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DOI: 10.15290/CR.2019.24.1.02

What Developmental Linguistics Can Offer L1 Education. An Example of the Relation between Implicit and Explicit Word-formation Knowledge in Slovak Speaking Children

Abstract. The paper focuses on defining the relationship between developmental linguistics and L1 education. We consider both theories and empirical research in developmental linguistics an important theoretical basis for L1 education, especially in pre-school and junior school aged children. The examples of research on child language in Slovak speaking children are used to clarify the possibilities of transforming the findings in developmental linguistics into the curriculum of language learning/teaching. The dynamic interactions of implicit and explicit linguistic knowledge in L1 education is the way how developmental linguistics' knowledge base can positively influence the results of language learning. The paper is based both on the analysis of theoretical sources and the empirical findings of qualitative linguistic research.

Keywords: developmental linguistics, L1 education, Slovak speaking children, implicit and explicit linguistic knowledge, word-formation.

1. Introduction

The aim of the paper is to analyse the relation between developmental linguistics and L1 education from a theoretical point of view and by means of empirical data collected from language research in Slovak speaking children in order to illustrate how the findings in developmental linguistics could be transformed into the curriculum of language learning/teaching.

We consider both theories and empirical research in developmental linguistics an important theoretical basis for L1 education, especially in pre-school and junior school aged children. In our

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opinion, the successful development of children's language abilities in formal education is not possible without knowing what the course of language development looks like and how the language of adults is acquired by children. According to Hoff (2001: 22-25) there are two approaches to the study of language development: the developmental approach with the basic question "What is the course of language development and how can we explain it?" and the learnability approach with the goal "to explain how it is that language is learnable by children". This means that educational theorists and educators in the field of mother tongue education should be acquainted with the most important empirical findings within these two research approaches. In the context of language development research findings we consider it to be of paramount importance to find out how a child's implicit linguistic knowledge could be linked with explicit language learning in school education.

In the paper we focus on: outlining developmental linguistics as a part of the cognitive model in L1 didactic communication; analysing the interactions between implicit and explicit linguistic knowledge in L1 education; presenting the empirical data on Slovak speaking children's language development research; and proposing the transformation of developmental findings into L1 curriculum. Our intention is also to arouse a discussion about the importance of developmental studies within the L1 curriculum.

2. Developmental linguistics as a part of the cognitive model of L1 education

The subject of developmental linguistics, i.e., the issue of language acquisition, comes under the broad research scope of applied linguistics (see Šebesta et al. 2016: 11-13). Traditionally, research on a child's language is considered to be a subject of psycholinguistic interest, therefore this relatively independent scientific field is also referred to as developmental psycholinguistics (see Slančová et al. 2008: 10). The research on child language has been carried out since the second half of the 19th century. Since then, it has undergone significant methodological changes and has responded to many questions related to language acquisition. As it is known, different theories of language development have been gradually formed since the 1950s, with the most significant ones being behavioral theory, the psycholinguistic-syntactic model (nativist theory), the psycholinguistic-semantic/cognitive model, socio-pragmatic theory, and the emergentist model (see Owens 2008: 31-59). As Owens describes:

> (1) Within the past several decades, five major theories of language acquisition have been proposed: behavioral, psycholinguistic-syntactic, psycholinguistic-semantic/cognitive, sociolinguistic, and emergentist. [...] Most linguists do not adhere strictly to one theoretical construct but prefer to position themselves somewhere between. This apparent fence straddling reflects the complexity of language and language acquisition (Owens 2008: 58).

It should be remembered that psychologists Jean Piaget and Lev Semjonovich Vygotsky belong to the most influential researchers of language development in children. Both of these psychologists studied child language development in relation to the development of a child's thinking, but each of them did so from a different methodological perspective. While Piaget's theory of cognitive constructivism (1997) focuses primarily on the internal mechanisms of language and thought development, and on the mental structure and mental representations, Vygotsky's theory of social constructivism (1970) emphasizes the social and cultural-historical determinants of language and thought, and stresses the importance of learning processes and environmental factors (see a discussion on Piagetian and Vygotskian work in Průcha 2011: 11-12). Despite the differences in acknowledging the degree of universality or socio-cultural determinants of a child's development, these two most influential theories of a child's psychological development agree on the relationship of individual developmental stages with the child's ability to form concepts.

