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**ANALYSIS OF THE SYSTEM OF RESEARCH, DEVELOPMENT AND
INNOVATION IN EDUCATION IN HUNGARY**

Final Report

**Written and compiled by
Judit Lannert**

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Summary

Quality of human resources has essential influence on the quality of life we are living and the quality of human resources are effected by the conditions of education and development. One of the most important horizontal dimension of the European Union is the notions of lifelong learning expanding the act of education in space and in time. The idea of knowledge based society or of learning society puts stress on learning itself. Education systems went through enormous expansion in the last decades. We spend more and more money on them. Effective operation of such gigantic systems needs self-reflection and solid knowledge on its functioning. That is why educational research, development and innovation became one of the focus of the OECD. The main impetus to make a comparative study in that field was the contradiction between the big demand for knowledge and the decreasing money invested into educational research in several countries. Efficient intervention needs evidence based policy. It became one of the leading issue of the policy of the European Union.

To have an efficient and effective educational system is important to Hungary, as well. That is why the research and development capacity of the educational sector and the existence of feedback mechanism are vital. The need for a comprehensive analysis of the Hungarian R+D+I system of education was inspired by this recognition. This kind of evaluation has never been produced in Hungary, however a general analysis on the Hungarian innovation system was made by the OECD in 2005.

This topic inevitably brings definitional problems with. Where is the border of the R+D+I system of education, how independent it is? Shall we speak about educational or pedagogical science, or is it a broader territory? Does it involve expertise and tacit knowledge? Do we need to differentiate between the traditional research and development and developmental policy? What can be taken for innovation in the field of education?

With innovation there come up lot of questions. We tried to use a wide approach since the concepts coming from technological innovation are not always relevant. Pedagogical innovations are not produced in labs, they are contextual and less standard. Innovation is characterised by innovative and creative experts more than by implementation of already proven processes, methods or products. Despite to our endeavour to develop this notion consistently, its clarification and to get a consensus on the terminology needs more dialogues and discussions among experts. This paper does not want to close it but aims at giving an impetus to this debate.

In the chapters of the paper one can read about the fundamental characteristics of the educational sector from the R+D+I perspective, and later passing around the notional and strategic framework of it. After listing the actors of this system we describe the human resources and the forum of publicity. Administration and finance of the R+D+I of the education sector is dealt with in the next part. The main quantitative and qualitative features of the system are illustrated with concrete examples. At the end of the paper we analyse the mechanism helping or hindering of innovation and give suggestions for a future educational R+D+I strategy. Strategic and regulation documents and professional literature have been analysed. Already existing database was involved into the research and more than 40 interviews and a focus group discussion were made among the relevant actors of the field.

If we had to sum it up, one can say that the picture is very colourful. There are good traditions to build upon and there are problems that are neither unknown in the world elsewhere, but there are problems unique to Hungary, as well.

Research, development and innovation activities have been affected by the international and home processes in the last two decades. In the decentralized environment developed during the transition period innovational activities were widely spread among the autonomous schools, educational organizations. This intensive innovational activity had its root in the Act on Education inaugurated in 1985 that opened the way for alternative pedagogical programs.

Educational or pedagogical research has been pursued at many places. Despite the fact that researchers in that field struggle with the problem of lacking academic background, reorganization of institutions or financial problems, they are endeavouring continuously to create spaces to be able to get professionalized (HERA, conferences on pedagogical science, doctoral schools). It is worthwhile to mention, that many valuable innovation came into existence that one can be proud of even in an international comparison. In the field of early interventions and alternative pedagogy one can find several valuable initiatives, the institution of the national measurement of competencies is unique, one can list the activity of the Roundtable for Education and Better Chances for Children or the recently launched national longitudinal studies measuring competencies, as well. Good news that there are well working civil and private actors in that field, too.

At the same time Hungarian R+D+I system of education struggles with the same problems as other countries. Connection between practise and theory is weak, innovations and researches do not meet, policy is not based on evidences. The reason for it is partly the lack of stable concepts about educational R+D+I system, partly its fragile financing. Up to this day there is not any strategy for the whole educational sector. The responsibility for the sector is divided between several ministries and coordination between them is traditionally very weak in Hungary. In the strategic documents education plays the role of serving national R+D+I system, research and development in education itself is specifically explicated in the strategy for LLL. Priorities for educational research and development can be puzzled out from the programs under the auspice of New Hungarian Development Plan. At the same time these priorities do not construct a consistent complex system, where the targets and tools add up to a coherent structure vertically and horizontally.

Educational research is the responsibility of the minister of education according to the law. Still research, development and innovation are not the subject of discourses at the ministry of education. Research does not form any integral part of educational political decision making. The fact that the activities of educational ministry in the field of research and innovation are more or less ad hoc have been already explored by others (*Halász, 2002*). Educational research is overshadowed in the institutional environment. There is not any academic professor or academic research group in that field. Even at universities this field is played down, at the background organizations research activity is suppressed by service functions.

Unstable financing and institutional functioning cause as severe problems as the lack of strategic approach and concept. Neither the sums spent on this field is enough, nor the way how these amounts are spent is adequate. According to the data of the Central Statistical Office, less and less money is spent on pedagogical research in the field of social science. In international comparison although it is typical that this field is underfinanced, but Hungary remains low below the average. Data published by the OECD in 1995 (*Educational Research and Development, 1995*) show that 0.27% of the budget of the whole educational sector was spent on research and development on average. Australia expends the highest proportion (0.37), the lowest is paid by Ireland (0.18). In the case of Hungary money spent on research and development came to only the 0.15% of the whole educational budget. It is true that all over the world educational R+D expenditure is low compared to the whole budget of R+D. It was only 1.22% in 2008 in the countries examined by the OECD (*Innovation Strategy for Education and Training – Progress Report, OECD, EDU/CERI/CD(2009)3*). But Hungary with its 0,67% proportion is a real underachiever.

It is not a Hungarian speciality but an existing problem in many countries, too that information on R+D+I activities of the educational sector does not constitute a transparent structure, one can find only fragmented information. There is not any solid database or forum for educational research and development. Considering financial data, Central Statistical Office handle pedagogical and sport science together, in the meanwhile research connected to education but made under an other umbrella (like social science) does not get into the field of vision. Results of educational R+D+I activities are published by several forum, but in very different quality and often in a user unfriendly way. Lack of financial data can be explained by governmental languidity. Lack of appropriate forum derives from the fact that agencies providing brokerage functioning are still missing.

All the same knowledge about educational sector is considered appropriate by the actors interviewed. At the same time they do not see the guarantees for that it is used efficiently and well. Lack of quality assurance results in weak professional reputation of educational research. It is rare that publications that do not meet scientific standards or do not live up to professional expectations are rebuked. There is not any risk of “fall”, there are not professional discussions of high quality (*Jelentés, 2006*). The very evident element of quality assurance as the international participation (conference, publication in a foreign language, international cooperation, etc.) are not exploited. This comes from the imperfect foreign language skills. Other opportunity for capacity building and quality assurance could be evaluation of utilization of structural funds, but resources detached for evaluation are melting away during the project period and the underfinanced evaluations made in a very short period due to the narrow deadline are of not appropriate quality by necessity. It does not mean that there is not any positive example for program evaluations, but the potential residing in this activity is not exploited in the form of feedback assuring quality.

