The effects of strategic instruction on self-regulated language learning

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Abstract
The paper discusses the effects of strategy instruction on language learners' self-regulation across its stages of planning, monitoring, control, and reflection. According to the results of the reported study, based on data from 61 students of applied linguistics majoring in English and German, strategic instruction contributed to significant improvements in self-regulation throughout all its stages. At the same time, no statistically significant differences in self-regulation levels were detected across groups of language learners varying in terms of attainment or learning experience, which supports the rationale for implementing strategy instruction at linguistic faculties.
Key words: foreign language learning (FLL), self-regulation (SR), self-regulated language learning (SRLL), language learning strategies (LLS), strategic intervention (SI)

Introduction

For several decades now, the learner-centred approach has been dominant in foreign language education (Howartt & Smith, 2014). According to its advocates, in order to be efficient as language learners, individuals need to take responsibility for the learning process and remain actively engaged in it, which involves making decisions about what they learn, and collaborating with language instructors in their attempts to accomplish their language and learning goals (Nunan, 2015). These assertions closely pertain to the concept of self-regulated learning (SRL), which can be simply explained as the process of systematically controlling and organising one's thoughts, feelings, and actions to attain learning goals (Usher & Schunk, 2017). Central to understanding the notion of self-regulated language learning (SRLL) is accepting the premise that "(a)ll language learners, no matter what their level, possess cognitive control over their learning efforts and can talk about their own mental processes" (McDonough, 2001: 324). On the other hand, the degree and efficiency of the control executed over the language learning process is subject to considerable individual variation, resulting from the interplay of multiple factors, such as age, gender, personality, as well as a number of affective variables (Rose, Briggs, Boggs, Sergio, Ivanova-Slavianskaia 2018). Researchers' motivation to investigate SRLL has been reinforced by findings of numerous studies confirming impact of SRLL on language learning attainment (Chamot, 2005; Griffiths, 2014; Seker, 2016). At the same time, their preoccupation with the topic largely mirrors the rationale for good language learner (GLL) studies, which principally consists in eliciting the language learning strategies (LLS) of successful learners in the hope of supporting those whose strategy repertoires are incomplete or inefficient (Griffiths, 2015). Importantly, evidence suggests that while LLS are *teachable* (Oxford, 2017), strategy training positively affects foreign language achievement and pedagogic intervention may, indeed, benefit language learners' self-regulation (Takeuchi, 2019). Basing on these premises, after briefly discussing self-regulated language learning and presenting key issues in LLS instruction, the present paper reports the results of a study investigating the effects of strategic instruction on self-regulated language learning in the context of tertiary language education.

Self-regulated Language Learning
According to a widely quoted definition by Zimmerman (2000: 15), self-regulation (SR) can be defined as "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals". While the construct is relevant to goals of any sort (Baumeister, Vohs, 2007), it has widely been adopted in accounting for the psychological aspects of learning (Boekaerts, Cascallar, 2006) and has a great potential to become more widely used in the realm of foreign language learning (FLL) (Teng, Zhang, 2022). Since the SRLL paradigm recognises the postulates of humanistic psychology (Bugental, 1964), the framework for SR investigations in FLL stretches far beyond the domain of cognition. Consequently, the proponents of SRLL frameworks commonly identify several dimensions of SR, including motivation to learn (*why?*), the subject matter (*what?*), learning strategies (*how?*), time (*when?*), learning environment (*where?*) and participants of the learning process (*who?*) (Andrade, Evans, 2015). Relevantly to the design of the study discussed in the present paper, SRLL can also be understood as a cyclical process allowing for feedback loops. Particularly appealing for its simple methodological design, Pintrich's (2004) framework for SR investigations assumes the co-existence of four subsequent stages of SRL:

(1) Planning and goal setting, activating perceptions and prior knowledge of the task and the self;
(2) Monitoring relying on metacognitive awareness of the task and the self;
(3) Attempts to exert control over various aspects of the task and the self;
(4) Reflection on the self and on the task and its context.

It is argued that for SRL to be effective, students need to be able to assess their performance on specific tasks and capitalise on their assessments in subsequent stages of the learning cycles (Kostons, Van Gog, Paas, 2012).

After a period of heated debate over the mutual correspondence of the constructs of LLS and SRLL (Tseng, Dörnyei, Schmitt, 2006; Rose, 2012), LLS researchers largely accepted Gao's (2007) stance according to which the LLS and SRLL paradigms investigate the same process from two different angles (Przybył, Urbańska, 2020). While the importance of studies pursuing the traditional LLS cannot be overemphasised, remaining open for multiple research paradigms, including the SR paradigm, is conducive to a deeper understanding of the processes involved in FLL (Pawlak, Oxford, 2018). This may be exemplified through referring to several important findings. As inferred by Sampson (2012), a self-centred approach to FLL may be enhanced by prompting the evolution of learners' L2-selves as well as through helping them focus on their learning outcomes. Considered to be one of the pillars of language learners' SR in the FLL process, motivation to learn FL may be positively affected by simple steps taken by language instructors, such as breaking learning goals into manageable tasks, indicating connections between the material learnt and the FL culture and everyday reality, reflecting on learners' progress, and assisting them in taking emotional control of the learning process (Rose, Harbon, 2013). Finally, as found by Teng and Zhang (2016), FL learners aware of the need to monitor their task goals are more likely to regulate their social behaviour and manage their intrinsic motivation to control their involvement in FL tasks.