Currently, the interdisciplinary research of language acquisition, besides the above mentioned developmental and learnability approaches, differs from a methodological viewpoint in applying rationalist, empirical and interactive approach (see Průcha 2011: 24-34). The rationalist (nativist) approach explains language acquisition based on the innate (hereditary) dispositions. The empirical approach stresses the impact of language input and the effect of a child's communicative functions on language acquisition. The complementarity of these two approaches is present in the interactive approach, which is characterized by E. Clark as follows:

(2) My own emphasis is on the social setting of acquisition combined with the cognitive foundations children can build on. So I view both social and cognitive development as critical to acquisition since it remains unclear how much of language is innate or whether any specialized learning mechanisms subserve it [...]. The emphasis here is on how (and how much) children can learn from adult usage, including child-directed speech. [...] I place considerable emphasis on the developmental processes required in learning a language from the first words on and none on arguing that children know (nearly) everything from the start (Clark 2009: 16).

Based on our own research on the language of children we prefer the interactive approach to language acquisition. Because of its complexity, we also find this approach the most appropriate theoretical basis for explicit development of a child's language skills. The interactive approach is also applied in the longitudinal research of child language, which has been systematically implemented in Slovakia since the 1990s (see Slančová et al. 2008, 2018).

The reason for studying child language development is "its potential value to basic research into the nature of the human mind" and also "its potential value to applied questions […] about designing education for young children" (Hoff 2001: 3). Thus, knowledge of the stages and regularities of language development, and the acquaintance with the most important methodological

approaches and empirical research in the field of language acquisition should become the compulsory part of professional expertise of theorists and educators in L1 education.

We consider developmental (psycho)linguistics a constituent of the cognitive model in didactic communication in L1 education, together with a complex of other linguistic and pedagogical-psychological disciplines. The cognitive model (or conceptual curriculum) is the starting point of didactic communication and it represents the scientific basis of a school subject, which is organized according to teaching and learning needs (see Adamčíková & Tarábek 2008: 139). The cognitive model is further transformed into the form of a project and then implemented in the subject curriculum (see Adamčíková & Tarábek 2008: 140-141). This means that the knowledge of a child's language development should be applied in projecting the input and output in L1 curriculum and eventually implemented in L1 classroom practice (see Liptáková et al. 2015: 31-36). In this context, the fundamental question arises, i.e., how to link the implicit linguistic knowledge of a child with explicit language learning.

3. The relation of implicit and explicit linguistic knowledge in L1 education

Research findings on the spontaneous course of child language development (based on the developmental approach) and on how a child acquires the language of adults (based on the learnability approach) also provide information on a child's implicit linguistic knowledge. Mother tongue acquisition represents an implicit process that is supported more by experience from using the language than by explicit rules, in opposition to foreign language acquisition.

Implicit knowledge is defined as internal unconscious knowledge, whereas explicit knowledge is understood as external conscious knowledge. Implicit knowledge is related to implicit language learning, explicit knowledge is the result of intentional and conscious explicit language learning. Research in various fields of cognitive neuroscience implies that implicit and explicit learning are two different processes, that there are separate implicit and explicit memory systems in the human brain, and that there are different types of language knowledge and knowledge about language, which are located in different parts of brain (see Ellis 2008: 1). The human implicit memory system processes language input automatically and it enables us to concentrate more on the meaning than on the form of communication. Implicit processing of language input is connected to predictable situations. However, if the automatic processing gets interrupted, a conscious support of explicit memory system is necessary (see Ellis 2005: 308).

Despite defining implicit and explicit language knowledge as different and dissociated processes, and despite their differentiation based on the various types of language representations and various neural systems that are supporting them, there is a dynamic interaction between them – interface (see Ellis 2005: 307):

(3) The interface question, at the very foundations of SLA, applied linguistics, and child language acquisition, has motivated a wide range of empirical research over the last 30

years, and the weight of the subsequent findings demonstrates that language acquisition can be speeded by explicit instruction (Ellis 2005: 307).

(4) The central issue of the interface question is just how much influence there is in the reverse direction, how much do explicit learning and explicit instruction influence implicit learning, and how can their symbiosis be optimized? (Ellis 2008: 4).

The stated theses defining the relationship between implicit and explicit language knowledge and their dynamic interaction are relevant for answering the key questions in L1 education, which is also obvious from the following statement:

(5) [a]lthough in native language acquisition implicit learning is primary, the development of self-awareness allows reflective examination, analysis and re-organization of the products of implicit learning, resulting in redescription at a higher level and the formation of new independent and explicit representations (Ellis 2008: 4).