The problem of low budget, lack of strategy and data neither are unknown in other countries' education R+D+I systems, these are not special Hungarian ones. At the same time there are phenomena in Hungary that are more or less characteristic in this region and some of them can be considered as Hungaricum. Hungarian education

R+D+I system has been shaped and intercepted strongly by development policy financed by the structural fund. While this big amount of money can evolve great opportunities, its recent operation might have distortionary effects, as well. Enchanted by calling down more and more proportion of amounts for development due to the obligation of cofinancing the rug under the solid base of educational R+D+I has been pulled out. As a result big developments were launched without ensuring the normal operation of their founding institutions. Therefore sustainability of developments are jeopardized. Unfortunately the once in the nineties mushrooming funds having made local innovations flourishing were eliminated or contracted in the 2000s. Only the structural funds provide some financing support for this field recently. Paradoxically the initial bottom-up approach changed into a top-down one because of the immaturity of the system to sponge and logistically manage this money. To set up institutions and organizations to manage the process drained/distracted lot of human and financial resources and time from the executions of concrete tasks and even now this problem cannot be considered to be solved. The state misunderstanding its role does not restrict it to providing the framework and support but being mistrustful and having no confidence in local actors, overrates the operational and managing function and prefers exclusively financial control neglecting the professional one. That ends in counter effects of impeding development of local innovation instead of helping them.

Although there are many actors and organizations in this arena, their relationship does not work well, which is another characteristic feature to Hungary. A whole innovations system has been set up, but in vain if education does not play a leading role in it. The numerous actors are useless if financing is meagre and organizations are reorganized very often. Therefore the very long running horizontal connections that could construct the living organ for a working R+F+I system cannot evolve. According to special literature on innovation, it is not the actors but their relationships that ensure the good quality and operability of the system. So money should not spent on creating more and more organizations, committees and documents but on development of human resources acting in this field and on making their relationships more dynamic. Hungary can be reckoned as the country of missed/passed up opportunities. The responsibility for scientific policy is at the ministry of education is useless if reflexivity on educational system is missing. A whole system cannot work if the connections between the actors are unstable and not vivid. The existing fora are much more the places for self representing than for real discourse and active cooperation. Big resources are available in vain if the impact of their utilization is not analysed and it is used for maintaining institutions/organizations rather than to back/support sustainable operation of local innovations, practical development and applied research. The abundance of opportunities for international cooperation is useless if we cannot join it due to the lack of competency in foreign languages and in up-to-date methodology.

In spite of the rich traditions the most serious problem regarding functioning of the system is that cooperation and coordination not only among actors being in the three angles of the HELIX triangle, but among actors of the same position is haphazard, as well. It is connected to the quantitative and qualitative problems of human resources of R+D+I system. Regrettably both in case of research and development significance of human resources are underrated. The number of experts, of pedagogical researcher, of innovative teachers and even of decision makers being familiar with research and development are not sufficient. Many of the researchers and development experts are

hindered to join the international arena since they cannot speak in other language than Hungarian and their methodological repertoire is out-of-date. One of the most important problem regarding human resources in that field is poor quality of teacher training but this bunch of problems would have stretched the framework of this study. Teachers are the natural supply of education R+D+I system that cannot work without well trained and motivated pedagogues.

Finally we recommend that the following elements should be featured in a future strategy on educational R+D+I system: to establish the systematic institutional framework, improvement of operational efficiency, capacity building and expansion of human resources, deregulation and making regulation more transparent, development of professional publicity and of knowledge and information (especially in the field of financing), management, enhancing market approach, creativity and innovativity.

1. Introduction ¹

This paper has been prepared in the context of Project 8.1 “*Analysis and Strategic Development of the R&D&I System in Education*” within Priority Programme 3.1.1 “21st Century Public Education Development and Coordination” under the SROP of the New Hungary Development Plan. The purpose of the paper is *to analyze and evaluate the research, development and innovation system in education in Hungary*. No comprehensive report of a similar scope has yet been prepared in Hungary. The methodology of evaluation follows the guidelines developed by OECD’s CERI that OECD has applied in the analysis of the educational R&D systems of several countries.

The initial premise of the analysis was that there exist research, development and innovation systems in the various branch areas that are more or less delineated, developed and institutionalised, and that education is one of the areas that has such systems. Another premise was that education systems which have more developed and better institutionalised research, development and innovation systems are far more effective and have a greater potential for development than those that have no such systems, or where the systems are underdeveloped, incoherent and inefficient. International literature looks upon teachers as the number one depositories of successful and effective educational systems. Thus teachers themselves are particularly exciting stakeholders the educational R&D systems, and the key to the success of the system largely depends on the extent to which the key stakeholder is involved in innovation processes.

Understanding R&D systems is often hindered, particularly in the public sector, by the lack of consensus about what actually should be regarded as research, development or innovation. This paper considers “*research, development and innovation systems in education*” to be the sum total of institutions, regulatory mechanisms, resources, processes and other constituents that create, manage, disseminate and apply the *knowledge* that serves for continuous improvement of the professional activity in the educational system (i.e. organisation of learning) and the

¹ See the Annex for a list of acronyms used in the paper.

public policy addressing the education system. This is a complex system consisting of many components and has numerous overlaps with other systems. Knowledge is also interpreted in many ways by various stakeholders in education. *Knowledge* means *explicit, verbally communicated knowledge* and *implicit knowledge including practical knowledge, which is not, or only partly, verbalised (tacit knowledge)*. We considered the exploration and dissemination of tacit knowledge as an important task of the research, development and innovation system. In many respects, the research, development and innovation system can be described as part of a *knowledge management* system. A cardinal task of the system is to generate, transfer and apply knowledge. This topic is addressed in a separate paper in the context of the project.

While analysing the research, development and innovation system in education attention had to be paid to macro-level (systemic) and micro-level (institutional) processes as well as all levels and types of education, for education, hence this analysis, includes primary and secondary education, higher education, vocational education and non-school-based formal education. So all research, development, innovation and knowledge management processes aimed at these subsystems – in other words, whose goal was to improve these subsystems (or their institutions) were relevant for the purpose of this analysis. At the same time, exploring all aspects of areas that follow different policies and logic was a special source of difficulty and some of the aspects could not be tackled in their entirety.

The following methods were applied:

- Data collection and analysis
- Document collection and analysis
- Interviews and their processing
- Focus group discussions

Data were collected primarily from existing databases and from forums of the professional public.

Data sources:

- Education-related data from research, development and innovation data collections; and data bases (SCO, international data, PhD schools, OTKA)
- Education journals and periodicals (*Educatio, Iskolakultúra, Új Pedagógiai Szemle, Szakképzési Szemle, Felsőoktatási Műhely*)
- Data available from various research and evaluation projects related to innovation processes (TALIS, NDP evaluations)
- Data managed by the institutions visited (NORT, NDA)

Stakeholders interviewed² (respondents)

Interviews were conducted with stakeholders that play an important part in the research, development, innovation and knowledge management system of education. The stakeholders interviewed included:

- Competent heads of government agencies and bodies responsible for, or related to, education

² About 40 interviews and a focus group discussion were conducted; see list in annex.

