

Teaching Goals and an Analysis of Teaching Projects

Abstract

In the pupil-oriented teaching there is a clearly defined priority of the teaching goal – a concretized teaching requirement as a means for actuation of the development of all the aspects of pupils' personality and, at the same time, of the control to reach a good level of this development. The author of this article presents the results of an analysis of teaching projects. She pays attention to a qualitative description of content categories – the occurrence of the determined indicators of a teaching goal and the occurrence of teaching tasks.

Key words: *Teaching goals, teaching project, project analysis, indicator of an operational goal, cognitive ambitions of a goal, the relation “teaching goal – learning task”*

Introduction

A new function of education, a function of emancipation (self-development), is a factor challenging a possibility of changes and development. It alternates the attitude to the goals. The goal becomes a priority category for pupils, development and learning content becomes the basic means to reach it. It comes out of the general goal categories that can be listed as follows: – **individuality and possibilities of unlimited development, values and attitudes, abilities and knowledge.** These main categories must find their appropriate development in the process of educational goal concretization. Developmental goals reflect all the domains of teaching and learning at school, they concern all the areas of teaching – education, formation and training, they make harmonic overall personality development

possible (Švec, Š. 1995), and they need to be projected into real goals of individual educational activities in the projects of learning.

A teaching project is effective just in the case when it involves clearly presented teaching goals, which limit learning activities of pupils and adequate means to control their accomplishment as well. Teaching goals in a project of teaching focused on the development of pupils' qualities are presented *as concrete, observable results, pupils' behaviour manifestations expressed through operational formulations with the conditions and gauges for the quality of their encompassment*. At the level of goal concretizations they represent such a level that they allow only one interpretation. They enable the teacher to suitably structure the curriculum to project learning activities to create learning tasks, and to choose appropriate means of pupils' learning. **The area of teaching projection, especially of the creation of teaching goals and measuring of teaching effectivity in relation to them, is very difficult and often omitted in research not only in our country but also abroad.**

In our work dedicated to the problems of teaching goals we went out of the theoretical works by our authors: Turek, I. (1996, 1997, 2003), Švec, Š. (1989, 1995, 2001, 2002), Višňovský, L. (1998), Kosová B. (1996, 1998, 2001), Obdržálek, Z. (2001), Portík, M. (2001); we paid attention to the similar research from the Czech Republic and Poland.

Based on the analysis of teachers' and students' free answers, Adamek, I. (1999, p.185) found out the knowledge of the theory of goals and the significance of the teaching oriented on the development of pupils' qualities. Up to 60% of the addressed ascribed basic importance to the cognition of the theory of goals for the work of teachers. Their statements ranged on the scale – “without cognition of this basis I would not know how to take control of a child's development“, “I understand the need to know them, our director emphasizes this theme at each meeting“, “it seems to me that with no knowledge of the pupil model it is impossible to work well“. There were, however, more answers that had a character of a superficial description of their needs, such as “because it is necessary“. On the basis of teaching projects and the protocols from teaching implementation, he points to the fact that the overwhelming majority of students and teachers limit lesson goals schematically without perceiving which of the general goals they head for with their help, the majority of goals is defined generally, imperfective verbs to describe activities under development are used, teachers prefer goals that are oriented towards knowledge and development of reliable and doubtless skills, and they are not able to link partial goals of a lesson with the final goal, teachers miss the skills to transform general goals to learning requirements.

Based on descriptive research on how teachers take notice of the didactic usefulness of goals, Drozd, M. (1997, p.193) states that teachers (up to 68% of the sample)

do not see any need to describe the goals of lessons; 20.6% of them write them occasionally, in the case that the director or school methodologist is announced to come to lesson. Only 11.6% of the questioned with finished teacher training answered that they regularly write teaching projects and identify the goals of lessons. When giving reasons for their procedures, the most frequent answers as to why they do not write the goals, they said – I use the ready-made preparations from methodological materials as well as preparations from previous years (31%) – I am a teacher with year-long experience with no need for preparation (23%), I do not see any need to write teaching goals (23%), the director does not require it (11%). A very interesting finding is that up to 81% of the respondents consider their clear and concrete formulation important for pupils' development, 15% say they cannot assess if the goals help teachers, and 3% assert that they have no significance for the quality of teaching. They are sure goals themselves come out of the lesson.