Based on the above stated definition of the relationship between implicit and explicit language knowledge, it is vital to consider the implementation of a balanced learning curriculum in L1 education (see Ellis 2008: 7), which would be based on the dynamic interaction of implicit language acquisition and explicit language learning. The following part of the study introduces a proposal for linking implicit and explicit knowledge within L1 education. The proposal will be illustrated on the findings from the research on spontaneous child word-formation during the development of explicit word-formation knowledge in preschool and junior school aged children.

4. How could the findings in developmental linguistics be transformed into L1 education?

Our linguistic and developmental research on child word-formation in Slovak (see Liptáková 2000; Liptáková & Vužňáková 2009) proved that children have implicit word-formation knowledge at their disposal, based on which they spontaneously make derived or compound nonce-words. This research was conducted as a part of a wider research of nonce-words in spoken Slovak, i.e., besides children's nonce-words, adults' nonce-words in common spoken language were investigated (see Liptáková 2000). The process of collecting spoken nonce-words was long-lasting, since these words were not part of a conventional dictionary; they usually emerge ad hoc in an individual's vocabulary within a unique language context and are mostly used once[21]. For this reason we used a long-term observation method of data collection, where we observed different types of communication situations and recorded the ensuing nonce-words, i.e., we applied the above mentioned developmental approach to the study of language development. With the help of our university students, in the period from 1992 to 2000 we collected about 500 spoken nonce-words created by 3

2 We drew from the definition of nonce-words' features by A. G. Lykov (1976) and K. Buzássyová (1990).

to 15 year old children in their spontaneous language use. The collected nonce-words[3] were analysed from pragmatic, semantic and structural aspects; we looked for answers to the questions why and how children produce word-formation innovations, what words they produce, and why they do not use the conventional words.

In the period from 2000 till the present time we have continued with research by completing the database of observed children's nonce-words and above all by analysing the data from the viewpoint of educational linguistics, e.g., examining how the developmental findings can be linked with language education.

a) The findings regarding implicit word-formation knowledge

As to the developmental aspect in our research, the analysis of the data showed that creating nonce-words reflects a natural course of language acquisition for children. In the preschool age nonce-words mainly fulfil the naming function because of the insufficient conventional vocabulary of children (there are lexical gaps in children's vocabulary, see Clark 2009: 254-278). In the group of junior aged children, the creation of nonce-words decreases and children use word-formation innovations more pragmatically, e.g., as a means of more pertinent and economical expression or as a means of expressing the attitude towards the named phenomenon. Comparing the findings to our research of adults' nonce-words in spoken Slovak (see Liptáková 2000), the creation of novel words in pre-school children is more specific due to developmental reasons, but in junior school aged children the gap between the acquired conventional words and children's naming needs is on the decrease (see the developmental principle of conventionality, Clark 2009: 133). This means that the production of nonce-words in junior school age has similar features to adults' production.

On the other hand, what similarities are there in creating innovative word-formation units within both age groups? Children at pre-school and junior school age naturally apply word-formative structures and rules existing in the Slovak language, i.e., they use conventional word-formation models, roots, prefixes, suffixes etc., but they combine word-formation elements in an individual and non-conventional way. For example, when deriving place nouns in Slovak, the word-formation model "noun + suffix -áreň" (e.g., *mliek-áreň* – 'the place where milk (mlieko) is produced') is very productive. According to this model a child spontaneously creates the noun *zub-áreň* ('the place where a dentist works', *zub* = *tooth*), or *bábätk-áreň* ('the place where babies are born', *bábätko* = *baby*), although these words do not exist in the Slovak conventional lexicon. The ability to individually combine the elements of a word-formation system enables the child by providing an immediate and subjective interpretation of reality. Reflecting on basic naming needs as such and also on a child's concrete and dynamic thinking processes (see Piaget & Inhelder 1997), both age groups of children produce mostly person nouns, thing nouns, place nouns and verbs within word-formation innovations. Children's spontaneous usage of word-formative models and elements present in Slovak language while producing derived or compound nonce-

3 The list of collected nonce-word is available on the web page: `http://www.indi.pf.unipo.sk/das/3.pdf`

words represents the regular principle of word-formation, i.e., creating predictable derivatives or compound words while respecting word-formation rules (see Fleischer 1988: 11; Motsch 1988: 31), although nonce-words created by children are not a part of the conventional Slovak lexicon. Similarly, E. Clark stresses tracking productive word-formation patterns along with adult preferences in the interpretation of word-formation innovations in English speaking children:

(6) When children construct the words they need, they consistently rely on word-formation options from the language being acquired. They don't try out just any random combination of roots and affixes. They use well-established patterns that are productive in adult speech (Clark 2009: 277).