- Competent heads of government agencies responsible in general for R&D and/or innovation
- Representatives of major professional associations in education
- Representatives of powerhouses of knowledge in education
 - Government research and development institutions
 - Representatives of competent HAS bodies
 - Workshops in academia (teacher training)
 - Local/regional institutions providing education services, consulting and development
- Major production and service companies active in the field of education (textbook publishers, content providers)
- Representatives and heads of educational institutions belonging to the various subsystems of education

Documents involved in the analysis:

- Legislation relevant to education (education acts³)
- Research and development documents, major development programme documents (HRDOP, SROP, Science Policy Document)
- Evaluations of the impact of education development programmes
- Appearance of education in key national documents of the institution system (Innovation Act and strategy)
- Appearance of education in key nationwide comprehensive research, development and innovation programmes and their documentation (SROP, NDA)
- Educational R&D programme and project documents (OTKA, NORT, NDA)
- EU and OECD documents on education (international analyses)

2. Fundamental characteristics of education from the perspective of research, development and innovation

Research, development and innovation activities in education have been influenced by international and domestic processes over the past twenty years. In the highly decentralised education system that emerged after the fall of communism the highly autonomous institutions were very active in innovation. About 10-15% of public education institutions were engaged in some sort of innovative activity⁴. Intensive involvement in innovation had antecedents as the 1985 Education Act enabled institutions to develop alternative education programmes even before the political changeover. Many of the currently renowned alternative educational institutions were established at that time. In the nineties the new key education acts were legislated (public education, vocational education and training, and higher education). They have since been repeatedly amended and in the mid-2000s an entirely new higher education law was enacted in the wake of the Bologna process⁵. The National Core

³ See Bibliography for precise reference.

⁴ Based on the data collection from education institutions by the National Institute for Public Education (OKI) in the mid-1990s, 15% of the institutions had developed their own local pedagogical programmes (author's calculation).

⁵ *Act CXXXIX of 2005 on Higher Education*.

Curriculum, the basis that triggered curriculum and educational material development was also conceived in the 1990s. Schools had to create their own pedagogical programme, thus they all participated in the institution and development process.

The period since the fall of communism almost always forced some kind of action upon stakeholders in education. The demographic changes conspicuous already in the nineties (specifically, falling birth rates) compelled the educational institutions to make a move in order to retain pupil and student headcounts. The great loser of this period was skilled worker training; conversely, an increasing proportion of secondary institutions where studies were concluded by a certificate of final examinations absorbed increasing proportions of successive cohorts. New structural solutions were introduced: six and eight-grade and mixed secondary schools offering general and vocational secondary education side by side. At the same time, in the same period higher education expanded in relative and absolute terms alike: whereas in the early nineties only 10% of the secondary school leaving population was admitted to higher education, this rate quickly reached 50% and today there are actually more freshmen in higher education than first graders. The expansion in the nineties and later its halt led to efficiency and effectiveness problems in higher education. Since the second half of the nineties equity issues have also come into the forefront of attention.

Stakeholders' attitude and innovation has been largely influenced by reforms top-down reforms (NCC, secondary school final examination reform, integration of higher education institutions, the National Register of Vocational Qualifications OKJ), but the need to sustain institutions amidst falling pupil and student figures was just as strong a motivating force. Added to that are the changes in the international playing field, where accession to the EU brought new priorities and also massive resources in the system. A third factor is international assessment of student performance, which has had a strong impact on the research and development potential innovation of Hungarian education. Hungary has participated in the assessment studies coordinated by IEA since the seventies and special national measurements were conducted in the eighties and nineties in the context of the Monitor study.

In addition to the economic and demographic crisis of the nineties another factor that strongly influenced Hungarian education policy thinking was the deterioration (or lack of improvement) of educational performance while specific indicators improved. The result of OECD' PISA studies shocked the Hungarian public opinion, as Hungary slipped in the third tiers in the international rank. Thus an increasing emphasis has been put on process and output regulation besides the liberalisation of curricula. One of the most fundamental changes that left its mark on both public and higher education was the reform of the secondary school final examination. The reformed final examination is a standardised competence based examination and replaces the former education entrance examination. The examination tasks rely more on problem solving skills than a simple rendering of knowledge. Moreover, the final examination achievement is a mirror to the secondary education institution, and provides information about higher education input that has so far been less obvious. The introduction, in 2001, of the National Competence Assessment was another major innovative step in terms of the accountability of the education system and research and development capacities. It was affected to a large extent by PISA and its methodology. The most important innovation in vocational education was the development of the National Register of Vocational Qualifications (OKJ). On the

negative side, many company-based practical training places were terminated in the wake of the economic crisis, which made the relations between vocational education and training and the economy to be the most delicate issue to date. In higher education, implementation of the Bologna process resulted in a linear multi-cycle structure instead of the former dual structure, a reform of Ph.D. education, and a stronger involvement of economic actors constituted the greatest changes in the life of institutions.

While no comprehensive strategy has been introduced in education over the past twenty years, responsibility for the various branches of education changed repeatedly, particularly in VET and adult education. Perhaps this explains why adult education has always constituted a separate field and the obvious connections between adult education and higher education or between VET and higher education are very loose. With the exception of a few periods adult education and VET has been the competence of the labour administration, thus the stronger involvement of the economic sphere in both training and financing generates different patterns compared to public and higher education. Creation of the VET Fund relatively improved VET in times of scarcity. Initially companies were required to contribute 1.5% of their wage bill to the Fund; currently the amount of contribution can also be used for in-house training.

Hungary's accession to the European Union in 2004 opened the way to the EU's structural funds. A significant proportion of the support was absorbed by education in the context of the HRDOP of the first National Development Plan. Virtually all the innovation and development projects started earlier were financed from this resource. In public education integration programmes promoting equity were financed from the structural funds, as were competence based development packages. In VET, EU resources were used for the reform of OKJ and the development of the network of Regional Integrated Vocational Training Centres (TISZK); and for actions supporting the implementation of structural reforms in higher education.

It is clear that the social, economic and demographic challenges of the past twenty years, coupled with the changing international environment, provided ample opportunity for development and innovation, but at the same time hindered the process to some extent. Many local innovative initiatives started in the nineties, but despite the initial bottom-up approach, changing legislation and, later, access to EU sources and directives top-down reforms became dominant, as planning was restricted to a narrow circle of stakeholders and implementation was excessively bureaucratic. Nevertheless, innovation and development projects were not really based on research. This was due to multiple reasons of which more details will be provided in subsequent chapters of this paper. Similarly to the education institutions system, the education research background has likewise experienced tumultuous changes. In the early 1990s the background institutions operated by the MoE, the National Institute of Education OPI and part of the Institute for Education Research were merged into the National Institute for Public Education OPI in 1990 and became the other background institution of the MoE. Other background institutions included the Adult Education Institute and the Vocational Education and Training Institute. In the early nineties several funds assisted with educational research, for example the public foundations KOMA and PSZM or the higher educational R&D programme. Public funding has petered out in the meantime, and today OTKA is the only basic research fund with a

budget of five billion HUF, unchanged for years. Smaller funds also exist (OKTK, later the Public Foundation for Public Education), and allocations from the VET Fund are also used for research; nevertheless, the EU schemes have become the main sources of funds replacing government spending on R&D. Fragmentation and lack of transparency of the funds available for education research is a problem as education related research is not a specified item in major development programmes (indeed the funds allocated in the context of development programmes are specifically for development and not research). There has been a certain degree of concentration in other areas; for example OTKA's application system has changed (international assessor, application in English), or the fact that allocations from European research support schemes (FP6 and FP7) appear to go to a smaller number of consortiums growing in size. This certainly leaves Hungarian education research in a difficult position.

