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TEACHERS' AWARENESS AND PRACTICAL ACTIVITIES WHEN FACILITATING LEARNERS' LEARNING SKILLS

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Abstract

To become a successful life-long learner, one needs to have efficient learning skills. Very often teachers focus only on content knowledge and pay no attention to facilitating students' learning skills. This study aimed to find out the teachers' activities in the classroom when supporting students learning process, and their awareness, attitudes and perceptions of the importance of facilitating learners' learning skills. For the study two data collection methods were combined - class observation and interview. Observations (N=11) were conducted in five different school levels, from pre-school to gymnasium. All observations were followed by semi-structured interviews with teachers. The data were analysed deductively proceeding from the theoretical framework of Pintrich. Findings show that irrespective of school level, cognitive learning activities prevail. Teachers focus on facilitating learners' cognitive learning activities, metacognitive learning strategies are used and supported mostly in pre-school and gymnasium. The interviews revealed that even though teachers acknowledge the importance of learning skills, they do not develop them consciously. Teachers focus predominantly on teaching content knowledge and developing the learners' learning skills are often overlooked. The teachers admitted that the learning skills are important but in reality they do not teach them.

Keywords: Learning skills, cognitive skills, metacognitive skills.

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1. Introduction

Today's world and global labour market assume working-age people being able to continually update their professional knowledge and skills. The ability of life-long learning needs motivation but even more – efficient self-regulation (Saks & Leijen, 2014b) and learning skills. The value of education for students' lives comes from the thinking and learning skills acquired along with content knowledge at school (Chipman & Segal, 2014). The use of appropriate learning skills improves proficiency and achievement, and enables learners to take ownership of their own learning, enhances learner autonomy, independence and self-direction (Wong, 2011). The necessity of enhancing learners' learning skills has been formulated in the Estonian education strategy documents [e.g Estonian Lifelong Learning Strategy 2020 (2014)] and teachers Professional Standard (PS) (Leibur et al., 2019; Leibur et al., 2020; Pedaste et al., 2019). According to the PS, a teacher should be able to analyse the learner's individual learning needs, notice and evaluate the learning skills and support his development as an independent learner. They are also expected to diagnose learning difficulties and find solutions to them.

Even though the importance of learning skills is widely recognised, it has also been admitted that these are one of the most complicated skills to teach and learn (Corno & Randi, 1999) and therefore, frequently neglected by schools (Chipman & Segal, 2014). Developing and facilitating the learning habits is a slow process, and far too often the newly acquired skills do not evolve transferable. So far, the main research focus has been on learners' learning skills (Hattie et al., 1996; Saks & Leijen, 2014a; Saks & Leijen, 2014c) but somewhat less is known about teachers' activities while teaching and supporting learners' use of learning skills. However, teachers have the key role providing learners with necessary tools and enhancing their ability to efficiently apply the learning strategies. Therefore, this study aims to contribute to a deeper understanding of teachers' awareness and practical activities when facilitating learners' learning skills.

1.1. Learning skills and learning strategies

Learning skills and learning strategies are not always clearly distinguished. While learning skills refer to the learner's ability to apply different learning strategies to accomplish the task, the learning strategies denote the set of activities or procedures (i.e tactics) the learner applies in the learning process. Learning skills (or study skills) have been approached and defined differently. Chipman and Segal (2014:7) distinguish the general thinking and learning skills in three different areas: knowledge acquisition, problem solving, and basic cognitive skills. Kirby (2013:) defines learning skills as tools in the learner's cognitive „tool box", which can be employed intentionally (through conscious decision) or automatically (without conscious decision). According to the experiential view, learning can be improved if skills are used intentionally and less automatically (Schmeck, 2013). Another division of learning skills is cognitive, metacognitive and affective (Hattie et al., 1996) which goes in line with several typologies of learning strategies. Cohen (2014), focusing mainly on language studies defines learning strategies as specific actions or techniques and divides them into cognitive, metacognitive, affective and social. Similar division is prevailing in several language studies (O'Malley & Chamot, 1990; Oxford, 1990) which tend to classify cognitive strategies even in a bigger detail, e.g active learning strategies, compensation strategies, connecting strategies etc (Saks et al., 2015; Saks & Leijen, 2015; Saks et al., 2015, 2016).

