TEACHERS' BELIEFS AND PREFERRED APPROACHES TO ADDRESS SELF-REGULATED LEARNING DEVELOPMENT FOR THEIR STUDENTS

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ABSTRACT

The term "self-regulated learning" (SRL) has been introduced in the system of education in Latvia comparatively recently with the introduction of the new competency-based curriculum in 2016, therefore, the aim of the study is to explore teachers' understanding and beliefs of the concept of self-regulated learning. Consequently, three research questions were posed: how teachers evaluate their SRL skills, what teachers understand by "self-regulated learning" and what teachers' most commonly offered activities for developing students' self-regulated learning skills are. The study consisted of several successive stages where the initial stage was to identify teachers' understanding of SRL, surveyed at the introductory part of a year-long in-service teacher training course aimed at enhancing teachers' proficiency in developing self-regulated learning skills in their students. The answers of 119 in-service teachers of grades 7–12 from all over Latvia were analysed according to the key words used to explain the concept of SRL. The data were used for planning teacher training courses and offering the most appropriate activities for elaborating teachers' competence in developing students' SRL skills. This article summarises the first results of the study reflecting teachers' understanding of SRL. Further research results will be published in the following articles. The second part of the research analyses teachers' offered activities for developing SRL skills at the online teacher experience exchange event attended by 344 teachers and reflects the results of the survey on teachers' most commonly used activities for introducing self-regulated learning in the teaching process offered by 143 teacher professional development event attendees.

Keywords: self-regulated learning, professional development, in-service teacher training, experience exchange, teachers' beliefs, teachers' preferred approaches of SRL

INTRODUCTION

Self-regulated learning (SRL) is a broad umbrella term which includes a lot of variables that influence the learning process (Panadero, 2017) and plays an important role, as its acquisition significantly contributes to the

achievement of other goals in the learning process and further education. In Latvia the term "self-regulated learning" has been introduced in the system of education only with the introduction of the new competency-based curriculum in 2016 (Skola2030, 2019b).

Since then, SRL has been assigned a crucially important role as it is defined as one of the six transversal skills in the new curriculum (Skola2030, 2019a). Researchers have proved that SRL interventions promote students' academic achievement and learning skills (Dignath et al., 2008; Rosário et al., 2012) and students who can regulate their behaviour during the lessons are also higher achievers (Zimmerman & Cleary, 2009). All significant projects in the system of education should involve appropriate teacher training (Nikolov & Szabo, 2011) and scientists suggest that professional development opportunities for teachers on SRL would potentially benefit students, especially the ones academically at-risk (Cleary et al., 2022), therefore, a teacher professional development course was developed to raise teachers' awareness on SRL, how to implement it in their work, and how to develop those skills in their students.

As the term "self-regulated learning" has entered the system of education in Latvia relatively recently, it was important to research teachers' knowledge on SRL, thus three research questions were put forward; firstly, to determine how teachers evaluate their knowledge of SRL, secondly, to study teachers' understanding and beliefs on SRL, expressed by the teachers at the initial stage of the teacher professional development course and, finally, to analyse the main activities that teachers suggest for developing their students' SRL skills offered by the presenters and event attendees at the teacher experience exchange event. Taking into consideration these objectives, the study starts with overlooking the main theories, the information and methodological materials on SRL available to the teachers, particularly in the local contexts.

Literature Review

SRL has been broadly researched by numerous researchers around the world since the middle of the 20th century and initially was overlooked through the perspective of behaviour theory based on Skinner's (1953) theory of operant conditioning that was applied to reduce dysfunctional and teach adaptive behaviours as individuals can self-regulate their behaviour by arranging the environment that helps to produce reinforcing and punishing stimuli (Mace, Belfiore & Hutchinson, 2001). However, the behavioural methods were critiqued for the fact that self-regulation only focused on behaviour, while the motivational and metacognitive aspects were ignored, thus, the social cognitive theory developed taking into consideration the

latter two and Bandura's (1986) theory of triadic reciprocality, pointing out the interaction and reciprocal influence of personal, behavioural and social/environmental aspects, and Barry Zimmerman's organised symposium devoted to the SRL issues at the American Educational Research Association's annual meeting in 1986 generated vast interest in SRL researchers (Schunk, Usher, 2013).

