Developing Cognitive Strategies in Foreign Language Education

Zuzana Straková, Prešov University, Slovakia
zuzana.strakova@unipo.sk

Abstract
Being able to function successfully in a foreign language requires more than pure knowledge of rules of given language. It has been defined through a complex of competences known as “communicative competence” and from late 70s spread into countries where English was being learnt as a foreign language via textbooks, teacher training publications and courses. Teachers were searching for the best ways to teach their learners to communicate in real-like situations they might probably find themselves after finishing the course. Towards the end of 20th century, the focus shifted from what the teacher does to what the learner should do in order to manage their learning process. Advocates of the development of learner autonomy especially underlined the importance of equipping learners with skills and strategies which they should be able to use when they are left on their own – with no teacher around. They were supposed to become responsible for their own learning by discovering what kind of learners they are, what kind of learning support they need and what strategies can help them learn more effectively. New millennium placed even more focus on the learner of foreign languages analyzing thoroughly processes which directly or indirectly guide foreign language learning. Thinking processes in the language classroom thus became important both for teachers, in order to bring about learning, and for learners, in order to handle the learning process with ease. This article focuses on the possibilities of supporting the cognitive development of learners in early literacy skills development. The case study, which was conducted with early language learners at an elementary school in Slovakia, highlights strategies which teachers can develop in a foreign language classroom in connection with a reading programme.

Keywords
cognitive strategies, young learners, foreign language education, reading programmes

Introduction
Children start learning about the world around them from the very first days of their life. Learning process of children and their cognitive development are significantly influenced by adults in their environment whether it is in pre-school age or even later when the schooling starts. Especially younger learners need a lot of help from people around them since they lack prior experience which could get them through various life situations and tasks. They do not have their
strategies for solving problematic situations developed yet. They need to observe these in a context of their close environment or discover them by themselves in repeated actions. The latter, however, requires time, effort and predispositions while the former offers stimuli and often shortcuts in otherwise demanding tasks. Educational context seems to be the perfect space for offering such stimuli to learners from the very beginning by teaching them how to develop their thinking processes and their learning strategies. In other words, learning how to learn – and not only in the school context – should be considered as the key competence with which learners need to be equipped. The Common European Framework of Reference for Languages, which served as a prime source for building our national pedagogical documents for language teachers, states clearly that learners should be able to “recognize their own cognitive style” and that their learning strategies should be developed accordingly (CEFR, 2001, p.149).

The reality in schools, however, does not demonstrate the inclusion of those declarations in every day practice. We still see students memorizing facts with a clear understanding, that this is what the teachers want from them and thus the main goal for the students is just to meet teachers’ expectations. The dominance of the focus on the lower order thinking processes and skills has survived in our educational system for decades, and despite the effort that latest trends in EFL methodology make, the change for better is still far ahead. Learning to learn, learning to think or learning how to use learning strategies across the curriculum is not an area that should be taught as extra content but rather as a regular means of getting and discovering the content itself. Research into foreign language learning strategies sprang from the research findings in the area of second language learning in the middle of 20th century. Most researchers focused on observation and description of how learners handled the learning tasks and what resources they used. However, the nature of learning strategies, i.e. the fact that some of the strategies are used by learners consciously and some unconsciously complicates the research in this area.

The typology of the learning strategies has been made by several researchers who categorise them into various groups. One of the first important lists of strategies was proposed by Rubin (1981) in which she focused on such strategies which directly or indirectly influence the success in the learning process. She identified six major cognitive strategies which contribute directly to language learning: clarification/verification, guessing/inductive inferencing, deductive reasoning, practice, memorisation, and monitoring. Towards the end of 20th century, the key classifications of learning strategies were presented also by Chamot and O’Malley (1994), who distinguish three main groups of strategies – cognitive, metacognitive and social/affective, and by Oxford (1990), who goes
further and proposes more detailed division focused specifically on the foreign language learning. In any categorisation, however, we will find similarities in groups of strategies – those focusing on learning the language (cognitive strategies), those focusing on directing of the learning process in general (metacognitive strategies) as well such strategies which help the learner cope with the issues happening inside or outside of them (social and affective strategies). All these factors seem to have a profound influence on the success in learning and prepare the learner for the efficient use of the language.