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A slightly different approach to the taxonomy of learning strategies has been used by Pintrich et al. (1991) who distinguishes motivation scale and strategy scale in his self-regulation framework. The strategy scale, in turn, is made of cognitive-metacognitive strategies, and resource management strategies. The current study proceeds from the theoretical framework of Pintrich and focuses on cognitive, metacognitive, and resource management strategies (Pintrich et al., 1991) throughout the four phases: forethought, monitoring, control, and reaction and reflection (Pintrich, 2000).

According to the Pintrich's framework, the group of cognitive strategies is made of rehearsal, elaboration, organization and critical thinking strategies. **Rehearsal strategies** involve reciting and repeating items to be learned. While rehearsal strategies are used for simple tasks and activation of information in working memory, **elaboration strategies** (e.g paraphrasing, summarising, creating analogies) are used for information storage in the long-term memory by building internal connections between the items to be learned. The use of these strategies enables the integration and the connection of new information with prior knowledge. **Organization strategies** (e.g clustering, outlining) help the learner for appropriate information selection and construction of connections among the information. Using these as active and effortful strategies results in bigger involvement in the task and better performance. **Critical thinking** strategies describe how learners apply their previous knowledge to new situations while making decisions or critical evaluations and solving problems. The **metacognitive strategies** refer to the control and self-regulation aspects of self-monitoring, metacognition covering planning and regulating processes. The strategies of **time and study management** involve scheduling, planning and time management in the settings of class work. **Effort regulation** refers to self-management and commitment to completing study goals despite difficulties or distractions. Effort regulation is considered significant to academic success as it signifies goal commitment as well as regulates the strategy use. **Collaborative learning with peers** positively affects the learning outcomes and helps to reach new and deeper insights. **Help seeking** strategies refer to the use of support from peers and instructors. Earlier research has revealed that peer tutoring, peer help and individual teacher assistance facilitate achievement (Pintrich et al., 1991).

The use of the above-described strategies are the bases of the self-report measurement MSLQ (Pintrich et al, 1991). In the current study, we explore the learners' use of learning strategies as an event (not an aptitude) (Winne, 1997), and therefore the online measurement method, observation was preferred over the offline self-report questionnaire. However, the theoretical framework by Pintrich et al. (1991) makes a solid ground for analysing the use of learning strategies. The scope of this study is teachers' practical activities while enhancing learners' use of the learning strategies.

1.2. Teachers' role when teaching learning skills

Teachers hold the key to the students efficient learning skills. However, very often teachers focus mainly on teaching content knowledge and learning skills may stay neglected. Therefore, learners may not become aware of themselves as learners, their strengths and weaknesses or their most efficient learning strategies. Hattie et al. (1996) conducted a meta-analysis where they classified the interventions that teachers used to enhance their learners study skills. The analysis, based on SOLO taxonomy (Biggs & Collins, 1982), compared the teacher support interventions on four different levels: unistructural, multi-structural, relational and extended abstract, with near and far transfers. Unistructural intervention focuses on a single feature or dimension and enhances, for example, learners use of a memory strategy,

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summarising, or scheduling. Multi-structural intervention involves a range of independent strategies with no integration (Hattie et al, 1996). This is characteristic to study skills courses where different topics, e. g time planning, analysing, writing summaries etc are handled separately one after the other. The third, relational intervention supports the improvement of a set of strategies which are integrated, related to each other and task- or context-based. A good example of a relational intervention is enhancing learners' metacognitive skills through planning, self-monitoring, self-assessment and reflection. The fourth level – extended abstract, depicts the expansion of the relational intervention where the strategies acquired in integration are generalised and the meaning is given to one's learning in a broader sense, cognitively, metacognitively as well as motivationally (Ibid). Acting on this level supports the learner's general skills, and leads him to self-regulated, autonomous learning where the study skills are transferable. Considering transferability, unistructural interventions are predominantly near transferable, multi-structural and related interventions may both achieve near as well as far transfers and extended abstract – far transfer. Another important conclusion that Hattie et al. (1996) made based on their 51-study analysis said that study skills training gives better results with younger students and becomes gradually less effective with older ones. This adds further support to the point that students' study behaviours are mainly developed and maintained to cope with a little-changing teaching context.

