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## **School as a Professional LEARNING Community: A Comparison of the Primary and Lower Secondary Levels of Czech Basic Schools**

### **Abstract**

This article deals with two subjects which form an inevitable part of the discussion on Czech basic schools. First, there is school development from the inside, individual and group learning and organizational development in schools. Second, there is the double task of Czech basic schools to provide pupils with primary and, subsequently, lower secondary education. The aim of the analysis is to compare evidence given by teachers at the primary and lower secondary levels of basic schools about processes which create the dimensions of a professional learning community. Analysis of the data obtained from this research, which was carried out in Czech basic schools, leads to the conclusion that despite a relatively large conformity in the adult actors' perception of systematicity in handling the subjects of learning, this perception cannot be considered homogeneous.

**Keywords:** *school improvement, professional learning communities, organizational learning, supportive factors*

### **Introduction**

Based on research into organizational learning in schools, the authors of the presented paper strive to contribute to the debate on whether Czech basic schools are homogeneous units despite the incorporation of two levels of schooling, or whether they represent two different cultures. The study is of benefit in that it finds out how primary and lower secondary levels of Czech basic schools differ in terms

of the character of the processes of professional learning of their staff and where these schools can be found on the scale described above — between professional isolation and a learning community. The authors also comment on the roles played by various factors which support learning (or, where the factors show a negative state, inhibit it) in relation to the processes of professional learning. Also, they comment on whether the roles of supportive factors differ at primary and lower secondary levels. This article follows the findings presented in the monograph *Když se školy učí* [When Schools Learn] (Pol, Hloušková, Lazarová, Novotný & Sedláček, 2013) and offers a newly conceived analysis of quantitative data of the research project *Processes of Organizational Learning and their Leadership and Management in Schools*.

## **Research problem**

### **Schools as professional learning communities**

In the last few decades intense debates have taken place on the interconnection of individual and professional teacher development, collective learning in schools and the development of school as a whole. These debates have been boosted by new developments in the external contexts of school operation: the coming into being of a knowledge society and stress on accountability and promotion of market elements in education (cf. Dvořák, 2012; Townsend, 2010; Verbiest, 2002). This leads to pressure on internal school development based on the school's own resources and the adoption of responsibility for school development by the actors of school life (Sedláček, Pol, Hloušková, Lazarová & Novotný, 2012). There is a growing expectation that schools will show an ability to learn, both at the level of individuals (teachers, leaders, other adults participating in school work) and of the school as an organizational unit. Schools should be able to comply with these expectations in a competent way (Verbiest, 2002). The stress was transferred little by little from individual responsibility (in other words, individual professional teacher development) to collective learning, advanced teacher collaboration, breaking through the isolation of teachers at work and development of practice across the school (Bakkenes, 1996; Davidsdottir & Lisi, 2012; Scribner, Cockrell, Cockrell & Valentine, 1999). Also, the principle stating that professional teacher development is conditioned and determined by a stimulating and supportive school environment, or school culture, has gradually been strengthened (cf., e.g. Altrichter & Elliot, 2000; Leithwood & Louis, 1998).

From the above-mentioned discussions, two premises are essential for the research we present here: (1) Professional learning cannot be separated factually from specific areas in which people work in schools, so it only makes sense to interpret it through specific subjects; (2) People in any area of work learn for the benefit of their schools. Such learning takes place in varied formal and informal settings at three levels at least: individual, in groups and at the level of the whole organization. This is learning in many forms relating to various substantial aspects of school operation.

The school as a place for professional learning and organizational development may be interpreted from various theoretical positions. Probably the most frequent concept in use is that of organizational learning. Apart from the concept of organizational learning, other theoretical concepts can be found, of which the concept of *professional learning communities* gives the widest scope for interconnecting all the three processes under our observation: individual and group professional learning and organizational development. By professional learning communities we mean (in accordance with Verbiest's survey study, 2002) the teaching staff in which people demonstrate an active, reflective, collaborative and pro-development approach to questions of the educational process (Verbiest, 2002). As DuFour (2004, p. 6) suggests, in order "to create a professional learning community, focus on learning rather than on teaching, work collaboratively and hold yourself accountable for results."

### **Czech basic schools: two institutions under one roof**

One of the typical (and rather specific) signs of Czech basic schools is the fusion of primary and lower secondary levels within one organization. This fusion has recently been a subject of examination. Dvořák et al. (2010, p. 198) remark that the "specifics of primary and lower secondary levels, their different concepts, different clienteles, differing foci and diverse ways of teacher training partially dictate the characteristics and particularities of staffs at both levels". Enabling a direct comparison of some of their features, the organizational arrangement of basic schools is a potential and, for researchers, attractive place for comparison of the working characteristics of both levels of education. Based on case studies of schools, Walterová et al. (2011) have investigated, among other subjects, the climate and management of the ambiguous staff of the basic school. However, no research of quantitative design has been carried out in order to compare more profoundly the processes of professional learning that exist at both levels of basic schools (cf. Urbánek, in Walterová, 2011).