Teaching English as a foreign language was not left aside untouched by the results of this research. The focus on the learner brought also an interest in possibilities of equipping learners with the power to make autonomous and informed decisions about their own learning process and about the selection of such strategies which suit each learner the most. Learning strategies started to be in the centre of attention of foreign language teachers, e.g. in CALLA – The Cognitive Academic Language Learning Approach by Chamot and O’Malley (Lojová & Vlčková, 2011). Oxford also claimed that learning strategies can be taught i.e. people can improve their learning through strategy training (Williams & Burden, 1997). Learning strategies when incorporated into regular work in the classroom can build the confidence of the learner in accessibility of all possible sources for achieving their aims. Individual learning strategies can be in-built in the development of any language skill. This study looks at how the focused use of cognitive strategies can improve the way young learners approach the text in a foreign language. It demonstrates how conscious application of selected strategies improves the comprehensibility of the text as well as speed in which the tasks are solved.

1 Case study: Development of literacy skills and cognitive strategies

Learning a foreign language is a complex cognitive task which requires an enormous effort from the learner side, especially when we speak about early language learning. Young learners starting with the foreign language instruction encounter a massive attack of new knowledge and competences they have to master in their mother tongue. They need to focus on the basic concepts, on mastering literacy in their mother tongue and since there are big differences in the systems of their mother tongue and the foreign language it would be too complicated and confusing for them to learn reading in both languages at the same time. Psychologists seem to agree on this point – taking into consideration the complexity of the reading process - and suggest that it is best for children to master reading in their mother tongue first. Only after mastering reading in their mother tongue they should approach reading in the foreign language. However, the experience of reading in their mother tongue can be beneficial also for
learning how to read in a foreign language. As Hudson (2007, p. 118) claims, “readers approach a text with a history of how they have dealt with text in the past. They have an internal default that sets how they initially attempt to comprehend.” Even cognitive strategies, used for decoding texts in their mother tongue, can be transferred to new experience, although as Dörnyei (2007) adds there is still rather limited evidence whether first and second language acquisition differ from each other only quantitatively, or whether there are also qualitative differences, especially when learning mechanisms are considered. Speaking about young learners, however, the efficiency of strategy use might be lower also due to the fact that they have not had enough space for their profound mastering.

Most studies in the area of cognitive strategies within the field of reading (e.g. Hosenfeld, 1977; Barnett, 1988; Jiménez et al., 1996) rely on recall protocols, both prompted and unprompted, or think-aloud protocols, interviews etc. in which students state how they went about approaching and grasping the text. The main research focus of this study was on the development of selected skills, interactions and growth of young learners’ ability to read. Since their metacognitive skills are not at such level that could serve the aim of research, the case study research seemed the most suitable method for investigation. Švaříček et al. (2007) characterize the case study research in the similar way; it focuses on the study in a real context, as close to real conditions as possible, and the researcher uses a combination of research methods to collect the data within a limited period of space and time.

Target focus group consisted of 22 learners (one class) aged 9 to 10 years (the fourth year at the elementary school) who were in their fourth year of learning English. The project was set into regular conditions of three lessons per week and English was taught by a qualified teacher of English from the first year.

1.1 Background of the research

The current research scheme followed the previous research project which focused on the development of reading through reading programmes at an elementary school in Slovakia. The selected elementary school has successfully implemented reading programmes in English into their school educational programme. This longitudinal project took over a period of three years and tested three reading levels in which the reading process was developed in accordance with psycholinguistic principles of the target audience. Reading programmes, which were designed for each level, took into consideration the average conditions in which English is taught at the primary level nowadays. The focus and the main aims at the first level were to help learners with noticing the differences between Slovak and English, word recognition, matching words and
pictures and pronunciation – via phonics training. The second level focused on mastering the areas such as spelling, guessing from the context, skimming, scanning, matching, filling in gaps, sequencing the text, as well as acquiring new words from the context. The programme designed for this level was based on reading a set of assigned books. The books consisted of simple texts usually accompanied by pictures for easier comprehension. Students were asked to read the books at home for the meaning, and the teacher afterwards focused on pronunciation of unknown words. After reading the book aloud to the teacher – to make sure the pronunciation of words was correct - and presenting their reading diary record, they were awarded a reading stamp for the book in order to keep the reading process motivating.

