In this paper we assume that we can stimulate the development of speech, help language acquisition and diagnose the development of child speech only based on child speech development and child thought knowledge. But child speech is not sufficiently explored at the moment. We believe that there are universal tendencies of language acquisition. So far, in connection with the issue of universality and innateness, discussions focus in particular on grammar. Languages that use agglutination (e.g. Slavic languages) allow comparing derivation with grammar and its acquisition. The word-formation rules are the result of formal and semantic relationships between words, therefore the way of acquisition and the use of the word formation system of language is largely specific, but for now unbeaten. We suppose that the acquisition of the word formation system of language starts in later development and, due to the use of cognitive structures, it is more difficult than acquisition of reflection. We are trying to verify the fact for the examination of child’s speech. We want to answer the following questions: Do children compose words spontaneously? If so, at what age and how far are they represented in a child’s speech? Can we link the incidence of compositing words in child speech with child thinking or with specific language? Can we influence child speech and diagnose it in terms of word-formation? We will use a combination of methods – group and individual, longitudinal and individual studies, spontaneous communication, naming files, creating names, literary texts, project teaching, to make the results credible. The research results should help in stimulating child speech and its more complex diagnosis in school.

Keywords: word-formation system of language, cognitive system, development of child cognition and speech, word-formation in education

A precondition for teaching the Mother tongue should be the understanding of the rules of the language system, the ontogeny of child speech, the development and working of cognitive structures. It is by taking into account all of these factors that we are able to adequately stimulate child speech as
well as the thinking of a child of pre-school and young learner age. We believe that our language competence is a part of the cognitive competence and that we have at our disposal some universal principles of acquisition of any type of language. Even though in terms of this paper, we want to show the synergy of language research and the ontogeny of speech and the transformation of the results into the methodology of the Slovak language, the following discussion and its results may be applied to the instruction of any first or foreign language.

Concerning compounded words in Slovak linguistics, so far, there is no satisfactory research under way in any of the mentioned areas. This state points towards the tasks and direction of Slovak derivatology or linguistics as such as well as of the methodology of the mother tongue.

1. Compile a detailed and complex description of compounds and quasi-compounds in the Slovak language.
2. Publish a monograph regarding compounds in the Slovak language.
3. Compile a formation dictionary of Slovak compounds – an academic version and a reduced version for school practice.
4. To make available the description of compounds not only to the academic public but also to a wider public (common language users), by means of electronic editions of research results.
5. Try and describe the functioning of word-formation with regard to mental processes and brain functions and the ontogeny of child speech.
6. Based on the results of the research of the language and the ontogeny of child speech, show the possibilities of acquisition of a language and stimulation of child speech in school practice.

Research Goals

Based on the indicated, the goal and subject of our research is, firstly, the description of the formation system of the language, specifically the description of the functioning of compounds within the word-formation system of the Slovak language. Secondly, we are trying to focus on the development of child speech in pre-school and young learner age – the ability of children to use, create compounds and understand their semantics. At the same time, we try to explain the relationship between the development of cognitive and word-formation structures and indicate possible means of their diagnostics, based on compounding. Thirdly, we transfer this knowledge into the creation of instruction projects, aimed at the acquisition of the word-formation system and the stimulation of word-formation production of child speech.

Research Bases

When describing composites, we continue in the linguistic theory of word-formation motivation, introduced into Slovak linguistics by J. Furdík (1993, 2004, 2005). We therefore understand word-formation motivation as the justification of a linguistic expression of the stated phenomenon. We consider such denominations as motivated, where there is a synchronically valid, linguistically provable response to the question “Why are things called the way they are?” (teacher – a person who teaches, greenhouse – a house in which green plants are grown). At the same time, we follow the objective of creation of a lexicographic work that would record word-formation parameters of each word-formation motivated word in the language. In terms
of the project *Compounds in the Slovak language*, we continue in the work of *Issues of a lexicographic underpinning of the word-formation system of the Slovak language* (2006) and *A small Slovak word-formation dictionary* (VEGA grant project).

