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Self-Regulation and Language Achievement of Young Iranian EFL Learners: (A Socio-Cognitive Perspective)

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Abstract

Research findings have demonstrated that self-regulation or systematic efforts to direct thoughts, feelings, and actions toward the achievement of one's goals affect the enhancement of learning achievement and performance. Informed by the tenets of Bandura's (1986) social cognitive theory, this study aimed to examine the relationship between self-regulation and language achievement of Iranian EFL learners. The findings showed a significant positive correlation between students' self-regulation and language achievement (r = .69, n = 55, p<.0005). Students with high self-regulation abilities scored high on the final English examination, while those with lower self-regulatory capabilities scored low on the same exam
Keywords: self-regulation, language achievement, motivation, cognitive, self-efficacy

1. Introduction

Self-regulation, or systematic efforts to direct thoughts, feelings, and actions, toward attaining one's goals (Zimmerman, 2000), has assumed increasing importance in the psychological and educational literature. The last two decades have seen much theory and research into self-regulated learning (Steffen, 2006). The rationale behind the recent enthusiasm for Self-Regulated Learning (SRL) may be the fact that researchers have discovered the enhancement of learning achievement and performance for learners who are capable of regulating their own learning. SRL is a necessary component for students to create and meet educational goals. According to Fulks and Alancraig (2008), it is the link or interface between personally developed learning strategies, cognitive content, and application of that knowledge, skill, or value into real-world circumstances.

A growing body of research suggests that students' internal learning processes play a critical role in language development. Self-regulated learning, the ability to manage one's own learning, has emerged as a key factor in maximizing academic potential, particularly in challenging learning environments. Zimmerman (1994) believes that evidence shows that a

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major cause of underachievement is the inability of students to self-control themselves effectively (p. 5). In characterizing underachievers, Zimmerman (1994) points to the following self-regulatory deficiencies: more anxiety, lower self-esteem, higher need for approval, and more influenced by extrinsic factors.

In their review of the literature on self-regulation, Duckworth, et al. (2009) summarized the findings about self-regulation, some of which are as follows:

- The existence of a positive overall relationship between self-regulation and academic achievement, especially in children and young people with more adaptive personal skills and learning resources.
- The relationship of individual elements of self-regulation – e.g. attitudes towards learning, attention, and persistence –to academic achievement.

- The improvement of different aspects of self-regulation such as attention, persistence, flexibility, motivation, and confidence as a result of effective teaching and learning practices.
- Metacognition – understanding one's own cognitive skills, including memory, attention, and problem-solving – as a key element and driver of self-regulation.

In their review of self-regulation studies, Billore, Anisimova, and Vrontis (2023) referred to the favorable outcomes of self-regulation for individuals as an expected intention–behavior relationship, purposive behavior, co-regulation, regulatory fit, and enjoyment of self-directed action. Self-regulation is achieving a desired outcome, such as setting goals, taking action, and monitoring progress (Carver & Scheier, 2011). The desired outcome—specifically, goals—can be cognitive, emotional, behavioral, and physiological; genetics are also reciprocally related (Blair & Ku, 2022). Baumeister, Tice, and Vohs (2018) posited that self-regulation starts with controlling thoughts, impulses, and actions, which eventually leads to managing more complex processes. Hence, self-regulatory development is one of the best predictors of academic outcome, career success, and well-being (e.g., Ryan & Deci, 2000).

This study investigated the impact of a self-regulated learning intervention on EFL students' academic achievement. Previous research has highlighted the positive relationship between self-regulated learning strategies and academic achievement. Students who effectively monitor their learning, set goals, manage time effectively, and utilize metacognitive strategies demonstrate enhanced performance in various subject areas. However, the specific impact of self-regulated learning on EFL language achievement remains under-explored. This study seeks

to address this gap by examining the effects of a targeted self-regulated learning intervention on EFL learners' ability to comprehend English texts. The study will employ a quasi-experimental design, comparing the reading comprehension scores of two groups: a control group receiving conventional EFL instruction and an experimental group receiving a self-regulated learning intervention. The intervention will focus on teaching students specific strategies for goal setting, time management, metacognitive monitoring, and active reading techniques. By comparing the post-intervention final scores of both groups, this research aims to determine the effectiveness of self-regulated learning as a strategy for enhancing EFL students' reading comprehension skills.

2. **Review of related literature**

2.1 Definition

Self-regulation is an integrated learning process, consisting of the development of a set of constructive behaviors that affect one's learning. These processes are planned and adapted to support the pursuit of personal goals in changing learning environments. Zimmerman (1989) describes self-regulated learning as "the ability to be metacognitively, motivationally, and behaviorally active participants in the learning process" (p. 4). Pintrich and Zusho (2002) provide the following working definition of self-regulation:

> Self-regulated learning is an active constructive process whereby learners set goals for their learning and monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features of the environment. (p.64)

What is important to note here is that self-regulation is not a skill but a "self-directive process through which learners transform their mental abilities into academic skills" (Zimmerman, 1998, p. 2). According to Hofer et al. (1998), there are several different models of self-regulated learning. They all have in common the basic assumption that students can actively regulate their cognition, motivation, or behavior and, through these various regulatory processes, achieve their goals and perform better (p.57). Zimmerman (1990) believes that definitions of students' self-regulated learning involve three features: their use of self-regulated learning strategies, their responsiveness to self-oriented feedback about learning effectiveness, and their interdependent motivational processes (p. 6). Self-regulated learning includes:

- setting goals for learning
- concentrating on instruction

- using effective strategies to organize ideas
- using resources effectively
- monitoring performance
- managing time effectively
- holding positive beliefs about one's capabilities (Schunk and Ertmer, 2000).