Besides other areas, Ganczarska, M, (1997, p. 203), by means of research (180 active teachers), followed the level of mastering teacher practice through the teaching goal taxonomies. 58.9% of the teachers could more or less intuitively and accurately identify the differences between a general and an operational goal, while up to 41.1% were unable to find any basic difference between them. 30% of the respondents were able to distinguish the cognitive, socioaffective, and psychomotoric goals. Bloom's taxonomy was known and used by 20.6% of the respondents, 11.1% of them knew Niemierka's taxonomy, 22.8% of them were unable to name any taxonomy, and 19.4% of them mentioned that they knew and used classical goal structuring (educational and instructional). While investigating the quality of the respondents' teaching competence to construct goals, based on the analysis of these goals, it was stated that up to 68.3% of the teachers formulated goals formally without grasping the level of the development quality, 22.8% of them were using operationalization through taxonomy, and 8.9% of them did not create any goals.

On the basis of the experience from the collaboration with teachers while leading students in specifically targeted research (Doušková, A., Kasáčová, B. 2002) we can confirm that the reality in the schools of Slovakia is similar, teachers avoid goal formulation because they are not able to define them or they act according to their usual schemes with no respect to the changed demands of contemporary school. Many use formal, brief goals connected with the curriculum, or very general goals, which only very loosely hang together with real activities in the class. They do not meet the requirements of rationally defined teaching goals, nor do they meet the requirements of the level of their fulfillment.

The possibility to solve the problem in the area of the improvement of children's learning projecting of processes in accordance with the needs of our school system

we found in a complex process, and we created a Programme of the development of student and teacher didactic competences in the phase of teaching projection.

The Programme of the development of student and teacher didactic competences in the phase of teaching projection

With the aim to support the guidance of students in their didactic competence development at PF MBU in Banská Bystrica so that they could draw up their preparation for teaching, we prepared a **programme of the development of student and teacher didactic competences**. We paid attention to the area of the teaching of elementary didactics with a view to empower the theory of goals as well as practical implementation of the strategic projection of teaching processes (Doušková, A., 2005). We remade the *conception of professional teacher practice*, we compiled a textbook for students and teachers – Leading students during professional teacher practice (Doušková, A., Porubský, Š., edc. 2004) with a view to the development of teacher abilities to project, to realize and to reflect on teaching. We were working systematically with training teachers while *developing their competence to work with goals – hierarchization, concretization of educational goals, creating concrete learning requirements*.

Research into didactic competences in the phase of teaching projection

The research goal was to create a tool for the content analysis of teaching projects as a means for their objective evaluation. It was to find out the level of the preparation of students of teaching at the 1st stage of elementary school to work with teaching goals in the phase of teaching projection that is pupil-oriented depending on the training character of both internal and external forms of study.

On the basis of theoretical key positions and of the programme of the development of didactic skills in the area of projections oriented on teaching, and of the research tasks, we formulated **hypotheses**, which we verified experimentally:

- H1: Systematic development of didactic competences in the area of teaching projection makes students prefer working with goals in the observed indicators,
- H2: Systematic development of students' didactic competences leads to higher seriousness in judging one's own quality of preparedness, of critical thinking,

- H3: The students who went through a programme of didactic competences, have a better knowledge of the theory of teaching goals,
- H4: The students who went through the programme of didactic competences, attach greater significance to working with goals; they are more skilled to use a goal category in practice.

We based the research on the examination of students' subjective-objective statements through a **questionnaire**, whose part was also to find out knowledge of goal-oriented teaching and **objective analysis of teaching projections** (376 projects, 190 from external students and 186 from internal ones).

