REFEREED ARTICLE

Improving Student Engagement Through Self-Regulated Learning:
A Literature Review

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Abstract

This literature review explores the effectiveness of self-regulated learning (SRL) practices in public school classrooms as a means of improving student engagement, motivation, and academic success. Data was gathered from a collection of peer-reviewed articles on varying topics as they relate to self-regulated learning and student engagement, specifically the concepts of student choice, intrinsic motivation, self-efficacy, and authentic learning. Overall findings indicate that classrooms focused on supporting students' self-regulated learning processes enhance students' levels of engagement.

Imagine a classroom where every student shows up each day ready to learn. A classroom where all students come prepared with the tools necessary to understand and complete tasks with confidence and competency. A classroom where the class size is always small, behaviours are always in check, and all students learn in ways that are meaningful to them. Imagine how easy it would be to teach students and reach academic goals if this were a reality. This classroom, however, exists only in an educator's dreams. The reality is that class sizes are getting larger, students are increasingly distracted, behaviour concerns are on the rise, and keeping students engaged has become more difficult for teachers than ever before.

There are students who easily grasp important concepts and are naturally highly motivated to study and succeed, while others are disinterested and struggle to understand and retain information (Zimmerman, 2002). In a time when the most fundamental qualities for lifelong learning are absent in many students, supporting students' self-regulated learning (SRL) processes is especially important. This literature review explores SRL as a structure and process to address these concerns and increase student engagement in classrooms today.

Self-Regulated Learning

Self-regulated learning has been at the forefront of contemporary education for well over three decades as "a self-directive process by which learners transform their mental abilities into academic skills" (Zimmerman, 2002, p. 65). SRL is not an ability or a skill, but rather an active process that researchers agree must be taught and instilled in learners starting at a young age (Dent & Koenka, 2016). SRL involves students in taking control over their thoughts, behaviors, and emotions towards navigating environmental challenges to achieve a set goal (Clark & Zimmerman, 2014). In addition, SRL predicts student engagement, motivation, and achievement (Botella et al. 2017).

According to Dent and Koenka (2016), academic performance for students in both elementary and secondary school is strongly linked to both the cognitive strategies and metacognitive processes associated with SRL. A critical component of education is the teaching of lifelong skills (Zimmerman, 2002). SRL is just that – the acquisition of lifelong skills that include goal-setting, self-reflection, and problem solving. Many students come to school already feeling disempowered and lacking a sense of control over their educational journey (Brown et al., 2017). Brown et al. (2017) identified many of the same structures as SRL for student success, including shared power and decision making, classroom environment and community, quality activities, and goal achievement. SRL therefore has the potential to increase student engagement and give students the sense of control over their own learning.

Phases of Self-Regulated Learning

Self-regulated learning is an iterative cyclical process that consists of three important phases: a planning phase, a monitoring of performance phase, and a reflection phase. As the students go through the phases, they then repeat them using the assessment and reflections they made to adjust and plan for the next cycle. Planning encourages students to identify what they want to accomplish, while self-monitoring through self-control helps them to fulfill their plan (Dent & Koenka, 2016). Most models that follow the SRL cycle include a preparatory phase, a performance phase, and an appraisal phase, with each containing different sub-processes (Panadero, 2017). Zimmerman's (2002) cyclical model (Figure 1) refers to these phases as the forethought phase, performance phase, and self-reflection phase, and is one of the most well-known models cited in literature around SRL.