The latest SRL researches emphasise the shift of attention from covert students' attitude, where students are mainly responding reactively to the results of the learning experience, to representing personal initiative in the acquisition of knowledge and skills by improving the methods used and creating appropriate environment for learning (Zimmerman, 2015). Previous research shows that the skills to create appropriate environment are particularly important in the remote learning process caused by Covid-19 pandemic, as students are used to the learning environment arranged by teachers during the traditional face-to-face learning, therefore, teachers are advised to support students and provide SRL support interventions to help students create appropriate learning environment during the online learning process (Sarva, Linde & Daniela, 2021).

Different aspects of SRL have been researched by countless research-ers, Zimmerman, Moylan, Winne, Hadwin, Boekaerts, Pintrich, Efklides, Schunk, Usher, Cleary, Panadero and many more. According to SRL theo-rists, students who have developed self-regulated learning skills are active participants and are able to self-regulate metacognitive, motivational and behavioural processes by applying them effectively in the learning process (Zimmerman, 1986; 1989; 2000; Zimmerman & Moylan, 2009). Although during the last few decades several SRL models by different authors have been worked out, the common features are that SRL is a cyclical multiphase process and it consists of several subprocesses (Panadero & Alonso-Tapia, 2014; Panadero, 2017).

Teachers in Latvia have been introduced with the term SRL by the project "School2030" giving the following definition of SRL "I set short-term and long-term goals for my growth, implement them and analyse the course of my thinking and actions, manage my emotions and behaviour, and learn from mistakes." (Skola2030, 2019a), therefore, pointing out cyclical phases of SRL, cognitive, metacognitive and behavioural processes, however, motivation is not directly included there. The national project "School2030" offers a methodological material in a form of a digital handbook worked out by the team of educational experts and provides information and guidelines on introducing SRL in Latvia to four target groups: a) 1st–4th graders, b) 5th–12th graders, c) parents and d) teachers on how to introduce and work with the three phases of SRL (Skola2030, 2020).

According to the above mentioned definitions, this study analyses teachers' understanding on SRL based on the following categories: a) phases of SRL, b) cognitive processes (including metacognition), c) social emotional and behavioural processes and d) motivational processes, however, it is difficult to strictly separate all categories as SRL is a complex process that consists of several components which are interrelated, as, for example, previous researches have revealed that emotional and motivational regulations in a lot of cases are closely related and similar interventions could be used to support both of them (Edisherashvili, Saks, Margus, & Leijen, 2022).

Methodology

The SRL course

As a part of a research on SRL, a year-long teacher professional development course for in-service teachers of grades 7–12 was worked out to help teachers' gain a more detailed understanding about self-regulated learning and how to develop these skills in their students. The course was advertised during the 29th Latvian Association of Teachers of English (LATE) conference in August 2021, a two-day online teacher professional development event, attended by 165 English as a Foreign language specialists from all over Latvia, and through several regional educational councils.

Initially six groups were formed, three of them based on the regional location, two of them based on the school applications and one through the LATE advertised application. Although there were more applications, 119 teachers started the course. Any subject teacher of grades 7–12 willing to participate in the course could apply by completing a short Google Form in which applicants had to provide reasons for their motivation in the participation and confirm that they had got acquainted with the course requirements, for example, attendance. Teachers were informed that they could withdraw from the course at any time, but in order to receive the teacher professional development course certificate, participants were supposed to attend all input sessions and group discussions. If teachers for any reason could not attend the input session or the discussions, they could contact the course provider and receive the Zoom link to join the other group.

