Self-regulated strategy instruction: Insights from ESP teachers at a Chinese university and vocational college

Abstract

Self-regulated learning (SRL) is pivotal in second language (L2) learning but is often inadequately addressed in classroom instruction. This qualitative study examines the SRL-promoting strategies employed by English for Specific Purposes (ESP) teachers at a university and a vocational college in China, both of which offer English-medium instruction (EMI) programmes. Grounded in Zimmerman's SRL model, this study employs multiple data sources, including interviews, classroom observations, and teaching materials. Findings reveal that teachers from both settings use a blend of explicit and implicit strategy instruction to foster both cognitive and metacognitive facets of SRL. University teachers integrate strong self-assessment methods, such as peer and teacher feedback, in their teaching. However, gaps in the teachers' conceptual understanding of SRL lead to inconsistent emphasis on various components and phases of SRL. Furthermore, our study identifies several factors, such as student characteristics, teacher knowledge and beliefs, and institutional constraints, that influence these instructional practices. The research stands out for its focus on ESP instruction within a Chinese educational context by juxtaposing two different educational settings. It underscores the need for specialized SRL-focused professional development, especially for vocational teachers, and underscores the importance of bolstering SRL in ESP to facilitate a seamless EMI transition.

Keywords

Self-regulated learning; ESP; EMI; Vocational vs. university pedagogy; Teacher training and professional development

1. Introduction

The capacity for regulating oneself during the process of second language (L2) learning is essential (Schunk & Zimmerman, 2012; Teng & Zhang, 2022). This capacity, commonly referred to as self-regulated learning (SRL), is a key predictor of successful L2 learning (Bai & Wang, 2020; Yuksel et al., 2023) and can distinguish high-achievers from low-achievers (Rose & Harbon, 2013; Wang & Bai, 2023). Despite its evident benefits, the absence of targeted classroom instruction on language learner strategies can impede students in areas crucial for SRL: regulating their learning process, overcoming motivational setbacks, and enhancing emotional experiences, potentially harming their L2 learning outcomes (Teng, 2022). Therefore, previous studies have revealed that teachers, to foster students' SRL, should undergo training on concepts and theories of SRL, methods of strategy instruction, and techniques to teach SRL explicitly in classrooms (Cleary et al., 2022; Russell et al., 2022; Xu & Ko, 2019).

Although strategy instruction has been increasingly highlighted in the literature (Bai, 2015; Nguyen & Gu, 2013; Sardegna, 2022), teachers may still be unprepared for and

confounded about teaching SRL in their actual classrooms (Bjork et al., 2013; Colthorpe et al., 2018). Their instruction may implicitly focus only on certain cognitive strategies (e.g., reasoning, summarising, and note-taking), while neglecting other aspects of SRL, such as metacognitive strategies (i.e., strategies to regulate one's learning process such as goal settings) (Dignath & Veenman, 2021). The ineffectiveness in fostering students' SRL could stem from various factors including insufficient content and pedagogical knowledge, gaps in pedagogical content knowledge, classroom teaching skills, pedagogical beliefs, personal motivation, their own SRL (Baumert & Kunter, 2013; Ewijk & van der Werf, 2012), and misconceptions about strategy instruction (Dignath & Veenman, 2021). While some studies have explored teachers' beliefs and practices regarding strategy instruction in higher education (e.g., Alvi & Gillies, 2021; Ewijk & van der Werf, 2012), a limited number focus on L2 teachers, particularly those university English teachers teaching English for specific purposes (ESP) courses. Given the significance of ESP in university English curricula both in China and globally, which prepares learners for professional communication (Bastürkmen, 2010), studying their SRL beliefs and practices is paramount. Such research contributes to ESP with empirical evidence and provides pedagogical implications for integrating strategy instruction into ESP courses.

Interestingly, in this study, since ESP courses are offered in English-medium instruction (EMI) programmes, ESP teachers play a pivotal role in facilitating the academic transition of students from Chinese-medium instruction (where content subject knowledge is delivered in their mother tongue) to EMI, where English is the medium of instruction. Research in this area is dearly needed for several reasons. First, the development of L2 language skills, characterised by slow progression and frustration (Lamb et al., 2019), necessitates research into effective SRL strategies to assist teachers in guiding students' cognitive, emotional, and motivational learning aspects. Second, students in EMI settings, notably in regions such as China, face considerable linguistic challenges (Jiang et al., 2019), making research into ESP teachers' SRL instruction vital for enhancing both teaching and learning experiences. Moreover, existing research primarily centres on university English teachers, leaving the practices of vocational college educators in China relatively unexplored. Given the differing emphases of vocational colleges on practical skills and universities on academic paths (Liu & Wang, 2015), studying both contexts would offer a fuller understanding of SRL teaching practices.

To address these gaps, this qualitative study set out to investigate the instructional methods of ESP teachers from both university and vocational college settings in China. Specifically, the study explores their methods and strategies in fostering L2 learners' SRL, their insights on the impact of these methods and strategies, and the factors influencing teachers' practices. Three research questions are proposed as follow.

1.What are four Chinese university and three vocational college ESP teachers' instruction practices on promoting students' self-regulation learning?
2.How do these teachers perceive the impact of their instructional practices on students' self-regulated learning?
3.What individual and contextual factors influence teachers' instructional practices to promote self-regulated learning?

2. Literature review

2.1. SRL in the L2 learning context

Self-regulated learning is defined as “self-regulated thoughts, feelings, and behaviours that are oriented to attaining goals” (Zimmerman, 2002, p. 65). Furthermore, as an academic performance skill, it reinforces student-centredness, enhances learner autonomy, and fosters proactive learning. SRL can be divided into three main phases, with each phase comprising multiple sub-processes (Zimmerman, 2000, 2002). The three-phase model of SRL—forethought, performance, and self-reflection—is particularly pertinent for L2 learning. L2 acquisition is not merely about memorizing words or rules, but involves a deep, reflective process where learners continuously adapt and refine their strategies based on real-time feedback and post-task reflection.

Connecting the SRL cycle to the process of task completion, such as writing, the **forethought phase** represents the processes and beliefs a learner undergoes before engaging in the learning task, which includes task analysis and self-motivation. While analysing the instruction, requirements, and procedure of the writing task, the learner sets up specific goals and selects appropriate learning strategies. Their goal-setting and strategy use also hinge on their self-motivation beliefs, such as self-efficacy, outcome expectation, intrinsic interest/value, and learning goal orientation. For example, under Zimmerman's model, a self-efficacious learner with an intrinsic interest in L2 writing might set higher goals and demonstrate greater motivation than a learner with lower self-efficacy in performing the writing task.

After carefully deliberating on the task and one's motivational beliefs, the learner begins their performance of the task (the **performance phase**). This stage includes self-control and self-observation. Self-control, which encompasses imagery, self-instruction, attention focusing, and task strategies, is related to the deployment of those strategies selected in the forethought phase. Self-observation is linked to one's monitoring of their writing performance during task completion. The learner may record their performance and, if necessary, adjust their task strategies during the writing process.