As regards access to funds, a new situation emerged when the National Office for Research and Technology (NORT) was established as the legal successor of the National Board of Technological Development (OMFB) and the innovation contribution paid by businesses were used for funding some of the innovations and research projects. This created an obvious automatism (although it did not always work, as will be seen later); furthermore, involvement of the economic sector strengthened the creation of real added value. Higher education has a considerable share of the innovation fund, half of which is contributed by the State, and the other half by businesses. On the other hand, the topic of this paper, higher education research, is understandably not one of the main areas of support.

The international scene of educational research shows changing trends in terms of methodology and thematic. The fact that individual student performance data are more and more available in continental Europe allows student and school level analyses and strengthens awareness of the growing need for applied educational research that easily finds its way in education-related disciplines such as sociology, economics, education science and social psychology. Longitudinal studies offering cause and effect explanations have appeared besides cross-section studies, and qualitative research also strongly relies on software devised to perform sophisticated measurements. Besides the renewal of methodology globalisation and the European space, OECD's and the EU's relevant activities and the Bologna process also have a major influence. Efficient operation of the research-policy-practice triangle is not only a Hungarian problem. The international literature draws attention to the fact that researchers are increasingly expected to be interdisciplinary, work in teams, apply up-to-date methodologies, and create and observe the unity of basic and applied research. New knowledge is essentially the knowledge created and embraced by the scientific community, which is in harmony with the available facts (evidences). At the same time, the findings of the 2006 Report on Public Education still rings true today:

There has been no consensus regarding the issue of quality assurance of educational research. Some of those who consider it unnecessary say that peer control will "take care of" quality assurance. Others argue that the lack of quality assurance leads to inadequate professional reputation in educational research, poor standard of publications, final reports of research projects that are rejected because they are not in harmony with professional considerations – in other words, there is no risk of "failure", and the standard of professional debate is inadequate. (*Report, 2006*)

Perhaps it is not surprising that even practitioners are often sceptical about research findings and only accept them when they fall in line with their own empirical experience. Thus, sadly, the knowledge validated by the consensus of educational researchers is often missing. Contrary to new trends, dismantling of the line of demarcation between disciplines is equally not yet typical in Hungary, whereas today knowledge is primarily generated in multidisciplinary and interdisciplinary teams. In 2005 the High-Level Expert Group of DG Research of the European Commission created the concept of frontier research. It does away with the traditional line of divide between basic research and applied research. The new type of frontier research is not based on major physical facilities; instead, they mean decentralised services with a strong complementary element of institutional and human resources. According to the proposal of the DG, this requires maximum utilisation of mobility and establishment of new types of institutions. Hungarian educational research is lagging far behind in this area: intradisciplinary relations are weak – interdisciplinary ones are even worse.

3. Conceptual and strategic framework of research, development, innovation and knowledge management in education

3.1. Creating strategies and concepts

Over the past years a host of strategies have been developed that are, one way or another, related to research, development and innovation. Education laws are also important in this respect.

Pursuant to Section 95(1) of the **Act on Public Education**⁶ the tasks of the minister responsible for education related to the development of public education are as follows:

- a) to develop the long-term and medium-term development plans of public education;**
- b) to establish, operate, develop and modernise the national system of examinations,
- c) to elaborate a development programme for the transformation of the school network and the school structure and monitor the transformation;
- d) to examine the pedagogical problems emerging in public education and evolve pedagogical solutions and procedures;**
- e) to provide the financial and institutional conditions of pedagogical researches;**

SRP of the NHDP sets forth that developments will take into consideration the long-term and medium-term development strategies of public education; however, these strategies are not yet available on the Ministry's website. They had been developed by the education administration (Ministry of Education at the time) but

⁶ Act LXXIX of 1993 on Public Education.

have never been considered official documents⁷, or if they have, they do not feature in a prominent place on the Ministry website. The funding and institutional conditions for education science research have been volatile year by year. The background institutions of the Ministry have suffered repeated budget cuts, downsizing and transformation.

The Public Education Act provides for the National Public Education Council (OKNT) to follow the state of public education and initiate research tasks promoting public education development. These direct research assignments are few and far between; only the report on the teaching of science can be considered public, although it contains precious little about the research itself.

Pursuant to Section 17 of the Public Education Act, teachers of secondary educational institutions engaged as full-time employees holding an academic degree or an academic title are eligible for a maximum of six months' unpaid holiday (hereinafter called sabbatical leave) to conduct academic research or participate in individual further academic education every seven years. Only the time spent in a teaching position may be taken into account when calculating the seven years. The same is included in the section providing for the knowledge base in the Innovation Act. Teachers' sabbatical was a cherished idea of Minister of Education Bálint Magyar. However, analyses about practicing teachers show that few of them hold academic degrees or titles, and it is mainly mentors who are active participants of the association of researcher teachers, and they report that a teacher either teaches or researches, but the two activities are hard to reconcile in the current state of affairs. There are no data about the number of public education teachers making use of this opportunity but probably very few.

The **medium-term development strategy of public education** primarily sets priorities in the involvement of structural funds in public education development and provides for the enrichment of the knowledge base of developments.⁸ This is envisioned mainly by developing information systems and enhancement of the evaluation and measurement system, but the document also highlights the need for greater efforts in order to support innovative institutional developments by applied research.

The **Higher Education Act** emphasizes the autonomy of education and research. The drafters often use the twin terms research and development. Innovation appears alone as technological innovation or as part of the triad research, development and innovation. The Act refers to general research frameworks and it is difficult to see it as a reference to educational research. Every higher education institution has to develop a research and development strategy, steered by the Research Council and with the participation of the Finance Council and ultimately approved by the Senate.

⁷ *The Medium-term Development Strategy of Public Education (2004)* is an exception: Ministry of Education, Budapest, April 2004. [online:] http://www.om.hu/letolt/kozokt/om_kozeptavu_kozoktatas-fejlesztési_strategiaja_040506.pdf

⁸ *Article 3.1.4 of the Medium-term Development Strategy of Public Education by the Ministry of Education (2004)*: Ministry of Education, Budapest, April 2004. [online:] http://www.om.hu/letolt/kozokt/om_kozeptavu_kozoktatas-fejlesztési_strategiaja_040506.pdf.

The institution must publish the strategy and the result on its website. Having examined the websites of three universities, each having a doctoral school, we had to conclude that the institutions did not take this task seriously. Two had nothing on the website in this respect, and the third published a seven-page collection of generalities by way of R&D strategy.