The participants were from different types of schools, such as elementary and secondary schools, gymnasiums, state gymnasiums and vocational educational establishments, representing all regions of Latvia and their age varied from less than 25 to over 60 years old, thus having different professional backgrounds, and teaching all the school subjects from native language to foreign languages, science subjects, arts and physical education. Additionally to teaching school subjects, teachers also had other

responsibilities, such as being a class teacher mentioned by 13 respondents, methodological board leader by 8 respondents, vice principal by 7 respondents, principal by 1 respondent and project coordinator by 7 respondents.

The course was based on four modules and each module consisted of a 4-hour input session through the Zoom platform with an active teachers' participation, then 1.5–2 months time to implement the discussed methods and approaches in their classrooms followed by an hour-long discussion session on the Zoom platform. In the information about the course, teachers were informed that data would be collected during the course with the help of Google Forms and group discussions, which would be used only in an anonymised and summarised format for the research purposes, and teachers expressed their consent about it.

Applicants could participate in the course only on the voluntary principle, as the course also included practical work with students, implementation of the acquired knowledge in practice and a lot of self-evaluation of the teacher's own practice. At the initial stage of the first module all the teachers received a code that was used all along the course and consisted of a few letters referring to the group and the participant's individual number, providing the opportunity for data analysis. General Data Protection Regulation and ethical considerations were followed and all the data were analysed anonymously and in a summarised format.

Statistical, quantitative and qualitative data were collected by completing semi-structured questionnaires using Google Forms at several stages during the course, for example, the pre-course questionnaire at the initial stage of the course, as well as regular questionnaires during each module and at the end of them, asking teachers to self-reflect on their knowledge, skills and competences, express their opinion, and rate their applied pedagogical practice.

The questions were formulated based on the literature analysis and referred to the theoretical content discussed during each module. The link to the Google Forms was provided during each online session and the questionnaires were completed during the sessions.

This article analyses the questions that refer to teachers' knowledge and beliefs about the SRL, asked at the beginning of the first module and the other data will be analysed in the future articles. The acquired data were analysed using Excel mathematical calculations.

Experience exchange event

The second part of the data were collected from the teacher experience exchange event, organised by one of the state gymnasiums in Latvia, where participants could join the event by completing a publicly available digital application form that required them to share their email for further

communication, name, surname and education institution they represent, students' age group they work with and the school subject they teach. Applicants were also asked to provide their good practice examples on developing their students' SRL skills. They were informed that data gathered through application forms will be used in research in an anonymised and summarised format. The experience exchange event was 90 minutes long and was composed of 3 parts:

Introduction – where the information about participants and their needs was summarised and the participants were introduced with a short theoretical background of the topic and the format of the event.

Experience exchange – where 6 teachers shared examples of their practice in the classroom on developing students SRL skills during short 5–7 minutes presentations, as well as answered participants' questions.

Conclusion – where the shared practice examples of all participants were summarised and an opportunity to comment or ask additional questions was offered.

344 teachers teaching students of all age groups from primary to secondary level and various school subjects, including nature sciences, mathematics, technologies, languages, health, physical education, social sciences, culture and art, as well as, school management and support staff applied to participate in the event.

Participants mentioned two main reasons for attending the experience exchange event, firstly, gaining new ideas on how to implement self-regulated learning in their lessons and, secondly, finding suggestions on enhancing students' motivation. During the application process, 143 teachers provided the topics on which they could share their good practice examples with the colleagues on developing students' SRL skills. The data were collected using Google Forms, then anonymized and analysed by coding the keywords with numbers, depending on how many times each keyword was used, and grouped according to the phases and processes of SRL and the content provided in the previously mentioned course.

Results and discussion

Data acquired during the SRL course

At the beginning of the first module of the SRL course teachers were asked to self-evaluate and rate how good their knowledge of self-regulated learning was. Teachers ($n = 119$) rated their knowledge in a 10-point Likert scale as this is a system of evaluation well known for students and teachers in Latvia, where 1 means (very, very poor), 2 (very poor), 3 (poor), 4 (almost average), 5 (average), 6 (almost good), 7 (good), 8 (very good), 9 (excellent) and 10 (outstanding).

