Chapter 8

A Strategic and Goal-Directed Student: Expectations vs. Reality

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Abstract The characteristic of an expert learner has recently been widely discussed in the research literature. The expert learner is a learner who is self-directed, self-governed, motivated, resourceful, knowledgeable, able to learn effectively and efficiently, approaches academic tasks with diligence and confidence and employs appropriate strategies to reach the desired academic goals. The act of goal setting is often associated with students' learning-to-learn skills and deeper engagement in their learning process, whereas the choice of appropriate learning strategies increases their capacity to manage their learning. In this respect, the latter aspect – strategic and goal-directed learning of an expert learner – necessitates deeper investigation and analysis. Hence, this chapter presents how we can guide students to become strategic and goal-directed in their learning while striving for the attainment of knowledge and skills, as well as incorporating and applying a variety of learning strategies to optimise their academic performance.

Keywords Expert learner · Universal Design for Learning · Strategic network · Goal-directed student

8.1 Introduction

In today's globalised world, the profile of students and their competencies has changed radically. Moreover, rapid technological development requires a completely different set of skills and abilities than before. That is why, nowadays, student education is more complex than ever before. For modern-day students, it is important to have skills such as critical thinking, the ability to learn, setting and pursuing personal goals and reflecting, etc. Thus, there are different conceptions of students' academic and personal development, for example, self-regulated

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(Zimmerman, 2002), self-directed (Brookfield, 1985; Van der Walt, 2019), self-governed (Niemi & Jahnukainen, 2020) and other notions of self-learning. Whichever conception we follow, they are all connected with the characteristics of an expert learner. In its broadest sense, an expert learner is one who can learn effectively during the learning process. As Novak (2019) states, an expert learner does not mean the best student; yet, she/he demonstrates interest, motivation and the willingness to assume responsibility for his/her own choices, as well as keeps on trying new strategies until goals are achieved. In other words, regardless of the differences in students' learning, needs and capabilities, the goal is that *all* students should become expert learners.

Currently, Lithuania emphasises the importance of student-centred education at the national level (The National Education Strategy for 2013–2022, 2013). Responding to the learning needs of *ALL* students, not just those who have special educational needs (SEN), becomes one indicator of quality education (The 'Good School' Concept, 2015). It is believed that 'attending to individual student needs is fundamental to improving the effectiveness of curricula' (Rose & Strangman, 2007, p. 388). Besides, the relevance of inclusive education is shown by the proportion of students with SEN in Lithuania's mainstream schools. In 2018, in general education schools, students with special needs accounted for 12.5% (Review on the State of Education in Lithuania, 2019). According to survey data provided in the Review of the State of Education in Lithuania (2019), the number of SEN children in general education, including those of preschool education institutions, is constantly increasing. Therefore, the aim is to create educational conditions for students with SEN in general education schools. Although Lithuania seeks an inclusive education system for *all* students at the national level, the existing practice does not ensure a response to each student's learning needs, interests and opportunities. For instance, the Programme for International Student Assessment's (PISA) indexes of teacher support and adaptive instructions show that, from the students' viewpoint, teachers are still reluctant to provide learning support and/or adjust their teaching processes to students' needs (OECD, 2016). Lithuanian students indicated that they mostly lacked teachers' interest in their learning needs. According to OECD PISA (2016) data, teachers are generally reluctant to change their lessons' structure and activities despite the learning difficulties faced by students. Only 12.3% of students claimed that in each lesson, teachers changed the structure of the lesson when students faced learning difficulties. A similar percentage (12.4%) of students in Lithuania stated that teachers adapt lessons to specific class profiles and needs (OECD, 2016).

At the national level, in response to modern educational realities, the focus is on the inclusion of *all* students in the educational process. It is noteworthy that the national documents (see, e.g. Law on Education, 2011; The National Education Strategy for 2013–2022, 2013; The 'Good School' Concept, 2015) underline the goal to develop students' learning-to-learn competence, their assumption of responsibility for learning, their ability to plan and reflect on their learning, their ability to plan and reflect on the learning process and results as well as their ability to set measurable learning goals. In other words, the goal of educating a strategic and goal-directed student is the priority.

In general, we refer to a student who can learn effectively and efficiently during his or her own learning process, approach academic tasks with diligence and confidence as well as employ appropriate strategies to reach desired academic goals. Strategic and goal-directed students are more likely to plan, monitor, evaluate and take responsibility for their learning process (Van Blerkom, 2012). However, the research on the current state of education (Stonkuvienė & Nauckūnaitė, 2010) and international studies on learners' achievements (OECD, 2017) demonstrate the existing non-compliance between the aspirations and reality of education as well as between desired and real learning outcomes. Thus, considering the findings of international and national research, education policy is focused on student-centred education.

Universal design for learning (UDL) could be considered one of the possible approaches to ensuring a student-centred education system and responding to every student's learning needs, interests and opportunities. Some researchers (Ok et al., 2017; Rao et al., 2014) characterise UDL as a promising framework in different fields and for different purposes. As a result, the UDL framework has gained considerable attention in the field of education. In our case, we view UDL as a useful framework for *all* students to become strategic and goal-directed learners. Within the UDL framework (Meyer et al., 2014), strategic and goal-directed learners are those who: formulate plans for learning; devise effective strategies and tactics to optimise learning; organise resources and tools to facilitate learning; monitor their progress towards mastery; recognise their own strengths and weaknesses as learners; and abandon plans and strategies that are ineffective.

Strategic learning is primarily defined as a learning model that combines skills, will and self-regulation components (Weinstein, 2009). It mainly focuses on the 'how' of learning and is based on a strategic network of the brain that enables the learner to plan, organise, execute and monitor purposeful actions in the environment (Meyer et al., 2014). Generally speaking, this strategic network handles how we plan or perform different tasks. However, only when students are aware of why they learn (affective network) and what they have to learn (recognition network) is the strategic network (How to Learn?) activated in their brain. This network helps to develop a strategy in the students' minds for how to use the newly learnt information or acquired skills (Novak, 2019). In other words, in becoming strategic and goal-directed learners' foremost students must become a purposeful and motivated, as well as resourceful and knowledgeable learners (Meyer et al., 2014).

In the above-mentioned processes, the role of the teacher is highly important when guiding students to become strategic and goal-directed learners (Meyer et al., 2014) by employing various methods of scaffolding (CAST, 2017). Taking the aforesaid into consideration, we focus on the investigation of which characteristic features of strategic and goal-directed students are revealed in the Lithuanian context and how a teacher-organised learning process, based on the UDL framework, helps students develop their strategic and goal-directed learning skills.

8.2 Methodological Underpinnings of Collaborative Action Research

This chapter draws on the results of a larger study (see Chap. 3). The analysis builds on collaborative action research that was carried out in one school located in Vilnius. The data on which this chapter is based were collected from multiple resources: observations, interviews, reflections and surveys. The study was implemented and data were collected during the 2018/2019 and 2019/2020 academic years. During the first cycle, we collected research data about the learning barriers faced by students who were becoming strategic and goal-directed learners. During the second and third cycles, we collected research data on the development of strategic and goal-directed students by applying the UDL framework and how this process was affected and influenced by teacher-designed learning and teaching settings.

An adapted observation tool by Johnson-Harris (2014) was applied for the observation of the educational process, which allowed for the identification of the level of teacher-designed classroom settings: not UDL, towards UDL and comprehensive UDL (see Table 8.1).

Novak's (2019) UDL Student Feedback Survey tool was used to obtain student feedback. The latter tool was used because it is directly linked to UDL checkpoints (CAST, 2018) and can be used with the UDL Progression Rubric (Novak & Rodriguez, 2018). Therefore, student feedback was directly related to and complemented by the instrument for monitoring teacher-designed settings (especially as we were able to identify student and teacher progress during the observation).