Subsequently, the **self-reflection phase** describes the learner's post-task actions. For example, they may refer to the assessment criteria or compare their own writing with their peers' to evaluate the strengths and weaknesses of their performance (self-evaluation). The self-reaction underlying this phase touches upon their affective dimension. If they are satisfied with their performance, they may be more motivated to learn in the future. Nonetheless, they may have defensive reactions where they “protect [their] self-image by withdrawing or avoiding opportunities to learn” (Schunk, 2001; cited in Zimmerman, 2002, p. 68).

Turning to the research, existing studies on SRL in L2 learning reveal that self-regulated learners tend to perform better (Bai & Wang, 2020; Qiu & Lee, 2020; Yuksel et al., 2023). However, learners may not acquire SRL abilities naturally, emphasizing the necessity for strategy instruction in L2 classrooms (Oxford, 2016). Discussions on L2 strategy instruction have been revolved around the effects of explicit and/or implicit strategy instruction on the development of L2 learners' SRL abilities in specific language skills such as writing performance (Guo et al., 2021; Teng & Zhang, 2020) and listening proficiency (Xu & Luo, 2022) which supports the effectiveness of strategy instruction and the advantages of explicit instruction over the implicit one. Although the positive impact of strategy instruction on L2 learners’ SRL and proficiency has been widely acknowledged, debates continue regarding the most effective type of strategy instruction, such as implicit versus explicit methods (Teng, 2022). Previous findings also reveal that training and mentoring should be provided to L2

teachers to help them grasp the SRL concept and deploy effective strategy instruction; otherwise, teachers may not know how to teach effectively, and learners may not benefit from the instruction (Gan et al., 2020; Perry et al., 2007). Therefore, it is necessary to explore how L2 teachers promote SRL in their instruction.

2.2. Teacher practices of strategy instruction

L2 teachers play a pivotal role in cultivating self-regulated learners. Although SRL is heavily emphasized in the literature, many teachers may still possess a vague or minimal understanding of the concept and the value of SRL-related instruction (Alvi & Gillies, 2021; Steinbach & Stoeger, 2016). As a result, there are suggestions that SRL professional development should be implemented. This has led to research on whether and how pre-service teachers develop their capacity to teach SRL post-training (Cleary et al., 2022; Michalsky & Schechter, 2013; Perry et al., 2007). Dignath and Veenman's (2021) critical review of classroom observation studies on strategy instruction showed that while teachers frequently emphasized students' use of cognitive strategies, metacognitive strategies, particularly those related to planning, were often ignored. They also discovered that explicit strategy instruction was positively linked to students' learning outcomes (cf. Teng, 2022), but many teachers adopted an implicit approach to instructing SRL strategies, which proved less effective.

In the broader education domain, there are insights into teachers' SRL instruction across different educational levels and disciplines. However, focused studies on L2 teachers' practices are limited. A significant shift has been towards the role of formative assessment in promoting L2 students' SRL. Formative assessment involves classroom procedures where evidence of student performance is collected and assessed by teachers, peers, or the students themselves. This evidence then informs and refines subsequent instructional decisions (Black & Wiliam, 2009). Through formative assessments, teachers can motivate learners to establish their goals and evaluate their learning performance (Zhang & Mao, 2023), thereby fostering SRL (Coyle, 2019; Gkonou & Oxford, 2019). Xiao and Yang (2019) delved into how Chinese secondary-school English as a foreign language (EFL) teachers used formative assessment activities to boost students' SRL. Feedback at both the task process and self-regulation levels was identified as particularly influential in cultivating learners' SRL. These observations resonate with past research (e.g., Emerick, 2019) that emphasizes the instrumental role of teachers in nurturing SRL.

However, the limited evidence on L2 teachers' SRL instruction in higher education leaves questions about their methods. Emerick (2019) discovered that while there is a consensus on the merits of direct strategy instruction for teaching L2 listening, some teachers expressed their inclination for product-oriented instruction because of its alignment with exams and evaluations. These investigations primarily targeted a single L2 skill, suggesting the need for a comprehensive view of teachers' strategy instruction.

Such exploration is urgently needed for ESP teachers. Previous studies (e.g., Chen, 2015) have revealed that integrating strategy instruction into prevalent ESP teaching methods, such as the genre-based approach, could enhance the effectiveness of ESP courses. ESP courses also serve as intermediary courses for EMI students. This student population learns content knowledge in English. For instance, engineering students undertake their courses exclusively in English, as noted by Macaro (2018). Yet, insufficient English language proficiency frequently hinders them (Xu & Luo, 2022; Yuan, et al., 2023), so they need to take a

proactive role in regulating their language learning process. In such scenarios, the support from ESP teachers is invaluable for students to surmount the language challenges in their EMI studies. Evaluating whether ESP teachers offer ample and appropriate strategy instruction to enhance EMI students' SRL is of importance.

2.3. Factors influencing SRL teaching practices

Teachers' instruction of SRL may be influenced by various factors, including their SRL beliefs, attitudes and perceptions, their knowledge, their own SRL abilities, and external contextual factors. For example, teachers who hold positive attitudes toward SRL often promote SRL in their practices more than those who are less positive about SRL (Lombaerts et al., 2009). Teachers generally value SRL, recognising its role in cultivating independent, passionate, and engaged learners, and thus advocate its promotion (Alvi & Gillies, 2021; Spruce & Bol, 2015). They understand SRL as a self-learning process during which students autonomously manage all learning tasks, with teachers playing a minimally direct guiding role (Xu & Ko, 2019). Moreover, teachers express confidence in their ability to impart strategy instruction effectively to their students (De Smul et al., 2018). On the contrary, some teachers, not entirely positive about SRL, might question students' capabilities in handling SRL tasks or may not see the advantages of SRL in learning (Yan, 2018).

However, the depth of teachers' SRL knowledge might sometimes be insufficient, especially for those who have not undergone systematic training on strategy instruction. Such gaps can impact their teaching methodologies (Alvi & Gillies, 2021; Xu & Ko, 2019). Bagheri and East (2023 online) observed Iranian EFL teachers' classroom practices of English listening strategy instruction at private language schools. Their findings showed that while teachers integrated metacognitive practices, they rarely taught metacognitive strategies explicitly. This was attributed to teachers' unfamiliarity with implementing metacognitive strategies or their diminished emphasis on the importance of these strategies. Such an oversight might also arise from a prevailing belief that students should autonomously cultivate their learning strategies (Lawson et al., 2019). Gan et al.'s (2020) study on Chinese student-teachers' self-efficacy in English-as-a-foreign-language (EFL) classrooms identified a moderate level of effectiveness in promoting SRL instruction. This was credited to the student-teachers' challenges in fostering student-centric, interactive classrooms. Alarmingly, these student-teachers were unsure about their own SRL capabilities, echoing the findings of Zhang et al. (2022). This emphasizes the need for mentorship for L2 teachers, especially in contexts dominated by teacher-led classrooms. It is noteworthy, however, that the conclusions from Gan et al.'s and Zhang et al.'s studies are preliminary since they relied solely on questionnaires without direct classroom observation.

