The role of teachers’ self-regulatory capacities in the implementation of self-regulated learning practices

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Abstract

Teachers play a crucial role in promoting self-regulated learning (SRL). Although primary school teachers are favorably disposed towards the introduction of SRL in their own classroom, different influences prevent teachers from fully promoting SRL. Based on an extensive literature review, the present paper indicates teachers’ own self-regulatory competences as a critical determinant of SRL implementation in primary school. Self-regulated teachers attune their instructional approach to their own SRL skills, better understand SRL processes and become more effective in SRL promotion. The paper concludes by discussing the relation between teacher SR and the promotion of students’ SRL.

Keywords: self-regulated learning, primary school, teacher self-regulation, educational innovation;

1. Introduction

Self-regulation (SR) appears to be critical for success in learning in academic life and beyond (Boekaerts, 1999). More specific, self-regulated learning (SRL) in school settings increases success in problem solving, academic achievement, intrinsic motivation and task interest (Cleary & Zimmerman, 2004; Perry & Vandekamp, 2000; Pintrich, 1999; Zimmerman, 2002). The impact of SR also outreaches educational life (Bandura, 2006; Boekaerts, 1999; Martin et al., 2003; Martinez-pons, 2002), since self-regulatory skills equip students with more positive views towards their futures, empower them to manage their social behavior, and support the development of lifelong learning skills (Bandura, 2006; Martin et al., 2003). Such skills associated with human agency are required to cope with the challenges of contemporary society (Bandura, 2006). Hence, the ability to sufficiently equip students with self-regulatory skills is of substantial educational and social importance. Fortunately, research repeatedly indicated the teachability of SRL. Many researchers to date showed how adjustments made to the learning environment and teaching practices resulted in positive effects on pupils’ development of SRL (Dembo & Eaton, 2000; Paris & Paris, 2001; Betz & Matheson, 2009; Linnenbrink & Pintrich, 2002).
2001; Perels, Otto, Schmitz, & Bruder, 2007; Perels, Dignath, & Schmitz, 2009; Perry, Phillips, & Dowler, 2004; Perry & Vandekamp, 2000; Zimmerman, 2002; Zimmerman & Schunk, 2001). Teachers play a crucial role in promoting self-regulatory processes (Zimmerman, 2002). Despite primary school teachers positive beliefs towards the introduction of SRL in their own classroom, different elements still prevent them from fully promoting it (Dignath-van Ewijk & Van der Werf, 2012; Lombaerts, Engels, & Van Braak, 2009; Tillema & Kremer-Hayon, 2002). There is a clear need to advance research around the critical determinants of SRL promotion (Lombaerts et al., 2009).

Against this background, the present paper focuses on one potential teacher determinant in particular, namely teachers’ own self-regulation. Although many renowned researchers refer to the role of teachers’ SR in different ways, so far, only a limited amount of publications has depicted teacher SR as its main topic of study (e.g. Dembo, 2001; Manning & Payne, 1993; Paris & Winograd, 2003; Randi, 2004). The current paper aims to explore the potential role of teacher SR within the promotion of students’ SRL in primary education.

2. Teacher self-regulation

2.1. Self-regulation theory

The concept of SRL is used to describe how learners consciously regulate their cognitive strategies, metacognition, motivation and environment. Self-regulation does not happen to learners, rather, it happens by them as they proactively monitor, regulate and control their thoughts, feelings, and behaviors with the objective to accomplish their goals (Pintrich, 2002; Zimmerman, 2002). Although it is argued that most learners self-regulate their learning to some degree, the extent to which they consciously do so differentiates achievers from underachievers (Butler & Cartier, 2005; Randi, 2004; Zimmerman & Risemberg, 1997).

2.2. Teachers as learners

Teachers need to be able to learn in and from practice since the knowledge to teach can hardly be fully obtained before or apart from practice (Randi, 2004). They work in a rapidly changing environment and need to continuously update their teaching skills (Randi, Corno, & Johnson, 2011). About seventy per cent of teacher learning occurs through every day learning (Fullan, 2007). Therefore, the recognition of learning opportunities at work is tremendously important and can be facilitated through SRL skills. Comparing teachers to students, the school environment seems to bear comparable demands. Both students and teachers are required to learn and work, engage in social environments, deal with distractions, learn by engaging in cognitive tasks, look for feedback and support, and update their (instructional) knowledge (Randi, 2004). SR supports individuals in learning and coping with demands and competing priorities. It might help teachers to increase their self-knowledge and maintain their motivation as well (Cardelle-Elawar & Sanz de Acedo Lizarraga, 2007; Delfino, Dettori, & Persico, 2010).