Yet, based on our empirical data in children's word-formation innovations, another word-formation principle is also applied – the analogical and holistic principle, i.e., a nonpredictable word-formation based on associations with word-formation patterns (see Fleischer 1988: 11; Motsch 1988: 31). For example, according to the pattern of the conventional person noun *sil-ák* ('a person who is strong') a child creates the non-conventional person noun *slabák* ('a person who is weak'); or according to the pattern of the conventional thing noun *vianočka* ('a cake baked for Christmas') a child creates the non-conventional thing noun *veľkonočka* ('a cake baked for Easter'). This manner of word-formation is also present in literary texts of Slovak authors, who create nonce-words particularly in children's literature (see e.g. Valeková 1993).

According to other experts in the field of word-formation, the analogy is an inner principle underlying each manner of word-formation (see Chanpira 1966). Even the basis for the regular word-formation is actually an analogy, i.e., one pair of words is created according to another one: x 1 : x 1 +suffix / x 2 : x 2 +suffix (see the concept of correlational word-formation, Kubrjakova 1981), e.g., see our previous example: *mlieko → mliek+áreň / zub → zub+áreň*. Regarding this issue, we consider it an important finding that all principles existing in conventional word-formation are applied in the child's ad hoc word-formation procedure. Accordingly, we suppose that children have implicit word-formation knowledge reflecting word-formation properties of the language being acquired.

The research outcomes also proved that the nonce-words formation procedure can be linked to the stages of a child's cognitive development, especially with the egocentric and dynamic character of a child's way of thinking (see Piaget & Inhelder 1997). Child cognitive egocentrism and centration are reflected for example in the spontaneous selection of a starting-point for derivation in a particular word, depending on the child's individual experiences with persons and things in his/her surroundings. For example, instead of the conventional noun *mixér* (*mixer*), a child creates the nonce-word *húkačka* (from the motivating verb *húkať = to buzz*); instead of the conventional noun *murári* (*builder*), a child creates the nonce-word *domári* (from the motivating noun *dom = house*); or instead of the conventional noun *cigareta* (*cigarette*), a child creates the nonce-word *fajč* (from the motivating verb *fajčiť = to smoke*).

The dynamics of the child's being and thinking is reflected in the fluency of innovative denominal verbs and also deverbal nouns. Derivation of a non-conventional verb from an individually chosen motivating noun (e.g. *gitara* → *gitarovať* = 'to play the guitar', *hokej* → *hokejovať* = 'to play hockey') is a typical word-formation process in language ontogenesis of pre-school as well as junior aged Slovak speaking children. This process reoccurs in every generation of Slovak speaking children and seems to be a universal process in the course of language development (compare a similar tendency in the word-formation innovations in Russian or English children; see Clark 2009: 268-270; Čukovskij 1963).

By comparing two age groups of pre-school and junior aged children we found that different cognitive structures in a child's semantic thinking influence derived denominal verbs. In the group of pre-schoolers, the half of collected non-conventional denominal verbs has the meaning of dynamic processes, such as: "to play" (*pištoľ* (a gun) → *pištoľ-ovať* = 'to play with a gun'), 'to move' (*hojdačka* (a children's swing) → *hojdačk-ovať* = 'to swing'), 'to work' (*plastelína* (a play-doh) → *plastelín-ovať* = 'to shape something from a play-doh'). Such semantic verb groups serve for expressing a child's perception of the world as a time-space continuum (see Piaget – Inhelder 1997). In the group comprising older children, the ongoing cognitive development is reflected in a bigger production of causative verbs as a means of expressing an intentional activity centred on an object, i.e., children mentally divide time-space into sequences (see Piaget – Inhelder 1997). For example, *hračka* (a toy) → *zahračk-ovať* ('to overfill the room with toys'); *test (a test)* → *test-ovať* ('to solve a test'); *tréma* (stage-fright) → *od-trém-ovať* ('to get rid of stage-fright'), etc.