Externally, various elements such as student demographics, teaching resources, institutional guidelines, and broader educational systems and policies may shape teachers' classroom practices (e.g., Plonsky, 2011; Xu & Ko, 2019; Zhang et al., 2022). For instance, despite integrating SRL in the Hong Kong English language education curriculum and initiating training programmes for elementary school educators, Xu and Ko (2019) observed that these teachers did not translate their SRL knowledge into classroom practices. The teachers felt unsure about nurturing diverse students' SRL capabilities. Additionally, the availability of teaching resources emphasizing SRL was seen as pivotal for successful strategy instruction. In Asian settings like China, where classrooms are often teacher-centric, teachers might hesitate in creating student-centric environments. Many do not believe that students possess

adequate SRL skills or can benefit from it (Zhang et al., 2022). While these studies shed light on the factors influencing teaching methods, they often focus on select aspects, like resources and contextual influences.

The aforementioned studies indicate both internal and external influences on teachers' instructional methods, emphasizing the importance of proper guidance for effective strategy teaching. Yet, most of this research centres on primary and secondary education, leaving a gap in understanding the practices of university L2 educators. Particularly in the Chinese context, with its teacher-centric traditions and passive student dynamics (Zhang et al., 2022), further investigation is paramount. Given the distinct challenges faced by educators in such environments, especially when transitioning to student-centric teaching while infusing SRL, there is a compelling research requirement. Moreover, in China's higher education framework, top-tier universities, and vocational post-secondary colleges (Liu & Wang, 2015) differ in their ESP courses' emphasis. Vocational colleges prioritize practical skills and workplace readiness over academic depth (Yu & Liu, 2018). In contrast, elite institutions, propelled by global aspirations and national competitive spirit (Wang & Wang, 2023), offer courses that balance workplace communication with academic English capabilities. These capabilities can be invaluable for pursuits like international postgraduate studies. Given the variance in student academic achievements at these institutions (Wang & Wang, 2023), the current qualitative study aims to address the gaps in L2 SRL literature. It seeks to juxtapose ESP teaching practices in elite institutions against those in vocational colleges, evaluate the effects of these methods on student outcomes, and understand the factors influencing these pedagogical practices. This investigation will add empirical depth to the L2 SRL discourse, especially in the realm of teacher professional development.

3. Research methods

3.1. Setting

The study was conducted in two distinct educational settings in southwestern China: Vocaltech, a local vocational college, and Unitech, a university located in a provincial capital city. Both institutions, referred to here by pseudonyms, are known for their engineering disciplines and offer EMI programs tailored to their respective specialties. They represent two different educational pathways: Vocaltech with a vocational focus and Unitech with an academic orientation. In China, students' College Entrance Examination (Gaokao) scores in Grade 12 are crucial for determining their paths in tertiary education. Typically, top-ranking students secure places in bachelor's degree programs at universities like Unitech, which is among the top 36 universities nationwide. In contrast, students with lower scores often enroll in associate degree programs at vocational colleges like Vocaltech.

Vocaltech, which houses an international technical education institute, primarily serves students in construction engineering programs. Its curriculum includes collaborative programs with Australian and British institutions, offering EMI courses in engineering technology and project management. Additionally, students take language courses such as English for Specific Purposes (ESP) and English for Academic Purposes (EAP). Unitech, in partnership with a UK-based university, specializes in electronic information engineering and offers purely EMI-based bachelor programs. Students at Unitech engage in both EAP and ESP courses alongside their major subjects in their first two years.

The primary reason for selecting Vocaltech and Unitech for this study was their distinct EMI programmes. At Vocaltech, the EMI programme has a career orientation, primarily aimed at

equipping students for professional careers post-graduation. In contrast, Unitech's EMI programme is academically oriented, with a large portion of its students aiming for postgraduate studies both in China and abroad. This orientation influences a strong focus on academic development and research training. Students from both institutions are Chinese EFL learners and are required to complete engineering courses under the EMI framework. Notably, none of these students had prior exposure to EMI instruction before joining these programmes. To support their transition to EMI education, both Vocaltech and Unitech have integrated English for Specific Purposes (ESP) courses as a part of their curriculum, highlighted by the senior management and faculty. In their initial two years, Vocaltech students attend six English lessons per week, whereas Unitech students participate in up to 10 lessons weekly. This is in contrast to the typical two English lessons per week in Chinese-medium instruction (CMI) programmes during the first undergraduate year, underscoring the intensive English language immersion at these institutions. By selecting these two EMI programmes from different educational contexts, we aim to gain insights into the varied SRL instructional practices of ESP teachers. It is important to note, however, that the findings from Vocaltech and Unitech may not be universally applicable to all EMI settings, given the study's scope including only one institution of each type. The diverse learning environments, varying student demographics, and distinct expectations for ESP teachers at these institutions suggest that their instructional approaches might differ, offering a more holistic perspective on SRL instruction in Chinese higher education.

3.2. Participants

This study involved seven participant teachers, including six females and one male, all of whom volunteered for the research. The participants were selected using a mix of purposive and convenience sampling methods to ensure a diverse range of perspectives aligned with our research objectives. Initially, purposive sampling was used to identify two distinct educational institutions, Vocaltech and Unitech, chosen for their unique educational environments and the emphasis on Self-Regulated Learning (SRL) in their curricula. Within these institutions, convenience sampling guided the selection of participant teachers, focusing on those who were readily available and willing to participate. The selected teachers—three from Vocaltech and four from Unitech—were not only accessible but also brought varied experiences and backgrounds that were crucial to exploring SRL practices in our study. Despite the convenience aspect of the sampling, these teachers shared commonalities that were relevant to our research aims. Predominantly young, they were all actively involved in collaborative teaching projects with other EMI teachers at their respective institutions. These activities included developing assessment criteria and providing assignment feedback, among others. Table 1 summarises the information about each participant teacher. It includes details about their institution, gender, age, years of teaching experience, educational background, and the courses they were responsible for (EAP, ESP, or both).

Table 1. Participant information.

Participant	Institution	Gender	Age	Years of Teaching Experience	Educational Background	Courses Taught
Lai	Vocaltech	Female	40	6	MA in Architecture	ESP
Hong	Vocaltech	Female	28	2	MSc in Civil Engineering	ESP
Peng	Vocaltech	Female	39	2	MSc in Project Management	ESP
Wei	Unitech	Female	33	7	MA in English Literature	ESP, EAP

Participant	Institution	Gender	Age	Years of Teaching Experience	Educational Background	Courses Taught
Yuan	Unitech	Female	36	4	MA in English	ESP, EAP
Lu	Unitech	Female	31	5	MA in English Literature	ESP, EAP
Cheng	Unitech	Male	28	2	MA in Educational Management and Policy	ESP

3.3. Data collection procedures

Prior to data collection, we obtained ethical approval for this study from the university associated with the second author. Through personal connections, we sent an invitation letter to all ESP teachers at Vocaltech and Unitech. In this letter, teachers were informed that participation was entirely voluntary, and all information they shared would remain confidential. They were also assured that all data collected would solely be used for research purposes and would not be disclosed to their respective institutions. The teachers were given the option to either participate in a semi-structured interview only or, if they felt comfortable, to be interviewed and have their classes observed. In response, we were able to recruit all three ESP teachers from Vocaltech and four from Unitech. Out of these participants, only one teacher from each institution, Vocaltech and Unitech respectively, was open to sharing their teaching materials and allowing class observations. It is pertinent to note that the researchers were not affiliated with either of the two institutions and had no prior acquaintance with the teacher participants.