Attempting to bridge the gap between the two research traditions, Oxford (2017) redeveloped her strategic self-regulation (S²R) model, and elaborated on the characteristics of self-regulated language learners, whom she described as actively participating in the language learning process, exerting control over different aspects of language learning, focused on goal achievement, seeking to regulate their cognitive and affective states as well as control their behaviour and learning conditions, reflecting on their language learning beliefs, aware of the links between declarative and procedural knowledge, and selecting appropriate LLS. Regarding language

learners' strategy selection skills, three dimensions of strategic self-regulatory competence can be distinguished according to Gu (2019). The declarative dimension pertains to knowledge about LLS available for the completion of a specific language task, e.g. ways of inferring the meaning of an unknown word in a reading passage. The procedural component consists in the learners' ability to execute a strategy in a specific context, e.g. making use of contextual lexical clues in order to decode the meaning of an unknown word. Finally, the conditional dimension refers to knowledge about optimal strategy usage and suitability as well as awareness of the advantages and disadvantages of particular LLS, and, at the same time, enables language learners to orchestrate strategy use overall. Importantly, developing each of the three aspects of strategic competence requires adequate types of strategic instruction (SI). While direct and explicit SI may be suitable for developing language learners' declarative knowledge, they may prove insufficient for developing their procedural knowledge, which requires considerably more practice, or conditional knowledge, whose expansion demands contextualisation and task adjustment. This notwithstanding, substantial empirical support for multiple types of interventions aimed to support SRLL comes from the field of educational psychology. Experiments conducted by Kostons, Van Gog and Paas (2012) in a group of secondary school students confirm that even through active observation of a human model engaging in self-assessment and task selection, students acquire self-assessment and task selection skills and improve their SR measured in cycles of task selection, actual performance, mental effort rating, and performance assessment.

SI and SRLL Interventions

It is sometimes suggested that SI may be introduced in two major ways, i.e. through uninformed SI, which involves the development of LLS through the use of specific materials without specifically referring to their purpose or value, or direct and integrated SI, which aims to develop, but also name and identify specific LLS (Chamot, 1995). Yet, an alternative approach, developed by Griffiths (2014), while based on a simple framework, centred around two basic questions, i.e. the 'how?' and 'what?' of SI, appears to be more thorough and, at the same, more practically applicable. The 'how' of SI involves selecting ways of raising language learners' awareness, rehearsal techniques, and choosing the balance between explicit and implicit instruction. The 'what' of SI, on the other hand, pertains to ensuring a good match of LLS so as to meet specific learners' needs, depending on a number of individual characteristics, among which the demands of specific language tasks and learners' level of attainment and seem to be of greatest importance. Concerning the latter, Griffiths (2013) and Oxford (2017) differentiate between *base strategies*, employed by lower-level learners and largely relying on mnemonics, *core strategies* or *metastrategies*, applied by students at any stage of proficiency, and involving efficient use of language learning resources and, more generally, SRL, and *plus strategies*, characteristic of relatively more advanced language learners, relating to multiple language skills and subsystems, and, at the same time, ambiguity tolerance, and emotion management.

Importantly, the rationale for SI and, indeed, any pedagogic intervention attempted to foster FL learners' SR rests not merely on empirical evidence linking strategy use and SR levels with the levels of attainment, but also on the results of studies measuring the efficiency of SI. As asserted by Chamot (2005), explicit SI [1] contributes to improvements in the use of vocabulary LLS among learners with no efficient vocabulary LLS repertoire prior to training, listening LLS employed in tasks of

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[1] Explicit SI is defined by Chamot as one that 'includes development of students' awareness of their strategies, teacher modelling of strategic thinking, identifying the strategies by name, providing opportunities for practice and self-evaluation' (2005: 123).

reasonable degree of difficulty and/or characterised by content familiarity, and speaking LLS used to increase comprehensibility and improve organisation of spoken utterances.

A number of valuable findings have been reported by applied linguists and language educators regarding SI with reference to specific language skills and subsystems. Due to limited space available, one skill-specific example is provided per macroskill. To start with, Ikeda and Takeuchi (2003) investigated the effects of explicit SI on the frequency of reading LLS use and the interface between language learners' level of attainment and the effectiveness of SI. The strategy training lasted for 8 weeks and involved familiarising the students with parsing sentences into phrasal groups, using contextual clues to guess unfamiliar words, identifying topic sentences in order to understand the gist of a passage, using key words in questions and paragraph titles to identify passage outlines, relying on visual aids, working with discourse markers, and summarising paragraph contents. Students' performance in reading tasks, measured before and after training, was assessed with respect to three different types of texts, including an expository text, a newspaper article, and an excerpt from a novel. According to the findings of the study, explicit SI contributed to a significant increase in the use of the investigated LLS, ranging from more than a third to slightly over a half. Moreover, the reported frequency of LLS use after SI was significantly higher than before SI.

Another study into the efficiency of SI for developing receptive skills in FL was conducted by Cross (2009), who examined the effects of listening SI on news videotext comprehension. Conducted in a group of 15 adult Japanese learners of English, the intervention involved providing the participants with 12-hour SI during 10-week Current Affairs English courses ran with the use of BBC news videotexts. The training programme included identifying and analysing factors affecting video comprehension, exposing the learners to appropriate materials and verifying what listening LLS they had used prior to training, selecting appropriate metacognitive, cognitive and social-affective LLS for the SI programme along with suitable teaching activities, preparation of pre-listening, while-listening and post-listening tasks, conducting integrated and informed SI, along with practising, feedback and round-up sessions, assessing and adjusting the SI, and constant self-evaluation of LLS use. The results of the experiment remain ambiguous since while a significant improvement was observed in the experimental group, it was also reported in the control group which had not received SI. At the same time, no statistically significant differences existed regarding the post-SI use of LLS by members of the control and experimental group. This could be attributed to a number of reasons, including a relatively low number of participants in the study overall, peer interaction between participants from the control and experimental group, through which strategy transfer might have occurred, and a limited duration of the training programme of merely 10 weeks.