2.2 Theoretical formulations

2.2.1 Operant theory

Operant theorists, according to Zimmerman (2001, p. 9), contend that a person's self-regulatory responses must be linked methodologically to external reinforcing stimuli. Operant theorists have studied how individuals establish discriminative stimuli and reinforcement contingencies. Self-regulated behavior involves choosing among alternative courses of action, typically by deferring an immediate reinforcement in favor of a different and usually greater future reinforcement (Schunk & Zimmerman, 2003, p. 60). The critical features of self-regulation from an operant perspective are listed as follows (Mace, et al., 2001):

1. Choosing among alternative actions
2. The relative reinforcing value of the consequences for the response alternatives
3. Temporal locus of control for the alternatives (immediate vs. delayed consequences)

The user behavior occurring as an outcome of these three elements distinguishes self-control, commitment, and impulsivity about self-regulated actions. Henceforth, operant researchers have identified four kinds of self-regulated learning processes: self-monitoring, self-instruction, self-evaluation, and self-reinforcement (Mace, et al. 2001, p. 45). Self-monitoring refers to deliberate attention to some aspect of one's behavior and is often accompanied by recording its frequency or intensity (Mace & Kratochwill, 1988, cited in Schunk & Zimmerman, 2003, p. 60). Self-instruction refers to discriminative stimuli that set the occasion for self-regulatory responses leading to reinforcement (Mace et al., 1989). Self-evaluation requires individuals to compare some dimension of their behavior to that of a standard (Belfiore & Hornyak, 1998, cited in Zimmerman, 2001). These standards refer to both accuracy and improvement of performance. Self-reinforcement is the process whereby people provide themselves with reinforcement contingent on performing a response, and the reinforcement increases the likelihood of future responding (Mace, et al., 1989)

2.2.2 Information Processing Perspective

Information processing theories view learning as the encoding of information in long-term memory. It has been used to describe and explain general aspects of human cognitive functioning as well as self-regulation across a wide range of endeavors. From an IP perspective, learning entails a permanent increase in the capacity of a person to process information and respond self-regulatively.

Models of information processing regard cognitive processes with complex feedback loops as the basis of self-regulated learning (Zimmerman, 2001). Cognitive and metacognitive strategies are mentioned in every model of self-regulated learning but they are given varying importance. SRL, according to Kramarski and Revach (2011), refers to a cyclical and recursive process that utilizes feedback mechanisms for learners to understand, control, and adjust their learning accordingly and which involves a combination of four areas for regulation during learning: cognition, metacognition, motivation, and context condition.

Cognition refers to strategies of simple problem-solving and critical thinking. They are those strategies that focus on information processing such as rehearsal, elaboration, and organization. Metacognition refers to the awareness, knowledge, and control of cognition. Three general processes foster self-regulatory activities: planning, monitoring, and regulating. From an information processing perspective, self-regulation is roughly equivalent to metacognitive awareness (Gitomer & Glaser, 1987, cited in Schunk & Zimmerman, 2003, p. 61). This awareness covers knowledge of the task and personal capabilities, interests, and attitudes. Stolp (2009) defines metacognitive knowledge as the general knowledge students have about their own or others' cognitive processes. This knowledge is typically acquired incrementally through experience and is relatively stable. According to Winne (2001, p.147) SRL involves a recursive cycle of control and monitoring processes used during four phases: perceiving the task, setting goals and plans, enacting studying tactics, and adapting metacognition. Flavell (1979, cited in Shannon, 2008) describes three basic types of awareness, related to metacognitive knowledge. The first is an awareness of knowledge, which is described as an understanding of what one does and does not know, and what one wants to know. Second, there is an awareness of thinking, which describes an understanding of cognitive tasks and the nature of what is required to complete them. Finally, there is an awareness of thinking strategies, which describes an understanding of approaches to directed learning.

Motivation refers to learners' beliefs in their capacity to learn, their values for the task, and their interest level. Motivational strategies are those strategies that a learner uses to cope with stress and emotions that are sometimes generated when they try to overcome occasional failures and become good learners.

Finally, the context refers to the evaluation and monitoring of changing task conditions. It is used by students to reduce the distractions in the environment. This is recognized as environmental structuring and it concentrates on students' efforts to arrange or control their surroundings to make completing a task more likely to occur without interruption.