Before initiating the research process, the researchers introduced the study's objectives, clarified the confidentiality policy, and sought the consent of the teacher participants. The data collection process primarily centred around interview data, supported by supplementary data sources to enrich insights and enhance triangulation. The second author conducted semi-structured interviews with each teacher to delve into their teaching practices, ESP instruction approaches, and perceptions on students' SRL. The interviews merged a set protocol (available in Appendix B) with the adaptability to investigate emerging themes. Follow-up questions were asked, if necessary, to capture more information about the participants' SRL instruction, perceived effectiveness of their instruction, and factors affecting SRL instruction. For example, after prompting the teachers to describe their teaching practices for each SRL phase and the reasons behind them, the second author might ask follow-up questions about students' performance and responses, as well as prompt the teachers to reflect on their practices. This ensured consistency in the areas addressed while also accommodating unique insights from each participant, as suggested by Holliday (2002). Interviews were held in Chinese, the participants' native language, and were audio-recorded, averaging about 91 min each.

Classroom observations afforded real-time glimpses into pedagogical strategies, teaching techniques, and interactions during ESP lessons. This approach permitted first-hand observation of teaching methods in practice, providing a richer understanding of SRL strategies' application in an ESP context. However, only two teachers, Hong from Vocaltech and Cheng from Unitech, consented to this, leading to the observation, and recording of two 45-min classes for each. We also procured course materials such as syllabi, lesson plans, and instructional resources to better understand the employed pedagogical strategies. However, it is worth noting the institutional policies imposed constraints on accessing these materials. At

Vocaltech, we were able to gather a more comprehensive set of materials, whereas Unitech had stricter access limitations.

3.4. Data analysis

The qualitative methodology used for this study is grounded in the existing literature, with a specific emphasis on Zimmerman's model (2000, 2002) of SRL. Such alignment ensures rigor and consistency throughout the data analysis phase. The data analysis started with the identification of salient episodes concerning teachers' SRL-related instructional practices, the perceived impact of their instructional practices on students' SRL, and influential factors on their instructional practices in the interview data. In examining the interview data, particular attention was given to dialogue segments directly addressing the research objectives; selected examples can be found in Appendix A. The analysis of interview data relating to the teacher participants' self-reported strategy instruction went through a top-down process based on Zimmerman's SRL cycle, whereas a bottom-up method was adopted for that of the perceived impact and influential factors. For classroom observations, specific video segments were highlighted, especially those showcasing active promotion of SRL or strategic instruction by teachers. Analysis of the teaching materials focused on pinpointing activities that bolstered students' SRL, with each unique activity considered an episode. A noteworthy observation was the limited presence of strategy instruction-oriented activities in Hong's materials. The in-depth analysis yielded 161 relevant episodes in total.

Following this, the identified episodes underwent open coding and axial coding processes (Strauss & Corbin, 1998). The first and second authors individually worked on the analysis, attributing meanings to the extracts and grouping pertinent data into codes and categories. These codes were informed by both existing literature and their thematic assessment, subsequently undergoing revisions and refinements, with some being merged to form themes. The authors then convened to discuss their respective codes and categories before the follow-up content analysis (Patton, 2002). In this meeting, both authors sought to ensure consistent identification of relevant episodes and data. They noted that the codes related to teachers' instructional practices aligned with the SRL stages in Zimmerman's model. Thus, they adopted these stages as a framework for further analysis. After the discussion, a coding scheme, accompanied by examples, was devised for the next phase of content analysis (see Appendix A).

Subsequently, the first author independently conducted the content analysis, assigning episodes to specific research questions. Upon review, the second author agreed with most codes and themes but raised concern regarding three interview episodes. These episodes seemed to relate more to curriculum than contextual factors. Disagreements were resolved through discussion. Additionally, member checking was used to enhance the study's authenticity and trustworthiness.

4. Findings

In the findings section, the report covers teachers' instructional practices aiming at prompting SRL, the impact of their practices, and the influential factors behind them.

4.1. Teachers' instructional practices

The teacher participants integrated several SRL-related instructional techniques. An overview of their strategy instruction reveals practices associated with the three phases in Zimmerman's model.

4.1.1. The forethought phase

Through interviews, our teacher participants described various instructional practices focused on fostering students' skills in goal setting, task analysis, and understanding their motivational beliefs. For example, at Vocaltech, Lai used the Vak learning styles self-assessment questionnaire and encouraged students to choose strategies in line with their learning styles. Although she introduced the "learning styles" concept and stressed strategy alignment, our observations showed that she failed to provide clear guidance on aligning strategies with these styles. Peng and Hong both allowed students time to independently initiate forethought activities for upcoming content or tasks. Classroom observations confirmed Hong's consistent integration of moments where students were prompted to set their goals or plans. An excerpt from our observation notes illustrates Hong's approach: before a reading activity, she stated, "*You have 2 min to review the requirements and note your goals for this task. Then, we will proceed with the task*." This observation aligns with the interview narratives, highlighting Hong's emphasis on task analysis.

In one particularly illustrative episode, Hong introduced a complex group project on environmental sustainability. As the students gathered, she instructed, "*Before we dive into the project, I want each group to spend 10 min discussing and writing down your specific goals for this project. Consider what you want to achieve and how you plan to approach the task*." The room buzzed with activity as students engaged in animated discussions. One group debated the scope of their project, while another group listed potential research sources. Hong circulated among the groups, listening in, and occasionally asking probing questions like, "How does this goal align with our course objectives?" or "What resources will you need to achieve this?" After 10 min, each group shared their goals and planned approaches, receiving feedback from both Hong and their peers. This episode exemplifies how Hong skillfully guided her students in applying forethought by setting clear, actionable goals and strategizing their approach to a complex task.

Peng and Hong acknowledged the significance of forethought activities; they did not provide clear instructions about which strategies students should use to preview course content or break down tasks. The evidence suggests that Vocaltech teachers aimed to boost students' SRL in the forethought phase. Yet, their support might not have been holistic. Conversely, the Unitech teachers consistently prompted their students to establish goals and strategize before tasks. They incorporated "SMART" goals into their teaching materials, directly teaching students how to craft specific, measurable, achievable, relevant, and time-bound goals, as well as plan strategically (Yuan, interview). At times, students received a flow chart to detail their task plans, outlining their goals, chosen strategies, necessary resources, and specific action steps. In terms of forethought phase strategies, Unitech students received more guidance than their Vocaltech counterparts.

While our participant teachers focused on developing students' skills in goal setting and strategic planning, they overlooked teaching students emotional and motivational regulation during the learning process. An exception was Lu, who noticed Chinese students' anxiety about oral presentations. Consequently, she introduced strategies to manage their pre-presentation emotions. She remarked, "*I had not planned for this. The idea struck me when*

they were setting presentation goals," Lu's sharing of emotional regulation strategies was rather spontaneous, limiting her to a single strategy without a systematic introduction of more strategies.

4.1.2. The performance phase

All teacher participants offered explicit instruction of cognitive strategies, such as summarising key information from a listening passage and note-taking methods. They also encouraged students to source suitable learning materials for self-instruction. However, the teachers largely overlooked the importance of fostering students' self-monitoring abilities, meaning the ability to track their progress, evaluate performance, and adjust their strategies as needed. This neglect can be attributed to three main reasons. First, teachers, like those from Vocaltech, had a limited understanding of Self-Regulated Learning (SRL) and were unaware that self-monitoring was a crucial part of the SRL cycle. Second, some, like Wei, Yuan, and Lu, were familiar with the concept of self-monitoring but did not consider its integration into their teaching essential. Third, teachers such as Cheng aimed to incorporate self-monitoring exercises. However, their efforts fell short due to a lack of pedagogical expertise in the area.

