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The process of aquiring the linguistic concept of conjunction by primary school pupils

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Abstract The research project focuses on the acquisition of linguistic concepts by primary school pupils from the linguistic and linguodidactic viewpoints. Within the project we examine the ways in which pupils acquire the issues of linguistic concepts and attempt to understand the rules by means of which they adopt these terms. We analyse the thought processes of younger pupils in exploring linguistic concepts, and describe the processes by which pupils recognise linguistic terms within the broader context. We further propose an algorithm applicable to the identification of linguistic concepts. Thereafter, we work with linguistic terms that are a formulation of the respective linguistic concepts. We also investigate children's preconceptions, which are an integral part of learning problems in the linguistic field.

Key words linguistic concepts, thought processes, linguistic terms, preconception, adaptation, learning, development of concepts

1. THE PROCESS OF ACQUIRING THE LINGUISTIC CONCEPT of conjunction by PRIMARY SCHOOL PUPILS

1.1 Objectives of the research project

- Firstly, to understand in what ways pupils acquire the issues of uninflected word classes (conjunctions)
- To understand the methods by which pupils construct the concept of conjunction
- To analyse the thought processes of younger pupils when learning conjunctions
- To describe the processes by which pupils recognise conjunctions in the broader context
- To suggest an algorithm applicable to the determining of conjunctions

1.2 Conjunctions in scientific publications, grammar books and textbooks

From the didactic perspective, specific definitions of conjunctions in scientific and Czech language school grammar books are crucial for our needs, as well as Czech language textbooks for primary schools published by *SPN*, *Alter* and *Nová škola* publishing houses. Our research is relevant concerning which definition can be applied to the needs of primary school pupils. We compare the approaches, map Czech language textbooks, reach conclusions, discuss exercises oriented towards conjunctions, and create our own exercises suitable for primary school pupils.

We also use opinions from some articles in the *Český jazyk a literatura* and *Naše řeč* professional journals that focus on the problems of the identification of conjunctions and particles, as well as their certain similarity and substitution, because many particles were originally conjunctions.

We start our research based on the fact that conjunctions are a word class whose knowledge pupils broaden and deepen extensively when studying complex sentences. In the lower grades, pupils best identify shorter conjunctions such as *a, i, že, ale* (and, also, that, but), also due to the fact that they remember them. For example, pupils starting the 8th Grade still identified the conjunction *protože* (because) as an adverb. When forming questions based on this conjunction, they used the word *proč?* (why?), perhaps the first part of the word *protože* – adverb *proto* (that is why) – played a role in their decision. Pupils had similar problems with the conjunction *neboť* (which is why), sometimes regarded as an adverb, but also as a pronoun, less frequently as a preposition.

The definitions in (HAVRÁNEK, JEDLIČKA 2002) and (STYBLÍK, ČECHOVÁ 2007) are suggested as the most suitable for individual primary school grammar books. However, it seems that even these are not totally suitable in terms of appropriateness for pupils in the lowest grades. For this reason, authors of primary school textbooks suggest even simpler definitions. Findings and examples of other definitions will serve teachers and some could (in a simpler form) possibly already be used in explanations and exercises in primary schools, but especially in higher grades.

Comparison of textbooks published by *SPN*, *Nová škola* and *Alter* publishing houses (also supplemented with workbooks for pupils and methodological manuals for teachers) confirms that the textbooks from *Alter* publishing house are considerably more demanding than the textbooks published by *SPN* and *Nová škola*. Differences are also found in the formulation of the definitions specifying word classes: the *SPN* textbooks proceed from the meaning to the term (inductively), while, in *Nová škola* and *Alter*, the materials proceed from the term to the meaning (deductively). However, the main differences are in the quantity and difficulty of the exercises contained in the textbooks.

1.3 Research methods, approaches to the problems

The research methods according to which we plan to classify the results will be **controlled dialogue** and a method of **grounded theory** which combines inductive and deductive methods, but primarily uses the inductive method in the examined terrain. The objective is the gradual creation of a theory representative of the relevant phenomenon. There are four basic criteria formulated, according to which the appropriateness of the theory for a certain phenomenon is assessed – *consistency, clarity, generality, control, i.e.* a definition of conditions.

Our intention is to understand and empathise with pupils concerning the method with which they adopt the specific linguistic concept (conjunction), how they understand the problems of word classes, non-inflected in a given context, and what takes place in the thought process during actual learning. We will also work with children's preconceptions in the language area. The original concepts and conceptions of pupils of a linguistic system differ significantly from realistic ideas and predefined axioms.

