

Abstract:

ICT and Czech School Culture – towards the pre-research phase of a research project

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The contribution is one of the partial outcomes of a three-year project called Information and Communication Technologies (ICT) and School Culture (Czech Science Foundation, grant #406/03/P119).

In this paper the author deals with the pre-research phase of the project whose main goal was to complete the existing knowledge of the topic and thus enable to start the empirical survey. The respondents of the survey were headmasters of 15 schools in one of the regions of the Czech Republic. The respondents were sent a questionnaire in which they were supposed to assess the above stated key areas of school functioning according to the potential for school development ascribed to ICT. They were also asked to answer some question concerning the more concrete role of ICT in the area of school development. After that some headmasters were interviewed during structured interviews.

The results of the pre-research phase indicate the areas seen by the headmasters as showing significant potential of ICT, but also the areas perceived as being limited and the overall significance of ICT for the development of school and its culture.

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This article is part of the outcome of a three-year-project called *Information & Communication Technologies and School Culture (On the role of information and communication technologies in the development of the Czech school culture)*.¹ The main objective of the project is to identify the role of information and communication technologies² (ICT) in school culture. Manifested in the behaviour of people at schools and in the relation between schools and their external environment, school culture is understood as an important

¹ The post-doctoral grant project is supported by the Grant Agency of the Czech Republic (grant #406/03/P119) and the foundation of „Nadání Josefa, Marie a Zdeňky Hlávkových“.

² As ICT, I typically mean computers, the Internet, intranet, CD-ROMs, E-mail, multimedia teaching software, administration software etc. I also use the expression “modern technologies” in my text, as synonymous to information and communication technologies.

and relatively stable factor of school life, comprising convictions, values, beliefs, norms, symbols, rituals, and preferred behaviours. The project concentrates on the impact of ICT on the culture of Czech basic schools in its main areas and manifestations. The work on the project involves the search for answers to varied questions, such as: Which areas of school operation and culture are significantly influenced by ICT? What is the positive potential of ICT in view of the development of school culture? Which are the hidden reserves of ICT implementation into school culture? And, last but not least, can ICT implementation be a burden to school culture development?³

Objectives of the research

The main goal of this stage of the research was to add information from Czech and foreign specialist resources to the previous theoretic knowledge, so that the empirical research may begin. My objectives of the preliminary stage were mainly:

- to compare the researcher's introductory idea about the ICT issue to that of the respondents, i.e. basic school head-teachers (they were chosen as expert population, for it is them who exercise decisive influence on school operation and, simultaneously, have the responsibility for school development, so their views were probably the most valuable at this stage of the research);
- to find out whether the logic of my contemplation about the issue, and the manner in which I describe the problems, comply in basic parameters with the understandings of the respondents;
- to gain an overall idea about how important for the operation and culture of specific areas of school life ICT is, and to grasp the reasons the head-teachers had for their preferences.

Respondents and methods of the research

Selected as respondents were head-teachers of 15 complete basic schools (ISCED 1 & 2) in the region of South Moravia.⁴ One criterion of the choice was the number of inhabitants of the town or municipality the school was located in. Another was the characteristics of the school, eliminating recently established schools (newer than five years) or those after thorough reconstruction. As for the size of the location, schools were divided into three groups:

1. Schools in the regional capital of Brno
2. Schools in towns populated 10,000 to 70,000
3. Schools in small towns (under 4,000)

Random choice of five schools was made in each of the three groups. After an introductory telephone talk a questionnaire was sent by e-mail to the respondents in early May 2004.⁵ The respondents were first asked to rank eleven key areas of school operation (see Chart 1) by the importance of ICT for the functioning of those areas. The eleven areas of school operation, typically associated with the notion of school culture, had been identified through an analysis of home and foreign literature and expert consultations within the project of *Culture of the Czech School and its Development Strategies*. The respondents could add more areas and rank them.

³ This project is to continue another research, *Culture of the Czech School and its Development Strategies* (Grant Agency of the Czech Rep. #406/01/1078) at which I was a co-assignee in 2001-2003.

⁴ One of 14 administrative units of the Czech Republic.

⁵ The respondents were offered a printed questionnaire as an option but all of them rejected.

The questionnaire also contained four open questions to determine the positive and negative impacts of ICT on school development, as perceived by the head-teachers. Another question was to find out about the hidden reserves in the usage of ICT. The last question was meant to determine the activities in which ICT is mostly used by the head-teachers themselves.

The collection of data through the questionnaire was concluded at the end of May 2004, with ten questionnaires returned.⁶ Nine of them came back by e-mail, one was printed and sent by ordinary mail. The schools of Brno had returned them all, four of the five were returned from small towns, while only one questionnaire was sent back from schools in what formerly was District towns.