Cheng stood out as the sole teacher who emphasized self-monitoring during his sessions. While his approach mirrored that of Wei, Yuan, and Lu—in requiring students to listen to a passage, take notes, and draft a summary—he went a step further. In one illustrative episode, Cheng conducted a lesson where he asked students to work on a listening and note-taking task. After the initial task, he engaged the students in a reflective session. He asked questions like, "What strategies did you use to identify key points?" and "How effective do you think your note-taking was in capturing the essence of the passage?" These questions prompted students to think critically about their own learning processes.

Unlike the others who did not see the need for revisions post self/peer/teacher evaluation, Cheng actively encouraged students to refine their work. He explained, "*Students reached out to me for personalised feedback on their writing. Some even revised their writing and asked me to make comments. Tutorials create opportunities for them to communicate with me on their progress and ask for advice on how to adjust their strategies*." Cheng's approach showcased that more personalized teaching methods, such as small-group or one-on-one sessions, can be instrumental in guiding students to track their progress, ultimately enhancing learning outcomes. However, Cheng did not ask students to monitor their initial draft process, suggesting room for improvement in his approach. Additionally, the Vocaltech teachers, unaware of specific self-monitoring techniques, did not guide students to evaluate their ongoing task performance.

Another neglected aspect across the board was training students to manage their emotions during tasks. Yuan's rationale was revealing: "*My students never mentioned experiencing negative emotions. Perhaps they resort only to teachers when they have questions about academic studies.*" Relying solely on student feedback and not utilizing other methods, such as observation, to discern student emotions, Yuan appeared passive in aiding students with emotional regulation.

4.1.3. The self-reflection phase

The self-reflection phase received great attention from our participants, more so than other phases, largely because of the widely acknowledged benefit of reflection in English language learning. Cheng, in particular, was notably proactive, integrating prompts into his instructions and activities that guided students in assessing the efficacy of their strategies and pinpointing areas for improvement. Alongside these self-reflection exercises, Unitech teachers also suggested an array of cognitive and metacognitive strategies to bolster students' SRL skills. A common self-reflection method, adopted by the four Unitech teachers and Lai from Vocaltech, was the reflective journal. The Unitech instructors highlighted that such journals were integrated into the textbooks, prompting students to regularly appraise their performance, determine improvement areas, and chart subsequent action plans. Yuan aimed to inculcate a routine of self-reflection in students, hoping they would extend this practice to other learning environments, like EMI learning. Lu initially relied on textbook self-reflection exercises but, with experience, tailored these exercises, guiding students to reflect on specific areas such as content creation. She emphasized linking action plans from one task to the planning phase of the subsequent task, asserting,
"*When planning for the next task, students should refer to their action plans in the previous task. It is important for me to figure out how the units and different activities are logically connected with each other.*"
Lu's changing practices underscore her expanding knowledge of SRL. Meanwhile, Lai (Vocaltech) employed reflective journals to educate students on plagiarism. By dissecting writing examples, she clarified the boundaries of plagiarism. She then graded their writing and directed them to reflect on any academic misconduct, addressing her students' unique needs.

To improve students' self-assessment skills, various data sources disclosed consistent practices among teachers. Interviews with Cheng, Lu, Wei (all from Unitech), and Peng (Vocaltech) highlighted their reliance on peer reviews and teacher feedback, advocating a shift from co-regulation to self-regulation. Our classroom observations supported these narratives. For instance, Cheng's sessions saw student writings used as examples for peer feedback. She dissected these samples, guiding students to critically evaluate their work, aligning with her interview insights. Similarly, Wei's interview mentions aligned with our observations of her stress on elucidating evaluation criteria. Post feedback, Unitech students commenced their self-reflections, and gradually began assessing their work in a manner akin to their instructors, verifying the consistency and efficacy of their teaching methods.
At Vocaltech, Peng had students undertake group presentations and critique peers' performance. She opined, "*By analysing the strengths and weaknesses of peers' presentations, students better understand their own strengths and areas for improvement.*" However, unlike Unitech teachers who followed up peer evaluations with written self-reflection exercises, Peng's methods lacked such structured reflection, leaving ambiguity regarding students' post-presentation introspection.

Besides these self-reflection activities, the Unitech teachers also recommended various cognitive and metacognitive strategies to foster students' SRL abilities. For example, Lu encouraged students to compile their writing portfolios which included all writing they produced during their university studies.
"*Students can review teacher feedback they received and summarise common mistakes and areas for improvement. They can select appropriate cognitive strategies to resolve those problems and improve their English. They then do self-reflection based on a checklist or assessment criteria.*"

Lu was always willing to advise on strategies and learning resources if students sought help from her, but she did not provide any specific guidance or introduce any specific strategies in class. These findings indicate that teachers implemented different instructional practices to form students' habits of self-reflection, but most of the time, they did not encourage students to come up with action plans for the following task cycle or future studies and thus the SRL cycle was not completed.

To summarise, our findings indicate that while the Unitech teachers implemented different classroom activities to guide students in setting goals and strategic planning, the Vocaltech teachers were not quite aware of the forethought phase and less frequently implemented classroom activities. Both groups of teachers overlooked the importance of fostering students' self-monitoring abilities and generally neglected training students to regulate their own emotions during learning. However, they did implement different instructional practices to encourage students' self-reflection and self-evaluation.

4.2. Teachers' perceived impact of their instructional practices on students' SRL

The above section outlined teachers' instructional practices to boost students' SRL. In the interview, teachers shared their perceptions regarding the influence of these practices on students' ability to regulate their learning beyond the classroom.

4.2.1. Positive impact

Most Unitech teachers asserted a favourable impact. They regularly assessed if students applied the introduced strategies and observed enhanced learning outcomes, improved learning habits, better emotional regulation, and increased L2 motivation and engagement (see the coding scheme in the Appendix for relevant excerpts). For example, Wei noted an uplift in her students' writing skills (e.g., genre features and language) following post peer-evaluation. Reinforcing this, Cheng mentioned the value of peer evaluations in instilling a self-assessment habit, which in turn propelled learner motivation. Through tutorials, Cheng further realized that many students effectively employed the cognitive strategies discussed in class, often sharing their reflections during these sessions. Furthermore, Lu imparted emotional regulation strategies, noting their positive influence on students' confidence during oral presentations. Such feedback bolstered the importance of SRL promotion in classrooms.

4.2.2. No obvious impact

While the Unitech teachers were generally confident in the effectiveness of the SRL techniques and methods they employed, there were times when they felt disappointed because students did not seem to benefit from these instructional practices. This was often attributed to students being primarily motivated by external factors, such as examinations. As a result, they tended to adopt only those strategies they believed would help them secure higher grades in assignments and exams. For example, Wei introduced a wide range of presentation strategies to her students; however, she found that many continued to rely on the traditional approach of reciting from a script. This indicated that new learning habits were not being formed, and there was no noticeable improvement in performance. She identified two primary reasons for this trend. First, "*reciting from a script gave students a feeling of security*." Second, "*engineering students, in particular, did not see English learning as a priority and did not want to spend time improving their presentation skills*." Despite the

teachers' dedicated efforts to encourage SRL in the classroom, the effectiveness of their instruction was often undermined by the students' externally driven motivations.