We intend to build on psychological as well as didactic trends. We will use the new trends in the area of Czech language didactics. We will lean on findings from the natural sciences (especially Mathematics). We will draw from expert foreign literature. We will attempt to present our own point of view and approach in the area of cognitive methods of thinking. The ideas of Constructivism will serve as a starting point for us, as they emphasise the active role of man, the meaning of his internal prerequisites and the importance of his interaction with the environment and society.

The process in the teaching of the Czech language is the same as in the teaching of Mathematics, in which thoughts of Constructivism help facilitate the learning process. For this reason, we lean towards certain principles of Didactic Constructivism that can be implemented into the didactic process of the Czech language.

Construction of findings – knowledge is non-transferable. Only information (from books, magazines, lectures and various media) is transferable. Findings arise in the mind of the person who is learning. These are individual constructs.

Experience – the creation of findings (*e.g.* in the area of concepts, practice, ideas, assumptions, claims, reasoning...) is based on information, but it is determined by the experience of the learner. The pupil partly brings experience from contact with the reality of his or her life, but should have ample opportunity to gain experience at school too (experimentation, problem solving...).

Stimulating environment – the foundation of Constructivist-type education is creating an environment that incites creativity. On one hand, a prerequisite is a creative teacher and sufficient stimuli (questions, exercises, problems...) and, on the other, a sociable class climate conducive to creativity.

Interaction – although the construction of findings is an individual process, social interaction in class contributes to its development (discussions, comparison of results, construction of examples and counter-examples, attempts to formulate assumptions and assertions, argumentation, finding evidence…).

Representation and structuring – the Constructivist approach to teaching is characterised by a cultivation of various types of representation. Partial experiences and findings are variously oriented, sorted, hierarchised; more general and abstract concepts are formed.

Communication – communication in class is significant for Constructivist teaching. Non-verbal expression is one type of communication. The ability to express one's own ideas and to understand the language of others must be cultivated systematically.

Formal teaching – education which has the character of the transmission of information (transmissive teaching), or teaching which only gives instructions on how to proceed (instructive teaching), only leads to the storage of information in the memory. In a better case scenario, this enables its reproduction (e.g. during an exam), but usually it is quickly forgotten and seldom used in a non-trivial way. Such knowledge is pseudo-knowledge, it is formal (HEJNÝ, KUŘINA 2001).

1.4 Pedagogic research, research sample

We plan to sort, process and compare the acquired data and information to be collected during the research at the Kladská 1 Primary School in Prague.

The research sample will include pupils in all classes of Primary School. Research will be spread over a period of 3 years and always carried out on a sample of 5 pupils in each grade, 3 times a year (beginning, middle and end of the school year). We will attempt, if possible, to work with the same pupils throughout (see Table).

---	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade
Research Year I	5	5	5	5	5
Research Year II	5	5	5	5	5
Research Year III	5	5	5	5	5

In the optimal case, we should carry out the research with a total of 35 pupils; in reality probably more will be needed (absent pupils will be substituted at random).

Research will start with 1st-Grade pupils, with our inspiration coming from the publication by C. Osburg, which deals with the beginning of school attendance, communication between pupil and teacher and mutually among pupils. The author assumes that, although pupils use the same concepts as their teachers, the content definition of these concepts is not always the same for them, which causes misunderstanding in the classroom.

Our research will concentrate in particular on the following sphere of questions (note: individual questions may overlap):

1st Grade

What do you call a word that connects two things?
How do you perceive the word **a** (and), for example, in the sentence: *Maminka a tatínek šli nakupovat* (Mommy and Daddy went shopping)?
Why is this word important in the sentence?

2nd Grade

Describe in your own words the characteristics of conjunctions.
Do you mistake conjunctions for another word class?

3rd Grade

What do you recall when exploring conjunctions?
Do you see anything typical in conjunctions?
Are conjunctions a problem for you when identifying word classes?

4th Grade

- What specific characteristics do conjunctions have?
- What do conjunctions connect?
- How do conjunctions differ from prepositions?

5th Grade

- Characterise what is projected in your mind during learning.
- What function does a conjunction have in a sentence?
- Do you have any proven method or process to identify a conjunction accurately in a sentence?

