects in the process of the development of self-regulation, because the theory does not completely accept the idea of innate sources of motivation. Bandura (1986) explains this point using an example of a pianist. Children are not born with an intrinsic motivation to play the piano. They need to acquire some proficiency on the piano to fully enjoy playing it. Until they become proficient enough to enjoy playing the piano, external rewards are necessary.

This explanation is also applicable to educational settings. Until students see their improvement and build a sense of achievement, appropriate external rewards, such as verbal encouragements or incentives, are required. When teachers face the reality that students have limited intrinsic motivation in accomplishing their immediate tasks, they can give students external rewards such as verbal praise, extra points, grades, awards, special rights or special activities, to encourage students to do the tasks.

Through repeated rewards and the accumulated experience of tasks, students gradually build a competence that leads to self-awareness of efficacy or perceptions of competence. This awareness has the possibility to become the powerful source of the next level of behaviour. Since social cognitive theory holds that external rewards are essential to promote one's perception of self-evaluation, the manner in which rewards are exerted should be carefully considered. In social cognitive theory, rewards have a positive effect on motivation when they are given according to the level of achievement and given enough to build up a positive self-concept (competency-contingent rewards).

On the other hand, rewards given without regard to the actual achievement or rewards given for merely doing the task (non-competency-contingent rewards) are viewed as having a negative effect on motivation, because students cannot build up a perception of competence by merely doing the tasks. Rewards delivered to the students should be closely tied to the quality of their performance on the task or the level of their mastery.

It is important to note that rewards related to the quality of performance or the mastery of tasks do not directly increase students' interest or motivation in such tasks. External rewards are given so that students will raise their level of performance high enough to be able to perceive their own competence. Students gradually develop such a perception of competence in the target subjects through their experience of doing the tasks. Thus, rewards should be repeatedly given during a long-term learning process. Bandura (1986) indicates that self-motivation by the evaluation of one's own performance includes knowledge of how to sequence actions and set one's own challenging standards for performance. Students gradually learn to make positive self-evaluations of performance accomplishment. Once they have got into such a motivational system triggered by external rewards, students are then able to gain personal satisfaction from performance. That satisfaction then increases interest in the target subject and additional motivation for further learning.

In order to find out how and what kind of rewards produce positive or negative effects on intrinsic motivation, Cameron and Pierce (2002) conducted a meta-analysis of 145 independent studies of a reward-motivation relationship. They investigated the following types of effects:
-the effect of reward on intrinsic motivation when tasks used are of either high or low initial interest.
-the effect of reward type on intrinsic motivation (i.e., whether rewards are verbal or tangible);
-the effect of reward expectancy on intrinsic motivation (i.e., whether rewards are expected -promised and delivered to participants -or unexpected -delivered to participants but not promised);
-the effect of reward contingency on intrinsic motivation (i.e., whether rewards are delivered for participation in an experimental session regardless of what participants do, for engaging in a task, for completing or solving a task);
-the effect of delivering maximum or less than maximum reward (p.116).

In all of these areas, Cameron and Pierce investigated the effects of rewards on free-choice intrinsic motivation and self-reported task interest. Time spent on the task after the reward was withdrawn or performance on the task during the free-choice period was measured to determine free-choice intrinsic motivation. Self-reported task interest was then assessed by a questionnaire to include participant's interest, enjoyment or satisfaction. Their findings concerning the effects of rewards on free-choice intrinsic motivation are as follows:
a) When the tasks are of low initial interest, rewards increase intrinsic motivation. When the tasks are of high initial interest, rewards decrease motivation. However, this negative effect of rewards on high initial interest becomes a positive effect on intrinsic motivation, depending on the condition and types of rewards.
b) Verbal rewards are found to increase intrinsic motivation for initially high interest tasks. The effects of tangible rewards also differ by reward expectancy.
c) When tangible rewards are delivered unexpectedly, there is no evidence of a reliable effect. When tangible rewards are delivered expectedly, the effects of the tangible reward differ by reward contingency.
d) When tangible rewards are delivered with no relationship to the task behaviour (task non-contingent), there is no evidence of an effect of a reward on motivation. When people are offered a tangible reward for doing a task, or for doing it well, there is a significant negative effect on motivation. When rewards are offered for meeting or surpassing a score, there is no reliable effect on motivation. However, when rewards are given for exceeding the performance level of others, the result shows a significant positive effect on motivation.
e) When less than the full reward expected is offered, there is a negative effect on motivation. However, a maximum reward indicates no reliable effect on motivation.

Cameron and Pierce found that data concerning the self-reported task interest provides little evidence of negative effects for any type of reward. Negative effects only occurred when the rewards were tangible, expected, and provided simply for doing tasks without regard to any performance standards. The meta-analysis of Cameron and Pierce shows that rewards can be used to produce either negative, neutral, or positive effects on measures of intrinsic motivation. They conclude with the observation that:
Rewards can be used to increase motivation and performance on tasks that are of low initial interest. On high-interest tasks, positive effects are obtained when participants are verbally praised for their work and when tangible rewards are offered and explicitly tied to

performance standards and success (p.131).

Cameron and Pierce's findings support the use of rewards in educational settings. They show that tangible rewards themselves do not undermine motivation; the negative effect depends on how the rewards are delivered, especially the types of reward contingency. They also suggest that when rewards are strongly tied to level of performance, a significant positive effect is found. This finding agrees with the social cognitive view that one's perception of competence, or performance, plays an important role in promoting motivation.

Based on their findings, Cameron and Pierce suggest the following eight important factors for effective reinforcement.