The **Strategy of VET Development for the 2005-2013 Period** is almost exclusively about development; however, the concept of development is used so broadly that any specific content is lost. While the higher education texts are consistent in using the terms research, development and innovation, VET uses the term development without particular consideration and without adding either research or innovation. Development itself appears twice in the text: it occurs in the context of familiarisation with the findings of international research, and then in conjunction with the National Institute of Vocational and Adult Education, which is designated as the institute coordinating research and in charge of methodology development in VET. Interestingly, the term innovation does not appear in the text at all.

Conversely, the **Strategy of Lifelong Learning** puts innovation in focus. The strategy itself is a peculiar product developed by the education and the labour administration but the input of the two ministries have not been fully integrated and the resulting text bears the marks of the two different concepts. The text developed by the educational side is worth quoting as it is the only strategic document that describes the role of innovation in education in detail rather than the other way round, as seen in other documents. (*see insert*)

The strategy of lifelong learning and innovation

Support of innovation

Development and innovation are particularly important in an education policy that promotes competitiveness. Innovation means a constant renewal of the methods, technologies and tools of sharing knowledge. Putting it into focus requires special regulatory and administrative conditions. The **regulatory frameworks** to be developed should promote change on the one hand, and ensure predictability and guarantee a certain level of quality in a changing system on the other hand. This presupposes the application of special management tools such as, for instance, **accreditation**, which leaves room for new initiatives and at the same time provides for their integration, at some level, in the existing system. The so-called **innovation funds** have a similar role: they enable the financing of local initiatives and at the same time guarantee that they follow certain pre-determined priorities. Most of these mechanisms have been created in Hungary over the past years; the task now is to enhance their operation. On a nationwide level, innovations contribute to the improvement of services provided by the education system if **their results are sustainable and can be propagated through systemic networks and are incorporated in the quality assurance system.**

Education that envisions to support competitiveness and improve its own competitiveness must pay special attention to ensure appropriate knowledge base for education developments. The bulk of breakthrough technical and technological solutions are conceived in international science workshops many of which are connected to leading multinational companies. Countries having a more modest

market potential generally have a share when they are involved by international research facilities. This **requires of the particular country to also have leading research facilities, so-called “centres of excellence”**. **Centres of excellence emerge as a result of a long development process and only survive if they receive conscious and systematic support**. As they often operate in the context of universities they have a significant effect on education. Continuous improvement and monitoring of the institutions’ operating standards by professional networks opens the gate to a systematic dissemination and implementation of innovations.

Source: *A Magyar Köztársaság kormányának stratégiája az egész életen át tartó tanulásról* (2005) (The Hungarian Government’s Lifelong Learning Strategy, 2005): Ministry of Education and Culture [online:] {<http://oktataskepzes.tka.hu/link.php?linkId=298>}.

Unfortunately, this strategy was also doomed to the fate of documents not supported by adequate funding. Although an action plan was drafted right after the adoption of the strategy, no one checked whether it was implemented. Obviously, SROP as a whole can be seen as serving for this purpose but there is no close and systematic relationship between the two.

NHDP therefore seems to be a much more important document and massive allocations thanks to the EU structural funds. This document also tends to link research with higher education but it also sets goals that may constitute the knowledge base of research and development in education. More details will follow in subsequent chapters of the paper.

Act CXXXIV of 2004 on Research, Development and Technological construes the concepts of research, development and innovation (using the latter in the technological sense) and set out the task of preparing a thematic strategy. It also provides for the role of the State, public finance R&D and intellectual property rights. State support is performance linked, and the Act also provides for the evaluation and disclosure of development projects.

The government’s medium-term strategy on technology, science and innovation (TSI) policy (2007-2016) highlights the need to make an optimal use of international collaboration with a view of the economy of scale, to maintain and expand international networking, and to be active in science diplomacy. The strategy addresses the role of the state and emphasizes the need to support research in public policy areas (such as flood warning, public safety, defence, administrative procedure, sustainable development, consumer protection or social policy, demography, health care, the social impact of new technologies and the ethic of their application). Interestingly enough education is not mentioned as one of the public areas!!! The strategy considers the research institutes attached to the ministries as organisations providing innovation related services to the market but it is hard to fit direct educational research in this framework.

The document proposes performance assessment at PhD schools and public research facilities as well as a stronger involvement of HAS research institutes in PhD programmes. The fact that there is no specific HAS institute in the field of educational research is a clear gap, as the knowledge accumulated at the level of the Academy

cannot be imported to doctoral schools and supporting institutions as a matter of course.

The TSI strategy also addresses the need to enhance the transparency of the research and development system and proposes conversion of data and indicators to a format that would better support strategic decision-making. It also formulates the need to strengthen science and technology policy analyses, and to make spending on various types of research and development activities traceable in the budget. This would be very important for research and development in education, as currently there are no reliable data in this respect.

4.2. The institutional framework of education research and development

4.2.1. Ministry institutions

The institutions within the Ministry of Education and Culture carry out research and development work, although the intensity of this activity has varied over the last decades. Due to the crisis and the high budget deficit, said institutions have been facing financing difficulties over the last decade. In recent years, significant institutional changes, mergers and restructurings have taken place.

4.2.1.1. Institute for Education Research and Development (OFI)

The Institute for Education Research and Development was founded in 2007, as the legal successor of the National Institute for Public Education (OKI). The OKI used to publish a Report on public education⁹ every two or three years starting in the mid-nineties, and it also drew up model framework curricula to for curriculum reforms and carried out development in the field of equal opportunities. It also played an active role in reviewing the parts of the National Development Plan covering education, and participated heavily in setting education strategy until its restructuring. It also carried out knowledge management tasks, published data, research and opinions (UPSZ, its own website, Education Policy Café – see below), and tried to process international knowledge (OECD, EU, other international professional organisations such as CIDREE) and introduce it to Hungary. The Institute for Higher Education Research is a loose network of research groups that mainly studied vocational training, adult training and higher education after 2000, and published their findings and opinions on their website, through the various events they organized and the journal *Educatio*. OFI, the current organisation focuses more and more on services as opposed to research and development, for two reasons: many departments and groups serving such purposes have become part of OFI (e.g. Arany János Iroda, Kreditiroda), and the NHDP (2nd NDP) provided for much greater investment in education, which required the creation of an organisation that can manage these projects professionally. This automatically entailed the reduction of the research and development activity the Institute is named after. The current OFI website shows this clearly: it focuses on showcasing the Institute itself, and on the numerous calls for tender and the examination organisation services OFI provides.

The OFI, jointly with *Educatio Kht.*, participates in coordinating and organizing several SROP and SIOP programmes, but these programmes are seeing significant delays; thus, in this area we mostly just have plans, not concrete results. The Institute's deed of foundation makes it clear that its R&D work is to encompass all areas of education (*see insert below*), although the list of services is much longer than that of R&D activities: two pages as opposed to one. Today's Institute has regional information centres, and it places much greater emphasis on organizing events. At the

⁹ Report on Hungarian public education, National Institute for Public Education, Budapest, edited by: Gábor Halász and Judit Lannert, 1995, 1998, 2000, 2003, 2006

same time, the tradition of OKI national conferences has been abandoned – perhaps due in part to financial reasons.