We had stated that language competence is a part of the cognitive competence of man. This means that the principles of linguistic behaviour are analogous to the principles of behaviour as such. The uncovering of structures and the presentation of the functioning of these cognitive principles are treated by *cognitive linguistics*. In Slovakia, the authors of the volume *Jazyk a kognícia* (Rybár, Kvasnička & Farkaš eds., 2005) tried to describe the general rules of a cognitive system, i.e. the cognitive abilities of the brain, the cognitive process and system. The American psychologist and linguist Steven Pinker (2003) presents the nature of language and thought, based on a single phenomenon – regular and irregular verbs in the English language. He treats the functioning of the English language in his book *Words and Rules* (Pinker, 2003), which corresponds with the results of our analysis of child speech (Vužňáková, 2009a, 2009b) and with the basis of the research of word-formation motivation in the Slovak language.

As far as domestic research is concerned, we base our own research in further cognitive-linguistic works by L. Liptáková (2010), concerning the relationship of cognitive and word-formation structures and by L. Maršálová (1982) on the organisation of a child’s mental lexicon. So far, when treating the functioning of child speech of the intact population, data had been reduced to the sound of language, i.e. the data had been connected mainly to logopaedic care and prevention (Sovák, 1984; Lechta, 1990, 1995, 2002). Recently (the 90ies of the 20th century), the situation on Slovakia begins to change and it is starting to follow child speech from various points of view (Slangová, 2008). We also attempted a research of the ontogeny of child speech by means of case studies, dealing with the morphological and word-formation (lexical) part of child speech (Vužňáková, 2009a, 2009b) and by means of the university course book titled *Dieťa a slovotvorba* (Liptáková & Vužňáková, 2009). The presented paper in based in the structure od the book: 1. a description of the functioning of the word-formation system of the language; 2. a description of the word-formation aspect of child speech; 3. proposals for education activities aimed at the stimulation of child speech and the thinking of the child at the pre-school and young learner age. A specific aprt of the course book is the website: [www.das.unipo.sk](http://www.das.unipo.sk), which contains a dictionary of children occasionalisms and a small word-formation dictionary, composed of words connected to child speech, i.e. diminutives, exaggerations, names of young animals, prefixation words and compounds, the word-formation meaning of which deviates from the lexical meaning.

In terms of English and French research, word-formation is understood as a part of grammar. From our point of view, word-formation is a motivation in the middle of the grammatical and lexical level of the language (compare Furdík, 1971), which is supported by research in the language system, the development of child speech and the functions of cognitive structures when using word-formation motivated words (see further).

**Linguistic and Lexicological Research**

Beginning with the first, ground-breaking attempts of D. S. Worth, A. S. Kozak, D.B. Johnson (1970) and A. N. Tichonov (1985) up to the current lexicographic works (Jadacka, 2001, 2004; Sokolová, 2005), there is still no
word-formation dictionary that would, for each word-formation motivated word, express its word-formation meaning, i.e. that would give information on why something is called the way it is (e.g. English: *sleepwalker – a person who walks when he is asleep* vs. Slovak: *námesačník – someone who is sensitive/responsive to the moon*).

In terms of the Slovak language, the initiator of such a word-formation dictionary had been the leading Slovak derivatiologist J. Furdík (2004). In cooperation on the Slovak word-formation dictionary, we proposed and created a pedagogical version of this type of dictionary.

As the principles word-formation is built on may not be tested in a way it can be done with the rules of grammar and spelling, we decided to compile a Small word-formation dictionary of the Slovak language, which may be used in school practice and would help every-day users of the language to uncover the reasons why this or that form of a word is correct. This fact distinguishes our work from the ground-breaking project of J. Furdík (2004), entitled *Slovotvorný slovník slovenčiny* (Word-formation dictionary of Slovak language).

When creating the SSWFD, we take into account not just the results of linguistic research, but also a methodological form of word-formation theory. Word-formation parameters, or the characteristics of a motivated word, are chosen based on the manner of teaching word-formation theory on all levels of education and they are ordered in such a way as to enable the use of the SSWFD in teaching the Slovak language to young learners: Word (motivated/non-motivated word): MILLER – 1. word-formation meaning: *a person who works in a mill*; 2. motivation/non-motivation: M; 3. motivating (original word): mill; 4. word-formation structure of the motivated word: mill-er; 5. word-formation process that created the respective motivate: suffixation; 6. word-formation category and types of word-formation categories: deverbation, agens. The succession of the specific parameters depends on the spiral distinction of knowledge at specific primary school forms, secondary school levels (see Liptáková, 2003) and university levels (see Dziaková, 2003), but at the same time, the creation of the dictionary respects current word-formation linguistic or linguistic-pedagogical research (Horecký, Buzássyová & Bosák, 1989, Furdík, 1993, 2004; Sokolová, 2005).
Example of a small Slovak word-formation dictionary