However, an important aspect of teaching learning skills was left unattended in the above-described meta-analysis – teaching learning skills distinct from teaching content or combining the two. Drawn on studies attempting to support the development of learners' learning skills, Bannert and Reimann (2012) identified three principles for effective intervention. First, instruction on the learning skills must be integrated with the domain-specific instruction; second, the application conditions and the usefulness of acquiring effective learning strategies must be explained to students. Otherwise, students may feel disturbed and interrupted, and will not use them. In order to prevent this, it is recommended to model and explain how these conditions support their learning. And third, it is important that sufficient training time is provided in order to internalize and automatize the learning strategies. Hannafin et al. (1999) suggested four types of scaffolding – conceptual, procedural, strategic and metacognitive. In the light of this research, the most relevant types are strategic scaffolding – alternative approaches to learning activity supporting analysing, planning, strategy and tactical decisions, and metacognitive scaffolding – underlying processes associated with individual learning management, guiding learner's way of thinking and reflection on the task. In this research we proceed from the theory of self-regulated learning by Pintrich (2000) and explore what kind of learning strategies the students are encouraged to use in the learning process.

2. Problem Statement

Teachers predominantly focus on teaching content knowledge, however, the learner development (Saks, 2016; Saks & Leijen, 2020) and supporting their use of learning strategies has become secondary. This may lead to insufficient learning skills and lower learning outcomes.

3. Research Questions

The research questions we are seeking answers to are as follows:

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1. Whether and how do teachers' practical activities support learners' use of learning strategies?
2. Which is teachers' awareness of the importance of facilitating learners' learning skills?

4. Purpose of the Study

The current research aims to investigate teachers' awareness and their practical activities when facilitating learners' learning skills.

5. Research Methods

The study was designed to answer the research questions targeted to explain which is teachers' awareness of the importance of facilitating learners' learning skills and whether and how their practical activities support developing learners' learning skills.

For the study two data collection methods were combined – class observation and interview. The conceptions are mainly based on the theory of Pintrich (2004). Observations (N=11) were conducted in five different school levels, from pre-school to gymnasium. All observations were followed by semi-structured individual interviews with the teachers whose classes had been observed. The aim of the interviews was to find out the teachers' awareness of the importance of the students' learning skills, how these have been developed and supported so far and what the main difficulties are.

The interviews were scheduled based on the following questions:

1. How do you understand the concept of learning skills?
2. Can/should learning skills be developed? If yes, why?
3. How do you assess your ability to develop students' learning skills? What are your strengths and weaknesses as a teacher when developing students' learning skills?
4. What do you do to develop your students' learning skills?
5. Is it difficult to develop learning skills? If so, where can you get support? Have you ever asked for help?
6. Do you think students have problems with learning skills? What kind of? How could this be solved?
7. Is it different to teach learning skills at different school levels (e.g pre-school vs gymnasium)?

The duration of interviews was 20-25 minutes on average. The interviews were audio recorded and transcribed. The transcripts were processed by the researchers several times and the focus of the study was established.

The sample consisted of eleven teachers from all five school levels (from pre-school to gymnasium) with different working experience (2-34 years) and the subjects taught (pre-school, Estonian, mathematics, computer studies, basics of research, media studies etc).

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6. Findings

The results of the study are presented following the research questions.

6.1. Whether and how do teachers' practical activities support learners' use of learning strategies?

In order to answer the first research question, class observations were conducted (N=11). During the observations, the researchers recorded teachers' activities while supporting their learners' use of learning skills in their daily environment. The presence of the researcher was unnoticed by the students and an attempt was made to maintain as regular teaching practice as possible. The data were analysed based on the theory of Pintrich (2000) where the learning activities are divided into cognitive strategies, metacognitive strategies and resource management strategies (Table 1).

The findings revealed that the use of rehearsal strategies was extensively supported in gymnasium classes. However, repeating which is a strategy in the rehearsal strategy group, seemed to be used in the classes of all school levels. Rehearsal, and especially repeating, belong to the arsenal of teachers who predominantly apply behaviouristic approach in their teaching practice. In the current context, this approach may be mostly attributed to the teachers of the older generation. Organisation strategies that refer to the learners' ability to connect previous knowledge with new information were purposefully encouraged only in the pre-school classes. Critical thinking skills seem to be emphasized in almost all school levels, however, their use was enhanced only partly as a support measure (in the first three school levels). As the earlier studies have demonstrated the lowest scores of students' critical thinking skills throughout their secondary education years (Saks & Leijen, 2020), a lot more attention should be paid to it, and conscious and purposeful measures should be taken to develop these skills. Another group of strategies, using alternatives, being closely connected with critical thinking skills and partly with creative thinking skills, was detected only in the pre-school classes. Using discussions, debates and arguments has become a widely applied method, especially at the highest level (aged 16-19). These are also used at the pre-school and elementary school (aged 7-10) levels but not so much at levels 2 or 3 (aged 10-16). Discussions and debates are valuable activities when developing several soft skills (critical thinking, social skills, active listening, compromising etc), however, they may not be the easiest activities to carry out with restless teenagers. The observations still revealed that when discussions were started, students were engaged and interested.