The reading programme designed for the third level consisted of intense reading taking place during the so-called Reading days. Children read a part of the chapter, worked on the meaning of the passage first and only later they analysed the language of the passage. They could use a dictionary to help themselves with the meaning of new words. The outcome of this part was a Reading diary, where they recorded new words they liked and a brief summary of the text. The stories selected for this level (easy readers, graded readers) were easy to follow because they were accompanied by motivating and very clear pictures, which helped a lot with understanding, and a picture dictionary. Pictures together with frequent repetition of key vocabulary (100 headwords) and sentences made comprehension easier. The main focus of this level was to develop especially comprehension of the text, and strategies like guessing from the context, skimming, scanning, problem-solving skills, etc. (for details see Straková, 2009). It was this level where the cognitive strategies training appeared to be the most suitable. Learners started to read longer texts, so reading comprehension could be developed.

1.2 Focus of the research

The first phase of the current research was designed for the period of one school year, and the check points for the strategies development were scheduled proportionally throughout the year. The data collection was conducted through:
- observations, where the prime focus was on the ability to apply selected cognitive strategies, the teacher intervention request while using the selected strategies as well as speed of mastering and comprehending the text;
- content analysis of reading diary logs, where the prime focus was on the analysis of the outcomes which might demonstrate the development of cognitive skills of the learner at the language level.

The research aim was to find out whether the focused training of selected cognitive strategies will enhance reading process in the target language. The
researchers anticipated that the focused training and practice of selected strategies will enhance young learners with a quicker response to the text read, with the ability to work out the meaning, the ability to see relations in the text as well as the ability to persevere with reading until the final phase. The secondary focus was placed on the pace of the task and the degree of independence, i.e. whether the learners’ pace and ability to work on their own would change as a result of the focused training.

The selection of the strategies for this study were based on the classification of Rebecca Oxford (see above) and from the battery of direct language learning strategies were chosen the following strategies: grouping (e.g. words from the text were grouped according to certain criteria – nouns, adjectives, topics, similarities, grammatical categories, etc. since this could help learners to see relationships between words), creating associations (usually based on the text read, which could help learners retrieve words from memory and thus to understand the text more easily), using new words in a context (which should help learners with consolidation of learnt vocabulary, and thus enhance better understanding of the text), semantic mapping (creating mind maps around topics, which also stimulates the ability to see the relations in the sentences and the discourse), using physical response (due to the age of the learners acting out new words, expressions or situations with the use of new vocabulary was a natural way of learning), summarizing (grasping the main idea of the text and the ability to express it though in a simple way), and sequencing (putting events in logical or text-based order, which also demonstrates the understanding of the text).

The memory and cognitive strategies help learners with working out the meaning of the passage read, storing and retrieving words from memory, finding connections and guessing intelligently as well as creating the structure for linguistic output. Of course, these are not the only strategies which learners use while reading a text; however, bearing in mind the specificity of the target group, the intention of the research was to map the initial reading experience with overlapping language learning strategies that young learners might use in their study.

1.3 Discussion of preliminary findings

The initial observations revealed remarkable differences among the learners in the classroom in the way how they approached the text, how often they required teacher intervention and supportive actions. The class teacher, who was also the teacher of the subject Slovak language, confirmed that slower readers who struggled most while reading in English demonstrated similar problems while reading in their mother tongue. It was an interesting discovery that the
learners used the same strategies when coping with a problematic situation as in the mother tongue.