The dynamic character of a child's manner of thinking is reflected also in the spontaneous selection of a starting-point for noun derivation in verb expression, although the same meaning is expressed by denominal derivative in conventional vocabulary. For instance, the conventional noun *vreck-ovka* (a tissue) is derived from the noun *vrecko* (a pocket), but a child creates the deverbal noun *fuk-ovka* ← *fúkať* (to blow) ('a thing we use for blowing one's nose').

b) How to link the implicit word-formation knowledge with language education

When we look at the developmental findings from the educational point of view, this key question emerges: How can the word-formation fluency of pre-school and junior aged children be utilized in their language and cognitive development within formal language education? As we found out, a word-formation intuition enables children to naturally reproduce and produce word-formative structures. Based on our empirical findings presented above, we consider educational activities aimed at word-formation one of the means to develop a child's language and cognitive abilities.

When developing the word-formative competence of **a pre-school aged child**, it is necessary to follow mainly their intuitive knowledge of word-formation and spontaneous word-formative production. Methodology of language teaching/learning should respect concrete thinking of a child and their natural learning via games and exercises (see Liptáková & Vužňáková 2009: 155-161). How can thus the word-formative activities implemented in kindergarten follow up the spontane-

ous word-formative knowledge of children? Based on the detected production of innovative denominal verbs with the meaning of dynamic processes, we propose to focus on the conventional representatives of verb groups such as "to play, to move, to work". The meaning of verbs in the Slovak language is easily modifiable using prefixes; for this reason we suggest focusing the educational activities on prefix verb derivatives in order to develop a child's ability to express an action. A picture mind map seems to be a suitable method for the activity where children name pictures of various actions using the appropriate prefix verbs. Teachers can also meet the children's natural need for movement and use a so-called action mind map where the meaning of prefix verbs is expressed by performing the action (see Figure 1)[4], e.g., the starting point verb is liezť (to crawl) and the verbs derived with the prefix are: pod-liezť (crawl under), od-liezť (crawl away), v-liezť (crawl into), pre-liezť (crawl across), etc. These activities can also develop the cognitive processes of comparison because children compare the meaning of prefix verbs and categorisation, when they think about similar verbs belonging to the one word-formation cluster.

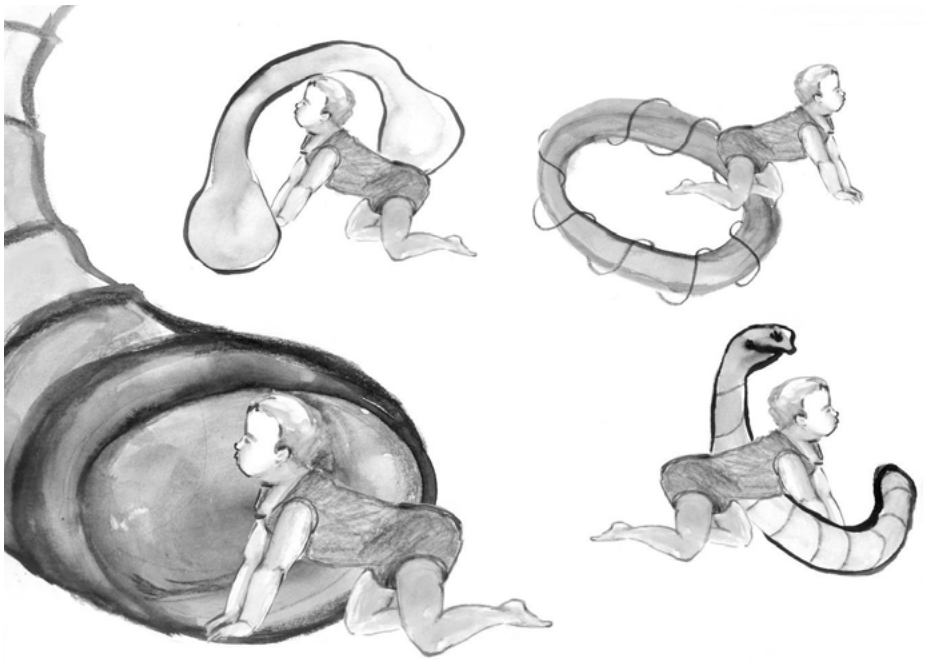

Figure 1. The illustration of the "action" word-formation mind-mapping

The ability of pre-school aged children to spontaneously use the conventional word-formation models and elements (roots, suffixes etc.) while creating nonce-words can be followed up in educational activities with building children's explicit knowledge about the binary word-formation structure (root + suffix). For example, by observing the structure of diminutives or augmentatives as productive word-formation models in the Slovak language, children build their very first knowledge of the relation between form and meaning of a given suffix and the meaning of a particular word-formation model. In these activities children's inference making also plays an im-

4 The author of Figure 1 is Tatiana Bachurova, PhD., from the University of Prešov, Faculty of Education.

portant role: if *dom+ček* is 'a small house', any other *x+ček* is 'a small item'; or if *dom+isko* is 'a big house', any other *x+isko* is 'a big item'.