Fig. 1 shows that although teachers are supposed to develop students' SRL skills, their knowledge of SRL is not sufficient. Teachers self-evaluated their knowledge from 1–9 and there were no teachers who thought that their knowledge was outstanding. 12 respondents rated their knowledge from "very, very poor" to "poor", which is considered to be an unsatisfactory rating in Latvia. The greatest number of teachers or 40 respondents rated their knowledge of SRL as average, which might not be enough to use efficient methods and strategies to help students develop their SRL skills.
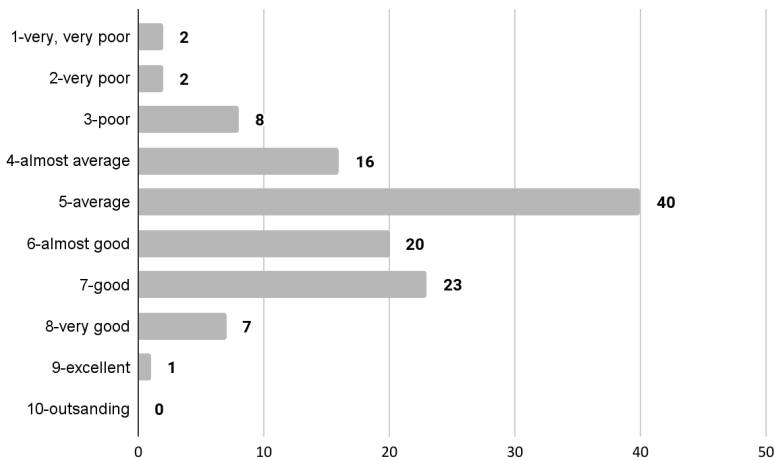

Figure 1. Teachers' self-evaluation of their knowledge of SRL

Proportionally it is depicted in Figure 2, which shows that 28% of teachers evaluate their knowledge of SRL from 1 (very, very poor) to 4 (almost average) which might be considered as insufficient in order to provide qualitative lessons and develop students' SRL skills.
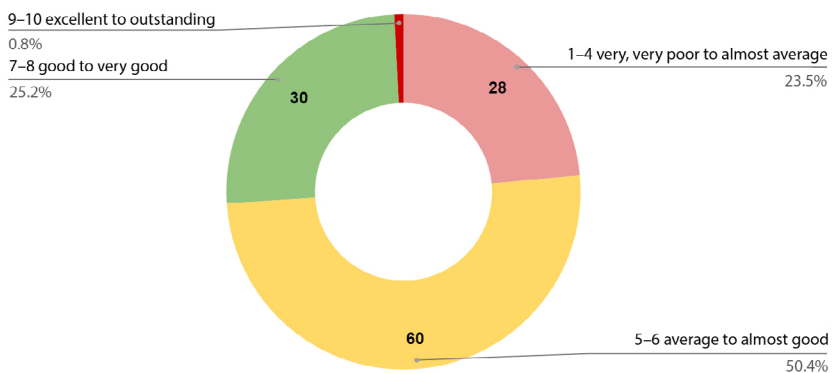

Figure 2. Teachers' self-evaluation of their knowledge of SRL (proportionally)

Half or 50% of the teachers, rate their knowledge of SRL as "average" or "almost good" which shows that those teachers have some background knowledge, however, they lack confidence about the introduction of SRL, only one fourth (25%) or 30 respondents are confident about their knowledge, but still would like to improve it, and only one teacher or 1% is sure about their knowledge.

