

Teachers as Agents in Promoting Self-Regulation and Students' Self-Regulated Learning

Self-regulation in learning is critical for 21st century success both academically (NRC, 2018; Schunk & Greene, 2018). However, many teachers lack the metacognitive knowledge and skills to effectively use ~~to effectively use it~~ SRL (Dignath & Buttner, 2018; Callan & Sims, 2019). Not only does engaging students in SRL require information on *what* students learn in the classroom, but also *how* they learn and *if* gains meet their goals (Moos & Ringdal, 2012). Researchers have argued that teachers *must* act as agents ~~which~~ *who* introduce and reinforce students' SRL experiences (e.g., Bembenutty, 2013; Kramarski & Revach, 2009; Michalsky & Chen, 2017). In essence, to cope with the complex dynamic challenge of helping students self-regulate their construction of knowledge and skills, teachers must undergo ~~important dual processes~~ *two important processes*. First, teachers need to not only be proactive self-regulated learners themselves, ~~but~~ *they* also need to *be able* to effectively help students achieve SRL (Bembenutty, 2013; Dembo, 2001; Kramarski & Michalsky, 2009, 2010; Peeters, Backer, Reina, Kindekens, & Buffel, 2013). In other words, teachers' ability to master their own SRL is the *learner's role*, while their ability to help students achieve their personal SRL is the *teacher's role*, or SRT (Kramarski & Kohen, 2015; Peeters et al., 2013). Teachers' dual *processes of* SRL and SRT may interact with students' own SRL processes, creating a reciprocal relationship. Substantial research has indicated that teachers experience difficulties applying self-regulation (SRL/SRT) spontaneously (e.g., Bembenutty, 2013; Butler, Novak Lauscher, Jarvis-Selinger, & Beckingham, 2004; Kauffman, Ge, Xie, & Chen, 2008; Kramarski & Michalsky, 2010; Peeters et al., 2013). Hence, training models ~~were have been~~ suggested to advance teachers' and students' reciprocal self-regulation processes (e.g., Bembenutty, 2013; White & Bembenutty, 2014).

Teachers' SRL involves proactive, constructive processes where teachers must set goals and attempt to monitor and evaluate their own cognition, motivation, and behaviors, while guided and constrained by their goals as well as contextual features ~~in~~ *of* the environment (Pintrich, 2000; Zimmerman, 2008; Schunk & Greene, 2018). SRT is similar—teachers attend explicitly to helping students actively construct their personal SRL. In both of the *teaching* roles, self-regulation is a proactive process that does not merely happen to teachers, but *is* rather *one that they make* happen (Zimmerman, 2008).

Overall, teachers' dual self-regulation processes build on both metacognitive and motivational strategies. Consistent with Zimmerman's self-regulation theory, these strategies for SRL and SRT follow a cyclical *three-phase* model (Usher & Schunk, 2018; Zimmerman, 2008; Zimmerman & Schunk, 2011). As seen in the left and central columns of *Table X* (from Kramarski, 2018), in the *forethought phase*, teachers in the SRL role set goals for their own planning of specific activities, resources, and time allocations, while in the SRT role, ~~teachers they~~ guide students to be proactive in planning appropriate actions to complete a specific task. Next, in the *performance phase*, teachers in the SRL role use their goals to monitor the process and move it along, while in the SRT role, ~~teachers they~~ guide students to use goals as checkpoints for progress along tasks. Finally, in the *evaluation phase*, teachers in the SRL role use information gained from the completed task to improve the next task's performance, while in the SRT role they guide students to examine what did and did not work. Metacognitive strategies are accompanied by motivational strategies and self-efficacy beliefs ~~investing efforts into~~ *that motivate investment* in the SRL/SRT roles in the cycle's three phases. As seen in *Table X*, the dual roles demand that teachers develop mastery skills in self-awareness, knowledgeable-ness, and decisiveness (Kramarski & Michalsky, 2010; Randi, 2004; Schraw, 1998), while also considering *what*, *how*, *why*, and *by whom* activities are directed, whether toward their own SRL, or SRT to promote students' SRL.

Likewise, as illustrated in [Table X](#) (right column), in parallel to the [dual roles of](#) self-regulated teachers, self-regulated students effectively implement metacognitive and motivational strategies as they learn, while attending to the what/how/why/by whom of their own actions and deliberations. Specifically, students' learning is shaped by the academic environment through the personal agency of the teacher, who introduces and reinforces learning experiences (White & Bembenutty, 2014, p. 2). That is, in order for students' SRL to take place in the classroom, teachers must be reciprocally engaged with their students, becoming agents of self-regulatory change through their teaching (i.e., their SRT).

Moreover, ~~at the same time as~~ teachers' SRT is [simultaneously](#) shaped by their own SRL experiences ~~it is also shaped and~~ by feedback from teaching experiences with students who are actively constructing their personal SRL (see [Figure X](#)). These reciprocal experiences ~~permit both~~ [offer autonomy](#) to both teachers and students during goal-setting, self-monitoring, and self-evaluation of personal SRL cycles (Usher & Schunk, 2018). Yet, such reciprocal experiences may also ~~lead to proactive teachers' SRT and students' SRL~~ [lead teachers to be proactive in their use of SRT and nurturing students' SRL](#) through interactions where each participant (i.e., teacher, student) brings different kinds of self-regulatory challenges and expertise to jointly negotiate co-regulation, which temporarily mediates regulatory work among the self and others (Hadwin, Järvelä, & Miller, 2018).