If teachers want to become effective in teaching, they need to become effective learners first. Likewise, they might benefit from SR as well (Dembo, 2001). Luckily, the nature of the teaching profession itself provides opportunities to develop SRL. Developing SRL skills thrive well in environments where learners can engage in complex meaningful tasks and get opportunities to control their own processes and outcomes (Perry, Hutchinson, & Thauerger, 2008). Moreover, traditional teacher tasks such as lesson plans and assessments can also facilitate teachers’ own learning and SR (Randi et al., 2011; Randi, 2004).

2.3. Self-regulated teachers

Different authors previously outlined a profile of ‘the self-regulated teacher’. A main observation from the literature review on teacher SR is the distinction between the ‘self-regulation of teaching’ and the ‘self-regulation of learning from teaching’ (Butler, 2003; Delfino et al., 2010; Kramarski & Michalsky, 2009; Kramarski & Revach, 2009; Randi et al., 2011; Randi, 2004; Van Eekelen, Boshuizen, & Vermunt, 2005). Randi (2004) for instance
differentiated between work-oriented and learning-oriented volitional strategies. Whereas teachers do not always self-regulate their learning, they often do self-regulate their teaching (Van Eekelen et al., 2005).

Apart from this twofold division, self-regulated teachers are mostly described as (pro)active agents who trigger certain educational beliefs, construct appropriate instructional practices accordingly and proactively control the teaching environment and conditions (Butler, 2003; Manning & Payne, 1993; Randi, 2004). Furthermore, teacher SR builds on metacognitive processes (Manning & Payne, 1993) that follow a spiral process: teachers set goals for teaching and learning, plan appropriate actions, enact instructional strategies based on the pre-set goals, monitor and evaluate outcomes, and adapt and revise their approach when necessary (Bartimote-Aufflick et al., 2010; Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Van Eekelen et al., 2005). Self-regulated teachers are decision makers that deliberately and preliminary reflect on their judgments (Manning & Payne, 1993; Randi, 2004). Therefore, teacher introspection and self-assessment are critical (Butler, 2003; Butler et al., 2004; Manning & Payne, 1993; Randi, 2004) and might lead teachers to modify and possibly supplement their knowledge about teaching and learning (Butler, 2003; Butler et al., 2004). As independent learners, self-regulated teachers have the necessary skills to learn from teaching and are expected to apply similar SRL strategies as students, e.g. seek help from mentors, look for feedback and search professional literature for new ideas (Butler, 2003; Butler et al., 2004; Manning & Payne, 1993; Randi, 2004).

Although the above profile presents a clear image, it remains too extensive to be applied as a workable definition. Based on a review about workplace learning and student SRL, Van Eekelen and colleagues (2005, p. 467) define the core of teacher SR as “independently directing the process of improving teaching and/or attaining learning goals”. This definition enables us to connect teacher SR to the introduction of SRL classroom practices, which is the current paper’s aim.

3. Teacher self-regulation and the promotion of student SRL

3.1. Practice what you preach

If teachers expect students to self-regulate their learning, we might assume the same from teachers (Tillema & Kremer-hayon, 2002; Van Eekelen et al., 2005). Due to their own SRL development, self-regulated teachers are, for example, better able to understand the development of student learning strategies and to recognize and cope with the needs, obstacles and difficulties that students may face in becoming more self-regulated (Delfino et al., 2010; Paris & Winograd, 2003; Tillema & Kremer-hayon, 2002). Moreover, self-regulated teachers may have a better sense of the specific learning and teaching strategies that are associated with SRL development and may be better aware of the possible congruence of teacher and student learning (Paris & Winograd, 2003; Tillema & Kremer-hayon, 2002). Hence, it is argued that teachers are more inclined to promote strategies of which they previously experienced the effectiveness (Dembo, 2001; Gordon, Dembo, & Hocevar, 2007). Gordon and colleagues (2007) showed that self-regulated teachers who exhibit mastery goals become teachers who believe in the strength of SRL, apply a mastery goal orientation in their classrooms, support a more humanistic classroom control ideology, and likewise create an environment conducive to SRL development.