Excerpt from OFI's deed of foundation

The core activities to be carried out by the Institute as a state organisation:

research, organisation of research and analysis;
development and innovation;
education services;
managing priority development projects;
library and museum activities.

1.1. The Institute's tasks in the areas of research, organisation of research and analysis:

a) monitoring changes in the education system;
b) research at the micro (student, teacher, institution) and macro (system-level and education policy) levels;
c) analysis of the changes in the entirety of the public education, adult education and vocational training systems, evaluating such changes in the national and international context and supporting decisionmaking in education policy.

1.1.1. Tasks listed under 1.1 are carried out by the Centre for Research, Organisation of Research and Analysis (KKEK), a budgetary body with partial independence.

1.2. The Institute's tasks in the area of development and innovation:

1.2.1. In order to ensure the population's ability to participate in lifelong learning and acquire modern knowledge, the Institute shall rely on Hungarian and international research in:

a) enriching the pool of methods used in organising education;
b) identifying the development and integration possibilities in education institutions;
c) drawing up development programmes and preparing them for adaptation;
d) supporting the implementation of development projects;
e) analysing, developing and evaluating programmes for supporting gifted students;
f) identifying the causes of school failures and
g) developing and evaluating the institution- and class-level strategies and methods designed to prevent school failures.

1.2.2. The Institute shall implement research and development programmes aimed at modernising the content requirements and examination systems of public education, and to this end shall:

a) analyse and monitor the implementation of the National Core Curriculum;
b) improve and standardise evaluation, innovation and continuing education activities;
c) improve and standardise the measurement requirements and methods needed for the development of the national measurement and evaluation system;
d) to this end, improve the measurement and evaluation methodology;
e) provide assistance in interpreting the results.

1.2.3. Tasks listed under 1.2., 1.2.1. and 1.2.2. are carried out by the Centre for Development and Innovation (FIK), a budgetary body with partial independence.

Source (in Hungarian):

http://www.okm.gov.hu/letolt/minisz/alapito_okirat/oki/ofi_alapito_080619.pdf

One of the main research objectives of the Institute for Education Research and Development is to promote fact-based, data-based decisionmaking on the national, local and school levels. The other objective – made possible in principle by the ever

greater knowledge in the area of development – is to create development models, know-how and development standards in addition to the actual development projects themselves, in order to enable non-experts to carry out development projects or adapt them to a specific situation. This activity is complemented by pilot projects and other development projects at the level of educational institutions that also promote openness and integration in schools.

Despite this, there is no central guidance on what kind of research or development projects should be carried out; this is usually based on the individual decisions of the people concerned. Projects start if and when there is somebody who pushes them, and stop when that expert leaves. Due to the budget deficit the ministries have to block some of the funds each year; this creates an atmosphere of uncertainty, which is not conducive to strategic approaches. In principle, the NDP provides ample funding, but in practice, these funds are also delayed by several years. Due to all these factors, the funding environment is uncertain and research and analysis work designed to take months needs to be rushed in the last minutes.

4.2.1.2. National Institute of Vocational and Adult Education (NSZFI)

The NSZFI forms a part of the Ministry of Social Affairs and Labour and is a public institution responsible for its own budget. It was created through the merger of the Institute of Vocational Training and the Institute of Adult Education. Its research tasks are mainly in the areas of vocational training and the development of the available set of vocational trainings. The Institute also participates in the development of content for vocational training and adult education. Apart from that, NSZFI also runs the Secretariat of the Adult Education Accreditation Board, the Vocational Training Textbook and Teaching Aids Council and, the OKJ Board, the National Observatory Office, the National Reference Point, the Hungarian National Observatory Office and the National Vocational Training and Adult Education Council. The SROP 2.2.1. and the Vocational School Development Programme have their own organizational units.

The international report on innovation in vocational training (*OECD/CERI Study of Systemic Innovation in VET, 2008*) commended the developments, but added a critical remark stating that in both cases, a large-scale programme had to be implemented with a very tight deadline and there was no pilot stage, nor any reliance on a formal knowledge base. These developments mainly relied on the tacit knowledge of the participants; in case of the OKJ, the job analyses were the most important basic sources of information. At the same time, it needs to be said that lack of time was not the only reason for the perceived shortcomings. Browsing through the research documents on the NSZFI website, one cannot but notice that the documents are mostly descriptive; analyses of the existing literature and national statistical data.

4.2.1.3. The Educational Authority

The Educational Authority is a body within the Ministry of Education and Culture that acts as a public authority in all fields of education: it organises examinations, coordinates admission procedures, authorises the use of textbooks etc. When it comes

to R&D&I in Hungarian education, the main role of the Authority is that of carrying out and analysing national and international student surveys and testings.

The Evaluation Centre carries out national and international comparative surveys in order to assess the knowledge and abilities of children in public education in the areas of reading comprehension, mathematics and science.

Its objective is to supply empirical data to policymakers and education professionals. The Monitor studies, carried out regularly since 1986, provide a testing framework that evaluates the current knowledge of students and also allows us to make comparisons and identify trends.

A national survey called the [National Assessment of Basic Competences](#) was carried out for the first time in 2001; this survey records the text comprehension ability and knowledge of mathematics of the entirety of an age group each year.

Many experts consider the National Assessment of Basic Competencies and the reform of the secondary school-leaving examination to be the two main changes of the last five years in public education; two changes that support each other. The introduction of the NABC was originally mainly motivated by the intention of showing decisionmakers what the money was being spent on, and to demonstrate efficiency. However, the developers themselves were more interested in providing schools and teachers with a tool for feedback that helps improve their work. As the issue of accountability came to the fore, part of the research community started demanding that the data from competence testing be usable in the evaluation of the education system. This combination of forces and requirements have led to the testing being done in four grades – as dictated by law – and complete testing being done in three grades. National and international testing is coordinated and implemented by a team of only 20.

The Centre is responsible for carrying out the yearly National Assessment of Basic Competencies, as well as international surveys organised by the OECD and by the IEA, as well as for interpreting the resulting data.

According to the head of the Centre, the data is not interpreted in sufficient detail by the education researchers, and its meaning and significance is not being appropriately explained to the wider public. Because of the latter, there is an increasing danger of false interpretations by non-experts.

4.2.1.4. EDUCATIO Társadalmi Szolgáltató Nonprofit Kft.

The company, operating under the name *EDUCATIO Társadalmi Szolgáltató Nonprofit Kft.* until 30 June 2009, was founded by the Ministry of Education in 2000 in order to improve and operate the admission procedures of higher education and provide information related to higher education admission testing. As a result of a Ministry decision – in accordance with amendments made to the contract between the company and the Ministry – the tasks of the company have been extended to include, apart from running the National Higher Education Information Centre, running the SuliNet Programme Office and the Győr Public Education Information Office in 2001, the Student Information Centre in 2002 and the Student ID Customer Service in 2003. In 2007, Diák-Bónusz Kht. and SuliNova Kht. both merged into the company

(see insert). After the changes, the organisation switched to a project-based model of operation; thus, the tasks of the merged companies are carried on as programmes and projects in the new organisation.

SuliNova Kht.

