

## Self-Regulated Learning, Grit, and Learning Motivation in Developing Learning Achievement: A Review

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### ABSTRACT

This article discusses the internal factors that role student learning achievement, including self-regulated learning, Grit, and learning motivation. This scientific article aims to build a research hypothesis of the influence between variables that will be used in further research. This Literature Review article is written using a library research method sourced from online media such as Google Scholar, Mendeley, and other academic online media. The results of this literature review article are 1) the role of self-regulated learning in improve learning achievement, 2) the role of Grit in improving learning achievement, and 3) the role of learning motivation in improving learning achievement.

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## INTRODUCTION

Education is an important element in improving the quality of human resources who are educated, skilled, and able to compete. School, as a formal educational institution, is a means to achieve educational goals, and through school, students can learn and gain knowledge and skills (Darmawati, 2017). A student is said to have achieved learning objectives optimally if the learning outcomes are based on his/her talents, interests, and abilities (Ali et al., 2022). The results of the teaching and learning process are reflected in the learning achievements obtained by students (Rozaini & Panjaitan, 2020). Learning achievement is achieved through efforts in learning activities (Wildan et al., 2023). Learning achievement is the result of learning achieved after going through the teaching and learning activities process. This achievement can be reflected through teacher assessment in various subjects students have studied. Every learning session wants optimal learning achievement (Syafi'i et al., 2018).

Some argue that high learning achievement requires a high Intelligence Quotient (IQ). However, this is not fully proven because some students have high IQs but low learning achievement, while students with relatively low IQs can achieve high learning achievement. IQ is not the only determining factor; other factors also play a role (Datu & Valdez, 2016; Duckworth & Yeager, 2015; Yeager & Walton, 2011; Lam & Zhou, 2019). Therefore, assessment is necessary to determine the extent of the changes. This assessment is conducted to evaluate the extent to which students achieve learning objectives, known as learning achievement (Winarso & Supriady, 2016).

During the learning process, students are faced with various obstacles such as difficult assignments, learning difficulties, learning disabilities, and pressure (Fook & Sidhu, 2015). Recent research results show that students experience pressure from various sources, such as high expectations from their families, the breadth of the curriculum and academic workload, time management to balance school and social life, and decisions regarding career paths (Dada et al., 2019). The negative impact of these challenges can result in low academic achievement (Austin, Saklofske, & Mastoras, 2010; Sohail, 2013; Lam & Zhou, 2019).

Relevant research shows that student learning achievement is influenced by many factors, internal and external (Furqan, 2023). Internal factors include motivation, mindset, learning style, and external factors outside the individual, such as the environment, family support, and peer support (Fadilah et al., 2021). Internal characteristics such as self-regulated learning and grit positively impact student learning achievement (Candra & Rani, 2020). Self-regulated learning is a student development process that requires students to actively participate in the learning process independently, both metacognitively, motivationally, and behaviorally (Zimmerman, 1989). Students with good self-regulated learning skills will try to inspire themselves to continue learning and manage their learning styles. Therefore, students will try to plan and set strategies in the learning process (Wolters & Hussain, 2015).

In addition, a factor that may be related to academic learning challenges is Grit. Grit has attracted increasing attention from researchers and practitioners in recent years. As a significant noncognitive indicator, Grit has been used to understand individual success and performance in various contexts, including

academic engagement and performance (Suzuki, Tamesue, Asahi, & Ishikawa, 2015; Lam & Zhou, 2019). Several studies have shown that Grit provides additional predictive validity for learning achievement outcomes (Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Quinn, 2009; Eskreis-Winkler, Shulman, & Duckworth, 2014; Park et al., 2020).

Literature shows that student learning achievement is also influenced by learning motivation. Learning motivation grows to become a driver and a driver both intrinsically and extrinsically to carry out learning activities to understand subject matter related to affective, cognitive, and psychomotor (Harmalis, 2019). Learning motivation occurs because of a student's willingness, need, desire, and drive to participate and succeed in the learning process. It gets students involved in academic activities, makes them try when things get tough, and determines how much they must learn (Bomia et al., 1997; Adiputra & Mujiyati, 2017).

In this study, the authors try to see the role of self-regulated learning, Grit, and learning motivation to improve student achievement. Based on the background description, it can be formulated, which will be discussed in this article.

1. What is the role of self-regulated learning in improving student achievement?
2. What is the role of Grit in improving student achievement?
3. What is the role of learning motivation in improving student achievement?

## LITERATURE REVIEW

### *Learning Achievement*

Learning achievement is evidence of the success that a person has achieved. Therefore, learning achievement is the maximum result achieved after learning efforts (Wibowo, 2018). Djamarah (2018: 19) argues that learning achievement is the result of learning effort activities expressed in the form of numbers, letters, or sentences that can reflect each student's results. Learning achievement can be concluded from the test scores obtained by students in a subject at school after following the learning process (Banda & Nzabahimana, 2023).