Table 8.1 Observation tool

	Indicators
Level of UDL	Interaction with information in multiple ways
Towards UDL	Multiple options for learning activities through physical actions; multiple tools for learning activities
Comprehensive UDL	Learning experiences alignment with students' learning profile; engagement in learning activities in students own creative and innovative way
	Expression of information in multiple ways
Towards UDL	Formative assessment; multiple options for performance and assessment activities; availability of multiple tools for performance and assessment activities
Comprehensive UDL	Assignments and assessments alignment with students' learning profile; engagement in assignments and assessment activities in students own creative and innovative way
	Executive functioning
Towards UDL	Time and workplace management; attention skills employment
Comprehensive UDL	Personal learning goals setting; personal learning goals accomplishment; feedback and assessment of learning outcomes and performance; support in organizing materials, resources, and tools for personal learning goals accomplishment

Interviews with the students were based on the UDL guidelines, which focus on the development of strategic and goal-directed skills. Interviews with the students allowed for a more accurate interpretation of the observation data during the students' process of becoming strategic and goal directed. The interviews with the teachers largely focused on their experience while developing expert learners, their growth as expert teachers able to create favourable settings for students to develop their expertise, as well as the opportunities and challenges that they faced while organising the educational process based on the UDL strategy while developing strategic and goal-directed students.

The research was conducted at one Lithuanian secondary school that provides primary (grades 1–4) and lower secondary (grades 5–8) education programmes. The school has 1176 students. The study included sixth- and seventh-grade students (27 students: 15 boys and 12 girls; two students with SEN; 12 years old) and two female teachers. There were two SEN students with hearing impairment (cochlear apparatus) and specific learning (reading/writing) disorders. Three students had experienced physical, social and/or psychological trauma. There were several students of Slavic origin in the class. Five students were classified as gifted, and four were less motivated to learn.

The research context underlines that the teachers were introduced to the UDL strategy for the first time at the beginning of the research (cycle one), and they applied it throughout the entire period of the research (cycles two and three). This current chapter presents a generalised overview of the second and third cycles of the collaborative action research; the former was performed in the real settings of the classroom, whereas the latter was organised under COVID-19 pandemic conditions (i.e. the observation of distance learning).

8.3 How Do Expectations Become Reality?

The main point of this chapter is to disclose how students become strategic and goal-directed learners in teacher-created learning settings. Moreover, it focuses on how teachers organise and scaffold students' learning while becoming strategic and goal-directed learners. It is important to note that the following learning barriers were identified in cycle one of the action research: unawareness of different strategies that foster one's learning process; avoidance of challenges and innovations; inability to recognise one's learning; inability to reflect on one's learning and progress; unawareness of self-assessment strategies; and anxiety about public speaking/presentation.

According to the UDL strategy, only by identifying barriers can the teacher scaffold different techniques for assisting a student in his/her learning process (CAST, 2018). Within the UDL framework, the underlying principle of becoming strategic and goal-directed learners is associated with the provision of multiple means of action and expression (CAST, 2018). Under this principle, students develop their strategic expertise in executive functions such as goal setting, monitoring their

progress and achievements, developing and implementing learning strategies for the attainment of learning goals as well as handling information and resources (CAST, 2018; Meyer et al., 2014). Apart from this, a strategic and goal-directed learner should be provided with options for expression and communication that embrace a variety of media and tools that foster construction and composition as well as build fluency via the support of their practice and performance. Finally, students are supposed to have access to various forms of media and tools that facilitate the attainment of learning goals. Subsequently, potential theory- and practice-based assumptions are provided that follow the UDL framework (Meyer et al., 2014): 1) physical action (a student's interaction with information in multiple ways); 2) expression and communication (a student's expression of knowledge/mastery of information in multiple ways); and 3) executive functions (executive functioning in the learning process).

Assumption 1: Provide Options for Physical Action and Navigation Through Educational Settings Students differ greatly in their motor capacities and physical movement, so the teacher should design settings where students can move freely, change their body position, space in the room or outside it and gain access to different assistive technologies (CAST, 2018). Being exposed to a variety of choices in terms of physical actions and multiple technologies and tools, the student is provided with an opportunity to choose, which leads to their responsibility for and self-regulation of their actions. In this way, the teacher creates settings for students to become expert learners within the dimensions of action and expression.

In our case study, the learning experiences and activities were largely limited to teacher-directed assignments. It is noteworthy that the students were provided with sufficient room for navigation, both inside and outside the classroom. The students were provided with various alternatives for selecting the place for task completion. Among the most frequent choices offered by the teachers were different places in the classroom: staying at the desk, working at the back of the classroom, standing by the windowsill, working at the board or smartboard or working in the hall. For some assignments, the teachers rearranged the desks, making the students sit 'at a round table', etc. Seeking to implement the UDL strategy and involve all students in the learning process, the teachers searched for a variety of possibilities to utilise the existing technologies and school/classroom spaces, where the students could study at their own pace and preference.

One of the most conspicuous examples was a Lithuanian language and literature lesson:

Lithuanian language and literature lesson (the last lesson of the day). The students cannot concentrate and keep chatting and moving around. Teacher Goda asks the students to create a grammar chant, supported with physical movements, to express their knowledge of the Lithuanian participle. As an alternative to this action chant, the teacher offers the students to use their smartphones and do some online quizzes related to the topic of the lesson – the participle. Out of 24 present students, nine students decided to take the second option: 4 students leave the classroom and work on their smartphones in the hall, whereas five students go to the back of the classroom to perform the online assignment. However, hearing their peers perform the chant, they change their minds and join the 'chanting' group.

Finally, all the students are actively involved in the activity and experience of learning through movement. (Field notes, 2019)

It is noteworthy that despite having selected one of the options offered by the teacher, the students could change their physical behaviour according to their preferences. Therefore, it can be maintained that the teachers offered a sufficient number of learning modes to customise the learning experience and activity through motion, whereas the students took advantage of the opportunity to try multiple learning modes, thus choosing those that were most compliant with their learning needs and capabilities. On the other hand, students' individual needs and capacities were not always taken into consideration, thus leaving space for barriers that hindered the successful completion of learning activities.

For instance:

In an English lesson, Maikas [who has learning difficulties in English lessons – the researchers' note] does not often understand what the teacher is saying. Maikas is from a Russian-speaking family. In most cases, the teacher tells Maikas in Lithuanian what to do. For example, Teacher Alma tells Maikas in English, 'Please, close the book' while completing the assignment. But Maikas does not understand that. A desk friend picks up and closes Maikas' textbook. (Field notes, 2019)

In a lesson on the Lithuanian language and literature, Timotiejus [a student with SEN – the researchers' note] having a cochlear implant has a number of difficulties expressing himself orally. In verb repetition assignments, Teacher Goda generally suggests opening the notebooks and picking up the handouts given in previous lessons and reading them aloud. Whoever did not attend the lesson, the teacher gives the handouts separately to them. (Field notes, 2019)

Both these observed episodes indicated that students needed assistance with assignment completion. In the first case, the student who needed assistance received it from his peer, whereas in the latter case, the teacher assisted the student. However, it emerged in the study that the same accompanying measures were given to all students, regardless of their learning needs and barriers.

It is noteworthy that during cycle two of the action research, the teachers provided the students with sufficient room for navigation, both inside and outside the classroom. Regarding the place for task completion, the students were offered various alternatives. Among the most popular choices were different places in the classroom: staying at the desk, working at the back of the classroom, standing by the windowsill, working at the board or smartboard or working in the hall. For some assignments, the teachers rearranged the desks, making the students sit 'at a round table', etc. Different learning spaces and learning-through-motion opportunities offered by the teachers empowered the students to exploit the physical settings according to their educational needs and capacities, which ensured a more efficient inclusion of all students in the learning process.