1.5 Didactic situation

The research itself will be executed on the basis of what is known as the didactic situation during which, without external guidance from the teacher, pupils identify and discover something for themselves, create a model and check on its accuracy and usefulness. The pupil here becomes responsible for gaining the required results, he or she alone constructs the findings through problem solving. The teacher then uses and further develops these findings.

Therefore an important phase in the didactic situation is the stage when pupils themselves try to formulate their own strategies, or to explain them to others. In the area of didactic situations, we intend to work with the concept of the **a-didactic situation** whose objective is to enable the pupil to obtain findings without obvious intervention by the teacher. A related term is *devolution*, whereby the process is understood through which the teacher passes on to the pupil the responsibility for the act of learning.

The a-didactic situation consists of three stages:

- *action* – the result is an assumed (implicit) model, strategy, initial tactics
- *formulation* – formulation of the conditions in which the strategy will work
- *verification* (validation) – verification of the validity of the strategy (working/not working)

Another important concept is *institutionalisation*, whereby the pupil alone draws up strategies for solving various problems applicable to various problematic situations.
We plan to devise a didactic game by means of which pupils themselves are able to define how knowledge has been reached.

1.6 A priori analysis

One of the most important tools in teaching situations is a priori analysis. This is implemented by the teacher before commencing the didactic process. The teacher prepares a teaching plan of activities, estimates the actual course of the teaching process, suggests a division of the lesson into individual phases, considers the possible reactions and attitudes of pupils and rethinks his / her own possible reactions.

Furthermore, the teacher thinks about problem-solving strategies that may arise during the teaching process. He / she considers what knowledge and findings are necessary for the relevant strategy which pupils are able to apply spontaneously. This method has great informative value for the teacher and highlights the possible pitfalls of a lesson and the possible difficulties of pupils in problem-solving.
A priori analysis was originally part of the vast process of Mathematics teaching, where this method is applied in the problems of learning fractions and decimals.

"Puzzle" Exercise
We clarify a priori analysis in the "Puzzle" – an exercise taken from the (BROUSSEAU 1981) publication.
Instructions for the "Puzzle" Exercise (intended for 5th-Grade pupils)

- Pupils are divided into groups of four to five each
- The teacher assigns a puzzle to each group
- The teacher hands out (or draws on the blackboard) the enlarged puzzle.
- The teacher writes on the blackboard: 4 cm → 7 cm
- The assignment is to make similar puzzles, bigger than this model
- The following rule must be observed: the 4 cm size part must measure 7 cm in your puzzle
- Each pupil produces one or two parts
- After completion, pupils should be able to compile the same pictures as in the model
- After a brief discussion, the group is divided and each member works on his or her part of the puzzle

1.7 Application of a priori analysis to the didactic process of Czech language teaching

A priori analysis can be well implemented in the didactic process of Czech language teaching in primary schools. The "Puzzle" didactic game will serve as the basis for our understanding of certain mathematical concepts.

Work with conjunctions (intended for 4th-Grade pupils)

- Pupils are divided into groups of four to five each
- The teacher hands out five sentences to each group
- The teacher writes the same sentences on the blackboard
- Pupils replace conjunctions with other conjunctions and observe in what way the character of the given sentences is or is not changed

Examples of sentences:
Ondřej neví, bude-li moci přijet.
(Ondřej does not know if he will be able to come)
Oprava jim trvala dlouho, ačkoli práci vůbec nepřerušili.
(The repair took them a long time, although they did not stop working)
Mír by byl zachován, kdyby o to usilovali všichni lidé stejně upřímně.
(Peace would be preserved if all people strived for it equally sincerely)
Počasí bylo sice zamračené, avšak teplé.
(The weather was overcast but warm)
Dosáhli jsme úspěchů, třebaže se nám stavěly do cesty různé překážky.
(We achieved success, although all kinds of obstacles got in the way*)*

2. CONTRIBUTION OF THE RESEARCH WORK

Reliable exploration of conjunctions is an important and inseparable part of the process of the adoption of linguistic concepts by primary school pupils. Their understanding is very important in the further context of the understanding of the structure of sentences, as well as for the overall comprehension of written communication and pupils' own oral expression. Pupils who learn linguistic concepts well, have an advantage in learning foreign languages. The essence of thinking is the adoption of logic, as well as of thought processes that can be used not only in the teaching of Mathematics but also in learning concepts in Czech language lessons. Pupils learn to think constructively, to analyse various problem situations and to assess their own performance critically, as well as the performance of others.

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