In a study investigating the impact university EFL learners' self-assessment and self-feedback on their performance in speaking English as foreign language (EFL), Huang (2016) identified a number of benefits from prompting university EFL students' to use *metacognitive* LLS. 50 participants of the study took place in self-assessment and self-feedback tasks six times. Each time, their reflection was triggered by the use of recordings of their past oral exams in English. *Metacognitive* SI consisted of four major steps including selecting three one-minute answers to be reflected on, listening to the selected answers again and transcribing them again, analysing the content, organisation, pronunciation, intonation, fluency, word choice, sentence structure, and grammar of each of the selected utterances, discussing the strengths and areas for improvement with regard to each chosen recording, and designing steps to improve English oral proficiency in form of a personalised plan. The main advantages of employing the earlier-mentioned *metacognitive* LLS included identifying language

discrepancies, uptake of skills in clarifying learning goals, and learning to benefit from feedback.

Studies investigating writing LLS and SR in writing in a foreign language are particularly abundant, which comes as no surprise given the complexity of the process of writing in an FL (Ruan, 2014). Among them, the one conducted by Teng and Zhang (2020) in a group of 80 undergraduate university students appears particularly relevant since it investigated the effects of SI on participants' EFL writing proficiency and reported the use of SRL strategies and academic self-efficacy. The pedagogic intervention was based on a model comprising six consecutive stages of activating knowledge, teacher-led discussion, modeling, memorizing, supporting, and independent performance. Some of the activities implemented, as SI reported by Teng and Zhang (2020) included discussing the demands of specific writing tasks in small focus groups, using the POW (*Pick my idea; Organize my notes; Write and say more*) and TREE (*Topic sentence: the premise of the paper; Reasons: supporting details for the premise; Ending: wrapping it up right; Examining*) strategies and prompting participants' reflection through asking them critical questions, orchestrating writing LLS use, recording goals for self-monitoring and self-evaluation with the use of checklists. Importantly, the intensity of the support from the course instructors was gradually reduced so as to facilitate learners' autonomous selection and use of LLS. On the basis of participants' performance in pre-, post-, and delayed post-writing tests and evidence from self-report questionnaires administered before and after the intervention, it was found that the group of learners who took part in the SI improved significantly in the use of self-regulatory writing LLS.

Insights from meta-analyses prove particularly useful in gaining perspective on the most important findings and some potential research gaps in investigating SI and SRLL. Based on the findings of 61 studies, Plonsky's (2011) thorough meta-analysis sought to elaborate on the effects of SI on a number of outcome variables, including reading and writing skills, verbal communication, vocabulary development, as well as IDs such as learners' beliefs, attitudes or awareness, autonomy, LLS use frequency and variety, general proficiency, accuracy, and pronunciation. Attempts were made to establish the overall effectiveness of SI as well as the degree to which different learning contexts, treatments, choice of outcome variables, and research methods determine it. Overall, the effect size measured by calculating *Cohen's d*, amounted to .49, which could be interpreted as medium. Regarding the earlier-mentioned mediating variables, larger effects were observed in the second language than in foreign language settings and with younger than older learners. SI also turned out to be relatively more efficient for cognitive LLS than for metacognitive LLS. As far as the very output variables are concerned, the strongest effects were observed for SI intended to improve language learners' reading and speaking skills, vocabulary pronunciation development, and LLS use frequency, while moderate effects were identified for writing and attitudes toward language learning. At the same time, mostly minor effects were identified for SI dedicated to improving learners' listening skills, grammatical accuracy, and general language ability.

Consistently with Plonsky's (2011) call for models of language learning in instructional settings to account for an accelerated rate of acquisition when learners are taught to self-regulate using LLS, a comprehensive meta-analysis of the effectiveness and moderators of SI and their impact on second language and self-regulated learning outcomes was conducted by Ardasheva, Wang, Adesope and Valentine (2017). The investigation comprised 37 studies in the area of FLL and 16 conducted in the field of SRL. This distinction was consciously implemented with the purpose of estimating SI effects and their moderators for two separate domains, i.e., language and self-regulated learning. Specifically, the analysis aimed to estimate the overall effectiveness of SI in improving L2 outcomes, identify which outcome variables (such as specific FL skills or subsystems) are most likely to benefit from SI,

and explore the impact of contextual variables, various types of SI, the language learned, and research characteristics that can moderate SI effectiveness on L2 outcomes. Concomitantly, it also sought to account for the overall effectiveness of SI in improving self-regulated learning with reference to its impact on learner-specific variables, such as anxiety, self-efficacy, attitudes, LLS use, or strategy effectiveness. Principally, the results of the meta-analysis confirmed the effectiveness of SI in improving FLL skills, and fostering SR in FLL, with large overall effect sizes in both cases. The largest effects were identified for developing FL vocabulary and improving reading comprehension skills, followed by increasing general listening proficiency and verbal communication as well as overall LLS use. Slightly weaker effects were found for writing, attitudes to FLL, and learners' self-efficacy. Regarding the impact of the variables mediating SI effects, larger effects in the domain of FLL were found for shorter SI, and those attempting to use the awareness-raising approach. Importantly, one of the recommendations based on the outcomes of the study consisted in increasing the emphasis on self-regulated learning in SI interventions and research, which is primarily the aim of the present paper. The rationale behind the study discussed in the present paper also corresponds to Teng and Zhang's (2022) firm assertion that the SR research framework and practices have both solid grounds for enriching the scope of FLL research possibilities and their belief about its conduciveness to promoting active and productive FLL. More specifically, two research questions are addressed in the present paper:

1) To what extent does self-regulatory SI affect the level of language learners' SR across its stages of Planning, Monitoring, Control, and Reflection? and

2) To what extent do the effects of SI differ across levels of language attainment, specific FLs, and language learning experience?