The use of different tools and assistive technologies (e.g. dictionaries, reference books, spelling checkers, iPads, smartphones, etc.) can help eliminate barriers to demonstrating learning (Ralabate, 2016). In our case study, it can be stated that the teachers applied elements of UDL in their practice, which enabled students to develop their ability to choose the right technologies and tools for expressing their

knowledge. The teachers, in addition to course books and workbooks, usually used tools such as multimedia, interactive whiteboards and smartphones in the classroom. Occasionally, the students had an opportunity to complete assignments on the board and smartboard. Among the less frequently used tools were flipcharts, which were mainly used during English lessons. The teachers also employed realia, such as a bag, candies, caps, etc., to make the learning process more active and engaging for the students. For example, students were often given the choice of completing assignments with the help of multimedia or a textbook. Occasionally, the teachers instructed them to use certain tools (e.g. smartphones) to complete the task, yet some students refused to use them.

In the English lesson (topic: Healthy and Unhealthy Food), in the task of reinforcing new information, students are given the task of creating a healthy food recipe (including products that are qualified as healthy products). The students are instructed to use their phones in group work. Maikas [who has learning difficulties in the English lesson – the researchers' note] does not use the phone a single time while completing the assignment. Other members of the group use phones and Maikas is actively engaged in a joint discussion with classmates. (Field notes, 2019)

The teacher, if observing, did not give the student a remark and did not require the use of the smartphone, thus leaving space for the student to make his or her own decision. In other words, using a phone was not the purpose of the lesson but was merely a means to attain the goal. This left the student free to decide whether additional means were required to complete the task. This episode also suggests that the student was able to better memorise and consolidate information provided in the lesson when discussing it with others rather than individually using technologies. This led us to the assumption that the teacher-designed learning setting was compliant with his individual needs and learning preferences.

During cycle two of this study, it appeared that having an opportunity to choose increased the students' self-confidence and courage to demonstrate his or her learning. Consequently, of the 12 lessons observed during this research, the students started to willingly raise their hands and shout, 'I can'! [To present the assignment – the researchers' notes] while performing different tasks in class, thus demonstrating their interest and involvement in the learning process.

In the Lithuanian language and literature lesson, Teacher Goda sets a verb repetition task allowing students to choose how to do it – using the phone at the back of the classroom or in the hallway or repeating it with the teacher. At the beginning of the assignment, more than half of the class choose smartphones, but at the same time watch the teacher repeating the verb using kinesthetics with the rest of the students. Observing the teacher, they abandon their phones and return to the desks for repetition led by the teacher. (Field notes, 2020)

This observation episode highlights that enabling the students to choose how to complete the task developed their ability to choose the method that best suits them. The students individually chose how they would perform the task and what tools and technologies they would employ to complete it without consulting the teacher. Also, students were allowed to change their choices. The teacher-created settings that assured the students' free choice of navigating through the assistive tools and technologies allowed them to develop strategies for handling the learning materials

most conveniently; this was a significant step in their development into strategic and goal-directed learners.

In the Lithuanian language and literature lesson, Teacher Alma offers a choice to complete the information consolidation task either on page X in the workbook or in the course book. Šarūnė [a moderate student – the researchers' note] initially decides to do the assignment from the textbook. When being asked by her classmates what to do, she repeats and explains the task. However, after a while, she changes her mind and starts doing the task from the workbook. When checking the task, she adds to the task she has completed. (Field notes, 2020)

In this analysed episode, the student demonstrated how she could change her own choices, finding the most appropriate way to consolidate the material. Following the UDL strategy, the teachers attempted to provide several options for students to employ assistive tools and technologies for assignment completion, which benefited the students in selecting alternative sources for assignment completion, consolidation of the learnt material and demonstration of what they had learnt.

It is worth mentioning that, in choosing various assistive tools and technologies, the students demonstrated their creativity and originality by completing assignments. For instance, during the Lithuanian language and literature lesson, some students brought realia to the classroom, such as a stone or special clothing and jewellery, which they used to perform Lithuanian national songs.

However, devising a lesson plan that would encourage the students to consolidate their knowledge by doing more than a few different tasks simultaneously remained a challenge for the teachers. Meanwhile, the UDL strategy provided choices involving not only a variety of forms but also a variety of task content, thus ensuring equal opportunities for all the students to get involved in the learning process and according to their individual learning needs, abilities and personal goals. Being able to respond to the assigned tasks and present them in the classroom, employing various physical actions that are authentic and compliant with the learning situation and being ready to use and experiment with various tools and learning technologies in the learning environment are the characteristic features of a strategic and goal-directed learner.

The COVID-19 pandemic posed unprecedented challenges for the implementation of the UDL strategy in the educational process. Both students and teachers confronted the need to adapt to online teaching and learning. The implementation of the UDL strategy generally continued through the use of digital tools and resources, whereas the teachers and the students were required to solve educational problems and implement new approaches to inclusive education.

At the beginning of cycle three of the action research, the extreme conditions of the COVID-19-forced school lockdown, due to having to use a variety of assistive tools and technologies, seemed to have created additional barriers to the expression of the students' learning.

During the Lithuanian language and literature lesson, Teacher Goda warns Jonas to switch on the camera and microphone. Jonas turns on the microphone, yet not the camera.

Jonas: I don't have one on my computer.

Goda: *So you have to inform your class teacher, so that she can inform all the teachers that you will not have a camera temporarily. And the school can offer you help – it can lend you a camera, but your parents have to contact the class teacher and explain the problem. Have they done that?*

Jonas: *No.*

Goda: *So you have to do it, since you need a camera. Will you do it today?*

Jonas: *I will have my camera next time. (Observation, 2020)*

This observation demonstrates that the students experienced challenges while using technology during the lessons. They seemed to be unprepared to abruptly adapt to the new situation and lacked autonomy in solving technological-related issues. Although the school provided the necessary equipment for the students to use at home, it was obvious that the students (and their parents) were not encouraged enough to take the opportunity, thus leaving space for interrupting the educational process.

Meanwhile, the students did not put enough effort into becoming involved in the learning process, which created extra challenges for the teachers in involving all students.

Teacher Alma: *‘Vaidotas, can you switch on your microphone?’ A few minutes pass, Vaidotas does not switch on his microphone. ‘Vaidotas, could you switch on your microphone, please? We all have to participate in the discussion’. Vaidotas turns on his microphone. (Observation, 2020)*

This observation reveals that the students were not willing or ready to use their cameras and microphones during the lessons, thus leading the teachers to waste lesson time making remarks to individual students. Hence, it can be claimed that the use of a variety of tools and assistive technologies throughout the pandemic remained a serious obstacle to the students’ active learning process.

Regardless of students’ reluctance to properly employ assistive technologies in their learning process, the teachers provided the students with a wide range of creative assignments through which they could demonstrate their skills as strategic and goal-directed learners: creating posters, filming, audio and video recording, making PowerPoint presentations, using Liveworksheets, Padlets, etc. The teachers noted the benefits of using various assistive technologies, which allowed them to more effectively engage students, including those with SEN, in the learning process.

Teacher Goda: *Well, I believe that presenting the interactive content of the lesson in a responsible way is fundamental to the success of the lesson. The content should be good and presented in multiple ways; otherwise, it won’t work. In other words, you are responsible for the quality and diversity of the curriculum, its presentation in multiple ways so that it becomes most beneficial to every student. (Interview with the teachers, 2021)*

It is noteworthy that, while implementing the UDL strategy in their teaching process, the teachers tried to present and navigate the teaching content by employing a variety of teaching tools and technologies. This was a great challenge for the teacher, as it required her to align learning experiences with a student’s strengths, interests and preferences as well as to know the student and the learning profile of

the class as a whole. Thus, the teachers should design activities so that the learning outcomes are authentic, communicate to real audiences and reflect on the purpose that is clear to the participants (CAST, 2018).

