Student teachers' self-efficacy for instructing self-regulated learning in the classroom

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Introduction

Self-regulated learning (SRL) researchers have sought to understand students who have not learned to self-regulate their academic studying very well, and to provide help in developing key self-regulatory processes and important self-motivational beliefs that these learners lack (Zimmerman, 2000). This is consistent with Bandura's social cognitive theory which emphasizes that a fundamental goal of education is to equip learners with the self-regulatory capabilities that enable them to educate themselves (Bandura, 2006). There is thus little doubt that the advantages of self-regulatory strategies are very attractive to educators who are interested both in learners acquiring subject content knowledge and developing their life-long learning ability. Recent research also shows that self-regulatory processes are teachable. For example, Perry et al. (2007) elaborated the characteristics of classroom environments that promote academically effective forms of SRL: 1) the classroom should provide complex meaningful learning tasks (i.e., tasks that address multiple goals, extend over time, integrate cognitive processes, and allow for the creation of a variety of products) ; 2) learners have opportunities to exercise some degree of control over their learning processes and products in ways that reflect metacognitive, motivated, and strategic behaviours, which are associated with SRL; 3) provision of classroom tasks and practices that

engage learners in evaluating their work; 4) learners receive instrumental support from peers and teachers, which often takes the form of modelling and scaffolding attitudes and actions associated with SRL.

Bandura defines self-efficacy as people's beliefs in their capabilities to produce given attainments (2006). According to Bandura, efficacy beliefs influence the courses of action people take, how much effort they put into their endeavours, and the outcomes they expect their efforts to produce. While recent research suggests that teacher beliefs may facilitate or impede implementation of SRL (Spruce and Bol, 2015; Yan, 2017), researchers have paid relatively little attention to issues concerning the competence required for teachers to create SRL environments in classrooms, particularly in the practicum context. This study aims to investigate the self-efficacy beliefs student teachers held for implementing SRL in the classroom. Below, we report on the research design, the preliminary findings, and the implications the results raise for developing pre-service teacher competence in the application of SRL in classrooms.

Research design

128 fourth-year student–teachers involved in one-semester's practice teaching in the Bachelor of Education in the English language education programme of a teacher training university in China participated in this study. The participants were informed of the research goals and their rights to withdraw participation at any time during the study. Among the 128 participants, 18 were male, and 109 were female. The age of the participants ranged from 20 to 25 years with Mage = 22.62 years, SDage = 1.905 years. Data were obtained from two individually completed self-report survey instruments, i.e., Teacher Self-Efficacy Scale to Implement Self-Regulated Learning (TSES-SRL) (De Smul et al., 2018), and Self-Efficacy for Self-Regulated Learning Scale

(SESRLS) (Bandura, 2006). The 21 items in TSES-SRL concern principles of direct and indirect instruction of SRL as well as features of a high-self-regulated learning environment as described by Perry and colleagues (2007). Regarding SESRLS, a validation study by Usher and Pajares (2008) revealed that a single factor underlies the 10 items in SESRLS. For either survey instrument, responses were made on a 6-point Likert scale ranging from not well at all to very well.

Findings and implications

Confirmatory factor analysis was conducted to confirm the suggested four-factor model of the TSES-SRL, and satisfying model fits were found with Chi-square =47.828 (p$<$ 0.001), df = 35, RMSEA=0.054, CFI=0.958, TLI=0.946,   SRMR =0 .0543. But the four factors that emerged from the student teachers' responses in this study appeared to be both similar and different to the four factors identified by De Smul et al. (2018). Consequently, the four factors that emerged in our study are: Factor 1 *Self-efficacy for implementing SRL through providing tasks, content and support and building in evaluation* (7 items); Factor 2 *Self-efficacy for implementing SRL through direct instruction* (4 items); Factor 3 *Self-efficacy for implementing SRL through providing choices* (5 items); Factor 4 *Self-efficacy for training pupils to become self-regulated learners* (5 items) (see Table 1). As can be seen in Table 1, the mean scores of these four factors suggest that student teachers generally appeared to be moderately competent in implementing SRL in the classroom. The student teachers obtained the lowest mean score on *Self-efficacy for implementing SRL through direct instruction,* suggesting that some student teachers could be unsure about direct instruction of SRL strategies in the classroom. There are three possible interpretations of this result. First, instruction of SRL requires fostering student-centered and constructivist classroom practices whereas English subject teaching in schools experienced by these student teachers had usually

been rather teacher-centred and didactic. Under such circumstances, these student teachers were not likely to develop teaching practices that promote SRL in the classroom. Second, because of limited target language proficiency, some student teachers themselves might lack confidence to conduct communication activities in English or deal with students' unforeseen needs. This could have a negative impact on the quality of student teachers' interactions with pupils in class, which is important for fostering pupils' metacognitive, intrinsically motivated, and strategic learning behaviours in class. Third, because of lack of direct instruction of effective SRL strategies in the university teacher training course, the student teachers in this study might be ill prepared or insufficiently attuned to provide opportunities for their pupils to experience SRL in the classroom through tailored curricular activities. For example, the student teachers might not even be able to distinguish implicit instruction from explicit instruction of SRL strategies. Consequently, they might not know how to encourage self-regulation in traditional classroom settings using reflective practice. It can thus be concluded that the generally low self-efficacy in integrating SRL in their classrooms could be the major barrier to student teachers' actual SRL implementation. It is therefore imperative for school-based mentors to scaffold student teachers in SRL principles and strategies while they engage in practice teaching in schools.

The second questionnaire used in this study is Self-Efficacy for Self-Regulated Learning Scale (SESRLS). Confirmatory factor analysis confirms the single factor that underlies the ten items in SESRLS, and satisfying model fits were found with Chi-square=270.501 (p<0.001), df=183, RMSEA=0.061, CFI=0.945, TLI=0.937, SRMR = .0478. The factor mean score (see Table 1) shows that the student teachers themselves also appeared to be marginally moderately competent in self-regulating their own university studies.

As can be seen in Table 2, all aspects of self-efficacy for instructing SRL are moderately or strongly significantly positively correlated with student teachers' self-efficacy for SRL in the teacher training programme, suggesting that student teachers who were more capable of self-regulating their learning were likely later to become more adept at promoting SRL in the classroom during the practicum. In other words, if student teachers are not confident in self-regulating their own learning, it will be difficult for them to foster an awareness and application of SRL in classrooms. This further highlights the pressing need for teacher education programmes to provide student teachers with opportunities and requirements for developing both an intellectual understanding of SRL and to demonstrate skills in the teaching of SRL.

References

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Table 1 Descriptive statistics and reliability coefficients of TSES-SRL and SESRLS factors

Scales	Mean	SD	Reliability
TSES-SRL			
Self-efficacy for implementing SRL through providing tasks, contents and support, and building in evaluation	3.904	5.936	0.904
Self-efficacy for implementing SRL through direct instruction	3.863	3.284	0.832
Self-efficacy for implementing SRL through providing choices	3.892	4.137	0.855
Self-efficacy for training learners to self-regulate	3.948	3.957	0.849
SESRLS			
Self-efficacy for self-regulated learning	4.040	6.732	0.820

Table 2 Correlation between self-efficacy for implementing SRL in the classroom and self-efficacy for SRL

Scales	Self-efficacy for implementing SRL through providing tasks, contents and support, and building in evaluation	Self-efficacy for implementing SRL through direct instruction	Self-efficacy for implementing SRL through providing choices	Self-efficacy for training students to become self-regulated learners
Self-efficacy for self-regulated learning	.670**	.595*	.622**	.590**

Notes: ** $p < .01$.