Figure 1
Zimmerman's Phases of Self-Regulated Learning
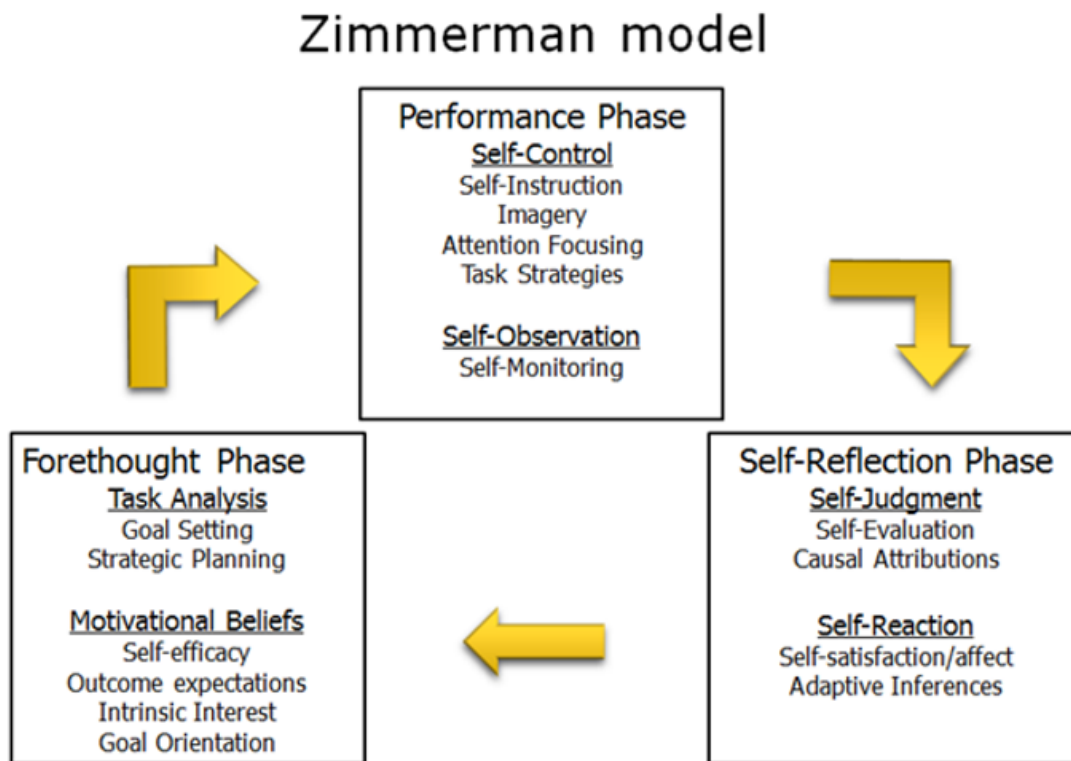
Forethought Phase

The forethought phase includes two main sub-processes: task analysis and self-motivation (Zimmerman, 2002). Task analysis involves strategic planning and the setting of attainable goals. Goal-setting is viewed as a fundamental part of SRL, because it encourages students to self-assess and take ownership over their decisions (Forster & Souvignier, 2014). Evidence shows an increase in academic success by learners who set goals for a specific task, such as those who plan and learn strategies for a new concept and by learners who memorize the new concept to pass a test (Clark & Zimmerman, 2014). Self-motivation is the second component of

the forethought phase and links directly to the students' personal beliefs about their ability to learn. This includes the students' self-efficacy for learning, which reflects confidence and belief in one's ability to maintain control over their behaviour and motivation to complete specific tasks. For example, students setting home reading goals for themselves will need to consider the impeding variables that may affect their success in reaching the goal they set. If they look ahead at the calendar and know they have a busy month coming up, they will need to think realistically about how many nights they can read at home and plan their goals accordingly. Students who plan for their goals effectively and fully understand what they need to do to achieve them are much more motivated and confident in their abilities to meet them.

Performance Phase

The two processes that define the performance phase are self-control and self-observation (Zimmerman, 2002). This is the phase where the action takes place, including the application of the specific strategies and methods that were decided upon in the forethought phase. Research around methods for self-control have identified these as task strategies: attention focusing, the use of imagery, and self-instruction. An example of this phase, shared in one study that was summarized by Zimmerman (2002), revealed ways for an English-speaking person to learn the Spanish word for bread (pan). They did so by creating an image of a bread pan or using the self-instruct method to use the phrase "bread pan" as a means of remembering. Both of these examples demonstrate how the task, learning the word for bread in Spanish, was done by selecting a method for self-control and committing to the task at hand. Self-observation refers to self-recording and monitoring events to determine their cause. An example could involve recording and observing the amount of time it takes to complete an assignment when working alone versus the amount of time it takes when working with a friend. Through self-observation, a student may realize they can complete the same assignment in less time when working alone.

Self-Reflection Phase

Much like the previous two phases, the self-reflection process consists of self-judgment and self-reaction (Zimmerman, 2002). Self-assessment is one form of self-judgment, which is essentially feedback with the purpose to inform students of adjustments that can be made to deepen their learning and enhance their outcome (Andrade, 2019). A second form of self-judgment attributes a cause to the errors made or successes shown. Attribution theory assesses behaviours with regard to "why" such behaviour took place (Graham, 2020). It is important to point out that Zimmerman (2002) revealed that attributing poor results to one's personal ability can be motivationally damaging, as it suggests that there are no means to improve in the future. Our initial reaction when self-assessing personal success is often outcome-dependent emotions, such as happiness or sadness. It is after this first reaction that the cause is considered and individuals will begin to look for reasons a specific outcome occurred (Graham, 2020). Zimmerman (2002) noted that attributing the same poor results to processes we have control over, such as simply using the wrong strategy, will maintain motivation to succeed because it denotes that another method may work for that task. Self-reaction involves the feelings associated with one's performance and can take the form of adaptive or defensive responses. Like the name suggests, adaptive reactions refer to modifications made to improve the effectiveness of learning, whereas defensive reactions are efforts made to protect one's self-image by withdrawing from the task or avoiding learning opportunities.