According to Muhibbin Syah (2014: 130), in general, factors that affect learning achievement can be divided into three types, namely:

1. Internal Factors  
Influences that come from within a person and can affect learning achievement, including physiological aspects, psychological aspects
2. External Student Factors  
Influences that come from outside a person can affect learning achievement, namely, social and non-social environments.

### *Self-Regulated Learning*

Self-regulated learning combines academic study skills and self-control, making learning easier so students are most motivated. The perspective of self-regulated learning in learning and student achievement is special and has implications for how teachers should interact with students and how schools should be organized (Zimmerman, 1989). Self-regulated learning is the ability

of learners to actively participate in their learning process, both metacognitively, motivationally, and behaviorally (Zimmerman, 1989). Metacognitively, learners regulate themselves by planning, organizing, self-instructing, monitoring, and evaluating themselves in learning. Motivationally, learners feel competent, have confidence, and have independence. Meanwhile, behaviorally, learners select, arrange, and organize the environment to be optimal for learning (Sucipto, 2017).

According to Pintrich et al. (1991), they identified three categories of SRL strategies that learners can apply to regulate their learning: (1) cognitive, (2) metacognitive, and (3) resource management strategies. According to Pintrich et al., cognitive strategies are a combination of basic and complex strategies for retaining information and include strategies such as rehearsal (e.g., rote learning), elaboration (e.g., connecting prior knowledge with new knowledge material), organization (e.g., outlining and note-taking), and critical thinking (e.g., synthesizing and evaluating). Metacognitive strategies are those that help organize and control cognition to achieve a goal and include strategies such as goal setting, planning, self-monitoring, and self-regulation. Resource management strategies, on the other hand, help learners control external resources and include time and environmental management (e.g., planning), effort regulation (e.g., maintaining focus), peer learning (e.g., using peers to understand collaboratively), and help seeking (e.g., asking for help) (Broadbent, 2017).

### ***Grit***

Grit is defined as perseverance and a great desire to achieve long-term goals over a long time (A. L. Duckworth et al., 2007). Grit is a tendency to maintain persistence and enthusiasm in the long term; individuals can survive something that becomes their goal for a long time until they can achieve it.

According to Duckworth (Paramitha & Situmorang, 2022) grit has two aspects: interest (passion), consistency in achieving goals and perseverance, how hard individuals try, and how long they can strengthen their efforts. The following is an explanation of the two aspects of grit

1. Consistency of Interest (passion)

Consistency of interest is the ability of a person to maintain interest or interest in their goals. When a person continues to persist in his choice, then with high consistency of interest, he will remain on the chosen path even though he is pursuing goals, finding many challenges, and experiencing failure.

2. Perseverance

People with high perseverance will try harder to achieve their goals. The characteristic of very persistent people is that they will finish whatever they start, even if they encounter difficulties and failures.

### ***Learning Motivation***

According to McClelland (in Wibowo, 2018) learning motivation is the drive that exists in individuals to outperform, perform according to a set of standards, and strive for success. The characteristics of individuals who have learning motivation are characterized by being task-oriented and liking

challenging tasks, where their performance can be evaluated. Student learning motivation can be obtained through external or existing motivation. The motive is to achieve academic success because they want to please the people closest to them and get attention or praise, so if they want to get good grades, students will study (Saputri, 2018).

The types of learning motivation, according to Sardiman (2011) are grouped into two, namely:

1. Intrinsic Motivation

Motives that become active or function do not need external stimulation because there is already an urge to do something within each individual. *Extrinsic motivation* is motives that are active and function due to external stimuli.

2. Extrinsic Motivation

Motivation that is active and functions due to external stimuli. When students choose their learning goals independently of the constraints of the learning environment, this motivation is said to be extrinsic.

**METHODOLOGY**

The method of writing this Literature Review article is the Descriptive Qualitative method and Library Research, sourced from the online application Google Scholar, Mendeley, and other online academic applications. The focus of this research is the role of self-regulated learning, Grit, and learning motivation to improve student achievement. Through literature analysis, to obtain information about the role of self-regulated learning, Grit, and learning motivation. The results of this analysis are presented descriptively in the results and discussion section.

