

A Sustainable Approach to Teacher Professional Development on Self-Regulated Learning (SRL) Implementation

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Abstract

Self-Regulated Learning (SRL) is widely acknowledged as essential for educational achievement and fostering continuous learning skills (Taranto & Buchanan, 2020). As a result, there has been a marked escalation in embedding SRL criteria within academic curriculums, including primary education (De Smul et al., 2020; Heirweg et al., 2021). However, implementing SRL poses a significant challenge for educators, as it requires them to focus not just on delivering content but also on guiding students through the process of strategic learning. Teachers require specialised knowledge and expertise in effectively teaching SRL (De Smul et al., 2019). Understanding how to offer teachers support for effectively implementing SRL into classroom settings represents a vital area for future research (Dignath, 2021; Greene, 2021; Karlen et al., 2020). To this end, the current study investigated teachers' understanding of acquiring professional expertise in implementing SRL within Grades 5 and 6 classrooms. The research was conducted in a Catholic primary school in Victoria, Australia, employing a comprehensive SRL approach to teaching and learning practices. To gather insights from the participants, unstructured interviews were conducted. The methodology of Classic Grounded Theory (Glaser & Strauss in 1967) was applied to identify, conceptualise, and examine the participating teachers' perspectives. This study demonstrated the preference among teachers towards a multifaceted approach to SRL-focused professional development (PD) for enhancing critical aspects of teacher knowledge they deemed vital for SRL implementation. Furthermore, the findings emphasised the significance of teachers participating in training sessions to enhance their SRL content knowledge, team teaching opportunities centred on SRL pedagogical content knowledge and teacher coaching that emphasised teachers' experiences with practising SRL. The research underscored professional expertise in SRL implementation as an incremental process of cultivating specific areas of professional knowledge that relied on diverse approaches to PD and required a sustained approach.

Keywords: Professional development, self-regulated learning, sustainability.

Introduction

Learners actively manage their cognitive functions, behaviours, and environments to achieve individual goals through Self-Regulated Learning (SRL) (Zimmerman, 2000).

SRL focuses on enhancing students' abilities to effectively engage in their education, equipping them with essential skills for continuous learning (Clearly, 2018). It aims to teach learners various techniques and strategies to foster self-directed learning across various disciplines and educational endeavours (Zimmerman, 2013; Panadero, 2017). The significant influence of SRL on students' success has spurred interest in its integration within educational frameworks to enhance academic outcomes (De Smul et al., 2018a; Cleary et al., 2022). The effectiveness of any SRL initiative, however, greatly depends on educators' understanding of SRL principles and their instructional methods (Gaines et al., 2019; Van Dyke et al., 2022). In spite of the acknowledged importance of educators in facilitating SRL, research into their awareness and application of SRL strategies in classroom settings remains scarce (Deacon et al., 2020; Harding et al., 2019). Given the essential connection of students' SRL capabilities with educators' emphasis on SRL instruction, addressing this gap is crucial (Cleary et al., 2022; Schaffner et al., 2021). Educators' attitudes and proficiency in SRL vary widely, showcasing the diverse spectrum of professional expertise, including specialised knowledge and skills developed through experience, education and training in a specific area (Billett et al., 2018). While there are insights into specific teaching strategies that support SRL, a comprehensive definition of the professional expertise needed for effective SRL integration remains elusive in current studies (Karlen et al., 2020).

SRL Implementation

SRL skills significantly support academic achievement (Dignath & Buttner, 2008; Harding et al., 2018). However, SRL is not an instinctive skill for every learner, and students tend to have significantly different SRL abilities (Boekaerts, 1997; Duckworth & Yeager, 2015). Nevertheless, students' capacity for SRL can be cultivated through instruction (Geduld, 2017). Primary school students demonstrate a more prominent utilisation of SRL compared to their secondary counterparts (Wigfield et al., 2007). As students' progress to secondary school, studies show a decline in their motivation and engagement, highlighting the importance of introducing SRL education early to mitigate this anticipated decline (De Smul et al., 2018). Given the lack of support and exposure, many students are deprived of the chance to acquire SRL skills, which can lead to academic challenges in the future (Geduld, 2017). Consequently, fostering students' development as self-regulated learners should be a critical educational objective integrated into classroom practices (Taranto & Buchanan, 2020).