Learners at this stage needed a lot of support and the speed of the reading process was rather low. The students were offered a dictionary as a support. Learners at this level start with using picture dictionaries and they are not expected to be proficient users of the entire dictionary potential. However, it is important for them to realize that there is an extra source – besides their teacher – that can help them with understanding of the text. As expected, only very few students used a dictionary as a tool at the beginning; instead they took it as an attraction and flipped through it meaninglessly not being able to find the desired word meaning. However, comparing the initial and the final observation findings, the progress was evident in both speed of reading (towards the end of the school year the speed of reading doubled, measured by the length of the text and time spent on reading it) as well as the ability to use dictionaries in a more focused way (the dictionary skills were added to the focused instruction after the initial observation).

What was also evident was the decline of teacher intervention requested by the learners. As intervention request the researchers understood such moments when the learners were not able to continue with the task on their own and required the teacher’s guidance. The moments when learners asked aloud a question which just required a confirmation of what the learners thought, were excluded since that was observed as a typical action of young learners in the classroom. The final observation protocol shows that only 3 out of 22 children needed teacher’s help and instruction of what they are supposed to do next (in comparison with the initial observation protocol, the first reading lesson 19 out of 22 children requested some kind of support). The rest of the class worked either independently on the teacher or requested teacher’s help only sporadically. The three learners who still relied on the teacher to help them with the text demonstrated very slow progress also in other school subjects. The class teacher expressed her belief these three learners needed deeper psychological examination but the parents would not cooperate in this matter.

The focused instruction consisted of repetitive practice of selected strategies throughout the school year while working with any text – textbook-based or a supplementary one. The strategies were included into pre-reading, while reading as well as post-reading activities and learners were encouraged to build on their prior experience with these strategies. The dictionary skills were practised through games, focusing on searching words in a dictionary, sequencing words according to the alphabetical order, etc. Learners were set the time-limited tasks for looking up a word in a dictionary, for solving a problem with jumbled
dictionary headwords which helped them in the lessons where they read the text independently and were supposed to look up a word quickly in a dictionary by themselves.

Out of selected strategies, which the study focused on, grouping proved to be the strategy that learners mastered the most easily and were able to handle independently. This strategy was being practised not only in connection with a text but also when new vocabulary was being presented and practised. In order to support multisensory learning, this strategy was used with real objects or together with total physical response. No intervention request was recorded in 21 out of 34 focused activities. Since the textbook used in the class included only two exercises focused on the development of this strategy, the teacher had to supplement the textbook by modifying exercises connected to textbook texts and including a variety of strategy building activities. Puchta and Williams (2011) present a set of activities for development of children’s thinking skills where teachers can find inspiration for their lessons enrichment (see chapter 2).

Two other strategies were very close to previous results: creating semantic maps, since this was the way new vocabulary was presented to students from the beginning of studying English, and using physical response because children find it natural to learn through involving the whole body, so employing action was viewed as natural and supportive.

The strategy of using new words in a context (new words from the text were used in new contexts, new sentences) showed only very little improvement, which might be caused by the limited linguistic competence of the learners at this level. Intervention was requested most times and a few learners struggled with this strategy until the end of the trial period. The outcomes resembled substitution drills since learners produced sentences very similar to the original sentence.

The other end of continuum belongs clearly to summarizing where learners requested most interventions (20 out of 22 students), and as the content analysis revealed, the outcomes were rather limited from the linguistic value viewpoint. It can be demonstrated on the following example: the original text: “She gives him her necklace. And he spins. He spins all the straw into gold” (Arengo, Rumplestiltskin, 2004, p. 5). An example from a student’s summary: “She gives him her necklace and he spins all the straw into gold.” This result, however, was anticipated since the ability to write a summary is underdeveloped at this age even in learners’ mother tongue, which was confirmed by the class teacher. She claimed that the same strategy – to copy parts of the text instead of summarizing the main facts – is used by the students in the Slovak language. On the other hand, because students need a lot of writing practice at this level anyway, even copying
parts of the text with interest is a valuable experience (Reilly & Reilly, 2005). This strategy also requires more time to be practised so the outcomes will be monitored also the following year. The other results from the content analysis of learners’ reading diaries shows that learners relied mainly on using words which appeared in the passage (87% pre diary log), and they tended to formulate short, descriptive sentences. However, towards to end of trial period the students managed to lower the number of sentences used for their summaries. While the first entries projected texts which were read quite closely, the final logs consisted with much lower number of sentences which learners considered to be the key sentences. Nevertheless, there was not much attempt (only 5 out 22 children) to modify sentences, to combine them or in some other way reduce the text.