IP models differ, but two central features are a) comparison of present activity against standards and b) steps taken to resolve discrepancies (Carver & Scheier, 1982, cited in Schunk & Zimmerman, 2003, p. 62). A key concept of these models is knowledge of learning strategies. The important consequences of SLR, according to Winne, (2011, p. 19), are as follows:

1. Learners self-regulate because they have options to choose different bundles of procedural knowledge as tools for working on a task.
2. Learners sometimes appear not to self-regulate because cognition seems to "run by itself". This apparent absence of cognition results from spreading activation across schemas and automated procedural knowledge. Notwithstanding, cognition is still self-regulated.
3. There is hope for a theory of SLR to unify disparate work on learning strategies, motivation, planning, and other topics. This is because, to the extent knowledge and how learners use it can be modeled, it is possible to model the cognitive and metacognitive operations learners apply to work on tasks.

2.2.3 The socio-cultural origin of Self-regulation

Self-regulation is a sociocultural developmental process that nurtures students' values and beliefs regarding efforts and goals, leading them to build their mindset, attitudes, and character (Makasi, 2023). To Vygotsky, the development of children moves through three stages.

- Object -regulation.
- Other-regulation and
- Self-regulation. (Gass & Selinker, 2008, p.284).

"The first emphasizes sign-mediated activity, focusing primarily on individuals in experimental settings. The second phase concentrates on the development of inter-functional psychological systems and word meaning as a key unit of analysis" (Minick cited in Karpov,

1998, p.31). The last phase, self-regulation occurs when activities can be performed with little or no external help. Self-regulation is the process by which the child acquires “the tools to enable the conscious and deliberate planning and organizing of his or her own actions according to a goal or intention expressed in verbal meanings” (Jones, 2009, p.l75). The capacity for self-regulation is an outcome of development having diverse interrelated aspects such as impulse control, emotion regulation, cognitive regulation, and the capacity to act according to social and moral standards.

The capacity to think to ourselves, to inwardly reflect on what we are doing to guide our own action purposefully and self-consciously the development of this kind of capacity depends on “inner speech”. Central to the process of self-regulation and development is the concept of mediation. Mediation is the necessary condition for individuals to become self-regulated. Thus, the regulation of a child’s behavior is a shared act and an interpersonal phenomenon. Self-regulatory capacities develop within the context of adult-child interactions. Internalization is a gradual movement from the object-regulated stage through the other-regulated stage to self-regulation. To become self-regulated, one must learn to use language not only to mediate his/her communication to the world, and to each other, but to oneself (our self). It is the “internal reconstruction of the external operating” (Vygotsky, 1986, p.177). The child learns to become the master of his or her own behavior rather than being “a slave to the environment”, a process referred to as “displacement of perception” by Luria (cited in Lantolf, 2003, p.73).

The internalization process is a path from the unconscious to the conscious. Of course, Vygotsky’s internalization is not “a mere mental image or mental representation of the external relations but a new level of behavioral organization that was once possible only with the help of external signs and mediators (Diaz, et al., 1990, p.134). To Diaz et al. (1990, p.135) the process of internalization consists of a series of transformations: a) an operation that initially represents external activity is reconstructed and begins to occur internally; b) an interpersonal process is transformed into an intrapersonal one; c) in the process of internalization the use of external signs is also radically reconstructed and becomes one of the most effective regulators of behavior. “External signs, after steering a person’s mental process and helping create the new level of behavioral organization, cease to exist”. By and by the environment loses its power and self-formulated plans and goals gain power. One important aspect of Vygotsky’s perspective in the

development of self-regulation is the use of external signs to help the child achieve a new level of activity but is finally discarded when the external signs become internalized.

Looking at internalization, through the stages of language development it can be stated that internalization is a process from the social speech or external speech through egocentric speech or private speech to inner or internal speech. As Feigenbaum (cited in Ghassemzadeh, 2005, p.285) put it “Social speech is vocalized speech addressed and intellectually adapted to others, and inner speech is subvocalized speech directed and adapted to oneself, whereas private speech is neither social communication, nor silent thought, but vocalized thought. During the course of development, the external speech is transformed into a kind of inner speech through the internalization process.

Private speech plays a key role in this transformation. When private speech begins, it is explicit and overt, gradually it becomes internal and takes on psychological orientation, and around age 6 or 7 the child is able to distinguish two functions of speech; speech for oneself and speech for others. When private speech goes underground and becomes hidden, it becomes indistinguishable from thinking itself. As Branson (2000, p.20) states "At this point language becomes the primary vehicle for both thought and self-regulation”. The result of internalization is self-regulation.

Self-regulation skills develop gradually, so adults must hold developmentally appropriate expectations for children’s behavior. Vygotsky called the range of developmentally appropriate expectations the zone of proximal development (ZPD) (John-Steiner & Mahn, 2003). The ZPD is the “growing edge of competence” (Bronson 2000, 20) and represents those skills a child is ready to learn. Expecting children to demonstrate skills outside the ZPD is ineffective and often detrimental. Punishing young children when they fail to sustain attention longer than a few minutes or fail to calm themselves quickly when frustrated does nothing to help them learn self-regulation. Likewise, failing to provide challenging opportunities for children to advance their skills can hinder their growth. McCaslin and Hickey (2001) advance the notion of co-regulation as the essence of Vygotsky's approach to teaching and learning to capture the process of a mutually formed understanding of a contextually situated task. But as it is clear, according to Zimmerman (2001, p. 24) Vygotsky's theory is distinctive from other views of self-regulation by its emphasis on linguistically mediated social agents in children's development and in the functional role of inner speech.