The research data demonstrate that the teachers developed appropriate learning settings that offered the students multiple ways to respond to and navigate the curriculum materials, while completing tasks by employing various motor actions, tools and assistive technologies, thus creating a positive environment for their development as goal-directed and strategic learners. The teachers not only helped the students to develop into being strategic and goal-directed experts in their learning; they progressed as expert teachers in the process of engaging all students in the educational process. The UDL strategy was successfully implemented by providing multiple options for physical action. This is while empowering the students to choose the tools, technologies and actions that best complied with their educational needs, interests and preferences. The teachers created settings in which the students had an opportunity to personalise their choices and express their knowledge and skills through multiple assistive tools and technologies.

Assumption 2: Provide Options for Expression and Communication Different students apply different kinds of communication while relying on their personal learning goals, learning strategies, abilities, educational needs, interests and preferences. Therefore, according to the UDL framework, it is critical to develop educational settings in which students are provided alternative modes of expression and communication (CAST, 2018; Meyer et al., 2014). This will allow students to employ a wide range of media that are meaningful for communication and literacy in the multimedia culture. Besides, students vary in both their capacity to express themselves through traditional speaking and writing assignments and their familiarity with and ability to use various media in the process of learning. Therefore, the teachers should be ready to offer multiple media and tools for completing and presenting the acquired knowledge and skills, provide alternatives for different modes of a student's individual and collaborative work and help them build fluencies by using timely, consistent, flexible and personalised scaffolding and performance feedback.

During cycle two of the action research, the analysis of the interviews with the teachers revealed that the students were not inclined to look for different information sources but rather limited themselves to using Google or Wikipedia. Oral delivery usually takes the form of an oral presentation. This means that students have not mastered multiple ways to demonstrate their learning outcomes. Therefore, teachers need to encourage students to look creatively at how they can communicate the information or skills they have acquired through more diverse media, such as drawing, film design, music compositions, model making, storyboards and other mediums. Hence, the issue of expression and communication is another particularly important dimension of UDL. During the observations, we identified that only certain elements of the said UDL dimension were applied to educational practice.

With inclusive education, it is paramount to create educational settings where students are exposed to alternative media that can be used for expression and

communication and is compliant with their individual educational needs, abilities and interests. The analysis of the research data collected during cycle two of the action research signified that the teachers provided the students with a sufficient choice of media and tools for the completion and presentation of their performance. Observations of the educational process helped to distinguish two tendencies of teachers' presenting a variety of media and tools. While working in real classroom settings, the teachers were inclined to restrict the students to more traditional ways of expression and communication, such as completing written assignments in textbooks and/or workbooks, writing on the board or completing written tasks on the smartboard or making oral presentations to the class.

For example, in the Lithuanian language and literature lesson:

Teacher Goda allows different ways of completing the task either in the notebook or on the smartboard, as well as employs different ways of evaluating the completion of the task. The students who have decided to complete the task on the smartboard can immediately find out the correct answer by opening it on the board. Those who have chosen to do the task in the notebook do not all have the opportunity to speak when checking the assignment. Some do it voluntarily, others simply follow their notes. (Field notes, 2019)

This observation episode shows that apart from conventional methods of assignment completion, the teachers also offered an alternative medium (a smartboard) for students to express their acquired knowledge and skills. Such a choice of alternatives can help reduce media-specific barriers to expression and communication for students with varying educational needs and increase the opportunity for all students to develop a wide range of skills that are essential for selecting the optimal media and tools for expressing and communicating the learning content.

Implementing the UDL strategy, the teachers offered multiple media alternatives and tools for the students to demonstrate their knowledge and skills, such as singing folk songs, making poster presentations in small groups and composing lists of various items (e.g. a list of healthy food) and the likes. Moreover, the teachers provided a few opportunities for students to demonstrate their knowledge and skills through participation in games and quizzes. Occasionally, the students were encouraged to search the internet for information that was necessary for task completion. However, while analysing the research data collected during cycle two of the action research, it appeared that the teachers did not always offer multiple options for the students to choose how to demonstrate their classroom learning. For example, not all the students were involved in games or quizzes (e.g. Kahoot): in one of the English lessons, Timotiejus (a SEN student – the researchers' note) was leaning tediously on the desk while some students were playing. (Field notes, 2019).

Another episode illustrates a similar situation in which some students were not engaged in the educational process due to a lack of interest and motivation to participate in expressing their knowledge and skills.

In the Lithuanian language and literature lesson, Teacher Goda applies the 'bag' method [the bag being dropped and the students have to respond quickly using the correct verb form. Tadas [a strong student – the researchers' note] is actively involved in the game and during the interview describes the game as 'things like this are good ... Meanwhile,

Timotiejus [a SEN student – the researchers' note], is not playing and is lying on his desk during the activity. (Field notes, 2019)

Later in his interview, Timotiejus stated that he preferred various schemes and projects *rather than* games (Kahoot, the 'bag', etc.) and creative assignments (composing a song, creating a storey, etc.), yet the above episodes reveal that he had to perform the same assignments in the classroom like everyone else.

Meanwhile, during the interview, Sofija pointed out that mechanical tasks, such as gap-filling, matching, word-building and similar assignments, were too easy and boring for her, and she preferred more complicated and challenging creative assignments; yet, she was offered the same tasks and options as the remaining students.

Sofija: There is no possibility to do any projects or anything else right now. And if [talks about projects – the researchers' note] we have to do a project, it is set for the class as a whole. (Interview with the student, 2019)

During the interviews, the students also expressed the view that they were given little opportunity to demonstrate what they had learnt in each lesson: 'Well, you can... a little...' (Sofija, 2019); 'Well maybe ... when you are asked something' (Šarūnė, 2019).

The presented examples highlight that some students encountered barriers to their learning in terms of the expression and communication of the acquired knowledge and skills; thus, their process of developing into expert learners was inhibited by the lack of sufficient exposure to a choice of multiple media and tools for completing and presenting their knowledge and skills. An ability to purposefully select appropriate media and tools that conform to the student's capabilities, interests and needs, which is considered one of the characteristic features of a strategic and goal-directed learner, seemed to be a significant challenge for the teachers when implementing the UDL strategy.

Strategic and goal-directed students are characterised by their ability to work both individually and in collaboration with others. Interaction with others helps students acquire and apply knowledge and skills in various contexts. Provided it is based on equal partnership, collaborative work encourages students not only to set personal learning goals and choose to learn strategies but also to share and align them with collaborative group members, thus ensuring the inclusion of all students in the educational process.

During this action research (cycle two), it was determined that the teachers provided multiple options for the students to organise their learning: individually, in pairs or cooperative groups. Different group formations were employed; collaborative pairs and groups were formed by the teachers or students. Depending on the type of assignment, the teachers occasionally formed pairs, usually putting a better academically performing student with an academically slower one. The teachers used different ways of group and/or pair work; for instance, the students were instructed by the teacher to form pairs, allowed to freely choose who to perform the task with, choose 'a 12 o'clock friend', play the fortune wheel and others.

During this research work's observations, it was noted that students were allowed to choose how to perform tasks – individually, in pairs or groups – and demonstrate

their knowledge. In the case study, the majority of students chose to complete assignments in pairs and/or groups. Some of the students observed that if they were given the choice of whom to do the tasks with, they would choose different groups for a variety of reasons.

Sofija: ... *the funniest, the least work, the easiest ... faster time.*

Šarūnė: ... *still more interesting ... can better clarify the topic.* (Interview with students, 2019).