Table 01. Supporting the use of learning skills according to school levels based on observations

	Learning strategies	**Pre-school (aged 5-7)**	**Level 1 (aged 7-10)**	**Level 2 (aged 10-13)**	**Level 3 (aged 13-16)**	**Level 4 or Gymnasium (aged 16-19)**
Cognitive strategies	Rehearsal	X	X	Partly	X	Good
	Repeating	Good	Good	Good	Good	Good
	Organization	Good	X	X	X	X
	Critical thinking	Good	Partly	Partly	X	Good
	Discussion	Good	Good	X	X	Good
	Looking for alternatives	Good	X	X	X	X

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Metacognitive strategies	Goal setting	Partly	Partly	X	X	Partly
	Planning	Partly	X	X	X	Good
	Activating previous knowledge or learning experience	Good	X	Good	Good	Good
	Monitoring	Good	X	Partly	X	Good
	Evaluation	Good	X	Partly	X	Partly
	Summarizing / reflection	Partly	X	X	X	Partly
Resource manageme	Time management	X	X	Good	X	Good
	Cooperation	Good	X	X	X	Good
	Asking for help	X	X	X	Good	X

Note: x - did not reveal in observation

While cognitive strategies are relatively easy to teach and notice in the observed classes, metacognitive strategies are much more difficult to detect. In the teaching-learning situations which have been "teacher-regulated" for decades and the learners have no experience with self-regulated or autonomous learning, metacognitive learning strategies may not be considered important or purposefully used. This may also be the reason why little attention is paid to the use of or teaching metacognitive learning strategies. Considering the first phase of the self-regulation framework of Pintrich (2004), the forethought of a learning task (or a class) should start with goal setting and planning. However, goal setting seemed to be one of the least supported activities by the teachers. It does not mean that the teachers had not set the goal for the class, they probably had, but this is not enough for teaching students to set their goals for a specific class or learning assignment. Even more, if they do not introduce the goal to the students, this does not help students understand the importance of setting goals and planning their work based on goals. It was also noticed in the observations that planning was mostly made by the teacher which again refers to the teacher-regulated learning process. Only in the gymnasium some student-initiated planning was detected. The use of monitoring as an important learning skill and a part of self-regulation was visibly supported only in the pre-school and gymnasium. The same was signalized about evaluation and reflection.

Considering the resource management strategies, time management got some attention in the middle school (level 2, aged 10-13) and gymnasium. As time management becomes vital in the case of independent tasks and group works, it also appeared that in most cases the frontal work coordinated by the teacher was practised.

In conclusion, it appeared that students' learning skills seemed to be facilitated most in the pre-school and gymnasium level. In the first three school levels (aged 7-16) the focus seems to be more on teaching content knowledge.

6.2. Which is teachers' awareness of the importance of facilitating learners' learning skills?

In order to better understand the teachers' activities in the classroom, interviews were conducted with them and their awareness, attitudes and perceptions of the importance of facilitating learners' learning skills were explored. The current research showed that teachers understand learning skills differently. Teachers are constantly using methods to develop students learning skills but they do not do it consciously or they have not given meaning to it. The respondents seemed to believe that the ability to learn means that

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the student has the goal for learning, he should have reading and listening skills, the ability to concentrate and ask questions. Teachers consider it necessary for learners to be able to read, take notes, and find information independently. Having learning skills means that the student does not have to know all answers but he should be able to know where to find the answer. The following is an excerpt from an interview:

„Learning skill is the ability to direct oneself to purposeful activities." (teacher, 5-year experience)

All the teachers participating in the interviews were convinced that learning skills can and should be developed:

> *„In fact, it must be developed, especially when thinking of the younger classes. There is no way young students can motivate themselves. In the basic school, hard work is already being done. And it already stands out quite well in the gymnasium who can study and who can't." (18y experience)*

