The theses of the present dissertation

1. The strategies of the information-based society can be converted into a multilevel strategic system model observing the interdependence and relative autonomy of individual levels. One level or component of the aforementioned model is the school-based or educational level regarded as an independent and prioritised ICT strategic factor whose optimal functioning requires an educational informatics development strategy, the formation of proper perspectives, the elaboration of school development models and the subsequent transformation of the learning environment.

2. The most important foundations of the educational applicability of the ICT include the potential of the current technological development, the perspectives of desired pedagogical advances, the actual answers given to constructive criticism of the educational process, and the demands of society.

3. The sustained and long-term implementation of ICT at educational institutions requires a system-oriented perspective, and the promotion and propagation of the awareness of the need for a comprehensive system transformation process. As the most important condition for the desired changes this transformation entails the adaptation of a new teaching-learning culture at the institutionalised learning environment of schools.

4. The ICT implementation-based development of the learning environment presupposes the construction of a model which accommodates the information community's expectations concerning the school, exploits the potential of the educational applicability of ICT, is aware of the school transformation capability of the new technology, and takes into account the actual conditions at educational institutions. The developmental model based on the author's research efforts comprised of the following components is one potential example.

- New skills, crucial competences whose nurturing should be a principal priority of the school of the knowledge-based society (competence-centred approach)
- The functions of information and communication technology devices in the learning environment of a given school, their role in the instruction and learning process (functional approach)
- The most important tasks whose fulfilment is required for the conversion of the learning environment of the school (priority-based approach)

5. The conversion of the learning environment of a given school should not entail a radical change as the complementary model of the learning environment consists of not mutually exclusionary contrasted concepts, but complementary ones as far as the different organisational, provisional and operational factors are concerned The complementary components are not restricted to basic teaching and learning concepts denoted by the instruction-construction dichotomy, and if we want to transform the learning environment to meet the requirements of the demands of the knowledge-based society, these complementary pairs should be our starting points.

6. According to the present complementary model the learning environment can be examined in such a way that the main features of the traditional, (instruction-based or knowledge transmission-oriented), and progressive or constructivist learning environments are expressed in pairs of opposing concepts. If a scale of value is assigned to each question pair, a device capable of quantitative measuring is elaborated facilitating the identification of shifting emphases, progress and trends among the given dichotomies in addition to presenting an overview of concepts indicating the occurrence, necessity, intensity, and actual time of the given development. Consequently, the complementary learning model suggests that the traditional and progressive approach should be taken into consideration during the designing and operating of the learning environment depending on the concrete objectives and conditions of the learning process.

7. The empirical description and normative evaluation of the role and functioning of the learning environment can be facilitated by an approach considering the sites of organised learning, primarily the schools, as a special meso-world. This meso-world is open to accommodate the diversity of the micro worlds of the learners and is open toward the hyper world as well using the contents selected by the media sphere as a resource thereby incorporating the real world into the learning environment and preparing the learner ''to navigate'' in the hypermedia system of the worldwide web.

8. In the open meso-world of the school the conditions for continuous, developmental communication have to be created and further enhanced by the help of the ICT apparatus. In order to maximize the effectiveness of the learning process the differing personality and cognitive developmental effects of varying media and communication devices should be incorporated into a developmental impact system.

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