The above examples demonstrate that, for some students, information was better consolidated and easier to present to the teacher when tasks involved peer work. Interaction with others helped students acquire and apply knowledge and skills in various contexts. For example, in the English lesson (topic: healthy and unhealthy food):

Teacher Alma allows students to choose to complete the task individually or in pairs. Maikas [who has learning difficulties in an English lesson – the researchers' note] chooses to complete the task with the desk friend Tadas [during the interview, he identified the English subject as the best-performing subject for him at school – the researchers' note]. At the end of the assignment, Maikas, who has previously been inactive in presenting the completed assignments, offers himself to present this one. (Field notes, 2019)

As seen from the above example, cooperative learning encourages positive interdependence when students can maximise their own and others' attainment of goals and performance. Moreover, cooperative learning allows students to understand that the better performance of an individual student leads to better group performance. Working in groups and pairs ensures the inclusion of all students in the learning process according to their individual needs and abilities; this also helps to develop the social and collaborative skills essential for an expert learner.

It is also important to note that the teachers supported the students in making pairs and joined those who were left without. For example, in the Lithuanian language and literature lesson:

Teacher Goda: *Now, to do this task you have to find the 12 o'clock friend. Go and choose the 12 o'clock friend. Saulius, have you found one?*

Saulius: *No.*

Teacher Goda: *Now, who hasn't got the 12 o'clock friend yet? Liutauras? Saulius, join Liutauras – he hasn't got the 12 o'clock friend. Maikas, why are you alone? Is anyone else free? No? OK, I will be your friend.* (Observation, 2019)

This episode reveals the teacher's genuine involvement in the assignments. Following the principles of collaborative learning, the teacher became part of the team and played an active role in the communicative discourse with the students.

This research revealed that the students were more likely to choose to work in collaborative groups or pairs, although some students (e.g. Jonas) preferred to individually complete the assignments. The data obtained from the student interviews indicated that they preferred choosing their learning partners rather than being instructed by the teacher.

Tadas: ... *in those interactive things [he talks about online tools like Kahoot – the researchers' note]. Sometimes the time is set for their completion.*

Šarūnė: ... *when we collect the pluses ... for active participation.* (Interviews with the students, 2019)

As the student interviews show, the students liked different options for expressing their learning in groups, which involved their active participation in the learning process. This allowed all members of the group/pair to work through peer teaching. Peer teaching is one of the techniques employed in the process of learning to learn and is a crucial element of the UDL strategy. Thus, by forming pairs and groups based on peer teaching or collaboration, the teachers created educational settings that were beneficial to the students' transformation into becoming expert learners, able to set common learning goals and choose strategies that conformed to the needs and abilities of the group/pair members. Following the UDL framework, an educator should engage the student's strategic networks by scaffolding and offering them flexibility in how they demonstrate their learning. Hence, scaffolding and feedback are of crucial importance in the educational process when seeking the inclusion of all students. One of the characteristic features of a strategic and goal-directed learner is his or her ability to solve problems independently and through networking with peers. In this case, scaffolding appears to be an essential strategy that was used by the teacher when creating educational settings in which students can mature into interactive, goal-directed, strategic and solution-oriented learners.

The collected data revealed that the teachers consistently and regularly employed scaffolding and feedback strategies in the education process. The most frequently applied scaffolding strategies were: using visuals, reading, connection to background knowledge and student experience, modelling, graphic organisers, intentional group or pair work and use of the mother tongue (in English lessons). Analysis of the student interviews revealed that the students found employing visuals, graphic organisers and intentional group/pair work as most beneficial to their learning:

Sofija: *There are many questions to answer, and sometimes the teacher offers how to do some work on that topic, or how ... for example, prepare slides...* (Interview with the student, 2019)

Scaffolding was reinforced by consistent and regular feedback. It is noteworthy that the teachers provided both instructional and differentiated feedback. The analysis of the student interviews and survey revealed that the students received efficient instructional feedback, which was provided by the teachers in various ways: explaining the tasks eliciting their most challenging parts, answering the students' questions, providing extra explanations by walking around the classroom and checking the students' progress, synthesising and analysing the most conspicuous errors in the students' performance and task completion. Also, the teachers provided differentiated feedback that focused on the specific challenges faced by individual students.

In the Lithuanian language and literature lesson, Teacher Goda reminds the students that some of them (the ones who had problems with understanding the lesson content – Kotryna and Timotiejus) will receive extra materials and explanations by email. (Field notes, 2020)

This episode demonstrates that the teacher was concerned about providing appropriate scaffolding for students with SEN, thus ensuring the successful inclusion of all students in the learning process. By providing scaffolding and feedback provisions, the teachers created a favourable educational setting for the students to develop into autonomous and self-contained learners who assume responsibility for their learning and recognise their strengths and weaknesses.

Considering the COVID-19 pandemic (cycle three of the action research), the range of alternative media and tools offered by the teachers for expression and communication increased considerably. The students were encouraged to create stories and fairy tales, make PowerPoint presentations, make video and audio recordings of their performance, develop individual projects and posters, employ Padlets and Liveworksheets, etc. The students could also demonstrate their learning and performance by answering questions orally or writing the answers in the virtual classroom's chat room. It should be noted that by the end of the action research, the teachers had already succeeded in offering the students several options regarding the use of tools and media to present their performance, which shows their considerable growth as expert teachers.

At the beginning of the English lesson (topic: 'Fairy tales 2'), Teacher Alma reminds the students of the three options of how they could present their task of looking through the selected fairy tale and composing a different ending. The options included filming the life presentation of the fairy tale; writing it on Google Drive, or sending it by email. The majority of the students chose to upload their fairy tales on Google Drive. (Field notes, 2020)

It is obvious that during the distance learning period, the students were offered a greater variety of media for presenting their learning results. However, the students did not demonstrate their willingness or readiness to choose the options that they were less used to and chose the ones to which they were most familiar. Although the teachers tried to widen the choice of various media and tools for the students to complete and present their learning, thus minimising the learning barrier, this study proved that the students were not ready enough to choose the options of which they were less familiar.

It also appeared that extreme conditions (e.g. the COVID-19 pandemic) somewhat restricted the frequency of employing collaborative learning in the virtual classroom. However, the research data demonstrated that this method of learning was organised more effectively.

Teacher Goda presents the new topic 'Padalyvis' [adverbial participle – the researcher's note]. The teacher assigns a task for the students to demonstrate their understanding: one student tells a participle and chooses another student, who has to change it into the adverbial participle. All the children are actively involved in the task completion. (Field notes, 2020)

The playful character of the presented task allowed the students to become more actively involved in its completion and increased their motivation for learning and participation in the lesson. It can be concluded that the opportunity for the students to choose their partners helped to create an atmosphere that bolstered their self-confidence and eliminated their fear of making errors.

One of the characteristic features of a strategic and goal-directed learner is his or her ability to solve problems independently and network with peers. In this case, scaffolding appears to be an essential strategy that was used by the teacher when creating educational settings in which students can mature into interactive, goal-directed, strategic and solution-oriented learners. In this respect, the teachers also matured as expert teachers by foreseeing and considering the barriers to learning that their students might experience and discussing their difficulties with them.

In an English lesson (Topic: The Past Perfect), the students continuously make mistakes when performing the assignment. Teacher Alma reminds the students of the platform where they can revise the formation and use of the analysed tense form. She gives time for the students to log in and goes through the provided materials together, eliciting from the students the most important aspects of the analysed topic. (Field notes, 2020)

This situation suggests that the teacher provided the students with a scaffold (platform), which helped them back up their knowledge of the topic and thus created a favourable setting for the students to assume responsibility for their learning and recognise their strengths and weaknesses.

Apart from giving students support and feedback, the teachers also encouraged their peers to give constructive feedback to their classmates.