## **Research Focus**

The aim of this analysis was to compare evidence given by teachers at the primary and lower secondary levels of basic schools about processes which create the professional learning community. It is a direct comparison of statements given by two populations working within a common framework which is specific to Czech basic schools and connects the elementary and lower secondary levels of education in one organization. The analysis pursues the following research questions:

(1) According to the statements of basic school teachers, are more features of professional learning communities shown by staffs at the primary or lower secondary level? In other words, is professional isolation stronger at the primary or lower secondary level? To answer this question the data on the perceived systematic aspect of the work with subjects of learning are used.

(2) Do the same supportive factors affect teachers at the primary and lower secondary levels differently? To answer this question, data on the perceived systematic aspect of the work with subjects of learning are put in relation to data on the strength of supportive factors.

## **Research methodology**

### **General background of the research**

The research was conducted in accordance with the logic of the mixed research design (Bergman, 2009; Yin, 2003). It proceeded from the identification of subjects of professional learning in schools and the identification of supportive (or inhibiting) factors for this learning, performed by qualitative research procedures, to quantitative measurement of the systematic aspect of the work with subjects of learning and of the strength of supportive factors. The subjects of learning and the supportive factors were almost all identified empirically, based on a multiple case study of three schools selected intentionally. Then a questionnaire was created for a representative survey based on the data of the qualitative analysis. Stage One of the procedure was based on a qualitative research investigation. The results of this stage became the basic input for Stage Two, a quantitative investigation. We identified key subjects of learning. We also identified a few supportive and inhibiting factors of learning processes. By means of qualitative analysis of the data of the multiple case study, the following nine subjects of learning were identified:

- School Education Programme
- Selection and use of teaching methods

- Teaching of pupils with special educational needs
- Risk-inducing behaviour of pupils
- Pupils' educational results
- Cooperation with parents
- Use of information and communication technologies
- Choice and use of textbooks
- Use of in-service training experience

The fact that schools, i.e. teachers and school leaders, work more intensely with these subjects may be interpreted as more intense learning in schools. Further, by means of qualitative analysis of the multiple case study, six decisive factors for the breadth and depth of organizational learning in schools were identified. These supportive or inhibiting factors are the following:

- Vision
- Cooperation
- Material and organizational conditions
- External support
- Teacher's individual attitude
- Management

The questionnaire survey made it possible to measure the strength of the supportive factors related either to professional learning as such or to the depth and breadth of learning in specific subjects. The intensity in which professional learning takes place is expressed as the extent to which people engage in identified subjects. Our assumption was that a basic condition of collective learning and organizational change is that the activities are systematic (Verbiest, 2002). The questionnaire presented the subjects to the respondents with an assessment scale on which they were supposed to show how systematically teachers in their schools engaged in these subjects (cf., Table 1). The rate of the systematic aspect of engagement in the subjects was evaluated for single items and in total.

**Table 1.** Example of an item on the questionnaire survey; measuring the systematic aspect of the work with subjects of learning

Teachers in your school engage in the selection and use of textbooks (teaching materials)
systematically 1 2 3 4 5 6 randomly 0 cannot judge

Assessment of the systematic aspect of work with particular subjects was used to calculate the summation index of the intensity of professional learning. This index can only be created if the rules of internal consistence of items are respected. Our

analysis showed that all the subjects of learning were internally consistent, in other words, they correlated with each other positively and with sufficient strength.<sup>1</sup> The index of the intensity of professional learning was created as an arithmetical mean of the respondent's answer for the nine subjects of learning.