The content analysis of teaching was focused on objectivization, systematization and a quantitative description of a teaching goal formulation in the teaching projects, with a view to the identification of indicators of an optimally formulated teaching goal in the pupil-oriented teaching in such a way as described in theory. It was a *qualitative description of the content categories* – the occurrence of defined indicators of the teaching goal and the occurrence of *teaching tasks*, for its fulfillment in the teaching projects

In the contribution we will concentrate our attention on the **description of teaching goals** in the teaching projects. We were interested in the question: What are the cognitive goals of those concrete teaching units which students implemented during their practice. We observed:

- *The occurrence frequency of indicators* of a “well-prepared” teaching goal, as they are characterized in the professional literature,
- *The attitude of the occurrence of indicators* of a “well-defined” teaching goal and of the *occurrence of teaching tasks* in projects as a means to find out whether working with a goal gives the teaching projects operational power and their occurrence at various levels of teaching (Niemierk's taxonomy, 1979) helps to find the increase/decrease of learning tasks in connection with the occurrence of cognitive goals.
- *The attitude of the dependence between quality evaluation* of the acquired knowledge and experiences from the area of teaching goals, in the particular field of didactics, and by the *occurrence of indicators in teaching projects of these subjects in practice*.

The frequency of indicators of a “well-defined” teaching goal

In “addressivity”, there appeared three groups of goals: the goals centred on teacher activity, the goals formulated as an expression of teaching, and the pupil-oriented goals. For the evaluation of the analysis of projects we chose only the goal expressed in the language of pupils' performance as the indicator of the goal intent on pupils' development. Out of the total number of projects (376), 196 had a goal

expressed in the language of pupils' performance, 95 in the sample of external students and 101 in the sample of internal students. We assume that if the goal is expressed in the language of pupils' performance, it does not mean yet that it has all other indicators and it supports pupils' development or that it is better than other groups.

In the category of **unambiguousness**, out of all the projects (376) up to 308 did not have a goal that fits the criterion of formulating teaching goals by such words that do not allow variable explanations by different people. Goal unambiguousness was proved in 32 projects of the external students, in 35 projects of the internal students out of the total number 376.

In the category of **controllability** up to 318 goals out of 376 did not meet the requirement to define conditions necessary to be observed in order that a pupils' product is accepted. The occurrence of these elements of controllability was generally low, even though we registered every demonstration of controllability in a goal.

While observing the **cognitive ambition of a goal**, i.e. of an element which is a dominant factor of purposeful development of pupils' qualities, we found that in the cognitive ambition at the level of knowledge – A is the occurrence comparable in both samples (E = 54, I = 64) but at the level knowledge – understanding – B (E = 19, I = 91) and at the level of skills to work with information C,D (E = 38, I = 104) there is a distinctive occurrence difference among the samples. Do internal students purposefully work with taxonomies? Is it related to their better knowledge?

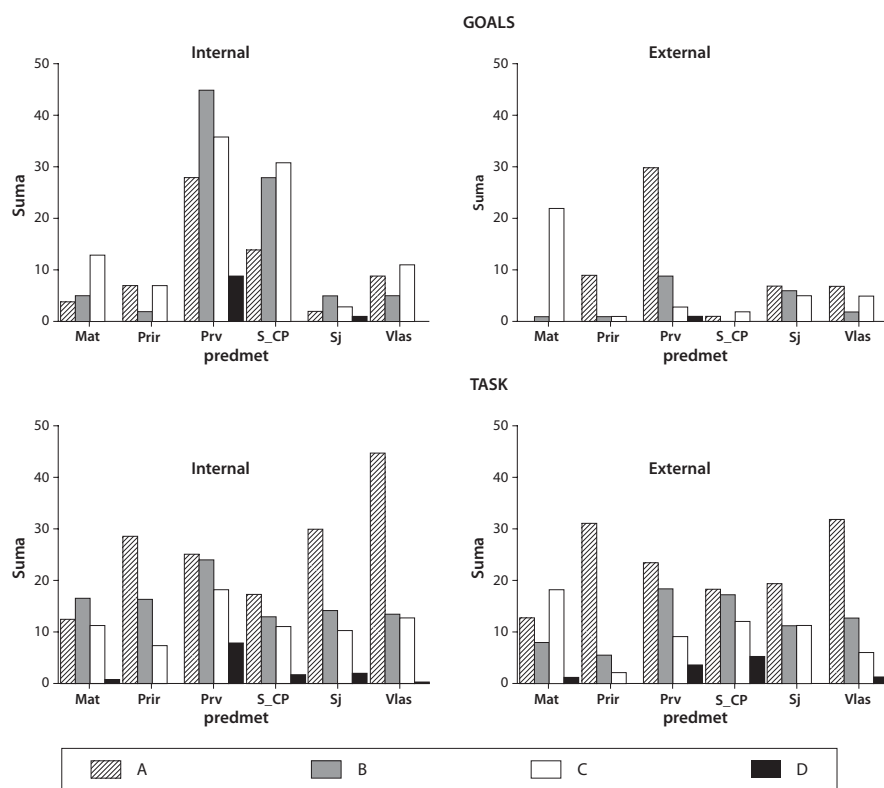
We also observed the occurrence of teaching tasks according to the level of cognitive ambitions as registered in the teaching projects. We took them as a concrete challenge, as an instruction for pupils' activity. Teaching tasks, as a "dynamizing factor of teaching", an "initiator of teaching activity", were often present in the projects as a motivation element only. These were questions from a different area than the new curriculum, they often had a declaratory character concerning the mastering of the previous knowledge, and they were touching a different subject. There were teaching projects, and they were not few, with no teaching tasks; the projects had an assertive character – "the children will write out of the blackboard"... "I will explain the curriculum using the example mushrooms"; this problem requires further appropriate attention.