1) Specify the target behaviour
It is important to reward work effectively when target behaviours are clearly defined. A target behaviour should be observable, countable, and important. Parents and teachers often use ambiguous terms to instruct children or students, but, in fact, many children or students do not understand what needs to be done clearly. For example, teachers often say "Please complete this task by tomorrow." Teachers must be more precise on what to do. They should say, "Please circle the number of the correct answer to each question and write down the reason why you think that is the answer in the space next to the answer. Then check the answer key and compare it to your answers. Amend your answers if they are wrong using red ink." The clearer the target behaviour is and more precisely understood, the more the intended behaviour is likely to occur. It is also better to use precise language and say "circle" instead of "identify", or "write clearly" instead of "demonstrate".

2) Arrange a favorable situation
It is essential to arrange a situation where target behaviours occur as easily as possible. In educational settings, study rooms can be precisely set up to support study and reduce incompatible behaviours, such as playing games, watching TV, or talking on a mobile phone.

3) Select effective rewards and behavioural consequences
It is important to select appropriate rewards that serve to positively reinforce the target behaviour. Teachers have to consider the preferences, desires or values of the student when rewards are selected. If parents give a child a new book that the parent thinks is interesting as a reward for a reading task, it may not be seen as a reward unless the child also thinks it is interesting. On the contrary, it may be viewed as a punishment.

4) Set the reinforcement contingency
It is useful to set a realistic reinforcement contingency. Sometimes, the level of target behaviour can be set progressively. For example, the number of pages to read for an assignment might be one each day for the first week, then two days in the second week. In that way, students can clear the standard set by the teacher without much difficulty. In such a setting, students can always be successful and get the reward. Teachers can then lead students' performance from a low level to a higher level.

5) Wait for the target behaviour to occur and then reinforce it
Reinforcement works best when the target behaviour occurs without prompting, cajoling, or telling an individual to do it. The best procedure here is to discuss the reinforcement contingency before it is implemented to ensure that the person can meet the requirements for reinforcement, then wait for the target behaviour to occur and reinforce it. For example,

parents may be tempted to tell a child that "Unless you get better than A- on your math exam, you can't go on the ski trip." This kind of remark is highly controlling and works as a pressure on the child. The reward may be accepted as a punishment, which will have a negative effect on motivation and not lead to the positive self-evaluation by the child or a positive perception of performance.

6) Move from continuous to intermittent reinforcement

Continuous reinforcement is necessary to maintain behaviour. Reinforcement should be both certain and immediate. The more closely the target behaviour is followed by the reinforcement, the more likely the reinforcement is to be effective. However, once performance reaches a satisfactory level, it is important to change the schedule from continuous to intermittent reinforcement. A behaviour is maintained at its most positive strength better with intermittent reinforcement than with continuous reinforcement. Intermittent reinforcement avoids the issue of over-rewarding, which does not have a positive effect on motivation.

In educational settings, students who have levels of self-motivation that are strong enough to maintain their performance, eventually become autonomous learners. However, when all sources of reinforcement are withdrawn, even well self-motivated students can decline in performance. In such a situation, self-motivated learners often find a way to reward themselves. For example, they may find a way to have a small success, such as the completion of a task in a previously set time, and then reward themselves with special stamps on their note books. By reducing the amount of reinforcement, teachers can encourage students to be autonomous learners. To have such learners may be the ultimate goal teachers have for learning.

7) Monitor the results of your reward program

A systematic way to monitor the target behaviour is needed to discover whether the reward procedure is actually effective or not. It can be useful to count the number of target behaviours and then present the change in performance visually on a graph.

8) Be ready to change the reward program

An experimental attitude regarding the use of a specific reward is important to gain the best results of the reward program. However, there is no reason not to change the program when problems or unintended results appear. Careful monitoring will make it possible to determine the cause of the problems or determine the precise side effects of the program.

5. A students learning model for Japanese EFL classrooms

For many educators in university EFL settings, the social cognitive view of rewards in self-regulated learning has important implications. When developing an instruction model to enhance students' motivation in university EFL classes, delivering appropriate rewards in an effective way is found to be essential because social cognitive theory does not depend on students' innate motivation (intrinsic motivation) at the initial stage of learning. This point strongly supports the idea that the base of an instruction model can be designed for the students who have limited intrinsic motivation.

Based on the research outcome of studying social cognitive theory, a students' learning model is suggested by the author as follows:

1. Students design their own realistic learning plan with the help of the teacher.
2. Performance of a learning plan should be closely monitored by both students themselves and the teacher periodically.
3. Teachers provide verbal rewards and tangible rewards, such as points when students' performance exceeds the previously set standard in a certain period.
4. Students have a perception of achievement during each period (small success).
5. Perception of achievement leads to the motivation to continue learning.
6. Through experiencing continuous learning, students gain proficiency in their learning tasks.
7. Students develop the feeling that they can understand their learning tasks and perform well (medium success).
8. Students' academic achievement is evaluated and rewarded by grades or marks (larger success).
9. Students learn that they are completing meaningful tasks leading to their academic growth.
10. Further motivation to continue learning is generated.
11. Students develop confidence in being more independent learners, able to design higher learning plans, able to monitor or evaluate their own learning progress, and able to reward themselves for that success.
12. Students become autonomous learners (ultimate success).

6. Conclusion

I have examined three important motivation-related factors in the theory of self-related learning. It is ideal that students have already "motivated" before starting their own learning. However, most of teachers know it is not always the case. When coping with students with insufficient level of motivation, the theory of self-regulated learning would be meaningful with implication to educators because social cognitive theory, the basic concept of self-regulated learning, does not completely accept the idea of innate sources of motivation. Rather, self-regulated learning views learning as a developmental process. With appropriate support for goal settings and appropriate administration of rewards, I believe students who had once limited level of motivation can be lead to become more autonomous learners.

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