2.2.4 The Social Cognitive Theory

In the social cognitive theoretical framework, self-regulation is constructed as situationally specific, that is, learners are not expected to engage in self-regulation equally in all domains (Schunk & Zimmerman, 2003, p.63) The central factor is to have some choice in one of the following areas of the conceptual framework proposed by Zimmerman (1994): motives, methods, time, outcomes, physical environment, and social environment. Bandura (1977) initially suggested that self-efficacy and the resultant behavior be examined at "significant junctures" to better understand how one influenced the other. This model was later expanded to include a third element, environment, which resulted in the triadic reciprocality model (Bandura, 1986) wherein at any given time, personal factors, behavior, and environment of a learner affect the level of self-regulation (Figure 1)

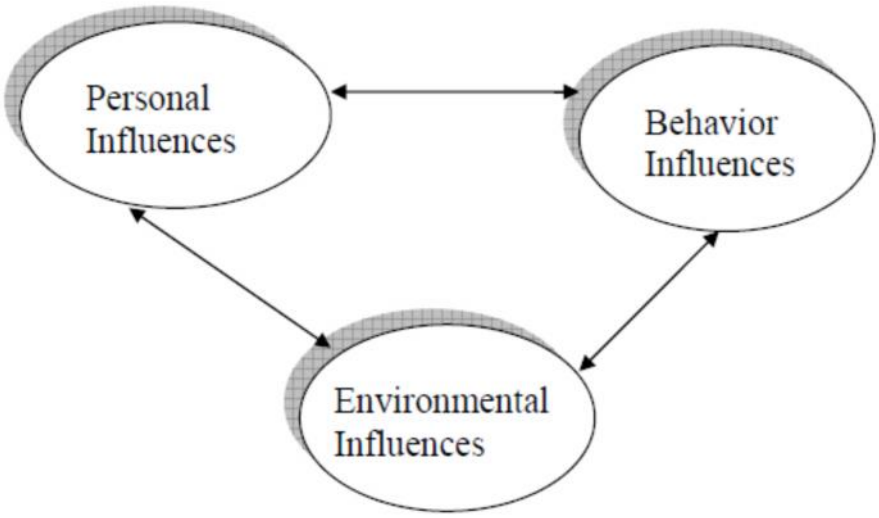

Figure 1: Bandura's model of triadic reciprocality

According to Zimmerman (2000), a social cognitive perspective is distinctive in viewing self-regulation as an interaction of personal, behavioral, and environmental triadic processes. Cognitively, the development of intellect moves the student from a state of "other-regulation" to internal, self-regulation. Environmentally, the social climate provides components (e.g., teachers and peers) from whom students can seek assistance (Bandura, 1986). The capacity for students to self-regulate increases as the student develops the capacity to self-motivate and

sustain appropriate cognition and motivation until the goal is attained. Behaviorally, the gradual acquisition of appropriate study strategies and attitudes provides the structure for self-regulatory behavior. The student must actively participate in evaluating the effectiveness of his or her use of behaviors and strategies, and be willing to make necessary changes. Bandura's theory communicates the importance of self-efficacy (a cognitive determinant) and the environment in the development and use of self-regulation.

In applying a triadic account to self-regulate learning, Schunk (2001) argues that students' efforts to self-regulate during learning are not determined merely by personal processes, such as cognition or affect; these processes are assumed to be influenced by environmental and behavioral events reciprocally.

To be self-regulated, individuals need to use three important processes: self-observation, self-judgment, and self-reaction (Bandura, 1986).

Self-observation: Self-regulatory processes include attending to and concentrating on instruction (Schunk, 1997). Self-observation is the attention the learner gives to his or her behavior while learning (Bandura, 1986). This information gained is a determinant of the progress toward goal attainment validating a necessary program of change. It is here where attention is focused and strategic planning is developed. This component of the sub-processes of self-regulated learning establishes standards and goals to which progress will be compared and evaluations will be made. Bandura's (1989) theory of human agency implies observation of one's own progress instills learners with the belief that goals are attainable. Self-recording is an activity that assists in the self-observation process. Recording those instances allows the learner to instantaneously gather information about the effectiveness of the behavior instead of relying on memory.

Self-judgment refers to the comparison between one's own performance with that of a standard or goal. Bandura (1991) provided two important factors in the judgmental component of self-regulation: self-comparison and referential comparison with others. The decision to compare one's progress to social standards or internal standards is dependent upon the properties of the goals (i.e., absolute versus normative). Both absolute or personal (internal) goals and normative (external) goals contribute valuable information to self or internal comparison.

Self-reaction is the evaluative response to self-judgment. The ability to self-reflect is considered the most unique human function of the sub-processes of self-regulation. This form of self-referent thought allows one to evaluate and alter their thinking and behavior (Pajares, 1995).