The Ministry of Education set up SuliNova Kht., a company owned 100% by the Ministry, in order to manage the technical aspects of the implementation of the central programmes of measures HRDOP 2.1. and 3.1 of the National Development Plan. The National Development Plan Coordination Centre, the Evaluation Centre, the National Education Integration Centre, the Skills Development Research Centre based in Szeged, the Centre for the Improvement of the Quality of Public Education, the Programme Development Centre, the Centre for Education Policy Analysis and the Teacher In-service Training and Accreditation Centre (*Report 2006*). SuliNova's motto was: "We are at home in the classroom".

The primary objective of the activities of EDUCATIO are: setting up services related to the development of content, methodology and record-keeping in public education and higher education, implementing development programmes, coordinating the technical content of developments aimed at reforming public education and ensuring equal opportunities in education. It is also responsible for organising activities related to the dissemination of information, IT issues and databases serving record-keeping and management purposes, managing procedures, preparing, planning and executing logistical and IT development projects and providing services related to these.

The organisation provides information and services to students, teachers, trainers, parents, public education and higher education institutions, the maintainers of institutions, NGOs active in the education space, the Educational Authority and the Ministry of Education and Culture itself.

The **competence-based developments** that were at the core of the HRDOP programme of the first National Development Plan were carried out by Educatio Társadalmi Szolgáltató Nonprofit Kft. and its predecessor, SuliNova Kht. The developments of the central curriculum and study materials in the six competence areas (text comprehension and creation, mathematics, foreign languages, ICT, social, lifestyle and environment, careerbuilding) and in pre-school education were tested by 120 institutions at the newly created School and Preschool Development Centres, with the participation of almost 10,000 students (see details below). 15,000 teachers – 8% of the Hungarian profession – participated in in-service training in the framework of this project. The developments also included research activities carried out in one of the predecessors of the Institute for Education Research and Development, the National Institute for Public Education. In drawing up the New Hungary Development Plan, the previous development work of the organisation was taken into account, and Educatio Társadalmi Szolgáltató Nonprofit Kft. was chosen to run the priority project entitled *21st century public education development, coordination* together with the Institute for Education Research and Development that had already expanded its core research and development activity with numerous services covering the entire field of education. The main goal of the public education development process starting now is to develop competence-based education further, and bring it into general use. However, numerous aspects of the philosophy of development have changed radically. As the title of the priority project shows, coordination is favoured instead of

centralised development. In the new development period starting now, see specialized workshops, local innovation and best practices will receive a much greater role, especially if integrating their development results helps the system adapt to changing needs and the various local needs such as the needs of the students, and – due to the competition arising from the tender system – improves quality. The creation of regional networks serves the purpose of adapting a significant portion of the developments to local or regional social needs. Their task is to identify real needs and – through the so-called “Services basket”, to be developed in the course of this project – make sure the local stakeholders have access to the results of development and the technical support needed to take advantage of them.

The creation of regional and subregional networks promotes the strengthening of horizontal relationships between different schools and between schools and education service providers, enabling the stakeholders to learn from each other. The coordination of bottom-up developments and these networks is one of the main tasks of the present central programme. Coordination is also needed in strengthening the ties of public education and teacher training and in-service training; this area has been somewhat neglected in the previous development period.

Coordination and the developments themselves cannot be successful without reforming the IT systems in all of public education. Therefore, the priority project includes a development task of setting up a central integrated administration system that will support schools and pre-school institutions in their administration and planning tasks, and helps monitor development projects – this task will be carried out by Educatio Társadalmi Szolgáltató Nonprofit Kft., with the associated investments being contained in the Social Infrastructure Operational Programme.

Educatio Kht. also coordinates developments in higher education within the framework of programme 4.1. One such project is the career tracking system for higher education graduates (see insert).

[Career tracking system for higher education graduates \(DPR\)](#)

Its goal is to provide higher education institutions, students planning to enter higher education, parents of such students and the organisations that draw up national higher education and labour market strategies (MoEC, FTT) with clear information on the career paths awaiting those who leave higher education with a new degree, thus enabling them to adapt labour market and higher education strategies.

The constituent parts of the DPR (the creation of the institution-level career tracking and alumni model, supporting institution-level career tracking surveys, creating and developing the IT solutions supporting analyses) ensure relaying supply and demand information in both directions, and help create harmony between the labour market and the education system.

[Executive Information Database \(AVIR\)](#)

It is designed to lay the technical foundations of a unified higher education management information system, lay the groundwork for efficient use of information in higher education institutions and provide training and technical support to institutions in creating and maintaining executive information databases.

AVIR ensures that the Ministry responsible for higher education and other organisations (the Hungarian Rectors’ Conference, the Higher Education and Scientific Council, the National Union of Students in Hungary, other ministries involved, the Hungarian Central Statistical Office etc.) receive reliable information on the operation and performance indicators of higher education.

AVIR helps heads of institution make informed decisions by automatically processing available data into information. AVIR helps set up efficiency and resource-availability benchmarks so that institutions can be compared throughout higher education.

Source: www.felvi.hu

Educatio Kht. also does research, mainly in the area of higher education. It also collects higher education admission statistics, and, about two years ago, started *Felsőoktatási Műhely*, a journal publishing higher education research. Educatio Kht. maintains several websites; apart from their own, they also run felvi.hu with the motto “Everything higher education”. There was an organisational change in this area and the website of the legal predecessor, SuliNova is still online as well; it provides information on completed development projects – although it is not very user friendly or complete: sadly, there is no content at all in the Best Practices section, for example.

4.2.2. Higher Education

4.2.2.1. Departments of Education

Four Hungarian universities have such institutes or departments, and their websites list the titles, authors and consulting teachers of planned and completed PhD theses. Between 2004 and 2009 the highest number of PhD theses was written at ELTE’s Education Doctoral School (97) followed by the Doctoral School of Humanities of the University of Debrecen (29), the Education Doctoral School in Szeged (7) and the Education and Society Education Doctoral School of the University of Pécs (5). Six categories can be identified with regard to the topic of theses:

1. higher education and the attitudes of students;
2. research into attitudes among the young;
3. career choice motivation and career models of subpopulations (e.g. people of Hungarian ethnicity in neighbouring countries, roma people, Israeli immigrants);
4. works on theory or history;
5. certain limited aspects of the education system, e.g. adult education, external participants (NGOs) or systemic aspects (e.g. policy changes in Romanian higher education);
6. pedagogy, methodology in practice, classroom research.

Most of the PhDs cover topics of theory or history. The second most popular type of work is practical research with methodological aspects. About one fourth of PhDs in education science belong to this category; however, not all of them are based on

actual research and classroom observation; in fact, only about 10% of all PhDs are. These empirical research PhDs analyse both higher education and public education.

The Pécs Doctoral School is barely present in the database of doctoral schools, while the ones at Szeged and Debrecen are both robustly represented, with the former mostly being involved in classroom observation and student performance measurements, and the latter mainly focusing on ethnic Hungarians outside the national borders and on minorities. The Doctoral School of ELTE is active in numerous fields. The head of the School has an interest in historical research, and this is reflected in the PhD topic choices; other notable trends include PhD theses written in foreign languages¹⁰ and IT research.