Numerous studies offer enlightening perspectives on successfully integrating SRL into educational practices. For example, evidence underscores a vital link between educators' personal SRL abilities and their effectiveness in teaching SRL techniques (Karlen et al., 2020). Critical domains of teacher knowledge identified as essential include an in-depth understanding of SRL concepts and strategies, referred to as SRL content knowledge, alongside the pedagogical approaches specific to SRL, termed SRL pedagogical content knowledge (Dignath-van Ewijk & van der Werf, 2012; Karlen et al., 2020; Spruce & Bol, 2015). These areas cover the theoretical aspects of SRL and the practical methods to foster SRL skills among students (Kistner et al., 2015; Barr & Askill-Williams, 2020). However, the broader framework of teacher knowledge typically centres around areas such as mathematics and literacy, necessitating further exploration into SRL-related professional knowledge (Adoniou, 2015; Barr & Askill-Williams, 2020; Karlen et al., 2020). While the literature increasingly recognises the influence of SRL skills on educational achievement (Panadero, 2017), discussions about

the critical elements necessary for effective SRL instruction are sparse. The challenge for educators in adopting SRL lies in its relatively new emergence as an educational approach, requiring comprehensive knowledge and understanding for its successful incorporation into educational methodologies and curricula (De Smul et al., 2020; Harding et al., 2019; Michalsky, 2021; Peel, 2020; Porter & Peters-Burton, 2021).

In the realm of SRL research, it is emphasised that educators must have a deep understanding of SRL processes (Zimmerman, 2000), as learners benefit the most when SRL is effectively demonstrated and clearly articulated (Dignath, 2008; Housand & Reis, 2008). Nevertheless, a consistent challenge for teachers is the widespread lack of SRL knowledge or insufficient possibilities for its enhancement. As a result, current research predominantly focuses on exploring effective methods for teachers to gain proficiency and expertise in SRL implementation (Barr & Askill-Williams, 2020; Dignath-van Ewijk & van der Werf, 2012; Karlen et al., 2020; Spruce & Bol, 2015). While teachers generally maintain positive attitudes toward the principles of SRL in classroom settings, they commonly refrain from applying it in the classroom due to various factors, such as an inadequate understanding of SRL or lack of assistance from their schools (De Smul et al., 2019; Steinbach & Stoeger, 2016). The discovery that teachers often overlook focusing on SRL in the classroom is particularly concerning within the field, considering the significant impact of educators on SRL in students (Perels et al., 2007; Perels et al., 2009). Research has underscored the importance of providing teachers with significant assistance and education while adopting new models, such as SRL, in their teaching approaches (De Smul et al., 2020; Spruce & Bol, 2015). Additional research necessitates understanding the processes through which teachers can successfully gain proficiency in implementing SRL (Cleary et al., 2022; Dignath, 2021). Exploring teachers' viewpoints pertaining to their professional learning and expertise enables research and educational institutions to improve support systems for teachers, utilise evidence-driven policy decisions, and enhance student achievements (De Smul et al., 2020; Greene, 2021).

Teacher Professional Development

In response to the existing challenges in implementing SRL and enhancing teacher expertise, research increasingly emphasises initiatives aimed at Professional Development (PD) (Dignath, 2021; Cleary et al., 2018; Greene, 2021; Nunez et al., 2022). PD encompasses the strategies and efforts to enhance educators' practical skills and competencies, aiming to elevate students' academic performance (Buczynski & Hansen, 2010; Guskey, 2002). Past studies have predominantly centred on assessing the influences of SRL support initiatives targeting students instead of focusing on teacher outcomes (Cleary & Zimmerman, 2004; Cleary et al., 2017; Ferreira et al., 2017; Vandeveldt et al., 2015). While direct interventions targeting SRL continue to hold value for students, inquiries into effective PD that emphasise the aspects that enhance educators' professional proficiency rather than solely focusing on students' SRL behaviours are crucial (Dignath, 2021; Kollmayer et al., 2020).

Numerous PD models are available to assist teachers in their professional development. For instance, transmission models consist of a knowledgeable professional transmitting information hierarchically (Kennedy, 2005), typically through workshops, conferences, or seminars. A participatory approach to PD entails professionals co-learning without a traditional instructor-learner dynamic (Stewart &

Perry, 2005), often through training sessions or cooperative learning groups. Teacher coaching represents another approach to PD, typically tailored to individual needs, aiming to align initiatives with teachers' specific requirements and provide customised support (Peters-Burton et al., 2015; Ryan & Bourke, 2013). SRL PD initiatives differ in format, period, and depth (e.g., Perry et al., 2015; Peters-Burton et al., 2015). This creates difficulties in directly comparing PD studies within SRL owing to differences in research methodologies, participant numbers, and program durations. Furthermore, educators' perspectives are frequently underrepresented in research related to SRL-based PD, despite their perspectives and understanding being paramount for the advancement of their teaching (Cong-Lem, 2021; Greene, 2021; Perry et al., 2015).