**RESULT AND DISCUSSION**

**Table 1. Relevant Research**

Author	Research Title	Research Results
Zhihong Xu, Yingying Zhao, Jeffrey Liew, Xuan Zhou , Ashlynn Kogut, (2023)	Synthesizing research evidence on self-regulated learning and academic achievement in online and blended learning environments: A scoping review	This study confirmed the effectiveness of SRL on academic achievement in online or blended learning. However, the present study also identified that research on children’s and adolescents’ self-regulated learning strategies in online learning contexts is urgently needed and most of the available research did not focus on the preparatory and planning phases of self-regulated learning which are extremely important.
Zhihong Xu, Yingying Zhao , Bingsheng	A meta-analysis of the efficacy of self-regulated learning	The results from the current study also demonstrated that most self-regulated learning intervention studies focus on

<p>Zhang, Jeffrey Liew and Ashlynn Kogut, (2022)</p>	<p>interventions on academic achievement in online and blended environments in K-12 and higher education</p>	<p>higher education while elementary education produced the largest effect size. This finding indicated that future researchers in the self-regulated learning field might put more emphasis on early-age learners. We also found that online learning systems and blended learning produced the largest effect size with the biggest sample size, which illustrated a trend for learning to go online and further required researchers' attention. Unsurprisingly, the present study revealed that mixed self-regulated learning strategies and interventions throughout mixed phases would generate the largest effect on students' learning outcomes. These findings can inform the development and implementation of instructional design, curriculum, and self-regulated learning interventions in online and blended learning environments.</p>
<p>Patricia Ayllón-Salas, Francisco D. Fernández-Martín, José L. Arco-Tirado, (2023)</p>	<p>Grit as a predictor of self-regulated learning in students at risk of social exclusion</p>	<p>The findings highlight the role of grit as a key variable associated with students' self-regulated learning. Our results offer a better understanding of the relationship between these non-cognitive skills in the educational field, which in turn is crucial for comprehending students' learning processes and facilitating their academic success. In this sense, our research emphasizes that it is essential to include grit in self-regulated learning interventions aimed at reducing the high rates of academic failure in compulsory secondary education, especially among students from disadvantaged backgrounds</p>
<p>Hayri Koç - Zeynep Şimşir Gökal (2023)</p>	<p>Understanding The Relationship Between SelfControl and Grit: The Mediating Role of Academic Motivation and</p>	<p>This study provides empirical support for the significant relationship between selfcontrol and grit, despite various limitations. The research also establishes a mediation model that reveals the mediating role of academic motivation and attention control in the</p>

	Attention Control	relationship between self-control and perseverance. This model, based on the ego-depletion process theory, provides an alternative perspective for understanding the relationship between self-control and grit, as well as helps to test the process model of depletion, which currently lacks adequate empirical support.
Gal Harpaz, Tal Vaizman, Yosi Yaffe, (2023)	University students' academic grit and academic achievements predicted by subjective wellbeing, coping resources, and self-cultivation characteristics	Academic grit was found to be directly associated with academic achievement among university students, while SWB, coping resources, and self-cultivation characteristics were indirectly associated with academic achievement with the mediation of academic grit. These results have important educational implications: first, encouraging academic grit will contribute to the academic achievement of students; second, the findings reveal existing effects which should serve as a basis for implementation of university programmes. They indicate the importance of student well-being, coping resources, and self-cultivating characteristics, especially regarding personal growth to perform optimally at university studies
Xavier Oriol , Rafael Miranda , Juan C. Oyanedel and Javier Torres, (2017)	The Role of Self-control and Grit in Domains of School Success in Students of Primary and Secondary School	Grit and self-control are considered stable patterns or traits, yet this does not imply that they cannot be nurtured during the early ages by means of some strategies. Both constructs are strongly related to each other, and also to more specific performance indicators like self-efficacy as well as to more global indicators like school satisfaction. Nevertheless, it is observed that the effect of both variables varies according to age and success indicator. This indicates that specific strategies should be developed to work on: (1) more immediate impulse

		control; and (2) perseverance and passion for studying more in the long term, with the aim
Moses Kopong Tokan, Mbing Maria Imakulata, (2019)	The effect of motivation and learning behaviour on student achievement	Based on the results and discussion, it was concluded that: 1. Intrinsic motivation directly affects learning behaviour and learning achievement of students in the Biology Education Department. 2. Learning behaviour directly affects the learning achievement of students in the Biology Education Department. 3. Intrinsic and extrinsic motivation jointly affect learning behaviour of students in the Biology Education Department. 4. Intrinsic motivation, extrinsic motivation and learning behaviour jointly affect the learning achievement of students in the Biology Education Department.

***The Role of Self-Regulated Learning in Improve Learning Achievement***

Self-regulated learning is a combination of academic learning and self-control skills that make learning easier, so students are more motivated (Fauzi & Widjajanti, 2018). Self-regulated learners possess traits like emotional regulation strategies, goal tracking abilities, and the ability to modify and enhance learning plans in response to progress. These and other traits demonstrate the significance of self-regulated learning for learners (Marlibi et al., 2021). Research findings by Handayani and Sholikhah (2021) state that self-regulated learning has a positive and significant effect on learning achievement. The higher the self-regulated learning (regulating themselves in learning activities), the easier it will be for students to achieve better and improved learning achievement.