Then, one head-teacher from every category (who had agreed to being interviewed) was addressed and asked for an interview. All the interviews took place at the beginning of June and were audio-recorded. The next step was the analysis of the full transcription of the interviews. In each interview I used the following structure of questions, asked in the same succession:

1. Explain the process of your decisions when filling in the questionnaire.
2. Explain in more detail your ranking of school operation areas in the questionnaire.
3. Explain the importance of ICT in various components of school operation and culture.
4. Try and identify some significant events in the last couple of years affecting ICT implementation into the life of your school.
5. Outline the philosophy of the development of your school (in regard to ICT).

Selected results

The following chart shows a substantial portion of the results obtained from the opening part of the questionnaire.

⁶ In mid-May I reminded the respondents of the questionnaires, which proved to be useful. Some had by mistake deleted the questionnaire, others had unspecified technical problems.

Ranking in importance	Area	Ranking allotted — median ⁷
1	Supportive environment to learning and teaching creation of apt conditions for learning and teaching of pupils and teachers (pupils' motivation, teaching methods, evaluation and classification, etc.)	1
2	Professional growth support to personal and professional development of the staff, creation of conditions for in-service teacher training and development	3
3	Openness of the school school's collaboration and communication with parents, municipalities, school inspection and other educational authorities; public presentation of the school	3.5
4	Development and transformation of the school gradual or systematic changes in the organization of the work of the school; liberty of experimenting with new procedures	4 ⁸
5	School management management through orders or information; leadership based on external (rewards, formal rules) or internal motivation	4
6	Creation and materialization of the idea of the school's bearings (school vision) people in the school (management, teachers, pupils, other employees) work on the creation and materialization of a joint idea about the future of the school	6
7	Mutual agreement on main principles of school operation ability and willingness of all stakeholders (management, groups of teachers and other employees, pupils) to unify the rules of the functioning of the school	7
8	Collegial support exchange of experience; professional discussion and collaboration among the teaching staff; use of feedback from colleagues	7
9	Physical environment of the school location of the school, buildings, facilities, equipment, its efficient use	9
10	Informal life of the school people identify themselves with the symbols of the school, declaring their fellowship; habits and rituals are observed at reunions	10
11	Conflict management how conflicts are settled, work with troublesome people; management of staff's and students' discipline	10,5

Head-teachers nowadays have relatively large powers at their disposal, not only for the management of the school and their educational tasks. They are also responsible for the fulfilment of educational plans, the personnel policy, economical handling with financial means, and so on. This means more than just everyday activities, as there are tasks (such as those related to the increasing autonomy of schools) connected to planning, the creation of the school vision, and the making of a friendlier environment for collaboration within the school and outside — all this in view of faultless functioning of all the key areas of school operation.

So, head-teachers have to see to a quite large set of competencies and activities related to the life of the school. ICT has now become profoundly involved, and is developing rapidly,

⁷ The median was counted from the results of the offered items. Just one of the respondents added an item in the questionnaire, "teaching itself", ranking it first. Though, during the interview it was revealed that his intention was to stress the importance of ICT for learning and teaching. As this was one area only, it was not taken into consideration for the chart.

⁸ In case of equal medians I used arithmetic mean as additional criterion to specify the ranking.

so it is rather difficult for “non-professionals” in ICT to stay informed. What is more, there has not been so far any thorough system of external support to Czech head-teachers⁹ which would have helped them navigate in the world of modern technologies and use them at schools. It was thus to be expected that it would be rather difficult for the head-teachers to select some accents in a relatively complex set of areas of school operation. It is also well possible that head-teachers’ priorities might have been influenced by specific events in education which were related to the implementation of modern technologies at schools.

However, the interviews have shown that the ranking does reflect their priorities related to ICT, not being heavily influenced by current events or coincidence. As one of the head-teachers proved saying: “...now it would be like taking the questionnaire again, without those numbers, and try making the ranking again... but I think most of it would come out similar...” (A).¹⁰ The questionnaire and the interviews suggest that head-teachers have a quite coherent idea about the importance of ICT in the variety of areas of school operation. As is indicated by Chart 1, most importance is being found in the area of learning and teaching. A head-teacher (B) comments on this: “*Supportive environment to learning and teaching is predominant for me, and I’d say all the rest is at varied levels but less important than this.*” Importance is also seen in the relation between ICT and school development, both at the level of individual stakeholders (“professional growth” ranked second) and at the level of the organization of the work of the whole school (“development and transformation of the school” ranked fourth). Also, the ranking indicates that in head-teachers’ opinions ICT is weighty for the “openness of the school” though this area is not perceived quite comprehensively: ICT is understood here rather as a means of presentation of the school to the public (through web pages) or as a tool of communication (mainly through the e-mail) with the establishing entity, parents, and relevant educational authorities. Interesting is the area of “school management”. Here, head-teachers do not consider information and communication technologies that much important. On the other hand, the interviews have shown that ICT is regarded as an obvious element of their work and a far-reaching tool of the improvement of their own and the school’s informational background. A head-teacher (B) observed: “...it is today almost impossible to carry out school management without an internal and an external information system...” and the (A) head-teacher said: “*I wouldn’t probably be able to imagine school management without computers or, generally, without information and communication technologies.*”