In addition, the self-reflection phase is a crucial part of SRL that not only encourages learners to evaluate their own efforts and processes, but also promotes greater student involvement. In a recent study by Anyichie et al. (2023), students were extremely engaged in their learning when offered opportunities to reflect and assess their learning in relation to their

cultural backgrounds and lived experiences. This evidence indicates that students can independently make the connection between the learning they are doing in class and how it authentically impacts their life. Reflecting on this learning after it has taken place gives students a clear insight into their next steps of goal setting and planning. Such information helps them in making choices of what to focus on as they begin another cycle in their learning process.

Student Choice

Student choice is an essential component of self-regulated learning. Researchers such as Perry (2013) have shown the impact of providing students with opportunities for choice and individual control of challenge over complex tasks in relation to promoting their regulation of learning. Sung et al. (2016) suggested that it is important to note that providing choice does not mean giving students the freedom to do whatever they want, but rather is an intentional teaching strategy by which students are given relevant and productive support as they navigate through guided instructional tasks. Students gain a deeper sense of empowerment and feel much more appreciated and cared for when given some control over their own thinking and learning processes.

Sung et al. (2016) interviewed grades 4-8 students regarding their feelings about their own choices that had been incorporated into their classrooms and learning. The students shared only positive feelings that included phrases of "liking" choices and feeling "happy" when given choice. In addition, students respond to implicit messages within choice, such as respect for individuality, rather than the type of choice itself. Choice provision not only supports student engagement (Anyichie, 2018), but also gives students the feeling of pride and a clear message that their teacher respects them as individuals and cares about their needs and preferences to show their individuality through their classwork. The students in Sung et al.'s research shared reasons they felt choice was important to them, such as the way it helped them to feel positive emotions at school and feel "more relaxed" in their classroom. This explains why providing choice enables students to self-regulate their learning through the promotion of collaboration to complete tasks, permission to ask questions, and support to persist even during more complex tasks.

Intrinsic Motivation

Student desire for deeper learning increases with student engagement which is often driven by increased student choice. Further research indicates that student choice has also been shown to foster intrinsic motivation and deeper learning (Effat & Gillies, 2020). Intrinsic motivation refers to personal feelings of satisfaction in completing a task, simply because it is found to be interesting and desirable to achieve. Self-regulated learners are strategic learners who are intrinsically motivated to pursue personal goals through deep learning (Butler et al., 2017). By teaching students the necessary skills to self-reflect, educators not only instill some of the most fundamental lifelong skills, but also enable students to take ownership of their learning and believe in their ability to be the driving force in their education.

Self-Efficacy

Self-efficacy defines students' belief in their ability to succeed. It directly impacts student motivation and potential for success in the process (Chen et al., 2021). Self-regulated learners have higher self-efficacy beliefs as demonstrated through their understanding of personal capabilities, eagerness to accept challenging tasks, and ability to see errors as opportunities to learn (Effat & Gillies, 2020). Simply knowing strategies for SRL is not enough to use them effectively. Students must also believe that they can use them effectively (Pajares & Usher, 2008). These qualities of self-regulated learners, combined with the students' belief in their

ability to succeed, have a huge role in their level of performance and how long they will persist at a given task (Chen et al., 2021). Thus, both student motivation and engagement are directly affected by one's self-efficacy in their ability to learn through the process of SRL.

Further, researchers have identified other important variables that have an influence on students' self-efficacy, engagement, and academic success (Botella et al., 2017). In addition to grade level and amount of support provided, these variables include gender differences between male and female students. Pajares and Usher (2008) confirmed this claim through their findings that female students attending middle-class schools in suburban northeastern and southern United States reported higher levels of self-efficacy in their self-regulatory abilities than males reported. The students were predominantly White, ranging in ages from 8 to 18, and all had experienced decreasing confidence in these capabilities as they progressed through school. In the early years, most tasks and activities are accompanied by a great deal of support and guidance as teachers attempt to instill self-regulatory habits into students with the hope that they will serve them and continue to develop in the years to come. By high school, students are often expected to regulate their learning and work habits on their own, consequently facing new and much more difficult and demanding work, which causes many to lose confidence in their self-regulatory skills. As a result, these students reported lower self-efficacy than middle and elementary school students. Pajares and Usher also pointed out that extremely low self-efficacy may be partially responsible for poor academic habits and behaviours among low-achieving students, rather than simply a lack of ability. Keeping schoolwork meaningful and authentic to students' lives and backgrounds is one way to help maintain the self-efficacy of our growing learners.