4.2.2.1. No record of the impact

The four Unitech teachers expressed a strong desire to monitor students' SRL application, but tracking its long-term effects proved challenging. Lu shared her perspective, saying, "*I cannot track if my instructional practices help students to develop self-regulation abilities. I teach them for one semester only*." She elaborated that her course structure required students to complete five distinct assignments. Even though they received feedback and were prompted to self-reflect, they were not provided opportunities to revisit or revise their assignments, nor to tackle similar tasks later in the semester. While students might later encounter chances for oral presentations in subsequent courses, Lu would not be their instructor, making it impossible for her to ascertain if her earlier guidance had any lasting impact on their performance.

Beyond the constraint set by the curriculum design, Lu and the three teachers from Vocaltech did not place a strong emphasis on their students' SRL ability development. They felt it was not their primary responsibility to monitor students' follow-up actions, as such tracking was not a defined teaching objective. Chen theorized that high-achieving students might readily establish their objectives and follow through with action plans, utilizing the strategies taught in class to enhance their English skills. On the other hand, students who lacked confidence in their English abilities, often the lower achievers, might not have the motivation to self-regulate their learning. However, Chen's report remains hypothetical because she neither observed SRL behaviours in her students during class nor inquired about their self-regulation practices outside the classroom setting.

4.3. Factors influencing teachers' SRL institutional practices

The rationale behind teachers' decisions regarding SRL-related practices can be traced back to several factors, including student characteristics, the teacher's knowledge base, beliefs of the teachers, curriculum and teaching materials, community of practice, and the overarching institutional culture and regulations. A closer look at these factors reveals several insights as follows.

One major discrepancy between Unitech and Vocaltech emerges from their students' characteristics. One criterion setting apart top-tier Chinese universities like Unitech from vocational colleges like Vocaltech is the students' performance in the college entrance examinations (CEE). Unitech students, having secured higher CEE scores than their Vocaltech counterparts, appeared to possess superior English proficiency and a more pronounced motivation to learn. Even though both sets of students were part of EMI programmes and encountered difficulties learning content knowledge in English, observations from interviews indicated this proficiency difference. For instance, in Cheng's classroom, a clear inclination towards academic accomplishment was evident among students. While they were compliant, their drive largely stemmed from grade aspirations rather than a genuine passion for learning. On the other hand, in Hong's class, students exhibited diverse reactions to English instruction, with many valuing her industry experience. This could explain why Peng did not feel the urge to enhance students' SRL, commenting, "*they were not autonomous learners and were not quite motivated. They struggled with regulating their own learning."* Even as the Unitech students were "*adaptive to student-*

centred, interactive, and task-based classrooms" (as Wei mentioned), external motivators like the quest for high GPAs predominantly shaped their learning behaviours. Many students only chose the strategies that helped them prepare for assignments and exams, leading some teachers (e.g., Wei) to occasionally find it discouraging to implement SRL-related activities. The second reason relates to the teachers' insufficient knowledge base. In the interview, all teacher participants were asked about their understanding of the concept SRL. Their definitions are listed in Table 2. While all agreed that SRL should relate to learners' self-initiated behaviours, and three even mentioned metacognition, their definitions were vague or even misleading. For example, SRL is not identical to self-directed learning and is not simply about procedural knowledge; however, Peng and Wei misunderstood these different concepts as interchangeable and relevant. Given their lack of systematic and comprehensive understanding of the SRL cycle, their instructional practices only partially covered the cycle, and some skills (e.g., self-monitoring and emotional regulation) were not addressed.

Table 2. Teachers' definitions of SRL.

Teacher	Definition
Lai	"*It is related to metacognition, self-management, flipped classroom, and constructivism*."
Hong	"*Not sure. It is learners' autonomous learning. No matter whether a student learns in class, they should do autonomous learning. They can review the course content or solve the problems they encounter in class. The behaviour should be initiated by the student*."
Peng	"*Is it self-directed learning?*"
Wei	"*Similar to learner autonomy. It is a skill, a kind of procedural knowledge. Students need to spend time learning English outside the classroom. It is related to students' metacognition and self-evaluation abilities.*"
Yuan	"*It is learner autonomy. It reflects students' metacognition of English language learning and monitoring of their own learning. They figure out their problems and autonomously solve those problems with learning strategies.*"
Lu	"*Students take control of their own English language learning.*"
Cheng	"*Not sure what it means. It is a kind of learning strategy.*"

Besides their inadequate knowledge about SRL, our data also revealed that some of them lacked pedagogical knowledge and thus were uncertain about how to foster SRL in their classrooms. Classroom observations highlighted Hong's proficiency in conveying real-world engineering concepts, reinforcing her background in engineering and industry experiences. Cheng seemed proficient in pedagogical methods but appeared constrained in fully customising these methods to fit his student demographic. Interestingly, our Unitech and Vocaltech teachers had different disciplinary backgrounds. The Unitech teachers obtained their master's degrees in English or Education and were familiar with English language teaching. They participated in various teacher training programmes and courses, were aware that they should cultivate autonomous learners, and implemented a wide range of classroom activities (e.g., the SMART goal-setting task and peer evaluation). However, given their limited engineering professional knowledge, they were not confident that their teaching would benefit engineering students' professional English language learning needs. In contrast, the Vocaltech teachers came from engineering disciplines and had frontline work experience in industries. Their teaching could address students' professional learning needs by introducing strategies appropriate for real-time workplace communication (as mentioned in Hong's interview). However, their lack of English language knowledge and pedagogical

content knowledge might explain their vague understanding of SRL and less frequent instructional practices.

Thirdly, our analysis also implies that teachers' beliefs about SRL influenced their practices. For example, the four Unitech teachers believed that fostering students' SRL was essential, and thus they were keen to incorporate strategy instruction into their teaching. Wei (Unitech) told the researcher in the interview,
"*Self-regulated learning is extremely important and indispensable. Learning English is not just about classroom activities. It also requires students to regulate their learning process outside the classroom. To master English, they need to equip themselves with SRL abilities. SRL benefits their future personal development. As a result, SRL practices have been integrated into many of our courses. For instance, I incorporated peer feedback and self-reflections in my teaching.*"

This alignment between Wei's beliefs and her actual practices was similarly observed in the other Unitech teachers' interviews. Among the three Vocaltech teachers, Hong also held positive attitudes toward SRL, recognized its importance, and introduced various learning strategies in her classes. However, Chen believed that SRL development was unnecessary and ineffective because her students lacked motivation for English language learning, stating "*no one [would] preview or review the course content or regulate their learning process*" outside the classroom. She believed that students would only be willing to learn if monitored by their teachers. Due to these beliefs on SRL, she did not intentionally incorporate SRL instruction into her teaching practices.