Self-reactions to goal progress initiate behaviors. The belief that one's progress is acceptable, along with the anticipation of satisfactory goal accomplishment, enhances self-efficacy and motivation. Negative evaluations will not decrease if one believes they have the ability to improve. Conversely, the learner's motivation will not increase if they lack the belief, they have the ability to succeed and increased effort will not negate the lack of motivation. Assuming that people believe they are capable of improving, higher goals will be set leading to greater effort and persistence to attain those goals. Social cognitive theory postulates that the anticipation of consequences for goal attainment enhances motivation. Motivation will persist in the absence of external rewards such as grades, which are not given until the end of the course. The learner must sustain his or her motivation by setting tangible goals for accomplishing their work. They reward or punish themselves according to those goals that are established.

Thus, following personal observations, individuals make a judgment of their progress toward their self-set goals. Based on these judgments, they alter their behaviors accordingly to attain these goals (Bandura, 1986). At the start of a learning activity, students have such goals as acquiring skills and knowledge, finishing work, and making good grades. As they work, students monitor, judge, and react to perceptions of their goal progress. These self-regulatory processes interact with one another. As students monitor their progress, they judge it against their goals and react positively or negatively, which sets the stage for further observations. These processes also interact with the environment (Zimmerman, 1989). Students who judge their learning progress as inadequate may react by asking the teacher for assistance. In turn, the teacher can suggest or teach students to use a better strategy to foster better learning. The value of the self-observation or self-monitor process is to address the learning conditions. These environmental conditions can be altered to improve performance (e.g., ineffective learning conditions can be altered to promote better environmental features).

2.3 Phases for the processes of self-regulation

Zimmerman (2000) suggested three cyclical phases for the processes of self-regulation: forethought, performance or volitional control, and self-reflection (Figure 2).

The forethought phase refers to processes and beliefs that precede efforts to learn. It refers to the skilled and strategic processes that precede and set the stage for performance in learning. These processes would include but are not limited to goal-setting, planning, attribution, self-efficacy, and the intrinsic motivation to perform the learning task. This forethought phase may be thought of as consisting of those self-regulated learning skills and strategies that are at

the intersection of the cognitive and motivational factors that typically occur prior to or as the student enters the learning process. Self-regulated learning skills and strategies such as environment structuring and goal setting may be associated with the forethought phase.

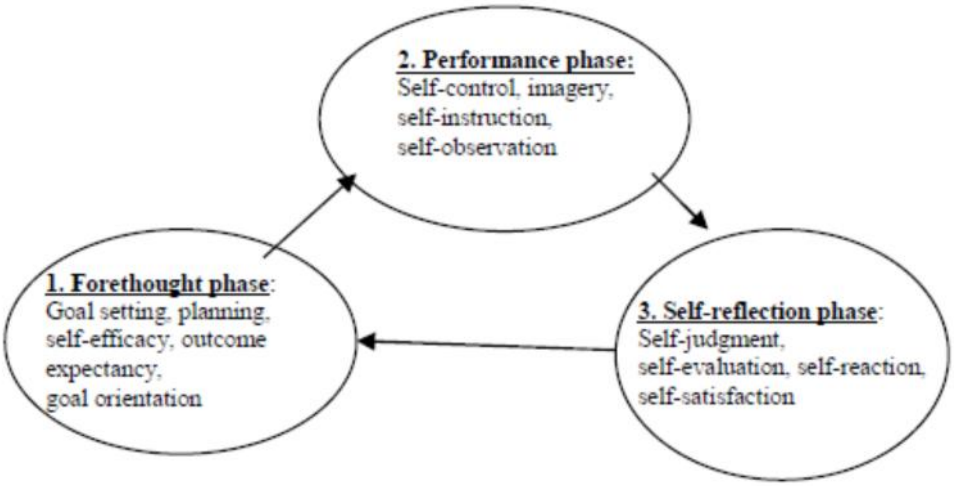

Figure 2: Three cyclical phases of self-regulated learning

The performance or volitional control phase refers to processes in which students focus on the task to optimize their performance. It consists of the skilled and strategic processes that occur during the learning process. These skilled and strategic processes include but are not limited to attentional control, affect, keeping records, and monitoring of action. Self-regulated learning skills and strategies, such as time management, task strategies, and help-seeking, are associated with the performance control phase.

The third self-regulatory phase involves processes that occur after learner efforts have been exercised. Self-reflection includes the following actions: self-evaluation, attributions, self-reactions, and adaptation. Self-evaluation is the comparison of information attained from self-monitoring to some standard whether set by the instructor or the learners. Immediately following the comparison of these two pieces of information, attributions are made in response to the results. Self-regulated learners tend to attribute failure to correctable causes and success to personal competence. Attributional processes are critical in the self-reflection phase of learning because the results of the information attained when comparing self-monitoring information to self-evaluative information are what affect the motivation of learners to continue the learning process and attainment of the desired goal. Attributions of strategy use also reinforce variations in approach until the learner discovers the strategy that works best for them in the environment.