As we have mentioned above, children's implicit word-formation knowledge is based not only on the regular but also on the analogical and holistic word-formation principle. This precondition can be used when observing and producing analogical compound words, e.g., according to unusual animal compound nouns observed in a fairy-tale children's play, which would allow children to imagine their own animal compound nouns. In this way we can also support children's fantasy and creativity.

When developing the word-formative competence of **a junior school aged child**, we should consider the higher level of cognitive and language development, literacy acquisition, and the possibility of its systematic stimulation through teaching of the mother tongue. However, concrete-factual thinking of a child this age also requires that the word-formation subject matter contributes to the gradual development of analytical-synthetic thinking and other cognitive processes in order to preserve a natural succession from the meaning to the form of a word motivated by the word-formation, and supported by child's word-formation intuition (see Liptáková & Vužňáková 2009: 162-184).

Following the implicit word-formation knowledge of junior school aged children manifested by ways of their nonce-words production, we suggest building children's explicit word-formation knowledge on both the regular and analogical word-formation principles. Regarding the regular word-formation, it is possible to follow the spontaneous derivation of denominal causative verbs and focus on the specific meaning of conventional causatives with prefixes. In comparison to the similar procedure in pre-school aged children, a higher level of explicit knowledge of binary word-formation structure and word-formation cluster could be used to build a word formation model in the junior age group. Furthermore, when children mentally manipulate prefix modifications of the same verb, the cognitive processes of comparison, analytic-synthetic thinking and categorisation are involved. The database of acquired conventional prefix causative verbs could be also used to improve children's text production, e.g., in dynamic description of some work procedure such a cleaning: čistiť (to clean) – *vy-čistiť* (to clean up), *pre*-čistiť (to clean out), *do*-čistiť (to finish the cleaning), *očistiť* (to clear of), etc.

Following the spontaneous production of innovative deverbal nouns we can build the children's explicit knowledge about the structure and meaning of word-formative models for deriving the conventional deverbal person nouns. In addition, the analysis of the "root + suffix" word-formative structure when observing deverbal person noun derivation in Slovak could be integrated into the explicit learning of a foreign language, i.e., children compare similar derivation procedures in Slovak with for instance English: *učiť → uči-teľ : teach → teach-er; piecť → pek-ár : bake → bak-er;* šoférovať → šof-ér *: drive → driv-er; maľovať → mal-iar : paint → paint-er*, etc. As it is evident from these examples, comparison of word-formative structures can also enrich pupils' linguistic knowledge about some typological language features (compare phonological changes and reductions in Slovak roots and regular English roots).

Regarding the analogical word-formation in junior school, we consider it necessary to observe analogical word-formative procedures within derivational and compounding formation in order

to extend and improve the academic and discipline-specific vocabulary of children. For example, in building the academic vocabulary in Physics it could be helpful to follow this word-formation pattern: for measuring temperature (*teplo*) – *teplomer* is used; for measuring power (*sila*) – *silomer* is used; for measuring water (*voda*) – *vodomer* is used; for measuring pressure (*tlak*) – *tlakomer* is used; for measuring gas (*plyn*) – *plynomer* is used; for measuring electricity (*elektrina*) – *elektromer* is used, etc.