Furthermore, the instructional practices were also affected by the curriculum, course design, and teaching materials. The ESP courses offered at both Unitech and Vocaltech served as bridge courses supporting students' EMI learning. Cheng's teaching materials emphasized task-based language teaching and learner-centred approaches which created SRL opportunities for students. The Unitech teachers were required to follow the teacher notes and implement those SRL-related activities in their classrooms. Even though their understanding of SRL was limited, they were able to promote SRL in class because of the teaching materials. However, all Unitech teachers mentioned that they had little agency in adjusting their teaching plans. Even if they realized that some tasks were based on the UK context and might not address the SRL needs of Chinese students, they were not allowed to make adaptations without the permission of the management team and the textbook developer. In comparison, the Vocaltech teachers had more autonomy in deciding on their course content and could adjust their teaching materials as much as they liked. Hong's teaching materials included additional resources like industrial documents, thus augmenting students' professional learning. Lai's reflective journal on plagiarism was also not included in the textbook. It was tailor-made for her students.

Unitech teachers also attributed their SRL-related instructional practices to the insights they gained from their community of practice, while Vocaltech teachers rarely discussed fostering students' SRL. Every Unitech teacher highlighted their weekly collaborative lesson preparation meetings, viewing them as invaluable learning opportunities or as a community of practice. They exchanged ideas on nurturing autonomous learners and deliberated on refining their teaching approaches to realize this aim. Lu shared, "*One colleague discussed forming students' self-reflection habits based on peer evaluation. I took inspiration from her insights and incorporated the activities she suggested in my classes*." In contrast, while

Vocaltech teachers also frequently convened to discuss their lesson plans, their discussions rarely touched upon SRL.

From a macro perspective, we also discovered that institutional culture and regulations influenced teachers' instructional practices. Unitech teachers adopted a more passive role in their teaching, while the senior management team (primarily the UK institution) held sway in decision-making. Cheng likened himself to a warrior and the management team to headquarters, viewing this power dynamic as "a double-edged sword". On one hand, the management team provided teachers with detailed instructional guidelines and encouraged the fostering of students' SRL. On the other hand, their instructional flexibility was limited by the prescribed teaching materials. While all Unitech teachers aspired to modify their lesson plans and integrate more customized tasks to enhance students' SRL, they often refrained, realizing the challenges of obtaining approval from both management and the course developers. In contrast, Vocaltech teachers demonstrated more initiative, receiving support from the senior management team when they suggested instructional modifications. Lai mentioned,
"*We get the full support from the faculty management team. Our associate Dean reinforced the importance of ESP courses. We frequently meet and brainstorm how to improve our teaching. We support each other and reach agreements easily.*"

With this level of teacher agency and autonomy, SRL-related instructional practices were better tailored to the students' needs. However, Vocaltech teachers had limited knowledge of SRL, and they infrequently received training on promoting students' autonomous learning. Both Hong and Lai mentioned that they rarely participated in training courses or seminars, citing a lack of "*targeted training opportunities focused on SRL*."

In summary, the findings indicate that while the teacher participants incorporated various strategy instructions into their teaching, they often overlooked certain metacognitive and emotional regulation strategies. They believed that strategy instruction positively influenced learners' outcomes, habit formation, motivation, and engagement. However, for some learners with lower proficiency or motivation, SRL training might not significantly enhance their learning. Some teachers did not monitor whether their students applied the strategies introduced in class to subsequent learning. Furthermore, the teachers' SRL instructional practices were influenced by a combination of learner factors, teacher factors, and contextual factors.

5. Discussion and conclusion

This study examined the instructional practices of Chinese university and vocational college ESP teachers, with a focus on promoting students' SRL. It also delved into their perceptions of the impact of these practices on students' SRL and the factors influencing their approaches. While prior research has explored teachers' SRL-related practices, this is the inaugural study set within the ESP context that contrasts the practices of top-tier university teachers with those of vocational college educators. The ensuing discussion presents the findings in line with the research questions.

5.1. Teachers' SRL-related instructional practices

As Wei from Unitech highlighted, SRL-related instruction is in perfect alignment with the nature of ESP courses in the EMI curriculum examined in this study. Given that the students

are EFL learners, there is a pressing need for them to acquire professional English knowledge and skills. This equips them to effectively understand content taught in English. Consequently, cultivating SRL abilities becomes indispensable for these students. Equipped with SRL skills, they can adeptly monitor their learning both inside and outside of language classrooms. On a positive note, teachers from both Unitech and Vocaltech effectively incorporated explicit and implicit strategy instructions pivotal for bolstering students' SRL (De Smul et al., 2018). They introduced a mix of cognitive and metacognitive strategies, employing a broad spectrum of activities and techniques to cultivate students' SRL habits, particularly during the forethought (e.g., SMART goal tasks) and self-reflection phases (e.g., reflective journals). Notably, Unitech teachers such as Cheng and Wei guided students to become adept self-assessors through demonstrations that combined peer feedback with teacher feedback. They had students evaluate sample writings based on assessment criteria (i.e., benchmarking in Tsunemoto et al., 2022), then discussed this feedback to establish standards. This approach ensured students understood how to assess their own writing, a method proven effective for enhancing SRL (Teng, 2022). Moreover, Lai's supplementary self-reflection task, designed to heighten students' awareness of plagiarism, further underscored her commitment to addressing students' needs and boosting their SRL capabilities.

What sets this study apart from previous research is its emphasis on incorporating SRL-related activities within ESP instruction that caters to both English language proficiency and the professional communication demands of learners in their specific content domains. A quintessential illustration of this integration is seen at Unitech, where the task of lab report writing, generally perceived as content-centric and genre-specific, is elegantly interwoven with SRL techniques like peer assessment and subsequent self-reflection. This approach not only anchors the instructional methods in the pragmatic realm of EMI learning but also distinctly contrasts with conventional practices prevalent in general English teaching environments. It raised students' genre awareness and boosted their genre and rhetorical knowledge (Cheng, 2008; Mazloomi & Khabiri, 2018). The novelty here is in spotlighting the potential of ESP educators to coalesce domain-specific content with English language teaching, all while championing SRL. This provides a refreshing perspective for SRL research.

Despite these promising practices, the teachers exhibited some gaps in their conceptual understanding and application of SRL. First, they appeared to overlook certain key components of SRL in their classroom instruction, specifically the forethought, performance, and self-reflection phases (Alvi & Gillies, 2021; Steinbach & Stoeger, 2016). For example, the emotional regulation dimension of SRL was seldom addressed. Moreover, many of the SRL-related instructional practices (e.g., SMART goal) were not innovations of the Unitech teachers but were rather dictated by the teaching notes and textbooks supplied by the institution. While the teachers recognized the significance of these SRL activities, the performance phase was often underserved, and students' abilities to self-monitor their performance and task progress should have received more emphasis (Bagheri & East, 2023 online; Ellis & Zimmerman, 2001). In contrast, Vocaltech teachers, despite their extensive industry experience, appeared less rooted in the tenets of language education pedagogy. Whether hesitant to stress SRL or uncertain about the best ways to teach SRL competencies (e.g., as with Hong) (Gan et al., 2020), they delivered SRL-related instruction less frequently than their Unitech counterparts. This highlights the urgency for tailored professional development focusing on pedagogical content knowledge, ESP methodologies, and a comprehensive grasp of SRL within the L2 learning framework.