<table>
<thead>
<tr>
<th>Heslo (motivát)</th>
<th>Slovotvorný význam</th>
<th>Motivovanosť</th>
<th>Motivant</th>
<th>Slovotvorná štruktúra</th>
<th>Slovotvorný postup</th>
<th>Slovotvorné kategórie</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>0 0 0 0 0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>fa</td>
<td>0 0 0 0 0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>fabríčka</td>
<td>malá fabrika</td>
<td>M fabrik a</td>
<td>fabrič-ka; k/č</td>
<td>sufíxácia</td>
<td>S → S, mod., zdrobenina</td>
<td></td>
</tr>
<tr>
<td>fabrický (výrobok)</td>
<td>taký, ktorý sa robí vo fabrike</td>
<td>M fabric- ký</td>
<td>fabric- ký; k/c</td>
<td>sufíxácia</td>
<td>S → Adj, mut., miesto</td>
<td></td>
</tr>
<tr>
<td>fabrika</td>
<td>0 0 0 0 0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>fabrikant</td>
<td>ten, kto pracuje vo fabrike</td>
<td>M fabrik- ant</td>
<td>sufíxácia</td>
<td>S → S, mut., konateľ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fabrikantský (ť-á práca)</td>
<td>taká, ktorú robí fabrikant</td>
<td>M fabrikan t-ský</td>
<td>sufíxácia</td>
<td>S → Adj, mut., subjekt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fabrikovatť</td>
<td>produkovať ako vo fabrike</td>
<td>M fabrik- ovať</td>
<td>sufíxácia</td>
<td>S → V, mut., nositeľ vzoru činnosti</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fabula</td>
<td>0 0 0 0 0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>fác</td>
<td>0 0 0 0 0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>facka</td>
<td>0 0 0 0 0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>fackatť</td>
<td>dávať facky</td>
<td>M facka</td>
<td>fack-atť</td>
<td>transflexia</td>
<td>S → V, mut., nositeľ objektu dejá</td>
<td></td>
</tr>
<tr>
<td>fackovatť</td>
<td>dávať facky</td>
<td>M facka</td>
<td>fack-ovať</td>
<td>sufíxácia</td>
<td>S → V, mut., nositeľ objektu dejá</td>
<td></td>
</tr>
</tbody>
</table>

Heslo (motivát) – motivated word  
Slovotvorný význam – word-formation meaning  
Motivovanosť – motivation  
Motivant – motivating word  
Slovotvorná štruktúra – word-formation structure  
Slovotvorný postup – word-formation process  
Slovotvorné kategórie – word-formation categories

Research into the Cooperation of Cognitive and Word-formation Structures

Looking at the ontogeny of child speech and the comparing of child speech and adult speech, we can pinpoint not just linguistic, but especially higher, cognitive universals, which influence the manner in which we adopt a language and in which a language and thinking work. If we understand language as a part of our cognition, we see that language is a system, comprising just two elementary universals sub-systems – an inventory of units and an inventory of rules. Compounding is a linguistic phenomenon, which may be used to show the synergy of both mentioned sub-systems of the language, from the point of view of utilising cognitive principles of our mind as well as further functions of the brain structure.
Following the ontogeny of child speech, we can thus uncover two elementary sub-systems of the language, which are dependent on the functioning of two separate cognitive systems (comp. Vužňáková, 2009b). Here, we see a consensus with Pinker's (2003) hypothesis of words and rules. It is a theory of two cognitive systems, where one takes care of the lexicon and the other of rule creation. Contrary to Pinker, we replaced words with components. We presume that this inventory may contain even an inventory of sound-level components of the language (phonemes and phones) and means of creation of words and grammatical forms.