The biggest number of teaching tasks in all the projects, including the samples of the external and internal students, was at the level of a lower cognitive ambition – knowledge (A), the lowest at the level of a non-specific transfer (D). The highest frequency of teaching tasks at the teaching level A was focused on repeating and drilling of the curriculum and on bringing about the topic of the lesson. This category often involved „banal” questions followed by a statistical description of the way of the interpretation of the curriculum.

The occurrence of teaching goal indicators and the occurrence of teaching tasks

Based on the assertion that a concrete, pupil-oriented teaching goal is a dominant means of pupils' development, because it enables to activate their activity in the area of those changes that we want to purposefully reach, we focused also on seeking the relation of the occurrence of cognitive goals at various levels of ambition and the number of teaching tasks in teaching projects. Graph 1 illustrates the differences in the number of cognitive goals in individual subjects between the internal and external students, and it is possible to simultaneously follow the occurrence of teaching tasks at various levels of ambition in both the examined samples and subjects.

Graph 1. Teaching goals and teaching tasks of various cognitive ambition – teaching subjects



Key: Mat = Mathematics; Prir = Natural Science; Prv = "Elementaries"; S_CP = Slovak CP; Sj = Slovak; Vlast = Homeland Study; "predmet" = "subject"; "suma" = sum

The occurrence of goals focused on various levels of teaching in different subjects for both the internal and external students. The most balanced occurrence of goals at various levels of teaching is found in the subject “elementaries” (in Slovak: “prvouka” – *transl. note*) in internal students, and this corresponds to the most balanced number of the teaching tasks in the same sample. In this subject, there is no significant difference between the external and internal students. In this place it is necessary to note that in the subject “elementaries” the programme of the development of teacher competences in the area of goals was a pilot programme implemented through the sample of external students.

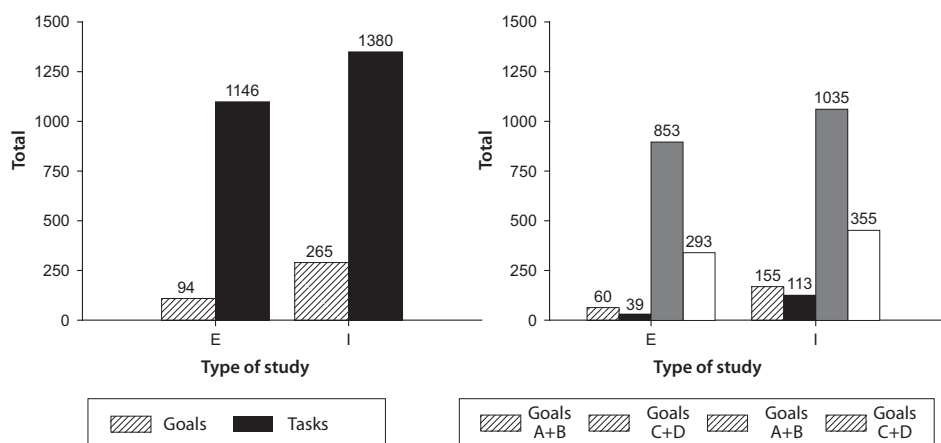
Following all that has been said, we may state that the students who were led to use taxonomy when determining the goals oriented towards purposeful development of cognitive processes of various cognitive ambitions, also used teaching tasks of various cognitive ambition for their implementation. As far as reading and writing (S-CP) is concerned, the goals formulated for various levels of teaching are equally represented among the internal students, while there is minimum occurrence in this subject in the sample of external students. Among the internal students we can see a more balanced representation of all levels of teaching in teaching goals when compared with the external students. We may also say that in both samples, the students most frequently use the teaching tasks at the level of knowledge – understanding in a balanced way.