5.2. Perceived impact of instructional practices on students' SRL

Regarding the perceived impact of their instructional practices on students' SRL, our participants reported observations of students employing learned strategies outside the classroom and making progress in L2 acquisition. These observations are consistent with previous studies confirming the efficacy of strategy instruction (Bai & Wang, 2021). However, some teachers also observed that the level of L2 motivation influenced the effectiveness of their instructional practices (Donker et al., 2014). Although these engineering students displayed strong extrinsic motivation towards English language learning, they selectively implemented SRL strategies that optimized their academic performance in assignments and exams.

Interestingly, our findings reveal that ESP teachers occasionally overlooked the correlation between students' SRL practices and their academic outcomes for a variety of reasons. One potential reason is the brief duration in which the teachers engaged with a student cohort — typically just one semester—hindering the opportunity for a longitudinal assessment of student performance. Another factor could be the skepticism, particularly among Vocaltech educators like Chen, about the students' commitment to pursue SRL activities independently post-class, which resulted in a subsequent neglect in monitoring. There is also the possibility that some educators were uncertain about the appropriate mechanisms to monitor students' SRL growth. Predominantly, our teacher participants gauged SRL based on their observations of in-class student behaviours and performance, like Cheng, or through students' self-reported strategy use and its perceived effectiveness during tutorials or informal discussions, as was the case with Lu. Regrettably, none of the participants employed alternative tracking methods, such as SRL questionnaires (e.g., Bai & Wang, 2021; Teng & Zhang, 2016), to consistently evaluate students' SRL skills. This might hint at their limited comprehension of SRL and related instructional strategies.

5.3. Influential factors of instructional practices

Teachers in our study highlighted a spectrum of factors influencing their instructional practices, spanning from student-level determinants to broader institutional paradigms. A recurring theme, articulated by both teacher cohorts, underscored the decisive role of students' proficiency and motivational contours in shaping instruction. For instance, Peng's observation that diminished motivation and proficiency in her students deterred the full-fledged application of SRL strategies challenges some established narratives in pedagogical research. Contrary to her perspective, extant studies posit that L2 learners, independent of their proficiency echelons, stand to gain significantly from SRL interventions (Bai and Wang., 2021). Thus, instead of neglecting SRL techniques in L2 contexts, the emphasis should be on refining them to boost student motivation and fortify SRL. Exploring strategy-use instruction, lauded for its motivational benefits (Bai & Guo, 2021), emerges as a promising avenue.

Incorporating SRL-focused activities in ESP classrooms might be more effective in engaging and motivating learners. As highlighted by studies like Altalib (2019), ESP students tend to have a more favourable outlook on English learning and a higher motivation level than their peers in general English courses. Therefore, ESP instructors should craft SRL-related activities that cater to the dual needs of English proficiency and EMI education. Introducing universally beneficial strategies, such as metacognitive techniques used in L2 learning (like

self-evaluation and goal-setting), which can also enhance content-specific understanding, is recommended. To equip teachers with the skills needed to seamlessly weave SRL into their ESP courses, a comprehensive development framework that includes training, mentorship, and structured support can be beneficial (Michalsky & Schechter, 2013; Perry et al., 2007). Moreover, echoing past research on teachers' limited understanding of SRL (Alvi & Gillies, 2021; Xu & Ko, 2019), our findings indicate that some ESP teachers may have a partial or even misguided grasp of SRL. While they acknowledged the importance of cultivating students' SRL, their limited pedagogical know-how often held them back. Chen, for example, felt that due to their lack of motivation and confidence, her vocational college students would not engage in self-regulation unless prodded by teachers. Such beliefs led her to sideline SRL-focused activities in her teaching. To address such concerns and fortify ESP teachers' pedagogical expertise, specific training and workshops are crucial. These sessions can equip teachers to design effective SRL-centric activities and select strategies that foster SRL while enhancing students' motivation and confidence. As a case in point, blending strategy instruction with genre-based writing techniques can be invaluable, especially in contexts like lab report writing (Chen, 2015).

Teaching materials, clear course goals, and collaborative teacher communities were instrumental in guiding teachers to emphasize SRL in their classrooms. Both Unitech and Vocaltech adopted task-based learning in their ESP courses, fostering a student-centric, communicative environment conducive to SRL. Yet, Unitech teachers prioritized SRL more than Vocaltech teachers. This could be attributed to Unitech's explicit focus on nurturing autonomous learners and their resource-rich curriculum supporting SRL. In contrast, Vocaltech's materials lacked such depth in SRL content. Moreover, Unitech teachers regularly shared SRL strategies in meetings, a practice absent at Vocaltech.

While Unitech teachers benefited from structured materials for SRL practices, these resources curtailed their ability to customize strategy instruction. For example, although textbooks covered topics like sustainable energy, their primary focus on the UK or Scotland and lack of subject alignment, as noted by teachers like Lu and Wei, risked diminishing student motivation. Due to restricted autonomy at Unitech, these issues remained unaddressed. In contrast, Vocaltech teachers, supported by senior management, enjoyed substantial autonomy, enabling them to tailor SRL practices to their students' needs. The findings underscore the importance of teacher agency, both as an individual initiative and institutional support (Lee & Yuan, 2021; Tao & Gao, 2021).

5.4. Implications

This study highlights the critical importance of professional development in self-regulated strategy instruction for educators, particularly those in ESP. For ESP instructors to effectively foster SRL, they require a deep comprehension of the SRL framework. This includes its definition, its cyclical nature, and related teaching strategies. Furthermore, they should possess specialized pedagogical expertise to both engage and inspire ESP learners, emphasizing the development of SRL abilities tailored to the ESP milieu. Realizing these skills demands comprehensive teacher training programs that seamlessly meld theoretical understanding with hands-on application (Cleary et al., 2022). Creating communities of practice is another constructive strategy, allowing educators to collaboratively fine-tune and adapt their instructional approaches in line with SRL tenets.

Moreover, it is imperative for educational institutions to embed the advancement of student SRL explicitly within their curricula and course objectives. Such integration not only aids teachers in weaving in SRL-focused lessons but also reinforces its significance in academia. The potential of these educational resources to cultivate SRL can be maximized if educators are accorded more autonomy by their respective institutions. This freedom enables them to customize lesson structures, content, and resources to address the unique cultural, academic, and proficiency dynamics of their students. By coherently aligning these facets—comprehensive teacher training, collaborative teaching communities, curriculum infusion, and increased teacher autonomy—a conducive environment for championing SRL within ESP contexts is achievable.

5.5. Limitations and future research directions

Despite the valuable insights this study offers, we would like to remind our readers to be cautious when interpreting the findings. First, this study primarily relied on the qualitative analysis of interview data from seven teacher participants. The findings may not capture the entirety of teachers' instructional practices and might not be generalizable to a broader context. Second, the study's scope is limited by the observation of just four ESP classes and the analysis of instructional materials from only two teachers. This brief period of observation might overlook certain SRL-related practices that teachers could use but may not explicitly mention due to a potential lack of awareness of these practices' impact on SRL. Future research could benefit from incorporating multiple data sources to provide a more comprehensive view of teachers' self-regulated strategy instruction. While the study's emphasis on leading universities is deliberate, the pedagogical landscape in vocational colleges, especially the instructional methods of their educators, deserves further academic scrutiny. This is especially pertinent since the field of ESP teaching in vocational colleges is relatively uncharted. We suggest that future studies investigate how vocational college ESP teachers foster students' SRL and determine the kind of professional development required for this teacher cohort.

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