<table>
<thead>
<tr>
<th>COMPONENT INVENTORY</th>
<th>RULE INVENTORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>(phones and phonemes, words – lexical units, but also means for the creation of forms and new words)</td>
<td>(flection, word-formation)</td>
</tr>
<tr>
<td>Individuality of meanings and multiple-meanings</td>
<td>general nature of rules</td>
</tr>
<tr>
<td>Situation character and subjectivity</td>
<td>Systemic character and transfer</td>
</tr>
<tr>
<td>Openness in relation to context</td>
<td>Final set of rules</td>
</tr>
<tr>
<td>Generalisation – meaning prototypes</td>
<td>Generalisation - rule types</td>
</tr>
<tr>
<td>Individual character of learning word meanings</td>
<td>Same errors, development in same stages</td>
</tr>
<tr>
<td>Repeating signs – words is easy, it is hard to understand what they mean</td>
<td>Rules don’t need to be understood to be able to use them – they are a part of the cognitive equipment of man, setting the way we grasp the world.</td>
</tr>
<tr>
<td>Explicit memory</td>
<td>Implicit memory</td>
</tr>
<tr>
<td>More complex and long-term creation of memory traces</td>
<td>More simple manner of learning – automatic character – neurons activated just by observing</td>
</tr>
<tr>
<td>Function of left and right brain hemisphere – logic, linearity + association, imagination</td>
<td>Function of left brain hemisphere – logic, linearity f</td>
</tr>
</tbody>
</table>

We tried to represent Pinker's (2003) hypothesis graphically so that it would correspond to our analysis of child speech.
By means of the dotted line and the intersection, we are trying to show that memory and mental rules do not function in isolation, even when their use is connected to different parts of the brain. Both cognitive systems affect each other and amend each other (e.g. mental rules are activated when we uncover the meaning of compounds like *lavoboček* (composed of “left” and “side” – meaning an illegitimate child), whereby their content – relationships between the onomasiological trait, connection and onomasiological base may be different: *lavoboček* – *something kept at the left side, one who turns left, that which is turned to the left side*; and that is why they need to be stored in memory: *lavoboček* – *one who originates from the left side*). The functioning of the language is dependent on mutual relationships between components, and the relationships between rules (e.g. a conflict between systematisations, which creates double forms and ruptures the systemic character of one of the areas, comp. Dolník 2005:70-73). Based on this, we may explain:

1. what makes up the ability to use compounds in communication;
2. why, at the beginning of ontogeny, no compounds in speech occur and if they occur, they do so only rarely;
3. what is the relation between the use of compounds in speech and the manner of thinking and adopting a language;
4. why is the knowledge of the semantic aspect of compounds – especially those the lexical meaning of which deviates from the word-formation meaning – problematic not only for children but also for adults;
5. how is it possible to affect and assess (diagnose) the ontogeny of speech not just on the basis of the sounds or morphology (use of word classes, declensions) but also on the basis of word-formation parameters, by means of which the child is able to intuitively utilize and use them in its own speech.

We presume that the functioning of word-formation is connected with two language modules, as proposed by Pinker (2003) for English verbs: 1. word-formation non-motivated lexical items and word-formation means (their use is dependent on memory storage); 2. word-formation motivated lexical items (created based on word-formation rules, which the child learns very quickly to use and transfers them analogically to new words, which it had never heard before (*lyžiće*, *vidlice*, *pokolenky* and *nadkolienky*, Valec *dovalkoval*). Hyper-generalisation or the creation of non-conventional words disappears with the creation of permanent memory traces, which leads to the development of the word stock. This also corresponds to the fact that the appearance of occasionalism in pre-school age and with young as well as older learners has a decreasing tendency. The child is constantly more able to interpret reality by means of the so-called conventional words and has, therefore, less and less reason to create original words (Liptáková & Vužňáková, 2009:65). This later emergence and lower frequency of use of compounding (even in the creation occasionalisms) compared to derivation is a reflection of a generalisation of a rule based on its frequency of use in speech of adults. On the other hand, the relationship between bases is expressed more explicitly, which means that the onomasiological structure is clearer in reflecting the meaning (an example may be the following fictitious equivalents by university students to the word *dog*: *štekač* – *one who barks*, *štekotvor* – *a being that barks*; and the word *book*: *písmenkár* – *that which contains letters* vs. *infozdroj* – *a source*.
of information; compare Liptáková & Vužňáková, 2009). That is why adults prefer compounding when creating occasionalisms.

Taking into account the manner of functioning of cognition and language, word-formation (as opposed to grammar) is a synergy of both presented systems. We have shown that if a child does not have a sufficient memory developed, hyper-generalisation occurs and occasionalisms are created, which means that a rule is activated, based on its transfer to new situations or new non-conventional words. A word-formation rule also helps us to answer the question why we named something in a specific way, or why something is called the way it is. As opposed to the creation of grammatical forms, which is connected to the form of the word without any change to the content, word-formation motivated words express also the formal-semantic relationship with the motivated/motivating word, to the origin/s of the word. It is for this reason that we believe that word-formation motivation as well as the creation of compounds requires the use of both cognitive systems at the same time. This would also explain the fact, why in child speech, word-formation follows after grammar (Vužňáková, 2009b).