Methodology
Participants
Participants of the study were Belorussian, Polish, and Ukrainian students of Applied Linguistics, native speakers of Polish or proficient Polish users majoring in English and German. They successfully accomplished an extra-curricular course intended to assist them in developing SRLL skills – a form of SR intervention designed as a part of a wider initiative on the part of university authorities aimed at providing future graduates with essential soft skills. Out of 71 students who voluntarily enrolled in the project, 61 successfully accomplished it and provided data for analysis. They were all young adults aged 18-24 ($M = 20.59$, $SD = 1.02$), mostly women (83.6%). In terms of the languages studied as majors, 34 of them (56%) studied English (L2) and German (L3), and 27 (44%) studied German (L2) and English (L3). According to the self-reported L2 CEFR levels, participants could be described as intermediate to proficient language users – their indicated levels of language attainment were B1 for 11.5% of the informants, B2 for 37.7%, C1 for 47.5%, and C2 for 3.3%. Participants reported GPAs ranged from 3.77 to 4.91 ($M = 4.43$; $SD = 0.3$). The students also varied in terms of their language learning experience – 57.4% were 2BA students, 34.4% - 3BA, 8.2% were 1MA students.

Intervention
Implemented as part of a series of actions taken by the university authorities to improve graduate students' competitiveness in the labor market, the intervention aimed to develop the practical and soft skills of foreign language majors through developing and strengthening their self-regulatory skills. The theoretical framework for the project was based on Andrade and Evans's (2015) scheme for the development of self-regulatory learning strategies operationalized for FLL and Clough and Strycharczyk's (2012) instruction on developing strategies to improve performance,

resilience, and well-being through fostering mental toughness. Consequently, the project sessions were dedicated to the dimensions of SR, i.e. motivation, LLS, time management, learning environment, social environment, and the skills and subsystems in FLL. The project was widely advertised on social media, but at the same time, participation in it was entirely voluntary. The learners who decided to enrol participated in an introductory meeting, two plenary lectures, a series of workshops, a case-study problem-solving session, and a round-up meeting – all of these across a 12-week time span.

Overall, the intervention could be described as resorting to both explicit and implicit self-regulatory SI techniques (Chamot, 2005), with a greater reliance on explicit SI overall and, particularly, in the initial stage of the project, which consisted of an introductory meeting and two plenary lectures. At the introductory meeting, participants reflected on the general and specific aims of the intervention and were encouraged to relate them to specific language and academic skills, including communicating efficiently in academic and working environments, analyzing and evaluating the applied LLS, organizing the learning process, e.g., through using pairwork and groupwork techniques, planning one's language development (Little, 2002), lifelong learning, and using multiple channels of communication. They also took the diagnostic, pre-intervention test (discussed in detail in the following section), familiarised themselves with the intervention schedule, and enrolled in a dedicated Moodle course. This was followed by two interactive lectures, the first one introducing participants to SR, and the other one delving into selected collaborative study techniques.

Stage two, being the core of the project, aimed to familiarise the participants of the project with the pillars of SRLL (Andrade, Evans, 2015; Clough, Strycharczyk, 2015) as well as prompt them to reflect on and, possibly, expand, their LLS repertoires. Motivational LLS were discussed so as to assist project participants in the accomplishment of their language learning goals, monitoring goal completion, handling critique and potential difficulties, looking for inspirations, and actively contributing to making language learning a pleasant experience. Two specific language tasks, writing an essay and delivering a presentation, were thoroughly discussed and practiced. Participants of the study identified four major causes of faltering motivation, including lack of guidance, boredom, inadequate level of tasks, and self-confidence crises. These were then addressed as challenges and strategies of coping with them were elicited through group work. Regarding time management strategies, participants were asked to review some common problems faced by contemporary language learners and, later on, juxtapose them with suitable solutions made available to them. As a round-up, they were also required to list down essential rules for time management. Attention was then dedicated to the learning environment, and major factors determining the conduciveness of the learning space were outlined. Participants were asked to reflect on potential distractors and think of ways of limiting their impact. This later resulted in a natural transition to discussing the other pillar of SRLL, that is, the interaction with other individuals involved in the FLL process. Some of the most crucial issues addressed here involved good practices in sharing knowledge and support groups, with particular emphasis on technology-enhanced solutions such as online study groups, forums, and other forms of collaboration, especially in preparing for tests or exams. Overall, participants displayed awareness of the social nature of FLL, and were keen to explore different forms of collaborative language learning, valued the variety of perspectives, and related all these to the desired skills on the part of university graduates.