These variations in approach are evident in the adaptation of a learner's academic learning method. Several repeated trials are needed for eventual mastery. Attributions assist in identifying the source of learning errors due to strategy use, learning methods, or insufficient practice and adapt the learners' performance to more successful learning situations (Zimmerman & Martinez-Pons, 1992). Adaptation is a function of goals, accurate monitoring, and appropriate self-evaluation. During this phase, students compare information about their performance with a standard or goal and ascribe causal meaning to the results. They make a judgment about whether an unsatisfactory result is due to their limited capability or insufficient effort.

2.4 Factors in Self-Regulated Learning

2.4.1 Self-efficacy

Self-efficacy refers to an individual's expectancy in his or her capability to organize and execute the behaviors needed to successfully complete a task (Bandura, 1977; Schunk, 1991). Self-efficacy beliefs can determine how people feel, think, motivate themselves, and act. Bandura points out that, based on self-efficacy there lies a mechanism of changing, continuing, and generalizing of behavior (Bandura, 1977). It is the central mechanism of intentional human action. It is relative to one's confidence to learn or accomplish a task. Self-efficacy dictates the choice of activities, effort, persistence, and achievement (Schunk, 1990). Self-efficacy is the catalyst for the triadic reciprocity of personal, behavioral, and environmental interaction. Learners weigh and combine factors such as perceived ability, task difficulty, amount of effort, amount and type of assistance received from others, perceived similarity to models, and persuader credibility.

2.4.2 Motivation

According to Bandura (1986), motivation is a goal-directed behavior instigated by expectations concerning the anticipated outcomes of actions and self-efficacy for performing those actions. It influences how and why people learn as well; it influences their performance (Pintrich & Schunk, 1996). All theories of self-regulated learning treat motivational processes used by students as interdependent to their learning processes. According to self-regulated learning theories, goal attainment is the primary result of the learning process. Motivation is evident in the tendency for students to set higher learning goals for themselves as they complete earlier goals. Student learning and motivation are treated as interdependent processes. Student proactive involvement in learning is evident in their motivation through the self-initiated activities designed to promote self-observation, self-evaluation, and self-improvement. Using a

theoretical framework for conceptualizing student motivation, Pintrich and De Groot (1990) proposed that there exist three motivational components that may be linked to the three corresponding dimensions of self-regulated learning, namely: (a) an *expectancy component*, which refers to students' beliefs about their expected success in performing a task, (b) a *value component*, which concerns students' appreciation of and beliefs about the importance of the task for them and (c) an *affective component*, comprised of students' emotional reactions to the task.

2.4.3 Goals

Self-efficacy beliefs and self-regulatory processes work together in an interdependent manner and are mediated by goals. Achieving one's goals can enhance an individual's self-efficacy in completing tasks that include ambiguous or novel elements (Bandura, 1995). Standards or goals are the criteria students use to monitor their progress in learning. At the start of a learning task, students have such goals as acquiring skills and knowledge, finishing work, and making good grades. Goals exercise two key functions in self-regulated learning. Goals guide the learner to monitor and regulate one's efforts in a specific direction. They also serve as the criteria by which learners evaluate their performance. The results of this evaluation will modify efforts toward attaining the goal or it will provide information that will lead to changing the goal. The effects goals have on motivation and efficacy depend on specificity, proximity, and difficulty. Goals that provide information on specific standards, attainable in a reasonable time, and challenging are more likely to enhance performance. General goals require long periods to accomplish, and very easy, or overly difficult may hinder performance. Schunk (1996) explained how goals affect motivation, self-efficacy, and strategy use by distinguishing the differences between learning and performance goals.

2.5 Levels of self-regulatory skills

The acquisitions of a wide range of competencies emerge in a series of regulatory skill levels (Schunk & Zimmerman, 1997). The social cognitive hypothesis asserts that self-regulation of learning develops initially from social modeling experiences and progresses through increasing levels of self-directed functioning. Schunk and Zimmerman (1996) have suggested that self-regulation emerges from two essential sources: social and self-directed experiences. The developmental path is one from the social to the self-directed.

Zimmerman (2001, p.20) addressed four development levels of regulatory skills: observation, emulation, self-control, and self-regulation. The development of self-regulation is

dependent upon social agents such as parents, coaches, teachers, and peers. An observational level of skill occurs when learners are introduced to the major features of a skill or strategy from watching a model executed. The opportunity for the learner to use the model moves them from the observational level to the emulation level. It is considered to be emulation because there is seldom an exact imitation of the use of the model; only the general principles of style and function are enforced. This is necessary for the development of self-regulatory skills because learners need to perform strategies personally to incorporate them into their schema. The source of guidance, feedback, and reinforcement is socially driven. The learner's deliberate practice of skills is demonstrated at the self-controlled level. At the self-controlled level, dependency is on representational standards. These include what the learner remembers (images and text) about the model and the teacher's performance in using the model. The learner demonstrates the use of self-regulation in a simulated environment structured by the teacher. The scaffolding approach is implemented to promote mastery of skills in the absence of external influences.