In the online English lesson (topic: 'Fairy tales 2'), Teacher Alma introduces the task – to create a different end of a well-known fairy tale and presents the criteria that the students have to apply in providing feedback to their peers: number of words (150 words), the level of unexpectedness and lexical-grammatical accuracy. Maikas reads his story with great difficulty. The teacher assists him a lot with pronouncing the words. Afterwards, the students are encouraged to provide their feedback. Justé just gives a mark, which is 3-4, without much explanation. She does not make any reference to the assessment criteria. The teacher emphasises that it is only the student's personal opinion. Other students present their stories and receive the same feedback. Throughout the whole lesson, the teacher asks for comments, yet the students do not know what to say. (Field notes, 2020)

This episode demonstrates that the teachers sought to involve the students not only in assignment completion but also in its evaluation and feedback. For this purpose, the teacher developed a system of criteria that the students could use when formulating their feedback. The students were not yet used to providing evaluations and feedback to their peers. Yet, the new practice of getting the students involved in all stages of the process can serve as a highly positive example of both teachers and students maturing into expert learners. By enabling the students to evaluate their classmates by following assessment criteria, the teachers develop the students' self-esteem and self-regulation skills as well as encourage them to take responsibility for their learning, thereby helping the students to develop the features of a strategic and goal-directed expert learner.

The same idea is emphasised in the teachers' interviews at the end of cycle three of the action research.

Teacher Alma: We as teachers always come to the lesson with the goal to teach. Yet, it depends on the students themselves whether they will learn something or not. We cannot learn for them, we can only help, guide and advise them (i.e., scaffold – the researchers' note), but they can only learn themselves. This barrier can be overcome only when the students take the initiative in their hands. (Interview with the teacher, 2021)

The teachers' understanding of their role in the classroom changed considerably throughout the action research. The teachers had considerably expanded the use of media and tools for the students to accomplish and present their assignments, carefully supported the students in choosing the groups and pairs for collaborative work; they minimised the instructing of students replaced this with scaffolding based on the analysis of student variability and a prediction of the possible challenges that their students could experience during the learning process. This implementation of the UDL framework helped the teachers think about how to remove barriers and provide scaffolding and support to *all* students, thus revealing the process of their growth into becoming expert teachers.

Assumption 3: Provide Options for Executive Functions Based on the UDL framework (Novak, 2019), the provision of options for executive functions means that the assignments should begin with an objective and tips, or a checklist to work on the assignment should be given to students about how to stay organised during the assignment should be provided, and reflection and feedback on their work should be presented before the assignment is completed. The teacher's full support is indispensable during this action and expression process.

According to Ralabate (2016), the first option for the successful implementation of executive functions is setting learning goals, which should be flexible enough to provide all students with an opportunity to attain them, as well as serve as motivators for students, providing them with a clear understanding of the target knowledge and skills that are addressed in the lesson. Clear and flexible lesson goals help students set personal learning goals more easily to become successful goal-directed and strategic learners.

Based on the observation data from cycle two of the action research, we identified that the teachers helped students set their learning goals, choose ways to achieve those goals, etc.; however, this observation was based on isolated and unsystematic evidence. At the beginning of the lessons, the teachers introduced the lesson goals, yet they did not always encourage the students to relate to their personal goals. Moreover, they did not restate their goals at the end of the lesson and did not emphasise or discuss their attainment.

In their interviews, the teachers admitted that:

Teacher Alma: *It is very hard to encourage the students to set personal goals, because our system is absolutely teacher-centred, the students expect to be told what to do, how to do by the teacher. In general, it is uncommon for students to set personal goals.* (Interview with the teacher, 2019)

The student's interviews confirmed this fact.

Researcher: *After the teacher introduced the goals of the lesson, did you think of your own goal of what you wanted to learn in the lesson?*

Jonas: *Yes.*

Researcher: *What was that?*

Jonas: *I don't know. To learn something.* (Interview with the student, 2019)

These episodes demonstrate that, in the Lithuanian context, the students are not always used to setting personal goals and are frequently unaware of what these goals generally are. Although the teachers announced the goal at the beginning of the lesson and encouraged the students to formulate personal learning goals, they did not always come back to them at the end of the lesson. Moreover, some personal goals set by individual students were sometimes imposed on other students and became lesson goals for all.

Having announced the lesson goal in an English lesson (topic: Healthy eating), teacher Alma encourages the students to set their personal goals. Only two students are able to communicate their personal learning goals. Tadas sets the goal to learn more about healthy eating, whereas Sofija sets another goal: 'To learn a few new words'. The teacher encourages the rest of the class to think of the exact number of new words to be learnt by every student. The teacher spends about five minutes asking the majority of students how many new words they would like to learn. (Field notes, 2019)

For UDL, it is important that learners develop the skill of effective goal setting. During the interviews, the students stated that they were reluctant to set long-term (in this case, for the semester) learning goals:

Sofija: Well, just as well as learning.

Tadas: I wanted to improve in the sciences where I did not do well last year. (Interview with the student, 2019)

As far as the goals for a specific lesson were concerned, the students claimed the following:

Tadas: I don't really think about it ... [a pause – the researchers' note] ... well... learn the topic the teacher tells or improve what I have already learnt.

Sofija: Well, not always ... It depends on what part of the course is taught. For example, in Lithuanian it is not always, sometimes. I never think about Maths at all. (Interview with the student, 2019)

These episodes led to the assumption that the students were not fully aware of the importance of setting personal learning goals and did not attach any significance to them. Despite the teachers' efforts and encouragement for the students to set their learning goals, the students did not take this seriously. Developing the students' ability to set up and try to achieve a goal was not facilitated by explaining the purpose of a particular task or how it could relate to the student's individual goal. Although the students started setting personal learning goals and searched for different ways to attain them, which were significant signs of their maturing into goal-directed learners, they did it unsystematically. Hence, during cycle two of the action research, the domain of setting personal goals remained a sensitive issue in the context of students' transformation into becoming strategic and goal-directed learners.

Once students set their personal learning goals, they have to plan their strategies of how to attain these goals. A goal-directed and strategic learner can devise a strategic plan that will lead them to reach a goal, as well as reflect on the time and resources needed. Therefore, an appropriate learning setting should be offered for

students to plan and attain individual learning goals. Following the UDL framework, learning strategies are how students organise their learning by using a particular set of skills to accomplish tasks more effectively, thus implementing the set learning goals. In this case, the focus was not on the curriculum's content but rather on the student's ability to learn. Developing the student's ability of 'learning to learn' by employing a variety of strategies creates preconditions for them to strengthen their executive functions leading to the development into strategic learners.

It is noteworthy that the collected action research data (cycle two) proved that the students' abilities to use a variety of learning strategies were stimulated during the lessons, yet this was not done regularly. A more common case was that the teacher provided a detailed plan for a student to follow rather than encouraging their full engagement in planning their learning. Nevertheless, the research evidence highlights that the students managed to choose and implement their learning strategies when completing creative homework assignments, such as making presentations, projects and composing essays.

In the English lesson (topic: healthy and unhealthy food), Teacher Alma assigns homework: to find and make the top ten healthy and unhealthy food list. Any source may be used to complete the task, whereas its presentation will be performed upon the student's choice. (Field notes, 2019)

This episode demonstrates that the selection of a learning strategy is often associated with the ability to select appropriate tools for its implementation. Therefore, the ability to choose appropriate tools that are compliant with the strategy of demonstrating one's performance and learning achievements is a characteristic feature of a strategic and goal-directed learner who seeks to become an expert learner.

According to the UDL framework, another executive function involves an ability to reflect on one's learning activities and learning results. The research data demonstrate that the students had an opportunity to develop as reflective learners during the action research period. Reflecting on what they had learnt, the students could identify their newfound knowledge and learning content, their learning needs and how these can be addressed, as well as share the learnt content and awareness with the teacher and peers. During the interviews, the students noted the following:

Sofija: When you come home you think you could do more there, do something else...

Tadas: Mmm not good. Maybe ... when doing homework. But not much.