In authentic learning, students solve real-world problems by using the same skills and knowledge they will need outside the school setting (Har, 2021). An authentic approach to learning supports SRL while offering an alternative to classrooms where teachers share information and students are expected to learn it. Authentic learning and SRL encourage learning through discovery and taking part in activities and tasks that actively engage the learners (Har, 2021). As our classrooms are becoming increasingly diverse, many students are at risk of disengagement due to classroom activities being unrelated to their personally lived experiences and interests (Anyichie, 2018). Making coursework and tasks authentic and personally meaningful to all students is suggested to be more important than just providing choice alone (Sung et al., 2016). Experience plays a key part in the learning process and in providing students with authentic experiential learning in the classroom (Effat and Gillies, 2020), but classroom activities can appeal to learners' interests regardless of their previous learning experiences (Anyichie et al., 2023). Students who are able to learn through meaningful and authentic experiences are exposed to aspects of active learning that considers individual, social, and cultural differences (Effat & Gillies, 2020). When students feel a sense of ownership over their learning, they gain a stronger sense of empowerment and pride in the work they are doing because they feel a deeper, more meaningful connection to it.

Authentic learning directly increases student motivation for success and engagement (Anyichie et al., 2023). A classroom example is a reflection activity called T.W.A.S. that can be done at the end of each week. The students are asked to write a letter home with the opening sentence starting with "This week at school" (T.W.A.S.). Students are guided through brainstorming activities to think of all the events of the week, both in and out of the classroom, and choose those most meaningful to them to share with their family. In my grade 3-4 classroom, T.W.A.S. has become a favourite activity among students and parents, and often leads to an authentic pen-pal situation with parents and students engaging in meaningful conversation through writing around the most impactful parts of their week.

Conclusion

Self-regulated learning is a process that is naturally structured to support student engagement. This literature review highlights the important components of SRL to exemplify how student engagement is fostered. Through instruction and structure, learners go through the cyclical process in which they are actively engaged and involved in decision making and learning at every stage. SRL research recognizes practices that support learners, while promoting student engagement as they work through the process. Researchers such as Fredricks et al (2004) have described engagement as multidimensional, with behavioural, emotional and cognitive components. Students need to be consistently exposed to practices that promote self-regulatory engagement from kindergarten through grade 12. It is through consistency, practice, and application of their skills that students will be able to build upon their confidence and believe in the process. These effective learning approaches take place when students are provided with opportunities for complex and open-ended tasks. Students should also be shown how to use suitable strategies, monitor their personal growth and learn from their mistakes (Effat & Gillies, 2020). Teaching professionals should work together to create schools that not only empower and engage, but also excite the students to learn and the teachers to teach (Brown et al., 2017). Engaging students in the classroom is an imperative part of their academic success.

The cyclical process of SRL is structured in such a way that includes student input and involvement at every stage. It also includes a great deal of decision making on the part of the learner and many choices they make based on what they feel is best for them. In addition, students who are given choices and some control over their own learning naturally feel more empowered within the classroom and gain a deeper connection to the learning they are doing. Empowerment and connection increases intrinsic motivation to succeed and students' belief (self-efficacy) in their capabilities to do so. A huge component of SRL is the shared power and decision making, classroom environment and community, quality activities, and goal achievement. Setting up classrooms that are inviting to students and inclusive of all experiences, backgrounds, and diverse needs sets the tone for authentic learning to take place. The perfect classroom might always be just a dream for educators, but through SRL we may come just a little bit closer to that ideology.

A significant limitation indicated in a number of the articles reviewed was the lack of confidence expressed by most teachers in their knowledge and ability to teach students to self-regulate their learning. Few teachers know how to effectively teach students to learn on their own, and many rarely ask students to self-reflect and evaluate their work or predict what they are capable of in new tasks. More discussions around students' beliefs about themselves as learners and their learning processes are necessary. Further education and curricular frameworks for implementation of SRL are needed for teachers to truly understand the process and how to bring it effectively into classrooms.

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