Child Speech Research

We believe that the acquisition of word-formation is more difficult than the acquisition of flection. We try and verify the statement based on research of child speech, following these questions and presumptions.

- Do children create spontaneous questions? If so, at what age and to what degree are they manifested in speech?
- Is the presentation of compounds in child speech connected to the thinking of the child or rather to a specific language?
- Is the use of word-formation motivated words at the early stage of ontogeny of the child connected to universal linguistic phenomena - hyper-generalisations, similarly than it is with the use of grammatical forms? If so, can these be specified just as it is in grammar?
- Can we influence child speech and diagnose it from the point of view of word-formation?
- At what age do children implicitly acquire rules of the word-formation system of the language, i.e. they understand the word-formation meaning and are able to use word-formation rules in h creation of word-formation motivated words?

A part of the research has been performed at the kindergarten Sabinka, Sabinov Street, Prešov, on a sample of 15 children, aged 5-6. We consider this age to be a break-through period – an intellectualisation of speech takes place (the child should be using all word classes and should by applying language rules, especially, grammatical rules, the child is starting to perceive the so-called language game – indirect names, paradoxes, grammaticality, pragmatical aspect of lexical units.). From the cognitive point of view and according to Piaget (Piaget & Inhelder, 1997), this is called the pre-operative stage and intuitive sub-stage, which is marked by ego-centrism and irreversibility.

The aim of the research was to answer the question, whether children dispose of the word-formation system of a language at a specific age and are able to use it when creating word-formation motivated words and understand their meaning. We have been comparing the understanding of the meaning of a frequently-used compound and of a compound rarely used in speech of
language users: of a compound, the word-formation and lexical meaning match and an exocentric compound, the lexical meaning is dependent on the knowledge of the onomasiological base; the creation of a composed word analogically based on a model and based on the word-formation meaning and without a previously-heard model; the creation of derived and composed words. At the same time, we attempted to find out, whether the ability to use word-formation parameters corresponds to the ability of using cognitive operations.

The research has been performed in two phases. In terms of the first phase, we were assessing the level of use of word-formation language rules. When monitoring child speech, we used the following methods:

- project teaching – listening and interpretation of a literary text, puzzle (connecting linguistic and cognitive operations);
- dialogue;
- pictures – naming of objects using a term map and connecting images.

The second phase contained the assessment of the level of cognitive synthetic-analytical operations by means of combining images according to a model. The result of the research is the conclusion that the creation and use of compounds depends on these elementary factors:

1. utilisation of both parts of the cognitive system – memory and mental operations;
2. a maturing of cognition – synthetic-analytical operations, memory, centration;
3. type of language and speech stimulation (communication – family environment).

1. If the child does not know a word and, thus, does not have it stored in its memory, it proceeds in the same manner as an adult speaker. It uses a rule – it analyses the word – it divides the compound into two parts and creates a relationship between them, which does not have to correspond to the actual meaning of the word: bolehlav (composed of “pain” and “head” meaning hemlock) "my head aches"; “he must go with a headache"; “it is very bad"; lavboček (composed of “left” and “side” – meaning an illegitimate child) "left side". On the other hand, if the child has the word stored in its memory and it recalls this word in connection with the model, it uses it instead of creating a word based on the task, e.g. A giant, who eats meat is called a meat-eater. How do we call a giant, who eats bones? – “darmožrác" (good-for-nothing); A frog that is happy is called a happy-frog. How do we call frogs that are afraid – “strachopudec" (butt-twitchers). Even if the child analyses the model and, by means of synthesis and analogy creates a compound, the result is not really adequate. This is connected to both the length of the compound and memory as well as the fact that the child does not dispose of a perfect procedure of compound creation in Slovak. The child will not transfer the entire structure of the compound – it leaves out the linking morpheme or syllable, the phonemes of the first root or it will insert redundant components: *strach-o-žaba X *strach-žaba (fear-frog); *strom-o-socha X *strom-socha (tree-statue); *kost-i-jed X *kos-o-jed, (bone-eater); *kost-i-strom X *ko-suJu-strom (bone-tree).