3.2. Self-regulated teachers as models

Presumably, the most obvious argument for the role of teacher SR in the promotion of student SRL is the opportunity to model SRL strategies. Because of the importance of teacher modeling within SRL promotion (Paris & Winograd, 2003; Randi, 2004; Zimmerman, 1989), one route towards fostering self-regulated students is to develop self-regulated teachers as well (Manning & Payne, 1993). It could be argued that teachers, as skilled models of SR, will be especially important within primary education in particular. Students’ SRL is developed through different developmental stages: observation, emulation, self-control and self-regulation (Zimmerman, 2000).
Children already develop the capacity to self-regulate their learning during primary school years (Perry, 1998). It seems logical then that if pupils take their first steps in SRL development ‘observation’ as a first developmental stage - and consequently modeling as an instructional strategy - will be most critical.

The effectiveness of behavioral modeling is increased when accompanied by verbal elaboration in which the strategies that are being demonstrated are explained (Pintrich, 2002; Zimmerman, 1989, 2000). It facilitates student access to teachers’, mostly implicit, knowledge about SRL strategies (Pintrich, 2002). As students observe teachers’ strategies throughout the entire day, exploring teachers’ own SR strategies might as well be interesting to identify and modify less effective strategies that are being modeled unintentionally (Butler & Cartier, 2005; Paris & Winograd, 2003).

3.3. SRL knowledge and insights

If SRL strategies modeled by teachers are important in the promotion of students’ SRL, teachers need to acquire the necessary SRL knowledge. Mostly, teachers’ SRL knowledge is mostly tacit and remains unconscious until teachers are, for example, challenged to explain SRL strategies to their students (Delfino, Dettori, & Persico, 2010; Perry et al., 2008; Pintrich, 2002; Randi, 2004). Teachers can acquire insight into SRL strategies by developing SRL skills themselves. Insights in their own SRL increases knowledge about teaching and learning, and enables teachers to better model SRL strategies (Paris & Winograd, 2003). Moreover, by receiving explicit instructions about their own SRL, teachers advance their SRL knowledge and are enabled to recognize more opportunities to foster SR in a diversity of settings (Randi, 2004). The more teachers know about SRL, the better they can make it visible for their students (Paris & Winograd, 2003). Apart from direct instruction, SRL knowledge acquisition can be enhanced when their SRL development is supported by collaborative reflection. Dialogue with peers facilitates co- construction of knowledge, revision of conceptual frameworks, the articulation of tacit knowledge, and learning and teaching strategies (Bartimote-Aufflick et al., 2010; Gordon et al., 2007; Kremer-Hayon & Tillema, 1999; Paris & Winograd, 2003; Pintrich, 2002). It is therefore recommended to collaboratively discuss SRL, which provide teachers opportunities to personally make sense of SRL promotion and to develop a shared language and discourse. A common discourse makes SRL promotion more explicit in everyday practice and keeps it from turning into a mysterious event simply happening to teachers (Fullan, 2007; Pintrich, 2002).

Considering the importance of SRL knowledge, the lack of knowledge, skills and self-efficacy to effectively activate and guide young children’s SRL is an important barrier to actual SRL classroom realizations (Kremer-Hayon & Tillema, 1999; Perry, Hutchinson, & Thauberger, 2008; Perry & Vandekamp, 2000; Wehmeyer, Agran, & Hughes, 2000). Professional development activities therefore have an important role to play in equipping current teachers with the necessary SRL knowledge. Luckily, contemporary professional development models already adjusted their approach to the need to develop proactive professionals and identified teacher SR as an essential teacher competence (Bartimote-Aufflick, Brew, & Ainley, 2010; Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Perry, Phillips, & Dowler, 2004; Randi, 2004).

3.4. Professional development

Rather than waiting until ineffective strategies have been adopted, it is recommended to start SRL promotion early on in teachers’ professional development. Likewise, teachers are offered plenty of opportunities to develop SR capacities and student-centered beliefs about teaching before entering practice (Kramarski & Michalsky, 2009; Perry, 1998; Randi, 2004). Teachers’ learning processes affect the way they teach (Gordon et al., 2007). One way to influence teachers’ instructional strategies is therefore to influence their behavior as student teachers. If teachers experience the effectiveness of SR skills themselves, they might be more inclined to foster it within their students (Dembo, 2001; Gordon et al., 2007; Kramarski & Michalsky, 2009). Teacher professional development programs that include the promotion of (student) teachers’ SRL (e.g. Delfino, Dettori, & Persico, 2010; Dembo, 2001; Kramarski & Michalsky, 2009, 2010; Manning & Payne, 1993; Paris & Winograd, 2003; Perry, Hutchinson, &
Thauberger, 2008; Randi, Corno, & Johnson, 2011; Randi & Corno, 2000) showed to have a positive impact on student teachers’ comprehension and design of lesson plans, classroom performance, creative problem-solving capacities, internal locus of control, professional growth, student-centered beliefs of teaching and learning, and the promotion of students’ deep understanding and SRL (Kramarski & Michalsky, 2009; Kramarski & Revach, 2008; Manning & Payne, 1993). SRL supports learners in reaching their learning goals and increases their motivation (Zimmerman, 2002). Presumably, teacher SR will also support the acquisition of skills and knowledge – either aimed at promoting SRL or not – offered through professional development activities.