In order to provide content analysis and identify teachers' beliefs and perceptions on SRL, an open ended question was asked to clarify what in respondents' opinion SRL was. The data were analysed by coding the keywords with numbers, counting how many times each keyword is used, grouping them according to the phases and processes of SRL (see Fig. 3) and the content provided in the course, and finally the data were visualised using Google Spreadsheets.
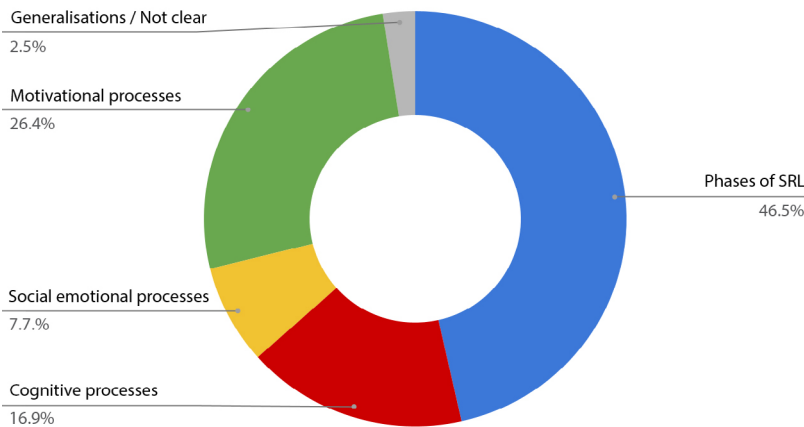

Figure 3. Keyword analysis on defining SRL according to phases and processes of SRL

Although according to the SRL theory cognitive, behavioural and motivational processes influence and intertwine with each other, the following grouping was accomplished also due to the course content of the 4 modules. Figure 3 shows that most often responses related to the phases of SRL (46,5%), followed by motivational processes (26,4%), cognitive processes (16,9%) and social emotional or behavioural processes (7,7%), but 2% of replies were very vague or teachers mentioned that they are not sure what SRL is.

Figure 4 depicts a more detailed analysis of the mentioned key words. Most often respondents mentioned subprocesses of the first two phases of SRL forethought and performance, where "monitoring and directing learning

in order to achieve a goal" was mentioned 64 times, which means by more than a half of the respondents, "goal setting and planning" – 52 times, while the subprocesses of self-reflection phase "self-evaluation and reflection" – were mentioned only 16 times. Thus, the data show that teachers' beliefs on what SRL is, are mainly associated with the subprocesses of phases of SRL and less importance is devoted to social emotional/behavioural and motivational processes.
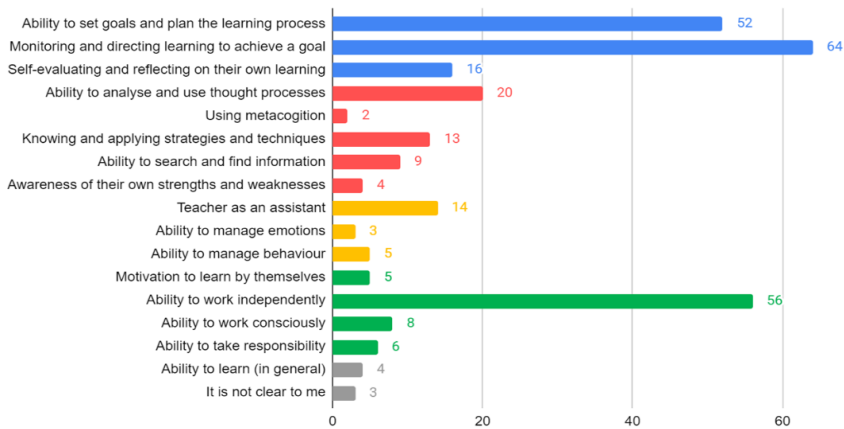
Note. Blue – phases/subprocesses of SRL, red – cognitive (metacognitive) processes, yellow – social emotional/behavioural processes, green – motivational processes, grey – generalisations/not clear.

Figure 4. Teachers' perception of SRL according to the keyword analysis

As another important indicator to define what SRL is, teachers mentioned students' "ability to work independently" which was mentioned 56 times. During the teacher professional development course the misconception was clarified that "working independently" is not synonymous to SRL and not always might mean that students possess highly developed SRL skills.