Prominent studies in this field highlight the need for extensive support for educators in facilitating student self-regulation (De Smul et al., 2019; Kittredge et al., 2018). While participating in PD initiatives focusing on SRL has enriched teachers' understanding and capabilities (Butler & Cartier, 2017; Cleary et al., 2022; Dignath, 2021; Steinbach & Stoeger, 2016), challenges persist when applying and assessing SRL-focused PD (Dignath, 2021; Kramarski et al., 2013). This indicates a demand for more comprehensive evaluations of teacher outcomes and deeper explorations into how educators' experiences vary when applying SRL strategies in authentic teaching scenarios (Cleary et al., 2022). A notable gap in existing research is the need for more direct consultation with teachers regarding their SRL teaching and professional learning experiences (Kittredge et al., 2018). Actively seeking educators' input on their PD and teaching practices could illuminate practical and effective approaches to enhancing their SRL instructional skills (Dignath, 2021; Greene, 2021). Additionally, acknowledging educators' viewpoints could foster a collaborative PD framework that values and incorporates their feedback to support students better (Hattie et al., 2021).

The Research Purpose

This study aims to add valuable insights into the growing research on successfully applying SRL in primary school environments. This research explored teachers' perspectives on acquiring the professional expertise necessary for implementing SRL successfully. The study aimed to investigate the research question: How do Grades 5 and 6 teachers understand the development of professional expertise for successfully implementing SRL? The study involved six educators teaching 5th and 6th grades at a school in Victoria, Australia, which has incorporated SRL initiatives into instruction and learning.

The Research Design

Within the vast array of qualitative research techniques available, research methodology should resonate with the study's philosophical foundations to yield credible results (Rieger, 2019). Given that this research project is focused on exploring teachers' constructed understanding of acquiring professional expertise in SRL implementation within a specific setting, the principles of Classic Grounded Theory (CGT) (Glaser & Strauss, 1967) offered an appropriate methodology for accomplishing the aims of this research. Through conducting unstructured interviews, the investigator uncovered categories within the data, offering an in-depth insight into the viewpoints of the participants. Refining core categories required further analysis, utilising current research to position and contrast the results within relevant research fields (Holton &

Walsh, 2017). For the aim of generating new insights based on the experiences of actual classroom teachers, CGT was an effective method for this investigation. The approach was inherently inductive, with the researcher being led by the data to uncover emerging themes and grasp the essence of the phenomena under study (Glaser & Strauss, 1967; Speziale & Carpenter, 2007).

Participants

The selection of participants was grounded in their pertinent skills and engagement with the phenomena being studied, which was in line with the principles of CGT (Glaser & Strauss, 1967; Morse, 1994). A Catholic primary school in Victoria, Australia, was selected due to its significant focus on SRL and lifelong learning. There were 430 students enrolled in the school, which also employed a team of 52 staff members. The school's dedication to lifelong learning led to the launch of initiatives that engaged teachers in significant PD opportunities focused on implementing SRL for one year. This research concentrated on Grades 5 and 6, inviting all educators teaching these grades to partake in the study. The response was universally affirmative, leading to interviews with six teachers. Focusing on these specific grade levels was informed by the diversity in student skills and pedagogical approaches prevalent across the primary education spectrum and the inherent challenges of accommodating such diversity. Hence, the study aimed to thoroughly explore teacher insights on acquiring professional expertise in implementing SRL within the specific context of Grades 5 and 6.

Method

Unstructured interviews served as an appropriate approach to achieve the aim of this study, which was to gather comprehensive data through a CGT approach (Minichello et al., 2008). Using unstructured interviews was instrumental in reducing the impact of the researcher during data collection (Glaser, 2012), allowing for the open expression of participant viewpoints. Consistent with the fundamental principles of CGT, the investigator aimed to collect data without predetermined notions or hypotheses that might influence the collection process (Glaser & Strauss, 1967). Such an approach is designed to enable the participants to emphasise aspects considered important about the subject of study from their perspectives. To ensure the integrity of the data, the interviews were audio-recorded and transcribed verbatim, verifying the authenticity of the information obtained. Recording and transcribing were crucial in minimising potential biases from the researcher during the analysis phase. Furthermore, a coding scheme was applied to safeguard the anonymity of the participants, labelling them with identifiers (e.g., POA, POB, POC).