In both samples of students, attention in projects was focused on the proposals of teaching tasks rather than on the formulation of goals of various cognitive ambitions. This phenomenon can be observed in the graphs as well, where the number of teaching tasks in individual subjects at various levels of cognitive ambition is higher, as if it fits the goals. Such occurrence of teaching tasks without taking an aim witnesses, on the one hand, that the students use teaching tasks as a tool to activate activities, but non-systematically, with no clear purpose to operationalize teaching challenges according to cognitive ambitions and without respect to the needs of pupils. At the same time, there also appears a need for further specification of a tool for such distinction of the adequacy of the occurrence of teaching tasks in individual teaching projects.

Graph 2 On the left it pictures the total of all cognitive goals and teaching tasks according to the type of study. The differences in occurrence numbers for both goals and tasks are statistically highly significant (***) . During the content analysis we observed that the more informed insight into the problems of teaching goals operationalization among the internal students was increasing commutative creation of teaching tasks as the means of activation of pupils’ activity.

Graf 2 On the right it pictures the purposeful influence of higher levels of teaching in the sample of internal students. The difference in the numbers of goals at

Graf 2. Teaching goals and teaching tasks of various cognitive ambitions



the higher level of ambitions (the level of experience) between both samples is statistically important as well (***), so is the difference in the number of tasks (**). The lower level of significance of the task difference probably indicates their incidental projecting.

The ratio between the projected goals and the number of teaching tasks seems to be an appropriate candidate for a next good indicator of the quality of pupil-oriented teaching. In our case this ratio is 8.2% for the external students, or 19.2% for the internal ones. The same trend was also noted in the ratio between higher cognitive levels (C+D) 13.3% (E), or 31.8% (I). This ratio shows that a purposeful projection of the development of higher cognitive levels of learning is expressed in higher occurrence of those teaching tasks that they initiate.

The relation of the dependence between quality evaluation of the learned knowledge and the experiences from the area of teaching goals in the field of didactics and the occurrence of indicators in teaching projects of these subjects in practice.

Based on the survey in Table 1 it is possible to state that only the projects to teach “elementaries” have, in the whole file and in both samples, positive figures in the overall rating, and so in the valuation of individual entries. In this subject as well, there is a distinctive difference in %-values for the internal students (+709.7 %) against the external students (+232.6%). It can be caused by the fact that despite the identical concept of the conduct in the work with goals in this subject, there is also a number of factors which influence students’ priorities. Positive values were also obtained by the projects concerning reading and writing in the sample of internal students. For all the other subjects the score is negative.