Respondents had to assess how good or bad their ability to develop students' learning skills is and what their strengths and weaknesses as a teacher are when developing students' learning skills. In most cases, teachers are not very confident that they are able to develop students' learning skills and rate their ability "average" or "normal". But most of them consider the learning skills important and they are sure that they develop their students' learning competence in their classes somehow:

> *"I can't say they're great. I still often find myself in a situation where I think that I could or should do better. I have still been looking for the opportunities to develop my skills here." (5y experience)*

Teachers had to explain what they were doing to develop their students' learning skills. It appeared that a lot of teachers feel they need to pay more attention to how the student can help himself in his learning process, so that he could find the best method based on his own previous learning experience. It was also admitted that reflection is very important through which the student understands how a method works for him. This should be done systematically:

> *"I want them to think out of the box, not to just do the tasks… We also analyse creative assignments to see what they could have done differently to make things work even better. Through that kind of tasks, they definitely develop their planning skills." (4y experience)*

The research showed that most teachers find it difficult to develop students' learning skills. If teaching is face to face with one student, then the teacher knows what he is missing and how to approach him. But the problem arises when the teacher has twenty or forty students at the same time. It is well known that one method does not work for everyone and not everyone will like it or learn from it:

> *"I'm such a new teacher myself, I haven't dealt with it at all. I have heard the word learning skills but I have not had to think about its meaning. I have never thought about my role in improving the students' learning skills. I guess I teach them these skills through teaching the content." (4y experience)*

All teachers in this research agreed that it would be necessary to teach the students to learn, otherwise, they may develop wrong or inefficient learning skills. Younger students get distracted very

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easily, they are unable to concentrate long. This gives the teacher extra work. Learning tasks must be very specific. Young learners must have a chance to move, they must have space:

> *"The ability to focus is poor. By class, it can be seen that the results are better when the students have got good basics from primary classes. The primary school teacher does a great job. If the teacher has been weak, it can be seen. Students then do not understand what and why they are learning. The solution is cooperation between teachers. One should teach more lessons impacting learner development, such as outdoor lessons. Maybe even the current curriculum is too framed." (2y experience)*

The respondents were convinced that there is a difference when teaching students of different ages. The biggest difference is that teaching in the pre-school (aged to 7) and the first grades (aged 7-10) is and should be playful. Young students are curious and open, they want to know everything, and they want to be good. They shine and are not tired yet. In the third school level (aged 13-16), motivation may decrease, the students, especially boys may lose interest and become lazy (Saks & Leijen, 2020). In the gymnasium they usually find their motivation again, they already know what they need to learn and why:

> *"The difference is inside. Younger students are more thirsty for knowledge, they contribute better. Older ones have serious problems with motivation. You actually need to motivate them strongly in learning all the subjects. I think that social relationships are so much more important for older students, and if they don't consider that success in school is important, they may lose track." (3y experience)*

In conclusion, teachers are aware of the importance of developing learning skills, however, they do not always pay attention to that or lack knowledge and experience how to do that successfully.

7. Conclusion

In conclusion, it may be said that irrespective of the school level, supporting learners' cognitive learning skills prevail in the teachers' everyday teaching practices. Considering the SOLO taxonomy by Biggs and Collins (1982), only near-transferable unistructural intervention cases were detected. Teachers focus on facilitating learners' cognitive learning strategies, metacognitive learning strategies are used and supported mostly in pre-school and gymnasium. While learning skills are most efficiently taught at the younger age (Hattie et al., 1996), it may not be resultant enough in the gymnasium any more if the interim time at the school levels one to three was wasted. The interviews revealed that even though teachers acknowledge the importance of learning skills, they do not develop them consciously. Teachers focus predominantly on teaching content knowledge and developing the learners' learning skills are often overlooked. The teachers admitted that the learning skills are important but in reality they do not teach them.

The study had a couple of limitations that are necessary to bring out. First, the size of the sample could have been bigger in order to make conclusions on different school levels. Right now, there were eleven class observations and eleven interviews per five school levels which is not sufficient to get the data

saturated. Another limitation is also connected with the small sample size, more specifically – a narrow variety of different subjects. As self-regulation is domain-specific (Winne & Perry, 2000) and the learners' use of learning skills may depend on the subject (e.g math vs music or sport), the limited choice of subjects observed could have given an inclined understanding of the results. Nevertheless, the current study gave an insight to the teachers' role and perceptions of developing learners' learning skills, and a bases for creating interventions to enhance them in the future more efficiently.

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