Vital to the development of participants' SRLL skills was utilizing SI and referring to specific FL skills and subsystems as well as addressing them with appropriate LLS. Prior to that, however, participants were prompted to reflect on essential metacognitive LLS, such as designing action plans, running a learner journal,

prioritizing in learning, finding opportunities for collaborative learning, and making FLL enjoyable. Through those prisms, the use of subsystem- and skill-specific LLS was enhanced. Participants were introduced to grammar LLS, including sentence puzzles, various examples of categorization practice (e.g., parts of speech/sentence) and strategies enhancing the understanding of grammar rules through visualizations (e.g., paper harmonicas to illustrate word order or adjective order practice), which they were prompted to use. Similarly, vocabulary LLS, such as visualizing synonyms, using acronyms as associations, or creating stories from new words, were discussed and practiced. Finally, skill-specific strategies were attended to. Participants were encouraged to maximize their FL reading and listening experience by reflecting on how to create summaries, mind maps, spidergrams, creating question lists. They were also given opportunities to try out LLS for speaking and writing by imitating a lecture for a classmate, organizing mini-debates, and recording their outcomes.

The ultimate part of the project capitalized on its former stages. In a series of case studies, groups of participants were required to make use of their broadly understood strategic competence. They were expected to create safe learning environments and interact with others in problem-solving sessions. The latter also required them to reflect on the available LLS as well as ask for and provide feedback for peers. The final meeting was dedicated to reflecting on the degree to which the project was successfully accomplished through metareflection as well as the post-intervention measurement of SRLL. Overall, participants received 18 hours of instruction in total. Additionally, they were also required to take two diagnostic tests – at the beginning and at the end of the project, and they were provided with numerous learning aids on a separate Moodle course. Overall, each participant's involvement in the project amounted to approximately 30 hours.

Research Instrument and Analytical Procedures
The informants of the study completed the Polish adaptation of Gaumer Erickson and Noonan's (2018) *Self-regulation Formative Questionnaire* (*SRFQ*) online in the first week and in the final twelfth week of the project. Along with answers to items measuring SR in language learning, they also provided useful background information, including age, gender, place of residence, the languages chosen as a major, and self-assessed level of attainment in L2 operationalized as CEFR level. Measuring learners' perceived proficiency in SRL, the *SRFQ* (Gaumer Erickson, Noonan, 2018) contains four subscales: *Planning (P)*, *Monitoring (M)*, *Control (C)* and *Reflection (R)*. Sample items include: *If an important test is coming up, I create a study plan (P)*, *I know when I'm behind on a project. (M)*, *When I get behind on my work, I often give up (C; reversed scoring),* and *I think about how well I'm doing on my assignments (R)*. The instrument uses a 5-point Likert scale, ranging from 1 ('not very like me') to 5 ('very like me'). In view of the results of the validation of the *SRFQ* (Gaumer Erickson, Soukup, Noonan, Mc Gurn, 2018), the *Planning* subscale was supplemented with two extra questions: *P6 - When I plan to study, I try to do it with a positive attitude,* and *P7: When I plan to study, I consider different strategies and techniques of studying.* Cronbach's alpha (α) reliability coefficients for all subscales are presented in Table 1 for both pre-intervention and post-intervention measurements.

Table 1. Reliability Coefficients for the *P, M, C, R* Subscales, Pre- and Post-Intervention

Planning	Monitoring	Control	Reflection
$\alpha_{pre} = 0.67$	$\alpha_{pre} = 0.77$	$\alpha_{pre} = 0.77$	$\alpha_{pre} = 0.67$
$\alpha_{post} = 0.72$	$\alpha_{post} = 0.77$	$\alpha_{post} = 0.61$	$\alpha_{post} = 0.66$

The content validity of the instrument was confirmed by calculating correlations between item values and subscale totals, as well as checking the significance of the two-tailed test. The values of the correlations were confronted with critical values ($p < 0.05$; $df = 2$) – and it was found that each time, the critical values were exceeded by the values of the calculated correlations.

IBM SPSS ver. 27 was used to compute the data. According to Gaumer Erickson, Soukup, Noonan and Mc Gurn (2018), each score obtained in each subscale of the *SRFQ* may be interpreted correspondingly to the grading system. While they are based on the US grading system, the interval values may be assumed as reference for interpreting raw SR subscale values: over 90% - A, 'excellent'; 80-89% - B, 'good'; 70-79% - C, 'fair'; 60-69% - D, 'unsatisfactory', less than 60% - F, 'insufficient'. After recoding and calculating the sums for the P_{pre}, P_{post}, M_{pre}, M_{post}, C_{pre}, C_{post}, R_{pre}, and R_{post} subscales, the eight datasets were tested for normality. Since the distributions of P_{post}, M_{post}, R_{pre} and R_{post} differed significantly from a normal distribution (Shapiro-Wilk test, $p < 0.05$), the descriptive statistics calculated for all sets included extreme values, and medians. For the same reason, the Wilcoxon signed-rank test was run for pairwise comparisons of participants' self-regulated learning before and after the pedagogic intervention with respect to the four stages of *Planning, Monitoring, Control*, and *Reflection*. In order to answer RQ1, two hypotheses were investigated. H_0 was based on the assumption that the differences between the pairs of medians, P_{pre}, - P_{post}, M_{pre}, - M_{post}, C_{pre} - C_{post}, and R_{pre} - R_{post} amounted to 0 (no significant differences between pre- and post-intervention SR scales). H_1 was based on the assumption that the differences between the pairs of medians, P_{pre}, - P_{post}, M_{pre}, - M_{post}, C_{pre} - C_{post}, and R_{pre} - R_{post} were different from 0.

In order to answer RQ2, an additional variable, change in SRLL, was computed as the difference between participants' post- and pre-intervention SRLL levels. Since the distribution of the variable was significantly different from normal, as shown by the Shapiro-Wilk test results ($p < 0.05$), non-parametric tests were used in analyses. The Kruskal-Wallis test was run to investigate the differences in SRLL changes across groups of participants characterized by different levels of language attainment (B1-C2) as well as the possible impact of participants' language learning experience, while the Mann-Whitney test was applied to account for the differences in SRLL change between participants studying English as L2 and German as L3 and those studying German as L2 and English as L3.