Šarūnė: Well, I thought maybe I could do something better or learn something more at the weekend, something that I didn't understand ... (Interviews with the students, 2019)

It is noteworthy that the students' reflections are rather superficial and focus more on the learning conditions (e.g. studying more over the weekend, when doing homework) or provide non-defined aspects of reflecting on their learning (e.g. something better; something more; something else; etc.).

The students' ability to reflect was closely related to the assessment strategies employed by the teachers. This study demonstrated that when planning lessons, the teachers carefully considered the students' assessment. While presenting the lesson

goals and procedures, they clearly stated their assignments and assessment criteria. It is noteworthy that the teachers planned and implemented formative assessments in accordance with the learning goals. The interviews with the students demonstrated that they had a clear understanding of the assignments as well as the assessment criteria and procedures.

For example, they claimed that:

Pijus: I don't always like the tasks, but I always know what and how to do them ...; ... the teacher always tells us what we have to do and what we will get after completing them;

... I like the system of pluses – you can always collect extra pluses and get a better mark.
(Interview with the student, 2019)

Jonas: Yes, before the test, we can collect other marks and pluses, sometimes minuses [laughs – researcher's note] and I like it. It is not so scary to write the test then, because you know that you have already got some good marks. (Interview with the student, 2019)

These episodes demonstrate that the students appreciated the fact that the teachers provided clear assessment criteria, which they found clear and beneficial to their learning. However, it is noteworthy that teachers have hardly ever involved students in assessment planning or developing assessment criteria.

During the implementation of cycle three of the action research (i.e. during the COVID-19 pandemic lockdown), there appears to be some evidence that both teachers and students started considering the setting of personal learning goals as being an important part of the learning process and even managed to link this to the reflection of its attainment.

Teacher Alma: After the two years of the project, we started emphasising that it is very important for students to set their personal learning goals at the beginning of each lesson, and then reflect if they succeeded. And then we [the teachers – the researchers' note] ask: 'Did you succeed? What helped you to succeed? Why wasn't it successful? What could you do better?' (Interview with the teachers, 2021).

The teachers encouraged the students not only to set the goal but also to reflect on their attainment. It is important to note that reflection on the attainment of personal learning goals helped the students plan their learning process and select and adapt corresponding strategies to achieve the set goals, whereas the teachers were provided with directions on how to plan the lesson content so that every student could benefit from it and acquire an opportunity to mature into becoming a goal-directed learner.

The findings also demonstrate that by encouraging the students to reflect on their learning and goal setting, the teachers also developed the students' ability to choose or adapt strategies for their learning and performance.

In the online English lesson (topic: Fairy Tales 2), before presenting his fairy tale, Vaidotas explains the ways and strategies he has employed while completing it: 'I have chosen the story about the gingerbread man because he seems the most realistic to me, like a person. The ending is very short, but I put a lot of extra information throughout the story ... Yes, it appeared too long and first, but then I read it again and removed what was too long or unnecessary.' (Field notes, 2020)

This demonstrates the student's ability to choose various strategies for task completion, such as choosing a fairy tale compliant with his interest, synthesising the new information with the ready-made text as well as revising and editing the final product, which, according to the UDL framework, is essential for a student to develop into becoming a strategic learner.

The data collected from the teachers' interviews foster the significance of reflecting on goal setting and the choice of appropriate learning strategies.

Teacher Goda: The greatest difficulty for them is to plan their learning (set personal lesson goals, and the like); change their learning practice after realising that not all the proposed or selected ways of learning are equally suitable and helpful for learning. And it is so interesting that when we started to use 'Reflectus' programme, they (the students – the researchers' note) started discussing the issues (related to the goal setting and choice of the strategies – the researchers' note) more in class. (Interview with the teachers, 2021)

This episode reveals that the more students were stimulated to set personal goals and choose compliant strategies for their attainment, the more they realised the benefits. Hence, it is possible to claim that the students acquired more experience with assuming responsibility for their learning as well as with planning their progress and learning outcomes.

Further analysis of the research data revealed that the teachers varied their learning resources and materials and offered a variety of tools for use during the learning process. It is noteworthy that traditional educational means prevailed in the classroom: textbooks, workbooks, handouts, assignments on the board and smartboard, etc. During lessons, the teachers set the same or similar assignments and provided students with the same or similar learning materials. Moreover, it is noteworthy that the most frequently selected tools by the students for presenting their performance and completion of assignments included PowerPoint presentations.

In an online Lithuanian language and literature class (COVID-19 epidemic situation; topic: 'Defenders of Freedom'), the majority of the students presented their projects using the PowerPoint tool. A small group of students did not present their projects. 'If you don't want to make a PowerPoint presentation, you can either write a composition or make a poster and send it to me'. (Observation, 2020)

Although traditional tools, such as textbooks, workbooks, handouts, etc., remain the main tools employed in the lessons, it should be noted that the lockdown stimulated the students to choose more varied tools for task completion and presentation as well as demonstrating learning performance. In English lessons, the students frequently employed the chat room of the virtual classroom to respond to the teacher's questions, as well as to ask questions about the learning materials, content, tasks to be performed, etc. Moreover, they could present the accomplished assignments to the teacher by using Google Drive, email and virtual classroom. In the Lithuanian language and literature classes, the students made PowerPoint presentations, designed posters, wrote compositions and uploaded them to the online classroom platform, etc. Student exposure to a variety of media and tools used for the completion of assignments and demonstrating the performance develops the students' responsibility for their learning and choice, an ability to plan their learning

and performance as well as increases their engagement in motivation for task completion, which are relevant features of an expert learner.

The results of cycle three of the action research reveal that the teachers started employing multiple tools for assessment, thus encouraging the students to execute their learning:

In the online Lithuanian language and literature lesson (topic: 'Defenders of Freedom'), Teacher Goda sets clear assessment criteria for the presentation of student projects: the content, its main facts; influence on the listeners (ability to communicate with the audience); and language accuracy. Additional criteria for the listeners to get extra points: employing personal or family experience in defending the national freedom and active questioning of peers after their presentations. Two groups of assessors were formed: optimists, who would evaluate only the positive aspects of peer presentations (4–5 students) and pessimists, who are supposed to note the drawbacks and criticise peer work (4–5 students). The students get actively involved in choosing the optimist or pessimist group. (Field notes, 2020)

This episode demonstrates that the students were encouraged to provide their feedback and assessments of other students' work, yet they were not encouraged enough to substantiate or explain the assessments they gave. Nevertheless, the students were willing to provide their feedback and assessment by being active in responding to the teachers' and peers' questions and expressing their opinion and judgement. It is noteworthy that the students became engaged in providing feedback while in a playful and depersonalised setting (e.g. when a student is given a role to perform, such as being a pessimist or an optimist). Active student engagement in feedback provision and assessment created favourable conditions for them to develop into learners.

The teachers' practiced setting the assessment criteria for assignment completion; this helped the learners evaluate their work and find ways to match their performance to all the assessment criteria, which was positively evaluated by the researchers. However, it should be noted that the teachers did not involve the students in the process of the assessment-criteria design. However, analysis of the research data helped reveal the sensitive and strong sides of the teacher-developed settings in terms of them providing options for the students' executive functions. Establishing learning goals and choosing appropriate strategies for their implementation are considered the domains that necessitate further consideration from the teachers, whereas the domain of providing a relevant and ongoing assessment is considered best-mastered by the teachers.

Summarising the analysis of the observation and interview data, it can be stated that the researchers noted positive development of a goal-directed and strategic learner's features. Students developed their executive abilities to plan the strategies of how to achieve the goal and perform the task, choose appropriate tools and media for task completion and presentation as well as provide feedback for their peers relatively well. Meanwhile, setting purposeful learning goals, choosing the means to achieve these goals and reflecting on one's learning experience can still be considered as areas for further improvement, although the students' development is also notable.