The purpose of teaching word-formation at primary school is not to make pupils able to define the terms of word-formation, but to build their capacity to use their knowledge for better and more adequate text comprehension and production as well as for the development of abstract thinking. As we have illustrated above, word-formation subject matter at primary school also has an interdisciplinary function. Comprehension of elementary principles and rules of word-formation can likewise make the process of learning easier in other subjects. The explicit word formation knowledge helps children improve the quality of vocabulary as well as the level of text comprehension, where word-formation presents an important means for text cohesion and coherence (Oakhill, Cain, Elbro 2015: 54-67). For instance, the findings of research in instructional text comprehension of 4 th and 5 th graders (see Gogová 2017: 27-37), conducted under our supervision, indicate that global comprehension of an instructional text is influenced by explicit recognition of the word-formative structure of terms present in the text. When pupils recognize that terms have the same root morpheme and belong to the same word-formation cluster (e.g., *dýchať: dýchacia (sústava), nádych, výdych, dýchanie, vdýchnuť, vydýchnuť, vdych, vdýchnutý = breathe: breathing system, breath, breathing, breathing in, breathing out, take a breath*, etc.), they have mastered the word-formation inferences and can construct lexical meaning of the terms more easily. Subsequently, they better understand how to systematize the terms and how to comprehend the particular topic at hand.

In sum, we believe that the framework for linking children's implicit and explicit word-formation knowledge could be pictured in the following way:

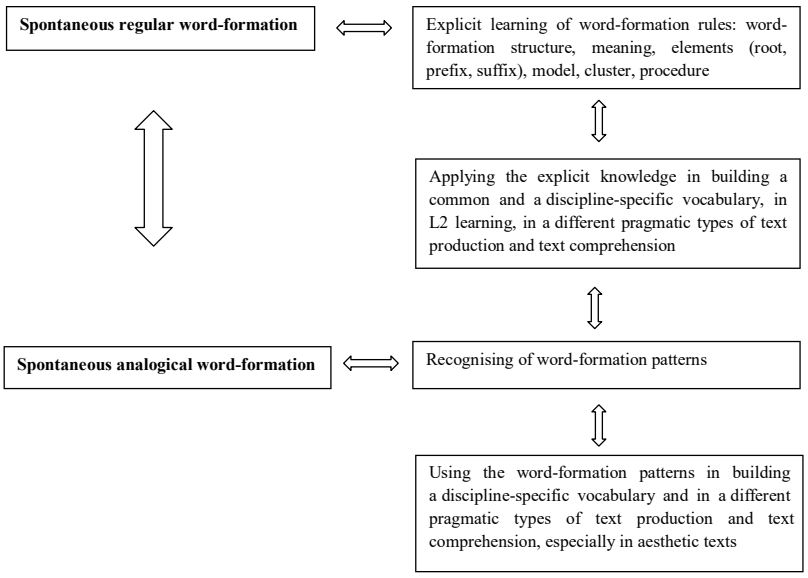

Figure 2. Linking implicit and explicit word-formation knowledge in L1 education

5. Conclusion

Based on the theoretical outline and the example from the research in a partial language domain, we tried to justify the need for applying the knowledge from developmental psycholinguistics when developing language and cognitive skills of a pupil within L1 education. We understand the necessity of thorough empirical research to study the effects of the interaction of implicit and explicit language knowledge.

Based on the studies of N. Ellis (2005, 2008), the dynamic interaction of implicit and explicit word-formation knowledge and, pars pro toto, other language knowledge can be schematically depicted as follows:

IMPL → EXPL → $IMPL^2$ → $EXPL^2$ → $IMPL^3$ → $EXPL^3$ → ...

1. IMPL: Implicit language usage (known thanks to developmental studies).
2. EXPL: Related explicit learning instructions → practising, automatizing explicit linguistic knowledge.
3. $IMPL^2$: Re-organisation of the products of implicit learning, resulting in redescription at ahigher level.
4. $EXPL^2$: Related explicit learning instructions at a higher level → practising, automatizing
→ 5. a higher level of $IMPL^3$
→ 6. a higher level of $EXPL^3$...

When we reflect on Ellis' questions (2008: 4) "how much do explicit learning and explicit instruction influence implicit learning, and how can their symbiosis be optimized", big research challenges are still open in this field. At the same time, our goal is to encourage the discussion about the relevance of the relationship between implicit and explicit language knowledge and its reflection in national curricula of the mother tongue. Thus we find it necessary to conduct more comparative studies within the international discourse of educational linguistics aimed at comparing the research findings on individual aspects of child language development, as well as at finding ways to transform the findings on a child's implicit language knowledge into the explicit language learning/teaching in schools.

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Funding

This study is being carried out under the auspices of the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic, research project VEGA 1/0353/18 Implicit linguistic knowledge of a junior school-aged child. The project is being conducted between 2018 and 2020. Institutional Executor: University of Prešov, Faculty of Education. Head of Project: Professor Ľudmila Liptáková, PhD.

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