Data acquired from the teacher experience exchange event

The second part of the research analyses the data acquired from the online teacher professional experience exchange event, where six teachers from one of the gymnasiums in Latvia had prepared the 5–7 minutes long presentations on how they develop students' SRL skills (see Table 1). Five out of six presenters of the teacher experience exchange event had participated at the previously mentioned course on SRL and only the first presenter had not as she works at a primary level.

Table 1. Teachers' presentations at the teacher experience exchange event

| Presenters	School subject	Topic of the presentation	SRL aspects presented
Teacher 1	Primary School	Systems for developing SRL skills	• Phases of SRL • SEL using pictogrammes • Raising students independence and responsibility • Use of ICT in the remote learning process
Teacher 2	ICT	Adjusting task requirements for developing students' SRL skills	• Phases of SRL
Teacher 3	Latvian	Project work	• Phases of SRL
Teacher 4	Mathematics	Achievable outcomes guide	• Phases of SRL – goal setting to reach achievable outcomes
Teacher 5	Career Consultant	Career planning	• Phases of SRL – needs analysis and goal setting
Teacher 6	Vice principal	Individual conversations for students' personal growth	• Student-Teacher-Parent-School systematic cooperation for students' personal growth • SEL support system

Teacher 1 (see Table 1) shared her experience on several ways how teachers could help students develop their SRL skills at the primary school level, by implementing the appropriate use of the phases of SRL, social emotional learning (SEL) by using pictogrammes, the use of ICT in the form of short videos during the remote learning process, and enhancing students' independence and responsibility through providing autonomy which is one of the main components of the self-determination theory intertwining motivation and self-regulation (Ryan & Deci, 2002).

Although Teacher 2 and Teacher 3 (see Table 1) teach different subjects – ICT and Latvian, they both elaborated on adjusting regular task requirements in order to make the tasks more interesting, involving cooperation and providing more autonomy in order to develop students' self-regulation following the phases of SRL. Although initially interest and self-regulation were viewed by scientists as separate concepts in educational, developmental and social psychology, in the last few decades scientists have proved that interest and self-regulation are closely interrelated with self-efficacy and provide a positive impact on the learning process (Hidi & Ainley, 2008) and help to maintain students' learning motivation (Cleary, 2018).

Teacher 4 (see Table 1) presented the use of checklists for reaching achievable outcomes in mathematics and Teacher 5 showed how the phases of SRL could be used in school environment and in career planning,

by working on needs analysis, goal setting and reaching the desired result. The last presenter, the vice principal, showed how the gymnasium has developed a profound system to implement SRL not only at the lesson, but at the school level in the multi-step conversations using a well worked out system and SEL support that are immensely important for developing perseverance, persistence and growth mindset (Dweck, 2009; Hochanadel & Finamore 2015).

Figure 5 depicts the good practice activities provided by 143 out of 344 online teacher experience exchange applicants. It is difficult to draw conclusions why other applicants did not provide their good practice examples, whether this was due to the fact that they feel unsure how to implement SRL in their work, or if there were any other reasons, therefore, teachers' confidence in developing students' SRL should be further researched.
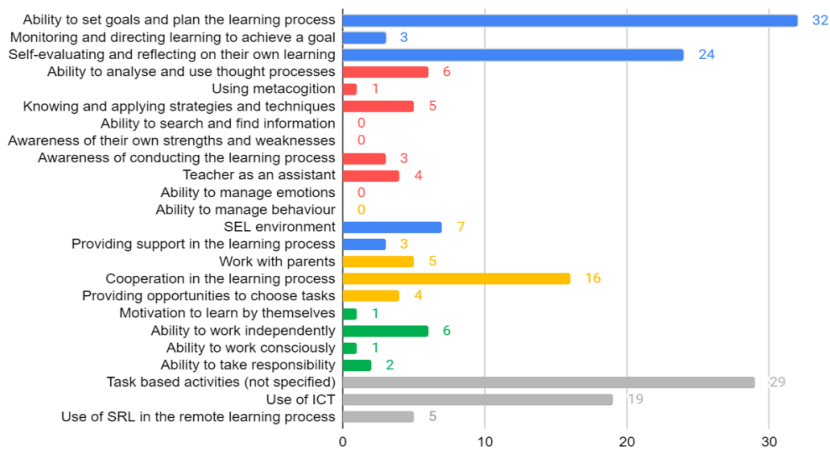
Blue – phases/subprocesses of SRL, red – cognitive processes, yellow – social emotional/behavioural processes, green – motivational processes, grey – the category not specified.