Data Analysis

This study employed CGT, focusing on its distinctive principle of constant comparison, which seeks to methodically analyse data and categories at each stage of the research process (Glaser & Strauss, 1967). This approach fosters the generation of novel and data-integrated insights and knowledge (Kenny & Fourie, 2013), allowing for discovering emergent categories rather than imposing preconceived notions (Engward, 2013). This differs from deductive methods, which start with pre-existing ideas and

then assess their relevance using data (Minichiello et al., 2004). Contrastingly, the principles of CGT offer an impartial and transparent framework for identifying categories linked to participants' perspectives on the research topic. Subsequent analysis delved deeper into these categories by drawing upon existing and related literature (Chametzky, 2016; Glaser & Strauss, 1967).

Findings

The analysis revealed three distinct categories that captured the participants' perspectives on acquiring professional expertise in implementing SRL in Grades 5 and 6. These categories include training events, team teaching, and teacher coaching, each highlighting a different aspect of school-based PD approaches crucial for preparing educators for effective SRL implementation. Through further analysis, the study aimed to contextualise and analyse these findings by drawing upon the existing literature. Specifically, the findings underscored the strong preference among teachers for a multifaceted PD approach encompassing training events targeting SRL content knowledge, team teaching to support SRL pedagogical content knowledge, and teacher coaching to develop teachers' experiences with practising SRL processes. The subsequent sections will further explore each of these categories.

Training Events and SRL Content Knowledge

This category encompasses the significance the participants have attributed to SRL training events in shaping their professional expertise in SRL implementation. The participants discerned two critical attributes of these training events. Firstly, each session revolved around a distinct aspect of SRL and strongly emphasised theoretical knowledge. Secondly, these sessions were consistently conducted by a proficient expert in the field, occurring monthly in half-day sessions. According to participants, the SRL training sessions strongly mirrored transmission models of PD, where knowledgeable professionals imparted expertise in a top-down manner (Kennedy, 2005). These training events represented a crucial chance to receive information about SRL theory.

The participants deemed acquiring such information essential, aligning with the notion expressed by POB that: "we cannot teach what we do not know." This echoes the lasting acknowledgment of content knowledge as a fundamental prerequisite for teachers in a particular subject area (Ball et al., 2008; van Driel et al., 2014). SRL content knowledge encompasses familiarity with SRL principles, frameworks, and methodologies (Karlen et al., 2020). Although the effectiveness of transmission PD methods in altering teachers' methodologies remains a subject of debate (Ader, 2019; Guskey, 2002), participants in this research identified gaps in their knowledge of SRL and recognised the paramount importance of being well-versed in the content they are required to teach. POD aptly illustrates this sentiment: "There is a deep background in psychology that you need to understand when looking at self-regulation. We needed those training sessions to have something to base our teaching on." The significance of the training events stemmed from their concentrated focus on content, offering the participants a theoretical foundation in SRL to build their teaching practices. Hence, the participants identified training events as a crucial source of SRL content knowledge.

The field has consistently observed a worrisome trend of fragmented or insufficient teacher knowledge in SRL (Cleary et al., 2022; Glogger-Frey et al., 2018; Ohst et al., 2015; Spruce & Bol, 2015). This concern resonates strongly with the teachers

involved in this study, who stressed the necessity for opportunities to engage deeply with the theoretical underpinnings of SRL. While SRL training events were emphasised, teachers expressed the difficulty of integrating SRL content knowledge into instructional methods: "But then you need to practice applying it - which is a whole different ball game!" (POC). The participants reported feeling better prepared to tackle this challenging task after being given opportunities to explore and become familiar with SRL strategies through collaboration with their fellow educators. Consequently, SRL content knowledge derived from training events provided the foundation for participants to explore and investigate effective SRL teaching. Hence, training events laid the foundation for constructive team teaching opportunities that harnessed collective investigations into SRL implementation.

Team Teaching and SRL Pedagogical Content Knowledge.