Table I. The rating of the content analysis

Type of study	Subject	Addressivity	Unambiguity	Controllability	Cognitive level of teaching – goal	Total	Sequel	
							Project rating	Evaluation of didactics
E	Math.	-22.9%	-77.1%	-94.3%	65.7%	-128.6%	4	3
	Natural Science	-29.0%	-100.0%	-83.9%	35.5%	-177.4%	5	6
	Elem.	74.2%	19.4%	0.0%	138.7%	232.3%	1	1
	Slovak CP	-25.8%	-100.0%	-100.0%	9.7%	-216.1%	6	2
	Slovak	0.0%	-74.2%	-80.6%	58.1%	-96.8%	2	4
	Homeland Study	-3.2%	-93.5%	-71.0%	45.2%	-122.6%	3	5
Total		-1.6%	-72.8%	-70.2%	60.6%	-84.0%		
I	Math.	-19.4%	-90.3%	-93.5%	71.0%	-132.3%	5	4
	Natural Science	-61.3%	-100.0%	-100.0%	51.6%	-209.7%	6	6
	Elem.	100.0%	45.2%	177.4%	387.1%	709.7%	1	1
	Slovak CP	16.1%	-32.3%	-61.3%	241.9%	164.5%	2	3
	Slovak	29.0%	-67.7%	-90.3%	35.5%	-93.5%	3	2
	Homeland Study	-9.7%	-96.8%	-90.3%	80.6%	-116.1%	4	5
Total		8.8%	-58.3%	-42.1%	148.9%	57.2%		
Total	Math.	-21.2%	-83.3%	-93.9%	68.2%	-130.3%	5	4
	Natural Science	-45.2%	-100.0%	-91.9%	43.5%	-193.5%	6	6
	Elem.	87.1%	32.3%	88.7%	262.9%	471.0%	1	1
	Slovak CP	-4.8%	-66.1%	-80.6%	125.8%	-25.8%	2	3
	Slovak	14.5%	-71.0%	-85.5%	46.8%	-95.2%	3	2
	Elem.	-6.5%	-95.2%	-80.6%	62.9%	-119.4%	4	5
Total		3.6%	-64.9%	-57.0%	102.8%	-15.4%		

The sequel of subjects that appeared on the basis of the occurrence of the indicators of the pupil-oriented goal is identical in the whole file (1. Elementaries, 2. Reading-writing, 3. Slovak Language, 4. Homeland Study, 5. Mathematics, 6. Natural Science) with the sample of internal students. The external students following the subject elementaries had the best values in the projects for the Slovak

language, then for the homeland study, mathematics, and natural science. Reading – writing had the lowest values.

While comparing the scale of subjects in the analysis of preparation with students' self-evaluation, we can observe better equality of the results in the sample of internal students. Slight differences in the sequence we consider to be negligible with regard to the dispersion of the followed indicators. And contrarily, the difference in the sequence of the subjects of homeland study and the Slovak language in the sample of external students signifies a distinctive contradiction between self-evaluation and the real level of preparedness.

Conclusion

From the research results we have chosen the specific problems of teaching projects, which point to the relation of the teaching quality that is dependent on the level of concretization and operationalization of the teaching goal. The results advert to the right direction of the development of student competence to work with teaching goals. It is appropriate to underline theoretical bases as well as the systematic use of the taxonomy of goals in all fields of didactics and to focus attention on goal formulation of a higher cognitive ambition; it influences the growth of teaching tasks targeted at the development of creative and critical thinking.

Teachers' work with goals, its projecting, has to correspond with the teaching cycle – preparation, implementation and diagnostics of teaching and we can talk about the work with goals during:

1. *planning and projecting of teaching*, a process of goal concretization of medium-term projects, teaching unit, teacher:
 - setting teaching goals as *teaching requirements for pupils' results*, (addressee, active verb – teaching level, conditions, evaluation criteria),
 - specification of basic curriculum,
 - *seeking appropriate educational situations*, which actuate pupils' activity, *shaping and looking for teaching tasks* and appropriate teaching activities of pupils, methods and forms of organization of teaching activities suitable to reach them,
 - *preparation of adequate tools for an evaluation* of pupils' fruitfulness in particular activities.
2. *organization and realization of teaching*, the teacher uses the motivation value of the goal and its dynamizing function, he/she sets natural educational situations, which actuate pupils to *perform activities* leading to the goal:

- *teaching tasks in educational situations* enabling pupils to use their own activity, without which no operational goal can be reached.
 - *mutual observation of mastering the planned activities and of the teachers' and pupils' tasks*, modification and adaptation to new situations, to again use the motivational value of teaching requirements. Pupils' involvement in decision making, monitoring and evaluation of the goals in order that pupils accept them as their own is very important.
3. *evaluation and optimization of teaching, the teacher's reflexive activity* is simultaneously a linkage of the realization and new preparatory period of teaching, which teachers influence and modify for the sake of reaching the defined goals. The teacher brings into effect:
- quality diagnostics of pupils' activities,
 - he compares intentions and results,
 - he interprets generated differences and projects remedies.

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