Figure 5. Educators' practice examples for implementing SRL

Figure 5 shows that most of the teachers' preferred and offered activities related to the subprocesses of the forethought phase of SRL, referring to "goal setting and planning" (32 responses), only 3 examples for the performance phase, and 24 responses on self-reflection phase. The results might suggest that although teachers understand the importance of students' SRL skills in the performance phase, as it was the highest result on teachers' perception on what SRL is (see Fig. 4), they cannot provide examples of good practice in fostering them. Next highest result or 29 responses

mentioned task based activities which were not specified, therefore, it is not possible to analyse it.

Similarly, teachers did not provide or provided to a small extent examples of good practice on such a) *cognitive processes* as "searching and finding information", "using metacognition" and "being aware of strengths and weaknesses", b) *social emotional/behavioural processes* as "ability to manage emotions" and "ability to manage behaviour", and c) *motivational processes,* such as "motivation to learn", "work consciously" and "work responsibly". These data might suggest some areas that should be further researched to gain elaborate understanding on teachers perceptions on working with cognitive, social emotional and motivational processes and ensure help to in-service teachers in Latvia by delivering professional development courses providing appropriate methodology.

Nevertheless, teachers' good practice examples show teachers' confidence in "developing students' cooperation skills" (16 responses) and providing students "opportunity to choose tasks" (4 responses), confirming that teachers are aware of how to introduce and develop students' cooperation and autonomy in the learning process. Besides that, 19 respondents mentioned that they could provide good practice examples on the "use of ICT" and 5 respondents on the "use of SRL in the remote learning process" and although ICT could be implemented in different SRL phases and processes, the data show the tendency that teaching and learning process had been influenced by the Covid-19 pandemic as the teachers are gaining confidence and offering examples of good practice on the use of ICT and SRL in the remote learning process.

Conclusions

SRL is a broad and multi-faceted term and its introduction is of great importance to any system of education in order to help students become confident and successful learners, therefore, teachers need to gain profound understanding about phases, subprocesses and processes of SRL, and probable interventions. The current research proves that not always understanding and beliefs of the concept mean that teachers have sufficient knowledge and skills in order to foster their students' SRL skills, as it was notified by educators' preferred activities. One of the reasons might be lack of sufficient in-depth methodological material on SRL and its implementation in the native language.

Since SRL, as a concept, has been introduced in the system of education in Latvia relatively recently, with the introduction of the new competency-based curriculum in 2016, educators' understanding of SRL, their beliefs and perceptions on its implementation should be further researched in order

to make scientifically based conclusions and suggestions on facilitating its successful introduction, so that teachers could professionally develop SRL skills in their students.

Therefore, several recommendations for the educational policy makers could be highlighted to provide pedagogical implications at pre-service and in-service stages. Firstly, the teacher professional development course should be provided to in-service teachers as they have not been introduced to this concept during their pre-service education. Additionally, pre-service teachers should gain a profound knowledge on SRL in order to be able to implement it in their future work. Another important point is that, teacher training should not only involve the in-depth theoretical course about SRL theory and its models, but also provide practical suggestions and implications on how teachers could perfect their students' SRL skills. Finally, further longitudinal studies should be implemented to provide research based data on the introduction of SRL in Latvia and the development of the students' SRL skills in the learning process.

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