As the definition of teacher SR prescribes, SR skills do not only contribute to the attainment of teacher learning goals, they also affect the process of improving teaching (Van Eekelen et al., 2005). Hence, teacher SR is assumed to influence success in educational innovation, such as for example the implementation of SRL classroom practices.

3.5. Educational innovation

Innovation projects could benefit from appealing on teachers’ SR capacities for multiple reasons. First, teachers should not be reduced to pure technicians carrying out enforced instructional changes (Butler et al., 2004). Rather, they need to be approached as skilled professionals, inventors, decision makers and problem solvers (Perry et al., 2004). Self-regulated learners, and self-regulated teachers by extension, do not simply stick to a plan such as, for example, an implementation plan. Rather, they adjust the plan to their individual reality and know how to cope with unexpected challenges (Paris & Winograd, 2003). Teacher empowerment is a key element in educational change (Murphy, 1993; Scheerens, 2004). Hence, teachers should be offered sufficient opportunities for choice and control enabling them to choose “which innovations to adopt and which to adapt, when to imitate and when to invent” (Randi, 2004, p. 1830). Second, a strong top-down innovation approach or overdependence on expert support appeals on other-regulation rather than on self-regulation and fails to create a feeling of ownership which is essential for successful change processes (Butler et al., 2004; Fullan, 2007). Third, in order to achieve sustainable and deep-rooted educational change, innovation projects need to be accompanied by new models of professional development reckoning with teachers’ SR. Traditional models of professional development will only result in superficial implementation (Butler et al., 2004; Gersten, Vaughn, Deshler & Schiller, 1997). Fourth, mapping teachers’ self-regulatory style paves the way for a more differentiated approach of innovation processes. Some teachers might, for example, require more motivational encouragement, whereas others might need more support with their coping strategies instead (Klusmann et al., 2008). Indeed, various instructional practices can be aligned with SRL principles (Butler et al., 2004). Fifth, SRL as a complex, dynamic and situated learning process is very well suited to learn in and from complex situations. SR enables teachers to adapt to changing environments and supports them to deal with stress, competing demands, dilemmas, failing strategies, frustration and failure (Butler & Cartier, 2005; Delfino et al., 2010; Manning & Payne, 1993; Paris & Winograd, 2003), which seems to be what teachers need to be capable of when confronted with changes due to educational innovation projects.

However, self-regulatory capacity on itself will not automatically guarantee successful implementation of educational innovation. Several conditions need to be fulfilled. Self-regulated teachers can decide not to apply their SR skills because of motivational or contextual factors or due to the nature of the specific challenge or task (Bartimote-Aufflick et al., 2010; Butler & Cartier, 2005; Zimmerman, 2000). Because of its important influence on goal setting, strategy selection and self-assessment criteria, task interpretation is considered as a critical initial step in SRL (Butler & Cartier, 2005). Furthermore, whether or not teachers apply their SR skills depends on teachers’ goal setting. If not properly linked to the ‘right’ problem, teacher SR can lead to effective learning without actually giving rise to meaningful changes and outcomes. Therefore, a thorough exploration of the problem and a more deliberate articulation of the teaching, learning or career goals will encourage teachers to efficiently apply their SR skills (Bartimote-Aufflick et al., 2010; Randi et al., 2011).

If the implementation of SRL classroom practices is regarded as an exemplification of educational innovation, it first needs to be articulated as a clear objective. A potential problem, however, is the incongruence between individual teacher objectives and school objectives. Even if schools decide to include SRL promotion as an
important objective, teachers – just like students – can set personal objectives that might compete with the school priorities (Butler & Cartier, 2005). Conversely, teachers could include SRL promotion as one of their instructional objectives while it is not being adopted by the school agenda. A school-wide approach to the implementation of SRL promotion is therefore highly recommended.