The final level, self-regulation, is evident when learners can adapt their performance in changing personal and contextual conditions. These changes and modifications can be made through effective self-monitoring and self-reactive processes that have been developed with practice. This sustains motivation and self-efficacy in the process of the skills that have been developed. While self-regulation is being developed, learning the process is important to ensure goal attainment. As a variety of occurrences are experienced and self-efficacy is enhanced, the learner can move from concerns about the process to setting specific performance goals that will produce outcomes.

2.6 Self-regulation enhancement

Research has revealed that high achievers reported more use of self-regulated learning strategies than lower achieving students, and the assumptions of self-regulated learning offer optimistic implications for teaching and learning. Self-regulated learning is neither a function of intelligence; nor is it developed automatically through maturation; nor is it acquired passively and reactively from the environment. Self-regulation is not inherent, but it is a learned response that can be taught and controlled by the learner (Iran-Nejad, 1990). Students learn self-regulation through experience and self-reflection (Pintrich, 1995). Teachers can teach in ways that help students become self-regulating learners. Since self-regulation is not a personality trait, students can control their behaviors and affect them to improve their academic learning and performance. In addition, self-regulated learning is particularly appropriate for college students, as they have

great control over their own schedule, and how they approach their studying and learning (Pintrich, 1995).

According to Tseng (2006, p.176), the past twenty years have witnessed a large body of second language research targeting language learning strategies. While some of this research has explicitly sought to push the theoretical understanding of language learning strategies forward, the majority of the work in the learning strategy literature had more practical goals, namely to explore ways of empowering language learners to become more self-directed and effective in their learning. In general, strategy specialists believe that learners with strategic knowledge of language learning, compared with those without, become more efficient, resourceful, and flexible, thus acquiring a language more easily. The suggestion is that if learners can develop, personalize, and use a repertoire of learning strategies, they will be able to achieve language proficiency in a much-facilitated manner. Indeed, most researchers would agree that across learning contexts, those learners who are pro-active in their pursuit of language learning appear to learn best. To self-regulate, students must shift their focus from comparing their performance to peers to self-comparisons, and from being reactive to being proactive learners. Goals direct activities, and students must learn that there are different ways to attain goals, and how to select the best way to complete a specific task. In many classrooms, teachers assume most of the responsibility for the learning process and students may begin to depend on this model of learning. Self-regulation can be improved through appropriate guidance, modeling of effective strategies, and creating a supportive and challenging environment. The optimal conditions for developing self-regulation occur when children and young people have an opportunity to pursue goals that they themselves find meaningful; they will also be invited to develop their skills by selecting their own activities, taking initiative, engaging in challenging and collaborative learning experiences, and making their own decisions. Classrooms high in self-regulated learning practices are those in which teachers engage students in complex, open-ended activities, involving them in evaluating their own and others' work. Teachers in these classrooms ensure that students acquire both the subject and strategy knowledge needed to complete tasks independently. Teachers encourage the pursuit of more challenging goals, and present errors as important opportunities for learning.

But Tseng, et al. (2006, P.81) conclude their study by claiming that self-regulation is made up of a whole series of integrated and interrelated micro-processes, of which learning strategy use is only one. Other components include goal setting, strategic planning, action plans

and action schemata, monitoring and metacognition, action control and volitional control mechanisms, strategic tactics and operations, effective time management, self-motivational beliefs (self-efficacy, outcome expectations, intrinsic interest, and goal orientation, etc.), evaluation and self-reflection, receiving and processing feedback, experiencing pride and satisfaction with one's efforts, and establishing a congenial environment.

3. Methodology

3.1 Participants

The 60 subjects for this study were randomly selected from students at the IAU-Babol branch. They were all freshmen ranging between 18 and 20 years old. They attended English classes once a week.

3.2 Instrumentation

MSLQ

The Motivated Strategies for Learning Questionnaire (MLSQ) ((Pintrich, Smith, Garcia & McKeachie, 1991) is a Likert-scale self-report survey designed to measure motivation and learning strategies based on a social-cognitive perspective The MLSQ was developed by Pintrich, et al. (1991) for assessing college students' motivational orientations and learning strategies. The instrument was tested by the administration on hundreds of Midwestern college students over five years prior to publication. Established Cronbach's alpha values for internal consistency for each subscale range from 0.52 to 0.93 (Pintrich, et al, 1991). Scale correlations with final grades were found by the authors of the instrument to have moderate predictive validity. The original questionnaire consists of 81 items to which learners answer on a seven scale. For the present study four scales were used with 1 indicating *never true of me* and 4 indicating *always true of me*. The item has two sections—a motivation section and a learning strategies section. The motivation section measures vital aspects of general motivation such as value, expectancy, and affect. Value is measured in subscales of intrinsic goal orientation, extrinsic goal orientation, and task value. The instrument includes subscales for expectancy measuring self-efficacy for learning and performance and control for learning belief. The learning strategies section includes rehearsal, elaboration, organization, critical thinking,

metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help-seeking.

3.3 Procedure

To test the hypothesis, the subjects were asked to respond to the questionnaire in 20 minutes. A standardized Persian translation of the MLSQ questionnaire was distributed among the participants. The appropriateness of the Persian version was further investigated through back-translation. MLSQ scores range from 81- 324. For the second variable of the study, the students' final examination scores were used to show their academic achievement in the English course.