Team teaching activities significantly enabled the participants to apply SRL theory collectively within their teaching practice. In this study, the teachers involved would frequently engage in team teaching arrangements by merging their classrooms. This arrangement would unite three educators and their students within a shared classroom environment, where they would collaboratively deliver a lesson that implements SRL. While there are different team-teaching arrangements, a cooperative and collective approach was adopted in this setting, with teachers jointly planning, instructing, and assessing a group of students. One participant remarked: "Many scenarios might not have crossed your mind to bring up with colleagues, given the unpredictability of students' self-regulation abilities. Team teaching allows for immediate collaboration when the need arises" (POC). Team teaching allowed participants to explore the nuances of instructing SRL to a diverse student body through active engagement with fellow educators.

Team teaching forms a core element of participatory modes of PD, distinguished by mutual learning among professionals without adhering to the conventional hierarchy of trainer and trainee roles (Stewart & Perry, 2005). Research on SRL interventions utilising collaborative frameworks has highlighted the positive impact of teacher teamwork (Perry et al., 2015) and partnerships among researchers and educators (Cartier et al., 2010). Such studies frequently depict collaboration through regular team gatherings. Notably, team teaching in this study differentiates itself by offering educators the chance to directly observe their colleagues implementing SRL strategies in actual classroom settings. A participant shared, "As we immersed ourselves in direct observation, it became evident how different each student's needs are in self-regulated learning, as did the invaluable experience of observing fellow teachers' varied approaches in distinct situations" (POA). This hands-on observation facilitated a richer comprehension of the nuanced decision-making processes required, especially in classrooms with diverse learner needs. Teachers found incorporating team teaching into their PD beneficial for refining their skills in applying SRL principles effectively through proven teaching techniques. This enhancement of teaching ability is closely linked to pedagogical content knowledge (Shulman, 1987). SRL pedagogical content knowledge extends to mastering various instructional methods to enhance SRL among students (Karlen et al., 2020; Paris & Paris, 2001).

The critical advantage of team teaching was emphasised, especially for enhancing their grasp of SRL pedagogical content knowledge. The participants felt that working

alongside their peers enabled them to evaluate student SRL capabilities better and devise creative approaches for fostering student progress. Additionally, witnessing peers in action offered valuable opportunities for sharing tailored insights and solutions, enhancing their professional learning of responding to student needs in the context of SRL. In addition to the benefits of peer collaboration, the importance of coaching in teacher development was highlighted, showcasing its effectiveness in strengthening teachers' implementation of SRL.

Teacher Coaching and Teacher's Experience with Practicing SRL

The participants considered teacher coaching a vital experience that significantly enhanced their professional expertise in SRL. Teacher coaching is a PD that generally aims to assist educators by aligning the objectives of a specific program to personal requirements and obtaining customised guidance (Peters-Burton et al., 2015; Ryan & Bourke, 2013). In this study, teacher coaching was defined by consistent monthly individual sessions with a professional guide, during which each educator had the chance to directly engage with and implement SRL techniques into their professional development with input from their mentor. The participants articulated their coaching experiences as encompassing the identification of personal and professional learning objectives, the formulation of plans to address these goals, and the subsequent refinement of these plans through coaching advice and feedback. This coaching approach was deeply rooted in the participants' active and direct engagement in SRL.

The participants noted that their firsthand experience with the SRL strategies substantially improved their understanding of effectively teaching SRL. For example, the participants collectively emphasised how direct experience with SRL heightened their sensitivity to the unique challenges that arise while applying SRL processes, consequently strengthening their capacity to offer pragmatic SRL methodologies in their teaching practices. This was exemplified by comments such as: "As I delved into the teacher coaching, I gained a profound understanding of the intricate dynamics at play. It was through practising SRL myself that I truly appreciated the challenges my students faced when trying to regulate their learning" (POC). Furthermore, the participants found that personally implementing SRL in their learning enhanced their ability to offer practical SRL approaches in their teaching. This finding aligns with existing research emphasising that teachers' development of SRL skills plays a crucial role in the effective teaching of SRL (Kareln, 2020; Kramarski & Kohen, 2017; Porter & Peters-Burton, 2021). A second recurring theme from the participants underscored the continuity of teacher coaching: "Given its monthly frequency, it serves as a constant reminder to stay engaged" (POC). The participants conveyed that coaching consistently directed their attention towards becoming self-regulated learners and facilitated the accumulation of a deeper understanding of SRL.