A set of indices for the measurement of supportive factors was constructed so that each factor in the questionnaire was represented by a battery of items in the form of the Likert scale: from "I agree" (value 1) to "I don't agree" (value 4). The formulation of particular items was based on statements collected from the respondents at the qualitative stage. For some cases the source material did not provide a sufficiently strong basis, so some statements were added according to formulations in the relevant literature.<sup>2</sup>

### Research sample

The questionnaire survey was carried out in the spring of 2012. The research population consisted of the teachers of full basic schools in two Regions of the Czech Republic (*Jihomoravský kraj* and *Kraj Vysočina*). The sample, consisting of 52 schools, was created by probability sampling. A total of 1,120 questionnaires (1,003 teachers and 117 head teachers and their deputies) were collected. The qualified estimation of returnability for schools addressed was 40% and the qualified estimation of returnability of the questionnaires in schools was 85%. Each school was contacted by team members, either by telephone or in person. If rejected, the researcher asked about the reason. For this, schools did not mention the subject matter of the research, but other reasons, such as teachers being overloaded with other duties or another questionnaire survey having been carried out shortly before. Since the subject of our analysis is not the characteristics of schools as such, but a comparison of the primary and lower secondary levels, there is no reason to assume that the return rate has had a serious effect on the results of the analysis. The following analyses use data collected from the teachers, so the sample represents 1,003 teachers in basic schools.

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<sup>1</sup> Cronbach's alpha, which is one of the most widely used tests of internal consistence of the summation index, equalled 0.85. The average correlation among subjects was 0.4. From this viewpoint, the use of the summation index of intensity is meaningful.

<sup>2</sup> The Management Index is based on answers to 7 statements, Cronbach's alpha=0.85. The Cooperation Index: 7 statements, Cronbach's alpha=0.80. The Vision Index: 4 statements, Cronbach's alpha=0.77. The Index of Material and Organizational Conditions: 7 statements, Cronbach's alpha=0.78. The Index of External Support: 6 statements, Cronbach's alpha=0.78. The Index of Individual Attitude: 6 statements, Cronbach's alpha=0.75.

## Research results

First, conformity or difference in the perception of the systematic aspect of work with subjects of professional learning was studied. Indeed, Table 2 shows discrepancies in the judgement of the systematic aspect of work with subjects. In almost all areas, the primary school teachers tend to consider work with the subjects more systematic than the lower secondary teachers (in seven areas out of nine the difference is statistically significant or at the level of significance,  $p < 0.05$ ). This illustrates the differing perception of the systematic aspect of work with these subjects between the two levels of basic schools. In subsequent analyses this thematic structure is not used. Instead, analysis using the summation index of the intensity of professional learning is carried out.

**Table 2.** Systematic aspect of professional learning; comparison of primary and lower secondary levels of basic schools<sup>3</sup>

	Mean Primary level	Mean Lower second- ary level	t-test	p (t-test)
Teachers in your school engage in the arrangement of the School Education Programme...	1.90	2.07	-2.43	0.02*
Teachers in your school engage in the selection and use of teaching methods...	1.86	2.03	-3.02	0.00*
Teachers in your school engage in the quality of teaching pupils with specific educational needs (including the gifted)...	1.54	1.79	-4.65	0.00*
Teachers in your school engage in the problems of risk-inducing behaviours of pupils...	1.58	1.67	-1.61	0.11
Teachers in your school work with educational results of pupils (analysis, evaluation)...	1.74	1.93	-3.33	0.00*
Teachers in your school develop cooperation with parents...	1.58	1.68	-2.03	0.04*
Teachers in your school engage in the use of information technologies for their educational/administrative work...	1.86	1.97	-1.88	0.06

<sup>3</sup> In this and the following tables, statistically significant results (differences in mean values; correlations) are marked with an asterisk.

	Mean Primary level	Mean Lower second- ary level	t-test	p (t-test)
Teachers in your school engage in the choice and use of textbooks (teaching materials)...	1.67	1.80	-2.70	0.04*
Teachers in your school engage in the use of experience and results of in-service training...	1.90	2.10	-3.17	0.00*

on a scale where 1 = systematically, 6 = randomly

Also, differences in the perception of the strength of the supportive factors can be verified (Table 3). For four factors, statistically significant difference between the views of the primary and lower secondary teachers can be found. For all of these (cooperation, vision, external support, individual attitude) the opinion of the teachers at the primary level is more positive. The primary-level teachers thus perceive a higher presence of the supportive factors. It is then necessary to verify whether these factors also affect the systematic aspect of their work differently.

**Table 3.** Perception of strength of supportive factors; comparison of primary and lower secondary levels of basic schools

	Mean Primary level	Mean Lower second- ary level	t-test	p (t-test)
Management Index	2.01	2.03	-0.29	0.77
Cooperation Index	1.79	1.90	-3.05	0.00*
Vision Index	1.82	1.95	-3.18	0.00*
Index of Material and Organizational Conditions	2.90	2.92	-0.38	0.72
Index of External Support	1.98	2.14	-3.41	0.00*
Index of Individual Attitude	1.36	1.47	-4.68	0.00*

A more positive result is also found in the primary-level teachers for the value of the total score of learning (Table 4). According to them work with the subjects of professional learning is more systematic at their level. In harmony with other preconditions, this provides more space for learning, development and change in their segment of schooling activities.