Throughout this action research, notable changes were recognised in the teachers' planning and implementation of the educational process in the classroom. The teachers considerably expanded the employment of media, tools and assistive technologies to facilitate the students' performance in the educational process, broadened their expertise in student scaffolding and feedback provision as well as guided the students in setting personal learning goals and selecting corresponding learning strategies and learning resources and tools. Although some aspects of UDL implementation still need further development (e.g. reflection, etc.), it can be concluded that the teachers also matured as expert teachers, able to ground their teaching processes on fundamental UDL strategies.

8.4 Discussion and Conclusions: Developing a Strategic and Goal-Oriented Student

In this chapter, we sought to represent the summarised research evidence of how, using the UDL framework in the Lithuanian context, we can create a student-oriented education process, specifically, how each student can become a strategic and goal-oriented student regardless of his or her abilities, needs, interests, etc. According to the UDL strategy, a student becomes strategic and goal-directed only if s/he has previously mastered the abilities attributable to a purposeful and motivated, as well as knowledgeable and resourceful, learner. In other words, when students know 'why' and 'what' they are learning, they can choose 'how' to learn.

The answer to the former (why and what) questions is related to the activation of different parts of the brain – affective and recognition networks – during the learning process (Meyer et al., 2014). The activation of these networks is an essential basis for the operation of a strategic network. This strategic network 'guides our behaviours by enabling us to set goals, identify strategies, focus, monitor progress and correct our course of action' (Rose & Strangman, 2007, 383). In other words, according to the UDL framework, this strategic network in the brain reveals the abilities of a strategic and goal-directed student (Meyer et al., 2014).

Following the action research results that were conducted in a Lithuanian school, it can be stated that the students did not fully reveal themselves as goal-directed and strategic participants in the educational process. In the context of applying the UDL approach, the following abilities of a strategic and goal-oriented learner were disclosed: respond to tasks, choose and apply media and aids of different modalities for an activity and demonstrate this activity's results and knowledge. The need for students to improve their ability to plan, apply and reflect, develop strategies for the attainment of learning goals, choose a learning strategy that complies with their learning strengths and self-evaluate the efficiency of the strategies applied for the attainment of goals is still relevant. The analysis revealed that the students still needed scaffolding and support while setting personal learning goals and planning their learning by employing multiple learning strategies.

As mentioned before in the case of our research, goal setting, self-evaluation, learning management and other skills necessitate improvement. As Schunk and Rice (1991) pointed out, for students to be able to self-evaluate their work as well as reflect on and analyse their learning process, a clear learning goal must first be established. The importance of goal setting in the outcomes of the educational process was revealed in the study performed by Dotson (2016). This study revealed that goal setting significantly improved the reading skills of fifth-grade students compared to their reading skills while in the fourth grade. Having a set learning goal ensures the development of students' learning achievements (Dotson, 2016). At the beginning of the learning process, what will be achieved in the educational process is already known, thus enabling the learner to design all learning activities in the classroom.

When searching for the factors that determine learning outcomes, it is important to recall the results of Hattie's (2017) research. The meta-analysis of 80,000 studies demonstrated that the main factors that potentially considerably accelerate students' achievement are teachers' estimates of achievements (effect size: 1.62), collective teacher efficacy (effect size: 1.57) and students' self-reported grades (effect size: 1.33). Self-reported grades are a practice by which students assess the quality of their work or their level of mastery of a given objective. Moreover, having a learning goal as part of purposeful and motivated learning engages the learner to immediately plan and choose a learning strategy that fits his or her learning 'profile'. The choice of a learning strategy underlines how a person thinks and acts while planning, carrying out and evaluating his or her learning activities and outcomes (Schumaker & Deshler, 2006). Having set a learning strategy determines learning success (Rovers et al., 2018) since the students can critically choose the mode of action that corresponds with their capabilities (strengths) during the learning process. The choice of such a strategy creates conditions for a smooth (effective) self-assessment of one's performance, which results in the success of learning. Consequently, effective planning, organisation, operation, reflection and self-assessment of one's learning process are directly related to the learning goals set at the beginning of learning. Thus, the absence of a learning goal at the beginning of learning prevents other abilities from developing effectively. In the case of our research, to achieve a goal-directed student in the Lithuanian context, it is important to ground the educational process in goal setting.

How teachers view their students affects the students' learning (Hattie, 2017). It is important for teachers to understand how their students learn and how their instruction affects not only the process of knowledge acquisition but also the process of developing learning skills through practicing, as well as examining and experiencing the environment. Relying on the strategic network of the student's brain helps teachers support his or her learning environment. Teachers can stimulate students' strategic network by gaining their attention, considering different learning styles, making the learning content meaningful and relevant for students, connecting it to their current knowledge and experiences as well as allowing them to apply it and personalise its meaning. Hence, it is important that teachers create

appropriate settings for learners to plan, organise, initiate, sequence, coordinate and monitor their purposeful actions, thus activating the brain's strategic networks.

The research results show that the ways to develop a strategic and goal-directed learner, which were applied by the teachers, only partially coincide with the principles of the UDL approach, which results in the slow formation of abilities attributed to an expert learner in this area. However, in the case of our study, there was an obvious change in teacher education practice in offering the students alternatives in the educational process, such as physical responses to tasks, navigating the learning environment and using multiple media for completing and presenting various assignments, etc. Therefore, it is not surprising that, in these areas, this study identified the obvious expression of a goal-directed and strategic learner. Under the conditions created by the teachers, the students responded to tasks and selected and used a variety of learning modalities (independently or in cooperative learning groups).

To become a full-fledged expert learner, it is necessary to ensure that the teacher's attention is focused on all areas, in accordance with the UDL strategy. For example, in the observed teacher activity, the teachers most often facilitated learners to interact with information in multiple ways. Such results of our study are also supported by the study of Schreffler et al. (2018). This study revealed that the teachers 'showed the most room for improvement on building competencies in the use of multiple options for students to express their understanding' (p. 362).

According to the UDL strategy, there is room for teachers to improve the field of executive functions in the Lithuanian context to develop a goal-directed and strategic student. Meanwhile, the essence of becoming an expert learner is the existence of coherence between all three UDL domains that are 'essential learning constituents: recognition of information to be learnt, application of strategies to process that information and engagement with the learning task' (Rose & Strangman, 2007, p. 382).

In the Lithuanian school, teachers' efforts to create an educational process that facilitates the development of strategic and goal-oriented students based on the UDL strategy was observed. Despite a rather critical position regarding UDL implementation during the first cycle of this study, the teachers recognised the value of the UDL framework at the end of the action research: 'UDL changes the system of education itself' (Teacher Goda, Interview with the teachers, 2021). Moreover, the teachers indicated that they had undergone certain (although slight) transformations as teachers: 'I note that my restrained progress has taken place' (Teacher Goda, Interview with the teachers, 2021). The teachers also saw value in continuing to ground their practice on UDL's key components: providing conditions for student engagement, presenting the learning content in multiple ways and enabling the students to demonstrate their knowledge and skill acquisition in various ways.

They also established UDL as a useful framework for the development of a student-centred education system and practice. However, the process of implementing new practices at a school is always a complex process. The implementation of UDL as a new practice in the school context has been explored by many scholars

(Abell et al., 2011; Schreffler et al., 2018; Scott, 2018; Van Boxtel & Sugita, 2019). Successful implementation of the aforesaid strategy into educational practice requires support from school administration, familiarisation of the UDL strategy during the studies and in professional development programmes (Scott, 2018). Like any other new educational practice, teachers' attitudes and beliefs are involved. Therefore, to implement a successful UDL strategy in Lithuania, it is important to acquaint future teachers with this strategy during the study process. As the case study in Lithuania shows, the application of the UDL strategy transformed educational practice by responding to the educational needs of each student. UDL can provide excellent educational access for other countries that, like Lithuania, create and develop an inclusive education system.

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