While existing studies have shown the connection amid educators' SRL capabilities and their proficiency in instructing SRL, there has been a notable lack of intervention studies addressing how to support teachers' SRL skills. While teacher coaching has been recognised as a developing field of focus for delivering tailored support to individual teachers (Kraft et al., 2018), this study uniquely focuses on how teachers considered teacher coaching as facilitating their individual SRL skills. Hence, the participants regarded teacher coaching as a meaningful experience that prompted the development of practical teaching methods for SRL.

Discussion of Findings

The findings underscore that the participants perceived professional expertise in SRL implementation as an incremental process in which they developed various domains of professional knowledge that relied on diverse approaches to PD. The combination of training events, team teaching, and teacher coaching created a comprehensive approach to PD, enabling teachers to develop the knowledge and skills they considered essential for effectively teaching SRL to students. Figure 1 visually depicts the participants' perspectives on different PD approaches, portraying them as a cyclical process necessitating a sustained approach. This process is directed towards specific domains of professional knowledge and collectively constitutes the expertise the participants deemed essential for effective SRL implementation.

Figure 1

Overview of Findings: The Participants Understanding of Professional Expertise in SRL Implementation



The participants' views on training events focusing on SRL content knowledge were shaped by the acknowledgment of insufficient opportunities to deepen their comprehension of SRL. They were eager to participate in training events focused on enhancing their SRL content knowledge, which they viewed as a critical basis for their teaching practices. When implementing SRL concepts into their instructional strategies, teachers showed a preference for joint teaching settings that allowed them to observe fellow teachers' approaches to instructing SRL. They viewed these observations as valuable learning opportunities that promoted mutual learning and enhanced their SRL pedagogical content knowledge. Additionally, teacher coaching was emphasised by the participants as significantly contributing to their professional expertise in SRL. Teacher coaching provided regular individual mentorship sessions, enabling the application of SRL methodologies in their learning. This approach offered a unique perspective,

allowing them to encounter SRL through the lens of a learner, not just from the perspective of educators. This shift in perspective was deemed essential for gaining expertise in SRL implementation and devising practical teaching methods.

The participants considered the combined and sustained nature of the PD methods as essential in light of the effort and various domains of knowledge needed to develop professional expertise in SRL implementation. Furthermore, they believed that one-time PD experiences undervalued the significance of ongoing teacher education and the comprehensive understanding required for proficient SRL instruction. Although existing research does not fully demonstrate how teachers can successfully achieve professional expertise in SRL implementation (Cleary et al., 2022; Karlen et al., 2020; Spruce & Bol, 2015), this study illuminates the participating teachers' perspectives on diverse PD approaches in equipping them with the areas of professional knowledge they deemed necessary for SRL implementation. It highlights the teachers' preference for a multifaceted and sustained approach to PD, acknowledging the significance of continuous learning and growth in the context of SRL implementation.

According to the participating teachers, this research emphasises that acquiring professional expertise in SRL implementation surpassed the limitations of a single PD session or a set number of hours. This perspective aligns with research by Cleary et al. (2022), Dignath (2021), and Greene (2021), which also notes the lack of insights into teachers' viewpoints on this matter. Previously, most studies on SRL-related PD have focused on singular PD models and have relied on programs designed by researchers (Heirweg et al., 2021), often neglecting to explore the impact of various PD models on teacher development. This study's findings offer valuable insights into teachers' perspectives regarding the significance of acquiring diverse PD approaches, each tailored to address specific areas of professional knowledge for developing expertise in SRL implementation. The approaches encompass training events focused on SRL content knowledge acquisition, team teaching to enhance SRL pedagogical content knowledge, and proactive teacher coaching that provides firsthand SRL experiences for teachers.

Implications

This study explores the implications for enhancing the professional expertise of Grades 5 and 6 teachers in implementing SRL. It specifically proposes three essential methods of teacher PD in SRL: training events, team teaching, and teacher coaching. Nevertheless, it is essential to note that the research found that relying on one of these PD methods alone does not constitute an effective approach for cultivating the effective implementation of SRL. As such, this research advocates for a holistic PD approach that integrates all three PD approaches. This integrated model aims to foster a comprehensive interconnection of essential professional knowledge components, thereby more effectively preparing teachers for SRL implementation.