Results

Descriptive statistics for the investigated SR subscales (P_{pre}, P_{post}, M_{pre}, M_{post}, C_{pre}, C_{post}, R_{pre}, and R_{post}) are presented in Table 2.

Table 2. Descriptive Statistics for SRLL Subscales

Scale	Minimum	Maximum	Median
P_{pre}	11	33	23
P_{post}	15	35	28
M_{pre}	10	30	23
M_{post}	9	30	25
C_{pre}	11	30	22
C_{post}	13	30	24
R_{pre}	9	25	19
R_{post}	14	25	22
Overall SR$_{pre}$	47	113	87
Overall SR$_{post}$	56	118	56

Participants' pre- and post-intervention SR levels, according to the interpretation by Gaumer Erickson, Soukup, Noonan and Mc Gurn (2018) are presented in Figure 1.
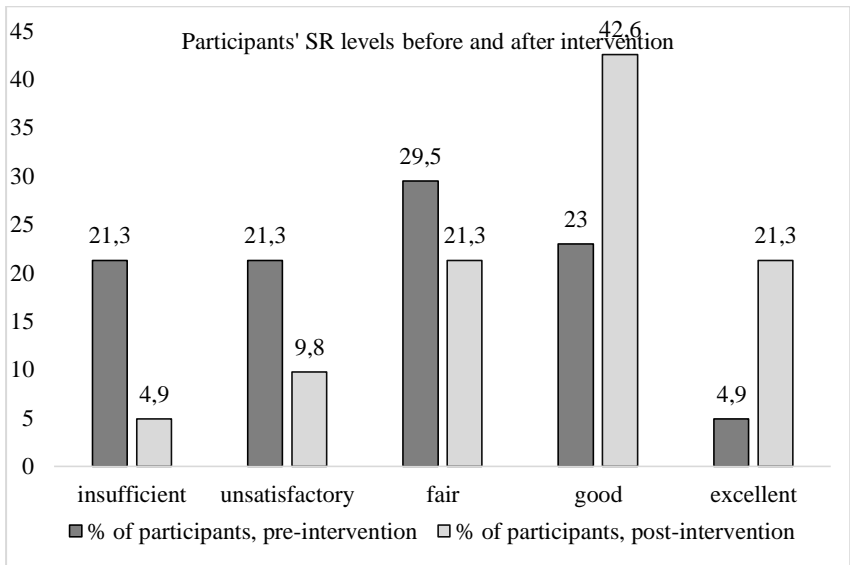

Figure 1: Participants' SR levels before and after the intervention

Regarding RQ1, as can be seen from the above figure, participants' overall SR levels after intervention considerably exceeded those reported initially. The percentage of participants whose overall SR levels could be labelled as 'insufficient' or 'unsatisfactory' declined remarkably while the percentage of participants characterized by good or excellent SR increased substantially. In order to provide robust, statistically significant results, related-samples Wilcoxon signed-rank test was conducted for pairwise comparisons between the investigated SR stages of Planning, Monitoring, Control, and Reflection. The results of the test indicated statistically significant differences between pre- and post-intervention SR levels consistently across all four stages, $T_P = 1216.5$, $z = 5.59$, p < 0.001; $T_M = 927.5$, $z = 3.68$, p < 0.001; $T_C = 919$, $z = 4.15$, p < 0.001; $T_C = 1132.5$, $z = 4.05$, p < 0.001. Effect sizes ranged between medium for the *Monitoring, Control*, and *Reflection* SR stages ($r_M = 0.33$; $r_C = 0.38$; $r_R = 0.37$) to large for the Planning stage ($r_P = 0.51$).

Regarding RQ2, no statistically significant differences were identified across groups of participants characterized by different levels of attainment (B1-C2), as indicated by the results of the Independent-Samples Kruskal-Wallis Test ($H = 1.09$; $p > 0.05$), as well as for participants with different language learning experience ($H = 5.06$; $p > 0.05$). Similarly, the Mann-Whitney test revealed no statistically significant differences in the change of overall SRLL levels between participants learning English as L2 and German as L3 and those learning German as L2 and English as L3.

Discussion
Overall, the results of the study build a strong rationale for SI intended to assist university students in developing their strategic competence and, ultimately, becoming self-regulated, strategic language learners. This pertains to modifying the acquisition, use, and control of LLS, especially feasible in the case of developmental, relatively long extra-curricular courses in which language learners are guided to

discover and utilize appropriate LLS (Weinstein, Husman, Dierking, 2000). Concerning RQ1, the reported, pronounced increase in participants' SRLL levels prior to and after the discussed SI follows the same consistent pattern, across all four investigated stages of *Planning, Monitoring, Control*, and *Reflection*. This remains consistent with the outcomes from Lam's (2009) study, according to which language learners' self-perceived strategy use may be considerably improved through metacognitive SI, particularly with respect to *asking for help* and *problem identification* strategies. While changes in learner's self-perception of LLS use or their levels of SR do not automatically translate into actual, more frequent and/or efficient LLS use on their part, learners' perceptions of their competence are known to amplify the positive effects of mastery goal on adaptive strategy use and, through that, also determine the level of academic achievement as such (Cho, Weinstein, Wicker, 2011).