**Table 4.** Summation index of professional learning; comparison of primary and lower secondary levels of basic schools

	Mean Primary level	Mean Lower second- ary level	t	P
Total score of learning	1.72	1.87	-3.54	0.00*

Table 5 indicates that the teaching staff of the primary and lower secondary levels of basic schools react differently to the adjustment of the supportive factors for collective learning. In their evaluation of the systematic aspect of work with the subjects under observation, which is the indicator of the depth of collective learning, the primary-level teachers reflect more intensely on the extent of cooperation, the strength of shared vision, the quality of organizational conditions as well as the scope of external support. The correlations between the supportive factors and the total score of learning are higher by one to two tenths in the teachers at the primary level. So the adjustment of the supportive factors is more significant for the development of elements of professional learning communities in the teachers who work at the primary level of Czech basic schools. Lower secondary teachers' assessment of the systematic aspect of learning shows a lesser influence of all the supportive factors mentioned, but there is an influence of another factor: individual attitudes of teachers (the correlation of this supportive factor with the total score of learning is 0.33). Thus, at the lower secondary level, unlike at the primary level, the perception of the systematic aspect of the work depends on the respondents' own attitudes.

**Table 5.** Correlation of the total score of learning and supportive factors

	Total score of learning Primary level	Total score of learning Lower secondary level
Management Index	0.39*	0.39*
Cooperation Index	0.36*	0.17
Vision Index	0.58*	0.41*
Index of Material and Organizational Conditions	-0.30*	-0.20
Index of External Support	0.52*	0.30*
Index of Individual Attitude	0.01	0.33*

## **Discussion**

The analysis of the data obtained from this research, which was carried out in Czech basic schools, leads to the conclusion that despite the relatively large conformity in the adult actors' perception of the systematic aspect in handling the subjects and managing work with them, this perception cannot be considered homogeneous. There are differences between the opinions of the teachers at the primary and lower secondary levels. Among other reasons, differences in the perception of the systematic aspect of the work with the subjects of professional learning are probably caused by the different organization of life and work at the two levels of basic schools. Differences in the statements of the teachers at each level show that there is variation in the perception of work with the subjects of professional learning inside schools.

The question was asked whether the primary or rather lower secondary staff of Czech basic schools tended to show the character of professional learning communities. The expectation that teachers at the primary level of Czech basic schools are in greater danger of professional isolation was not confirmed. On the contrary, it is the teachers at the primary level who work more systematically and learn professionally in a more intense way. Also, how teachers judge the adjustment of the supportive factors of professional learning as well as the systematic aspect of work, which is used in our research to indicate the depth of learning as a dimension of the development of a professional learning community, depends on the level at which they teach.

As for the second question, i.e., whether the same supportive factors exert a different influence on primary and secondary level staff, there is evidence that the two groups of staff react differently. At both levels an important supportive role for professional learning is played by school vision as well as by the extent of management exercised by school leaders. Higher dependence of the processes of professional learning on external support was identified at the primary level. The biggest difference was in the roles of the supportive factors of cooperation and personal attitudes. Cooperation among teachers is an important supportive factor at the primary level, but recedes at the lower secondary level, where the factor of the personal attitude of individual teachers plays a more important role.

## **Conclusions**

Based on the data presented it cannot be stated unequivocally that there really are two different staff worlds – at the primary and secondary levels – at Czech basic schools, as many authors suggest (cf. Walterová et al., 2011). Nevertheless, adjustment of the parameters of school operation identified as supportive (or inhibiting) factors of learning is manifested differently at the two levels of basic school. These findings can be interesting for both theory and practice of school management and provide a guideline for decisions about priorities in management. The differing assessment of the systematic aspect of work as an indicator of professional learning may lead to the conclusion that there are identifiable drawbacks in the support of learning processes. On this basis we can formulate a still more general remark which overlaps with the core of the subject of this paper, for which we join Verbiest (2002) in saying that an essential condition for collective learning is systematicity and non-accidentality of activities supporting the creation of new knowledge and its development. It seems that Czech basic schools are able to create sufficient space for a variety of activities within which they can learn. A question then to answer concerns the extent to which these activities are based on shared opinions: in other words, how sophisticated they are, how much they are reflected in teams, and how clearly they target the school vision. Evidently, it is still a challenge for many schools to clarify and reach a collective interpretation of knowledge on which to base the direction a school should take. The same applies to an adequate adjustment of the supportive factors so that teachers in Czech basic schools can make an applicable contribution to the establishing of this direction.

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