3.4 Design

As a descriptive study, this research provides descriptions of naturally occurring phenomena connected with language development and processing. Because the researcher had no control over what had already happened to the subjects of the present study, an Ex-Post Facto design was needed. Accordingly, the self-regulation of the learners was taken as the independent variable and their score at the final examination was the dependent variable.

4. Results and Discussion

The research question was, “Is there any relationship between Iranian students’ self-regulation abilities and language achievement?” To answer this question Pearson product-moment correlation analysis was performed using SPSS 19. There was a strong positive correlation between the two variables (English achievement and self-regulation ability), $r = .69$, $n = 55$, $p<.0005$, with high levels of English achievement associated with high levels of self-regulation ability. This result is shown in Table 1. Individuals with higher self-regulation tend to be higher achievers in language classes.

Table 1. The correlation between self-regulation and language achievement

		Final	Self-regulation
Final	Pearson Correlation	1	.690**
	Sig. (2-tailed)		.000
	N	55	55
MLS	Pearson Correlation	.690**	1
	Sig. (2-tailed)	.000	
	N	55	55

The current study investigated the relationship between Iranian students' English achievement and their self-regulation abilities. The results of this study indicate that students with high self-regulation abilities scored high on the final English examination, while those with lower self-regulatory capabilities scored low on the same exam. Unfortunately, about 45% of the respondents scored below the medium range. They scored low both in their self-regulation abilities and English achievement. This shows the urgent need for something compensatory to be done by teachers and administrators.

These results align with a growing body of research on the benefits of SRL in language education. For instance, Zhang (2024) found that SRL-based interventions significantly enhanced EFL learners' motivation and willingness to communicate, while Bahrami et al. (2023) demonstrated that SRL strategies improved vocabulary retention among Iranian university students. Similarly, Teng and Zhang (2022) reported that learners who actively engaged in self-regulated practices outperformed peers in writing tasks. The present study extends this line of research by showing that SRL strategies not only strengthen learners' regulatory capacity but also enhance overall achievement, as measured by a classroom-based test.

The findings also provide empirical support for theoretical models of SRL. According to Zimmerman (2002) and Pintrich (2004), self-regulated learners employ goal-setting, monitoring, and reflection strategies to manage their learning effectively, which leads to improved academic outcomes. The results of this study confirm that embedding such strategies into instructional practice can produce measurable gains, particularly in EFL contexts where learners often rely heavily on teacher-directed methods.

By empowering learners to become active agents in their own learning, self-regulated learning strategies foster a sense of ownership, motivation, and agency, ultimately leading to greater engagement and achievement. Strategy training outside the SL/FL field, from native language reading, through the industrial, business, and medical fields, to general problem-solving has been widely documented to be successful. The benefits have also been well-documented in students learning various subjects in their first language Research findings also indicate that language learning strategy use is one of the most important individual difference factors that affect success in second language acquisition Extensive practice, followed by explicit guidance in the classroom using the self-questioning strategy of WWWH (what, when, why, and how), for example, may help learners select a specific self-regulatory strategy, approach, or response within learning. It is also helpful to encourage learners to become involved in regulatory learning by using self-metacognitive questioning about (a) comprehending the problem (e.g., What is the problem/task?); (b) constructing connections between previous and new knowledge (e.g., What are the similarities/differences between the problem/task at hand and the problems/tasks you have solved in the past?, and Why?); (c) using appropriate strategies to solve the problem/task (e.g., What are the strategies/tactics/ principles appropriate for solving the problem/task, and Why?; When/how should I implement a particular strategy?); and (d) reflecting on the processes and the solution (e.g., Does the solution make sense?; How can I solve the task in another way?). Generally speaking, research reported that supporting SRL with self-metacognitive questioning elicited positive effects on school students' learning outcomes.

5. Conclusion

This study demonstrates that by equipping students with tools to manage and direct their learning, teachers can foster autonomy and academic success. These findings highlight the necessity of embedding SRL instruction into EFL programs in contexts where learner independence is often underdeveloped. Teachers can incorporate SRL techniques into their instruction by encouraging students to set goals, use self-monitoring tools (e.g., checklists, learning diaries), and reflect on their progress. Curriculum planners may also consider embedding SRL-based modules into university-level EFL courses to promote student-centered learning.

The study provides evidence for the impact of self-regulated learning on EFL learners' achievement, suggesting that these strategies can be valuable instructional practices. However, it's important to acknowledge the limitations of this study. The relatively small sample size and

the specific context of the study demand further exploration with larger and more diverse populations.

Future research could investigate the long-term impact of self-regulated learning strategies on EFL learners' overall language proficiency and explore the potential for individualizing these strategies based on learners' specific needs and learning styles. Despite these limitations, the findings of this study suggest that by integrating self-regulation principles into EFL instruction, teachers can empower students to take ownership of their language development, cultivate self-efficacy, and unlock their full potential as language learners. Complete fluency is not solely about exposure and instruction; it's about empowering learners to become self-directed, strategic, and successful language acquirers.

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