It is recommended that:

Teachers can access training events conducted by qualified professionals or specialists who can deliver essential knowledge about SRL, covering the foundational principles, methodologies, and critical models. These sessions allow teachers to explore SRL theory and recognise its key features and processes.

Teachers are provided with chances to participate in team teaching focused on integrating SRL practices. While different team-teaching models are available, this study suggests shared teaching setups where educators combine classrooms, co-teach

lessons, and assessment. Such an arrangement provides contextually significant environments for teachers to observe peers, exchange ideas, and collaboratively enhance their pedagogical content knowledge in SRL.

Introduce teacher coaching facilitated by a professional mentor and including frequent meetings. Teacher coaching should provide a platform for educators to delve into SRL practices and receive constructive feedback. This approach will provide valuable insights on how to succeed in SRL from a learner's standpoint that can inform practical teaching methods.

Maintain the continuity and regularity of each PD initiative. This will enable teachers to cross-reference the acquired domains of professional knowledge and provide ample opportunities for developing their expertise in SRL implementation.

Research Limitations

This study's scope was restricted to an individual primary school emphasising SRL in Victoria, Australia. Consequently, the study's findings have limited generalisability. Additionally, the implications drawn from this study are based on the participants' extensive engagement in PD opportunities, which involve significant educational resources and necessitate a substantial commitment from the school towards SRL initiatives for its teachers. Therefore, it is advisable to exercise caution when applying these findings to different educational settings. Further study is necessary to broaden knowledge on the application of SRL across various school settings.

Quantitative methods or surveys were intentionally omitted from data collection, as these approaches do not align with CGT principles and may bias the data (Glaser & Strauss, 1967). This decision was made to prioritise an in-depth understanding of how the teachers involved in the study perceived the acquisition of professional expertise in implementing SRL instead of focusing on particular results. The deliberate avoidance of investigating supplementary data sources was intended to prevent external influences on the research and allow an in-depth understanding of SRL implementation from the participants' perspectives in their role as educators. Moreover, the study concentrated on educators teaching upper primary school levels, aiming to refine its examination to specific educational stages while considering the variations in intellectual and age-related capacities among primary school students. This strategy enabled the collection of more focused data on the implementation of SRL in Grades 5 and 6. However, it is essential to recognise that the findings might not readily apply to other grade levels or educational settings, underscoring the need for further investigation in diverse contexts.

Recommendations for Future Research

The limitations of the present research create additional opportunities for further investigations on SRL implementation. Several recommendations include:

1. Investigating educators' perspectives of acquiring professional expertise in SRL implementation in diverse primary school settings to determine the generalisability of the study's findings.
2. Exploring the factors contributing to a sustained PD approach for SRL implementation throughout educators' careers.

3. Examining the interaction among approaches following concurrent engagement in various SRL-focused PD approaches. This analysis can offer meaningful perspectives on the complex interactions of professional learning in SRL.

Conclusions

SRL is widely acknowledged as pivotal for educational achievement and lifelong learning (Taranto & Buchanan, 2020). As a result, current research is focused on how teachers can effectively nurture SRL skills in students (De Smul et al., 2020). The teacher's role in fostering the development of students' SRL skills is paramount (Ader, 2019). This qualitative study intended to explore the participating teachers' understanding of acquiring professional expertise in SRL implementation in Grades 5 and 6. Unstructured interviews were employed to collect data from one primary school with a significant emphasis on SRL in Victoria, Australia. The study drew on the principles of Classic Grounded Theory (Glaser & Strauss, 1967) to conceptualise and analyse categories of findings centred on teachers' constructed understanding of the research topic. The study has shown that the teachers involved in this study viewed multiple approaches to SRL-focused PD as essential for cultivating key domains of professional knowledge they believed were imperative to implement SRL effectively. The research emphasised the significance of teachers participating in training events centred on SRL content knowledge, collaborative team teaching designed to enhance SRL pedagogical content knowledge, and teacher coaching focused on teachers' experience with practising SRL processes. This study contributes to understanding the acquisition of professional expertise in SRL implementation from teachers' perspectives, who are critical agents in implementing and fostering SRL in classroom settings (Alvi & Gillies, 2020; Karlen et al., 2020). Future research can complement these findings by investigating teachers' perspectives on acquiring professional expertise in SRL implementation in other primary school environments. Such an approach would help determine if the research findings apply to other educational contexts. Future investigations could also delve into the elements necessary to develop a sustained strategy for PD focused on SRL implementation, supporting teachers across their careers.

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