Slightly surprising is the position of what is called “mutual agreement on main principles of school operation”, left rather behind in the ranking.¹¹ One possible explanation was indicated by the interviews with the (A) and (C) head-teachers who identically said that if they had not ranked their priorities in relation to ICT, but in relation to school operation in general, they would have positioned this area much higher because such concord is vital for the functioning of their schools. Does this mean, then, that head-teachers consider the agreement over the main principles of school operation as a significant, if not crucial component of school operation, is hardly affected by ICT? The findings of this preliminary stage of the research also evoke the question whether ICT is part of the main principles over which agreement is necessary. Unfortunately, the questionnaire has not brought enough relevant data to answer such question. Even lower in the ranking stands “collegial support”,

⁹ Within the State Information Policy in Education (a national programme of ICT implementation in education, involving teachers’ information literacy, computer equipment for schools, creation of educational software, and Internet usage in education; www.e-gram.cz) it was almost exclusively teachers who were trained. Specific ICT training programmes for head-teachers are contemplated only now.

¹⁰ Mentioned are a few quotations from the interviews, the District town head-teacher marked (A), those of the capital (B), and those from small towns (C).

¹¹ Within an identically conceived research as part of the 2001 Culture of the Czech School and its Development Strategies project, in the chart of head-teachers’ priorities, this area was ranked first.

which may indicate that the impact of ICT on social and professional relations within the school is regarded unimportant. It is well possible that the head-teachers consider collegial support as part of other areas of school operation, namely those more important in their views. However, the answers to these questions go beyond the framework of this preliminary research.

Four open questions were to be answered in the second part of the questionnaire. Where positive influence of ICT on school development was to be mentioned, most of them were related to teaching (use of the Internet, educational software, alternative support to teaching) and communication (mainly external communication: superior authorities, the public, presentation of the school). Less frequently mentioned were advantages which ICT brings to school management and administration. Question two was looking for hidden reserves of ICT usage. What the head-teachers have mentioned most often is insufficient infrastructure or maintenance. Also, reserves related to the staff were mentioned (such as unwillingness or incapability to work with computers or generation gaps in ICT usage). Where negative impacts of ICT on school development were to be identified, the most frequent response was “none”, followed by financial demands related to the infrastructure. The last question was to specify the activities in which the head-teachers themselves use ICT. Most frequently mentioned was teaching and preparation for teaching, only second was activities related to their function as head-teachers, and third was communication (with external subjects, prevailing).

Partial results

The preliminary research shows that it is possible to identify some key areas of school operation by the importance of ICT. There are areas in which the development of school culture is closely related to the usage of modern technologies. “Supportive environment to learning and teaching” belongs to them undoubtedly.

The head-teachers — as those who are responsible for the school and its development and exercise influence over the making of school culture — can see the largest potential of ICT in an area closely connected to the essence of school operation. Also relatively high in their priorities are areas linked to the change and development of people in the school, and of the school as a whole. ICT is as well considered important for the “openness of the school”, and the eminence of modern technologies in school management is widely accepted.

Contrary to the suppositions and results of a similar preliminary research of 2001,¹² the head-teachers have ranked rather low the areas of “mutual agreement on main principles of school operation” and “creation and materialization of the idea of the school’s bearings (school vision)”. The reasons and grounds for such differences are varied.

The preliminary stage of the research has shown that my introductory idea of ICT at schools and in school culture was slightly different from that of the respondents (as the ranking indicates) but this difference is not crucial or contradictory to my pondering. Such difference may be a consequence of the fact that head-teachers are truly sensitive about the relation between ICT and the functioning of the key areas of school operation. There were no substantial misunderstandings in the language or descriptions, apart from the rather restricted understanding of “school openness” by the respondents. The broadness of this area is to be highlighted.

¹² The respondents were to rank ten basic areas of school operation (identical with those in this article, excepting “supportive environment for learning and teaching” which had not been listed then) by the importance of the potential they can see in them for the development of their schools. The results were published at the ECER conference in France in 2001, see References.

It can be seen that the preliminary research has proved the correct selection of school operation areas typically related to school culture, quite explicitly indicating those most importantly influenced by ICT. It was also possible to usefully confront theoretic knowledge with the views of the stakeholders. The knowledge gained through the preliminary stage will be applied in the final phase of the preparation for the empirical research.

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