2. The monitoring of child speech and the comparison of child speech and adult speech indicates that we may be able to delimit not just linguistic but also higher, cognitive universals, which influence the manner of functioning of thinking and language. We dispose of certain inborn schemes of judgement, i.e. one mental programme controlling the area of language and...
at the same time, it influences extra-linguistic and meta-linguistic activities. The mental programme develops. Its degree of development is reflected in the ontogeny of speech and language use. We assume that our thinking is based on universal cognitive principles it stands on and it also rules the manner of language acquisition. In this sense, we may assume that it is not universal grammar, but universal cognitive principles that enables us to acquire any language; it is not inborn language structures, but inborn cognitive structures are the mechanisms that enable us to acquire and process any data, i.e. even data on the functioning of language, activated based on input from the external environment. An example of this is the connection between synthetic-analytical thinking and word-formation of a child of pre-school age and the meaningful ordering of puzzles into one whole. There is a correlation between the composition of a picture from individual parts based on a model and the creation of motivated words (derived and compounded).

If the child does not perceive the word structure but understands it as a whole, a label, it is not able to analogically create word-formation motivated words, not even when it is presented with a model for their creation. On the contrary, when the child reached a sufficient level of synthetic-analytical thinking, it will create words by means of analogy, based on the model (occasionalisms), which it has never heard before. The thinking of the child of pre-school age is, furthermore, centralised. A mark of this is the fact that in the process of explaining the meaning of words and their creation, the child is not able to make use of both elements (word-formation bases) of the composed word. It focuses its attention at one sign of the situation, which manifests itself in the explanation of the word-formation meaning of the word: What is rýchločistiaření (speed-cleans)? – “they clean things”; “they wash things”; What is bolehlav (composed of “pain” and “head” meaning hemlock) – “great pain”; and in the creation of derived words instead of compounds. The ability to create compounds also depends on the complexity of the word-formation process the compound is created in: pure compounding, compounding-suffixation, compounding-transflection. When the child is supposed to create a word based on the last of the stated processes, it will sometimes rather choose a compounding-suffixation process or it will attach the word-formation base without derivation: strom-o-jed* – (tree-eater) X strom-jedl-ík, strom-jesť, stromo-žere). This fact is connected not just to the more complex manner of creation of words, but also to the state of the language, i.e. in the Slovak language, there are only 16% of motivated words created by means of compounding and 10 to 11% derived from words created by transflection (Furdík, 1993).

3. We assume that the child is born with a genetic predisposition to acquire any language or the rules of any language. It generalises the rules of this language, i.e. the rules of the mother tongue, and transfers them by means of analogy onto other words. As in the speech of adults, derived words are dominant and the child first produces the most general rules, child speech first features derived lexical units. That would mean that if the parents would communicate with the child in German or Hungarian, which are mostly based on compounding, this fact will be mirrored in child speech. The child will, spontaneously, create composed motivated words, as opposed to a child, whose mother tongue is Slovak. This fact is proven by means of the performed observation. From a total of 95 answers, 39 were correct. Children created 15 compounds adequately, by means of analogy (15 types of occasionalism), which occurred more than once, which is about a 40% success rate. When using and creating derived words – from a total of 45 answers – only 16 were incorrect (or the children did not and could not answer), which is about a 70% success rate. The reason for such inadequate
answers can, in most cases, not be the level of cognitive operations but the
tendency of children to create derived words or two-word words. The reason
for that is that child speech is a reflection of adult speech, in which the
functioning of a specific language is mirrored. Thus, the stated results reflect
the fact that the Slovak language features derivation as the more productive
manner of creating new words, compared to compounding and the most
common manner of creating new words is combining words, i.e. syntactic

Thus, the fact that in terms of child speech in the pre-school age, no
compounds are found and that the child does not create occasional words by
means of compounding or combining words or that such words appear in
child speech only sporadically, is connected to the more complex manner of
creation of compounded lexical units, to the mental maturing and at the same
time to the rules of language, which the child learns. The child forwards and
formulates thoughts based on observation of the manner of thought coding.