The outcomes of the study may also be related to findings reported by Chan (2014), linking SI, largely explicit in nature, to the changes in language learners' use of specific LLS categories. While the quantitative analysis only confirmed statistically significant increases in learners' reported use of *compensation* and *affective* LLS, the qualitative investigation shed light on enhancements in some vital learning processes. It was found that SI served as a motivational incentive and resulted in increased involvement of participants in their regular classes. Much as Chan's (2014) intervention, the SI investigated in the present study was focused on supporting language learners in choosing the most appropriate LLS in accomplishing specific language tasks and, more broadly, their language goals. According to Ryan and Deci (2020), such initiatives can be seen as promoting autonomy and, once accompanied by sufficient structure, benefit learners' competence as well.

Regarding the answers to RQ2, it can be concluded that the discussed SI effects did not significantly differ across specific groups of language learners, and thus, it could be concluded that virtually any language learner may benefit from SI. This conclusion may seem over-optimistic, particularly if juxtaposed with the outcomes of the study conducted by Jurkovic (2010), where the lack of significant SI effects was largely attributed to the heterogeneity of language learning groups. One of the possible circumstances at stake here, though, could be the impact of participants' language awareness, which, not surprisingly, is usually greater among language than non-language majors (Koller, 2018). The immediate implication which follows is the need to tailor any SI to the needs of its potential beneficiaries, accounting for their relatedness in compliance with contemporary motivational frameworks (Niemiec, Ryan, 2009).

Conclusions, Limitations and Future Research Opportunities
The results of the study discussed in the present paper provide strong support for intervention aimed at fostering SRLL. At the same time, the paper also broadens the psychological perspective on the language learning process – a process which, in addition to favorably affecting the development of individuals (Długosz, 2022), also involves threats to language learners' ego and requires them to invest considerable resources, and exercise concentration, patience and active involvement (Piechurska-Kuciel, 2018). Employing the SR framework for FLL, especially if conceptualized within a simple yet reliable sociocognitive approach, allows for a greater understanding of both the person of the language learner and the process.

While based on empirical data and striving to meet the goodness criteria for psychometric investigations in FLL, the study discussed in the present paper is not free from limitations. The lack of inclusion of a control group could be seen as a potential drawback. This notwithstanding, repeated measurements based on introspection remain to be the base of numerous research findings in applied linguistics (Willems, 2012). Also, the outcomes of the study regarding RQ2 suggest

that no variable, such as participants' level of language attainment, language learning experience or the foreign language studied as major, constitutes a statistically significant discriminatory criterion for the impact of the intervention, and therefore, the reported change in SRLL levels are unlikely to result from non-intervention-related factors.

Several possible extensions to the study reported in the present paper can be considered. Apart from replicating the study in a larger group and supplementing it with a control group, future research could benefit from complementing insights from language learners' based on introspective techniques with data based on observations – thus, a triangulation of both the data and the method of the investigation (Wiśniewska, 2014). Finally, given the recent rapid developments in qualitative research in psychology (Braun, Clarke, 2021), great potential exists for narration-based investigations of SRLL.

Bibliographic references

Andrade, M. S., & Evans, N. W. (2015). Developing self-regulated learners: Helping students meet challenges. In ESL Readers and Writers in Higher Education: Understanding Challenges, Providing support, 127-143. New York: Routledge.

Ardasheva, Y., Wang, Z., Adesope, O. O., & Valentine, J. C. (2017). Exploring effectiveness and moderators of language learning strategy instruction on second language and self-regulated learning outcomes. Review of Educational Research, 87 (3), 544-582.

Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. Social and Personality Psychology Compass 1 (1), 115-128.

Boekaerts, M., & Cascallar, E. (2006). How far have we moved toward the integration of theory and practice in self-regulation? Educational Psychology Review 18 (3), 199-210.

Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? Qualitative Research in Psychology 18 (3), 328-352.

Bugental, J. F. (1964). The third force in psychology. Journal of Humanistic Psychology 4 (1), 19-26.

Chamot, A. U. (1995). Implementing the cognitive academic language learning approach: CALLA in Arlington, Virginia. Bilingual Research Journal 19 (3-4), 379-394.

Chamot, A. U. (2005). Language learning strategy instruction: Current issues and research. Annual Review of Applied Linguistics 25, 112-130.

Chan, M. L. (2014). Strategy instruction for Macao EFL students. American Journal of Educational Research 2 (11), 990-1004.

Cho, Y., Weinstein, C. E., & Wicker, F. (2011). Perceived competence and autonomy as moderators of the effects of achievement goal orientations. Educational Psychology 31 (4), 393-411.

Clough, P., & Strycharczyk, D. (2012). Developing mental toughness: Improving performance, wellbeing and positive behaviour in others. London: Kogan Page Publishers.

Cross, J. (2009). Effects of listening strategy instruction on news videotext comprehension. Language Teaching Research 13 (2), 151-176.

Długosz, K. (2022). Processing gender agreement in an additional language: The more languages the better? Second Language Research, https://doi.org/10.1177/02676583221113333.

Gao, X. (2007). Has language learning strategy research come to an end? A response to Tseng et al.(2006). Applied Linguistics 28 (4), 615-620.

Gaumer Erickson, A.S. & Noonan, P.M. (2018). Self-regulation formative questionnaire. The skills that matter: Teaching interpersonal and intrapersonal competencies in any classroom, 177-178. Thousand Oaks, CA: Corwin.

Gaumer Erickson, A. S., Soukup, J. H., Noonan, P. M. & Mc Gurn, L. (2018), Self-Regulation Formative Questionnaire technical report. http://www.researchcollaboration.org/uploads/Self-RegulationQuestionnaireInfo.pdf

Griffiths, C. (2003). Language learning strategy use and proficiency: The relationship between patterns of reported language learning strategy (LLS) use by speakers of other languages (SOL) and proficiency with implications for the teaching/learning situation. Auckland: The University of Auckland (New Zealand) Dissertations Publishing.