2. Implications for instruction

The findings presented here are only the first results gained from the research of the development of foreign language literacy in Slovak elementary schools. This case study does not hold the validity parameters which could imply and suggest the definite approach in teaching children to read in a foreign language. However, these findings already reveal the facts that consistent training does help learners in the development of their literacy skills, and it can be approached from the very beginning of their development.

Textbooks used in schools nowadays focus on the language development in general. They do not provide the teacher with the complex material for the development of foreign language literacy. This is the task of the teacher to implement such activities focusing on the cognitive development in their lessons, whatever language skill or sub-skill is being practised.

The study presented above included a variety of classroom activities through which learners practised the areas selected for studies. Sample activities below were used in the focused training.

2.1 Grouping

Activities focusing on the development of grouping can vary from simple activities - where learners are given a set of words from various topics, and their task is to put these words to certain categories - to more demanding activities in which they search for certain relations among the words. Venn diagrams can also be used for expressing the relationships of selected objects or groups. It means that learners group objects according to their similar and dissimilar characteristics.

A sample activity where grouping involves early linguistic competence: students call out English words they like and the teachers records these words on the board. The students get a handout where they find the following instructions:
1. Look at the words on the board. Find out the number of syllables the words have got. Count them and write the number. (Words with one syllable:______ Words with two syllables: ___ Words with three or more syllables:______) 

2. Find the nouns among the words on the board. Can you put them in groups? For example: things to eat, people, sports, ...

3. Find words in plural and write them down. 

(Adapted from Puchta and Williams, 2011, p.46-47)

2.2 Creating associations

This strategy guides learners to make connections which might be personally relevant for them, e.g. based on their prior knowledge or experience, or it might be an original solution to a problem. This is a very important strategy to be trained since it helps learners in being flexible and inventive. Associations can be trained through simple activities in which learners build words chains: they say or write words and add the first word they associated with the previous word. They can also collect a set of words connected to a certain topic or word (e.g. school, morning, sports, lion, hot, etc.), or to contrasting words (e.g. big/small, cold/hot, happy/sad, etc.). What is very typical for creating associations is that the connections, presented by learners, can be surprising and the teacher might ask for an explanation. In this way, learners learn from each other and see things from a completely different angle as before the association was presented.

2.3 Using new words in a context

Recycling new words is a very important strategy to build strong links in the memory. It is essential that new words do not appear only in the original context they were used, but they should cross thematic borders. This strengthens the ability of the learner to retrieve the word with ease. A sample activity through which the teacher can support contextual variety: the teacher places flash cards with the words recently taught on board face down in a grid marked vertically by letters and horizontally by numbers. The class works in groups. They select a letter and a number and the teacher turns the flash card. The group of students is supposed to create a sentence using this word. Once learners get acquainted to this kind of activity, the teacher can take it to the next level and use two words in one sentence. The teacher can also use posters with more context, e.g. in the supermarket, at school, etc. and children are supposed to create sentences within the given context.

2.4 Semantic mapping

Semantic mapping is a strategy which helps learners to understand the concepts through graphical representation of relations between individual parts of the concept. With young learners, it can be used in a limited scale; however, we
can start getting them used to the strategy itself. Learners can collect the words within certain topic (e.g. this is a very suitable way of recording vocabulary for young learners). It can also serve for connecting words, actions, characteristics, etc. expressing their mutual relations; or it can serve for text/story summary and revision of certain topics. The most important keywords are included in the map and related to each other.

2.5 Using physical response

Using physical response is a natural way of expressing for young learners. It helps and supports memory to function properly, it activates learning centres of young learners, and it can be connected with any other cognitive strategy development. For instance, grouping as a learning strategy can be connected with physical action as in the following activity (Puchta & Williams, 2011, p. 34): “Learners are presented six categories (colours, numbers, food, school things, furniture, parts of the body) and the teacher brainstorms all the words children already know within each area. Then the teacher labels each category with a certain movement, e.g. Clap your hands, Stand up, Hands on your head, Knock on your desk, etc. After that the teacher calls out the words from various category and children need to respond with the matching movement.”