3.6. School wide approach of SRL promotion

If teachers self-regulate their learning and teaching, SRL becomes more generally integrated in the entire school practice. Indeed, the implementation of SRL promotion cannot be seen as a ‘stand-alone topic’ that stays within the four walls of a particular classroom. If we want students to be empowered, teachers need to be empowered as well (Wehmeyer et al., 2000). As teacher empowerment does not just happen, schools will need to deliberately create an environment and structure in which teachers are encouraged to reflect on and take responsibility for their learning and teaching (Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Van Eekelen et al., 2005). Due to their impact on teacher control and power, school power structures will need to be addressed. When acknowledging SRL as an instructional objective, school and classroom management systems should articulate similar objectives (Gordon et al., 2007; Wehmeyer et al., 2000). Such a broad approach to SRL promotion will not only aim at creating SRL classroom practices, but also try to stimulate a school wide learning environment conducive to SRL development.

One illustration of a broader approach of the implementation of SRL promotion is to simultaneously enhance student and teacher SR (Kramarski & Michalsky, 2009; Randi & Corno, 2000; Randi, 2004). Kramarski and colleagues, moreover, suggest stimulating both types of teacher SR, i.e. SR of teaching and learning. Through the use of the IMPROVE metacognitive training, Kramarski promoted both types of teacher SR. She found that compared to the promotion of only one type of teacher SR, the combined promotion of both types resulted in a deeper understanding of task demands, an increased focus on student-centered teaching and increases in teacher performance (Kramarski & Michalsky, 2009; Kramarski & Revach, 2008, 2009). Also other educational interventions that aimed at the development of both teacher and student SR showed that teachers’ own SR skills enabled them to efficiently adopt instructional strategies fostering SRL development in students (e.g. Bartimote-Aufflick, Brew, & Ainley, 2010; Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Kramarski & Revach, 2008, 2009; Perels, Merget-Kullmann, Wende, Schmitz, & Buchbinder, 2009; Perry, Hutchinson, & Thauberger, 2008). Within the study of Perry and colleagues (2004), for example, teachers were encouraged to develop their own SR by explicitly appealing on their role as inventors, decision makers and problem solvers. Teachers engaged in a community of practice and were guided by other teachers and researchers (Perry et al., 2004). As Butler and colleagues (2004) stated, these training programs were deliberately built on the same assumptions and instructional principles as those underlying the subject of the intervention study, i.e. the development of SRL.

4. Discussion

The current paper provides a theoretical framework for the hypothesized association between teacher SR and the promotion of student SRL. A first group of arguments – i.e. practice what you preach, modeling and SRL knowledge – explains how teacher SR enables teachers to better understand the process of SRL development and promotion. The second group of arguments provided in this paper, regards the introduction of SRL classroom practices as an example of an educational innovation project. Based on theoretical arguments, teacher SR is believed to increase the success rate of educational innovation projects. First, it supports teachers’ learning processes that are required to efficiently adopt the new instructional knowledge and strategies. It thus supports the effect of professional development activities associated with the innovation process. Second, SRL proves to be an interesting framework to involve teachers as independent and responsible professionals in order to facilitate successful and sustainable change. Third, a focus on teacher SR development stimulates a school wide implementation of SRL promotion and reckons with important school determinants of SRL promotion.

The current paper theoretically underpinned the hypothesis that teacher SR affects the introduction of SRL.
classroom practices. Although some researchers already investigated and confirmed the relationship between teacher SR and SRL promotion, further empirical research is highly recommended (Bartimote-Aufflick, Brew, & Ainley, 2010; Gordon, Dembo, & Hocevar, 2007; Kramarski & Revach, 2009). Due to the parallels between student and teacher SR, future research could explore the possibilities to transfer classroom level strategies that promote student SRL to the school level, aiming at the promotion of teacher SR. Likewise, both students and teachers can engage in a school environment and structure that facilitates SRL development. We follow Kramarski and Michalsky (2009) in their suggestion to explore the learning conditions required to design such high-SRL environments for teachers’ professional development. Furthermore, it could be interesting to include student data in order to explore the impact of teacher SR on student motivation and achievement, and thus to examine the influence on teachers’ success in teaching (Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008; Kramarski & Revach, 2008, 2009; Randi & Corno, 2000).

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References