Griffiths, C. (2013). The strategy factor in successful language learning. Bristol: Multilingual Matters.

Griffiths, C. (2014). Language learning strategy instruction. Journal of Applied Linguistics 29, 36-49.

Griffiths, C. (2015). What have we learnt from 'good language learners'? ELT Journal 69 (4), 425-433.

Gu, P. Y. (2019). Approaches to learning strategy instruction. Learning Strategy Instruction in the Language Classroom: Issues and Implementation, 22–37. Bristol, UK: Multilingual Matters.

Howatt, A. P. R. & Smith, R. (2014). The history of teaching English as a foreign language, from a British and European perspective. Language & History 57(1), 75-95.

Huang, S. C. (2016). Understanding learners' self-assessment and self-feedback on their foreign language speaking performance. Assessment & Evaluation in Higher Education 41 (6), 803-820.

Ikeda, M., & Takeuchi, O. (2003). Can strategy instruction help EFL learners to improve their reading ability? An empirical study. JACET Bulletin 37 (4), 49-60.

Jurkovic, V. (2010). Effect of Explicit Language Learning Strategy Instruction on Language-Test and Self-Assessment Scores. English Language Teaching 3 (1), 16-27.

Koller, V. (2018). Language awareness and language workers. Language Awareness 27 (1-2), 4-20.

Kostons, D., Van Gog, T., & Paas, F. (2012). Training self-assessment and task-selection skills: A cognitive approach to improving self-regulated learning. Learning and Instruction 22(2), 121-132.

Lam, W. Y. (2009). Examining the effects of metacognitive strategy instruction on ESL group discussions: A synthesis of approaches. Language Teaching Research 13 (2), 129-150.

Little, D. (2002). The European Language Portfolio: structure, origins, implementation and challenges. Language Teaching 35 (3), 182-189.

McDonough, S. K. (2001). Promoting self-regulation in foreign language learners. The Clearing House 74 (6), 323-326.

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. Theory and research in Education 7 (2), 133-144.

Nunan, D. (2015). Teaching English to speakers of other languages: An introduction. New York: Routledge.

Oxford, R. L. (2017). Teaching and researching language learning strategies: Self-regulation in context (2nd ed). New York: Routledge.

Pawlak, M., & Oxford, R. L. (2018). Conclusion: The future of research into language learning strategies. Studies in Second Language Learning and Teaching 8 (2), 525-535.

Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. Educational Psychology Review 16 (4), 385-407.

Plonsky, L. (2011). The effectiveness of second language strategy instruction: A meta-analysis. Language Learning 61(4), 993-1038.

Przybył, J., & Urbańska, J. Language learning strategies and self-regulation: companions or competitors? Die Lernenden in der Forschung zum Lehren und Lernen fremder Sprachen, 117-136. Berlin: Peter Lang.

Rose, H. (2012). Reconceptualizing strategic learning in the face of self-regulation: Throwing language learning strategies out with the bathwater. Applied Linguistics 33 (1), 92-98.

Rose, H., Briggs, J. G., Boggs, J. A., Sergio, L., & Ivanova-Slavianskaia, N. (2018). A systematic review of language learner strategy research in the face of self-regulation. System 72, 151-163.

Rose, H., & Harbon, L. (2013). Self-regulation in second language learning: An investigation of the kanji – learning task. Foreign Language Annals 46 (1), 96-107.

Ruan, Z. (2014). Metacognitive awareness of EFL student writers in a Chinese ELT context. Language Awareness 23 (1-2), 76-91.

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. Contemporary Educational Psychology 61, 101860.

Sampson, R. (2012). The language-learning self, self-enhancement activities, and self-perceptual change. Language Teaching Research 16 (3), 317-335.

Seker, M. (2016). The use of self-regulation strategies by foreign language learners and its role in language achievement. Language Teaching Research 20 (5), 600-618.

Takeuchi, O. (2019). Language learning strategies: Insights from the past and directions for the future. Second Handbook of English Language Teaching, 683-702. Cham: Springer.

Teng, L. S., & Zhang, L. J. (2016). A questionnaire-based validation of multidimensional models of self - regulated learning strategies. The Modern Language Journal 100 (3), 674-701.

Teng, L. S., & Zhang, L. J. (2020). Empowering learners in the second/foreign language classroom: Can self-regulated learning strategies-based writing instruction make a difference? Journal of Second Language Writing 48, 100701.

Teng, L. S., & Zhang, L. J. (2022). Can self-regulation be transferred to second/foreign language learning and teaching? Current status, controversies, and future directions. Applied Linguistics 43 (3), 587-595.

Tseng, W. T., Dörnyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. Applied Linguistics 27 (1), 78-102.

Usher, E. L., & Schunk, D. H. (2017). Social cognitive theoretical perspective of self-regulation. In Handbook of Self-Regulation of Learning and Performance, 19-35. New York: Routledge.

Weinstein, C. E., Husman, J., & Dierking, D. R. (2000). Self-regulation interventions with a focus on learning strategies. Handbook of Self-Regulation, 727-747. Burlington: Academic Press.

Willems, K. (2012). Intuition, introspection and observation in linguistic inquiry. Language Sciences 34(6), 665-681.

Wisniewska, D. (2014). The why and how of using mixed methods in research on EFL teaching and learning. Classroom-oriented research, 275-288. Heidelberg: Springer.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. Handbook of Self-Regulation, 13-39. Burlington: Academic Press.

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