2.6 Summarizing

This strategy teaches learners how to reduce the text to the key ideas. Learners need to decide what the most important information in the text is and which ideas can be omitted. This is not an easy task for young learners, since, for them, everything seems to be important. It is more suitable for them to start with summarizing paragraphs or shorter passages than to ask young learners to summarize longer text or the story. Visualisation helps a great deal since it is less abstract for young learners to recall what happened in the story when they link it with a visual representation of the situation. The teacher can prepare a set of pictures or flashcards representing the main ideas, and the learners will be able to summarize the story according to this visual support. It is also suitable to teach learners basic discourse markers such as first, next, after that, finally because these can help them to sequence and structure the summary.

2.7 Sequencing

Sequencing is an important strategy which helps learners not only to understand the text better but also to realize that things and events in every-day life happen in a certain order. The ability to search and discover this order can be practised best in story-based activities where the content always follows certain order. This can be done through picture sequencing or word/ sentence/ paragraph sequencing. Besides the stories, it is useful to teach children that even
daily actions happen in a sequenced way and through pictures or sentences ask them to put them in order. For instance, we can use sentences: *I wake up. I have a shower. I go to bed. I read a book. I go to school.* Learners will organize those actions in the order as they happen during the day.

At this level, it is possible to start with simple activities as discovering the order of e.g. objects or animals and filling in the missing final object or animal. The learner is supposed to notice how the objects are sequenced and identify which object follows the last appearing one.

Sequencing can be developed also through grammar-based activities. For instance, learners can practise word order by lining up with word cards, each learner holding one card. Their task is to form a sentence out of the cards.

**Summary and conclusions**

Learning process is in general influenced by many factors. Learners may differ in the way they naturally prefer to handle the input or how they react to stimuli. These aspects influence the learner on both conscious as well as subconscious level. As learners proceed in the learning process it seems more important that they are able to direct their own steps, i.e. they do not rely on what happens in the classroom but consciously select the best ways how to reach their learning goals. The ability to make decisions about one’s own learning process, however, is not innate and has to be developed so that it could be used to the full potential (Scharle & Szabó, 2010). Using learning strategies effectively should make learning easier, faster, and even more enjoyable.

Developing cognitive strategies within reading programmes with young learners raises motivation and challenge to read in a foreign language. As Gavora (2008) claims, higher motivation supports deeper understanding of the text and activates prior knowledge of the learner as well as their metacognition.

This research paper presented partial outcomes of the initiative to discover whether training of cognitive learning strategies can help learners to approach reading in a foreign language. Since the target group consisted of young learners whose cognitive capacity is still developing and abstract thinking cannot be taken for granted, the choice of strategies was selected in such a way that it would enhance rather than hinder the learning process. Even this limited scale of strategies provided a clear indication that reading as a skill can be developed through step-by-step training of strategies developing cognitive processes of the learner. Development of cognitive processes and the development of reading are interconnected and should be treated that way by teachers in practice, whether we speak about reading in mother tongue or in a foreign language.

Next phase of the research project will pay attention to whether the focused instruction influences reader’s ability to access more extensive texts on a higher
level of comprehension with the inclusion of other, more specific, reading strategies.

Foreign language reading as a skill is frequently taken for granted, especially when older learners are addressed. However, it would be too simplistic to imagine that once a person learns how to read, he or she will automatically be an efficient reader. That is far from true and it remains an important duty of an educator to plan thoroughly the development of reading broken down to individual strategies. The sooner this education starts the better for the reader.

Acknowledgment
This work was supported in part by a grant from the Ministry of Education, Science, Research and Sport of the Slovak Republic – project KEGA 006PU-4/2012 Development of Foreign Language Reading Competence Through Reading Programmes.

References


Contact
assoc. prof. Zuzana Straková, PhD.,
IAA FF PU, 17. novembra 1, 080 01 Prešov, Slovakia,
zuzana.strakova@unipo.sk