In addition, self-regulated learning strategies are higher in achievement than other strategies used individually. This finding is consistent with one of the few studies that also examined the effects of self-regulated learning activities in general and one aspect of self-regulated learning (Jansen et al. 2019). Their results showed that measured self-regulated learning activities, including resource management and metacognition, correlated more strongly with achievement than resource management strategies alone. Based on these findings, we encourage the use of multiple self-regulated learning strategies in self-regulated learning interventions for learning outcomes (Xu et al., 2022). Xu et al.'s (2023) research found that among 90 correlation studies, 36 (40.00%) showed that SRL was positively correlated with students' academic achievement. Nineteen studies (21.11%) found that SRL was not related to learners' academic achievement. Another 35 correlational studies (38.89%) witnessed a mixed correlation of SRL with learners' academic performance.



Some research results show the role of self-regulated learning in improving learning achievement. It can be said that self-regulation can be one of the strategies used by students to improve their learning achievement.

### ***The Role of Grit in Improving Learning Achievement***

The term "grit" was initially coined by Duckworth and her team, who characterized it as an individual's tendency to exhibit persistence and passion in pursuing long-term goals. Grit comprises two distinct elements, namely the continuous effort and unwavering dedication to a particular interest (A. L. Duckworth et al., 2007). Several studies have revealed a relationship between the concept of grit and certain personal benefits in addition to academic success (Koc & Şimsir Gokalp, 2023).

In this sense, the development of grit is related to more long-lasting goals that sometimes require years of effort to be attained (A. Duckworth & Gross, 2014). This non-cognitive personality trait is composed of a mixture between consistency in the interests and perseverance, and has been found a predictor of academic success in previous studies (Duckworth et al., 2007; Duckworth and Quinn, 2009), after controlling for educational aspirations and former achievements (Strayhorn, 2013; Oriol et al., 2017). Although still very limited, research examining grit suggests that grit can be measured reliably and is empirically distinct from other trait-like individual differences. reliably and is empirically distinct from other trait-like individual differences (Wolters & Hussain, 2015). Students who have high Grit are said to be more likely to persevere in the face of adversity and sustain their efforts to achieve challenging long-term goals, such as earning a college degree. their efforts to achieve challenging long-term goals such as earning a college degree (Wolters & Hussain, 2015).

Grit predicts not only learning achievement but also academic performance and test-taking anxiety, as measured by grit scales for children and adults (Sturman & Zappala-Piemme, 2017). Individuals with high grit tend to have high academic achievement because they see achievement as a target, while people with low grit see problems, disappointments, or boredom as a reason to give up (Lam & Zhou, 2019).

### ***The Role of Learning Motivation in Improving Learning Achievement***

In addition to serving as a catalyst for success, motivation for learning encompasses the pursuit of learning objectives that lead to comprehension and growth through education. Every student who is motivated to study wants to comprehend the learning objectives rather than just know them (Kusuma & Subkhan, 2015). Motivation can be interpreted as an encouragement that can make someone excited about achieving something that will be achieved despite the many challenges that must be overcome. Because without motivation in students, the things that are planned are meaningless; therefore, they must be balanced and learn (Subekti & Kurniawan, 2022)

Indicators of intrinsic motivation, such as interests, ideals and ability directly influence the learning behaviour of the students, which consists of the habit of following lectures, reading books, visiting the library, readiness to take

the exam, and searching the internet. Intrinsic learning motivation is the driving force that arises from the students in the form of desire, aspiration, and ability to become a biology teacher (Tokan & Imakulata, 2019).

The greater the motivation students have, the greater the urge to learn. If students have great motivation towards certain subjects, they will more easily understand the material taught by the teacher, both during the learning process in the classroom and when studying at home. With motivation, students will feel happy and excited about learning so as to facilitate the learning process in order to achieve maximum learning achievement, which is maximized (Kusuma & Subkhan, 2015).

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on relevant theories and articles, it can be concluded that self-regulated learning can improve student learning achievement, grit can improve student learning achievement, and motivation has a role to play in improving student learning achievement. Some suggestions for future research that can be explored are: Investigate concrete methods and strategies that can be used to improve self-regulated learning in students. Further explore how to measure and develop Grit in students. Are there specific interventions that can be implemented to increase the level of Grit in students? Identify strategies that can help students overcome challenges and continue working towards their goals. Further review is needed to determine what type of motivation has the most significant impact on student achievement. Does intrinsic or extrinsic motivation influence learning outcomes more? Investigate whether there are specific ways to nurture and sustain student motivation over time. Investigate how the combination of self-regulated learning, grit, and motivation can reinforce each other or even create a synergistic effect on improving student learning achievement.

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