Based on the results of the research we see that it is also by means of
word-formation that we are able to diagnose child speech. The appearance of
word-formation motivated words (conventional as well as occasional) in
child speech is a sign of implicitly adopted rules of the word-formation
system of the language and of the achievement of a certain level in speech
ontogeny, which starts after the first experience of the child with flection
(gestures – first words – two-word phrases – flection – word-formation). At
the same time, the use of compounds by Slovak-speaking children starts later
than the creation of derived forms and it is connected with the maturing of
the brain – the creation of memory and the development of cognitive
functions. Despite that, our observations show that children of five years of
age should be able to use not only the rules of flection and tenses, but also
the rules of word-formation. These results lead us to the proposals for
education activities and projects, the aim of which is the stimulation of
simultaneous speech and thinking of the child of pre-school and young
learner age.

Proposal for the Adoption of the Word-formation System

Topic: scary animals (strašidelné zvieratá)

Aims:

a) cognitive: Adopt the word-formation rules of compounds (pure
compounding) based on analogy. Stimulate synthesis as a thought
operation. Realise word-formation meanings.
b) communicative: Increase lexical fluency and flexibility using the
compounding word-formation process.
c) literary-aesthetic: Perceive occasionalisms in literary texts and be aware of
their function (made-up word names a non-existing/made-up phenomenon).

1. Moderated dialogue – Animals and their appearance.
   Have you ever been to the ZOO?
   Which animals did you see there?
   Were you afraid of them?
   How does an elephant, lion or a crocodile look like?

2. Music-pantomime game following a song (realising the appearance of animals –
elephant, lion, crocodile).
   Based on the song lyrics, the children imitate the respective animals.
3. Preparation for the listening of a literary text followed by brainstorming.

Today, we will be reading about Winnie the Pooh (A. A. Milne: Medvedík Pú – Kapitola piata, v ktorej Prasiatko stretne Strašislona, 2002), where he wanted to catch the Heffalump/Strašislon/Scaryphant. (The English original *Heffalump* is translated as *Strašislon* in Slovak, which is a pure compound, combining the Slovak words for Scary and Elephant. In the text, we use the compound *Scaryphant* to come close to the original purpose of the exercise.)

How does a Scaryphant look like?
Why is he called that?

4. Listening and text interpretation

Who wants to catch the Scaryphant?
What kind of trap did they set for him?
Who got caught in the trap?
How did Winnie the Pooh get caught in the trap?
Who came at that moment and why?
Did Piglet find the Scaryphant?
What should Winnie the Pooh and Piglet have put in the trap instead of honey?
Can you catch a Scaryphant and why?
Why is a Scaryphant called a Scaryphant?

5. Lexical and word-formation exercise. Creating compounds based on analogy.

What other animals could be scary?
How would we call a crocodile/lion/tiger/bear if they were scary?
(scarydile, scarylion, scarytiger, scarybear)


Visualisation.
The children have three pairs of puzzles, which interlock. One part features a picture of a monster, the other that of an animal (elephant, crocodile, bear, lion). The children are supposed to create three words for “scaryanimals” by means of combining the puzzles and paste them onto a sheet of paper.

7. Presentation of works in front of the class.

One after another, the children step in front of the class and name their animals on the paper.

8. Generalisation.

Who do we call all the animals we created as a group?
Should we be afraid of them? Why?

**Conclusion**

The stated considerations and results are to be understood as a basis for a cognitive approach to the teaching of compounding in the Slovak language. It understands language as a cognitive reality and at the same time, it respects scientific theories of cognitive and speech ontogeny of a child. In terms of the paper, we wanted to show that data on the functioning of language, on the development of cognition and speech of a child may change the approach towards teaching of the mother tongue as well as any foreign language. Any language acquisition is subject to certain universal rules. Adults learning a foreign language make the same “mistakes” (they apply a rule even to irregular forms) as children do in acquiring their mother tongue, as the information on the language is processed based on two elementary sub-systems – memory and mental rules of generalisation, analogy and system.

We do not perceive the research as finished; quite on the contrary. We see it as a starting point for further research. To be able to provide answers
to all the proposed questions, it is necessary to continue in the description of compounds, word-formation motivation in Slovak as well as in other languages; in the description of child speech and the cooperation of cognitive and word-formation structures. It may seem that the development of child speech depends on the type, manner of functioning of a language as well as the manner of thinking. That is why the diagnosing of speech development of a child must be perceived through the prism of the reached level of mental operations and a subsequent stimulation of child speech by means of the stimulation of cognition of the child.

The paper is a partial output of the VEGA grant research “Kompozitá v slovenčine” (Compounds in Slovak language) no. 1/0924/11.

References