Experts believe that much more should be spent on PhD training in the field of education. The distorted geographical distribution of doctoral schools is considered to be a serious problem. The number of PhD theses alone shows that ELTE, located in Budapest, is too dominant. Sadly, the head of the Debrecen doctoral school, one of the leading Hungarian education scientists is about to retire, and there is no appropriate successor in sight yet. The University of Szeged fails to meet the formal accreditation requirements of doctoral training, even though its staff has the highest impact factor in the country and the journal *Magyar Pedagógia*, edited at the School, is the best Hungarian journal in the field. The situation is decidedly odd as the School runs one of the most important Hungarian research projects as well.

The Szeged knowledge centre and the new longitudinal study

The University of Szeged is the cradle of Hungarian competence research; it started such research early, led by professor József Nagy. They developed various diagnostic tools such as PREFER and DIFER, available for pre-school and primary school teachers for early screening and diagnostics¹¹. The tool is based on years of technical research, and it is being tested in the region in longitudinal studies.

One new longitudinal study was started in 2003, with the objective of identifying the causes of the school development of students. The study started with three cohorts, first year students (n=5286), fifth-year students (n=3881) and ninth-year students (n=3131). The research will have a full sample after 4 years. The researchers at the University of Szeged use tests they developed themselves. The measurement tools are as follows (*see Table 1*):

Table 1
The schedule and measurement tools of the Szeged longitudinal study

Time of measurement	Sample I	Sample II	Sample III
Fall 2003			DIFER
Spring 2004	text comprehension, attitude questionnaire	text comprehension, attitude questionnaire	

¹⁰ These are mostly written by foreign students and do not cover Hungarian issues.

¹¹ It has to be noted that this tool has come under fire both from psychologists, some of whom consider it outdated, and some teachers working with children with learning difficulties, who have doubts as to its applicability among the roma. Sadly, there is not much open technical debate in this area.

Spring 2005	Inductive thinking Attitude questionnaire	Inductive thinking Attitude questionnaire Combination ability	Text comprehension Counting ability
Fall 2005	Environmental conditions of learning Learning habits	Environmental conditions of learning Learning habits	Environmental conditions of learning Reading habits
Spring 2006	Complex problem solution Application of science knowledge I-II	Complex problem solution Application of science knowledge I-II	Mathematical thinking
Fall 2006	Attitude questionnaire	Attitude questionnaire	Text comprehension Reading habits
Spring 2007	Foreign languages (reading in English and German) IT skills	Foreign languages (reading in English and German) IT skills	Inductive thinking Attitude questionnaire Science concepts Basic knowledge of nature Counting ability

Source: Csapó, 2007/2

Initially, the programme was financed by the Hungarian Academy of Sciences at a very low rate (8-10 million HUF), then, as of 2010, it receives financing from the Structural Funds (3.1.9., 750 million HUF).

Departments of education science are faced with a great challenge when it comes to positioning themselves in the future. The reduction of student numbers is causing increasing difficulties in the financing of higher education; thus, the sector has started to diversify. The plan is to award the title of “research university” to only a few universities, conditional on meeting certain requirements (e.g. participation in international research and development activity). Clearly, this will motivate departments of education to develop a stronger international profile, but so far only a few of them are showing such signs.

4.2.2.2. Other institutions of higher education

There are other institutions involved in education research; primarily, the Faculty of Social Sciences of ELTE. Within the framework of FP6, Hungarian researchers are analysing education and health policy as participants in an international consortium (www.knowandpol.eu). Corvinus University and CEU also carry out education sociology and education economy studies, often jointly with the Institute of Economics of the Hungarian Academy of Sciences. The higher education research

projects run at the University of Debrecen should also be mentioned; they mostly study management and financing.

4.2.3. Market forces in research and development

Both foundations and market players are involved in education research and development. Foundations are primarily public foundations (e.g. FSZK), and they mostly commission research from others instead of starting research projects of their own. The oldest Hungarian research centre, the Social Research Institute (TÁRKI) should be mentioned here: it assists major research projects offering its data collection capabilities (TALIS and career research), and, even though TÁRKI focuses mostly on economic, social policy and health policy, it also participates successfully in international education research programmes, such as the LLL (lifelong learning) programme as part of its mobility research. TÁRKI-TUDOK, a member of the TÁRKI group started participating in education research just recently; it mostly does teacher data collection, programme evaluation and monitoring. Both TÁRKI and TUDOK have their own websites, where research reports are published: www.tarki.hu and www.tarki-tudok.hu.

The other active group of market players is that of companies involved in ICT. Microsoft and Intel have research and development projects, although their results are not widely available in Hungary; nevertheless, their websites advertise such services, but the author of the present study has no detailed information on their activities in this field in Hungary. Whatever the case may be, these companies were not mentioned by any of the respondents. Several companies won in the e-learning section of FP6 (primarily thanks to EU funding; we were not this fortunate in FP7). However, the funding provided was rather low, and some of these companies don't even exist anymore, or the knowledge they built has not been put into practice as far as we know. Small wonder that even ICT experts reckon that the questions regarding the benefits from the use of ICT have not even been asked yet. The necessity of using ICT in schools usually only arises "because it is everywhere".

4.2.3.1. Textbook publishers, developers of study materials

After the publishing monopoly of the state ended (in 1992), the biggest textbook publisher still remained state-owned. Initially, only small, underfunded Hungarian-owned publishers appeared, and they could not compete with their state-owned rival. However, by the turn of the millennium, the market had changed drastically, and stabilised. The last state-owned Hungarian public limited company, Nemzeti Tankönyvkiadó (National Textbook Publisher) was privatised in 2004. Foreign publishers started building up an ever stronger presence on the Hungarian market, either by founding new companies in the country, or by buying Hungarian publishers or acquiring a significant holding in them (Report 2006).

Textbook publishers don't have research groups of their own, but they do commission research during the development phase, test the product and try to make use of international experience in the field, although not all of them do this in equal measure. Interestingly, teachers who participated in content development for the former state publisher back in the day tend to have quite fond memories of the process; they experienced it as a joint adventure where they spent weeks working on the material

together, involving foreign experts and teaching with the material they themselves had created.

Today's publishers involved the education researchers¹² while this was possible, and they also organised trainings with the staff of the University of Szeged. Materials are tested in various schools during development, but direct feedback is no longer the norm; developers themselves are not the ones teaching from the new books, and the possibilities of teamwork are reduced as well. Publishers have contracts with schools providing test teaching opportunities, but these usually allow them to test individual chapters of a book and not the whole book. As they themselves say, "It's too expensive to keep fiddling with the book instead of putting it on the market." The practice of importing foreign knowledge has faded into the background. The costs would be too high for Hungarian publishers; they used to visit international trade shows, but have since abandoned the practice. Foreign-owned multinationals do occasionally share materials across their various subsidiaries, but mostly only in the area of science. As they say, not even an experimental book can be adopted without adaptation, because the various countries have widely differing curriculum regulations.

According to the Academy of Science and higher education experts, the quality of Hungarian textbooks is not satisfactory. They believe that the number of textbook authors is too low; therefore, the authors also do the revisions. Evaluations are either arbitrary or too permissive; there are 24 reading textbooks on the market now, and they contain far too many errors. Currently, textbook evaluation as an independent activity is practically nonexistent. The data from the National Assessment of Basic Competencies does contain information on the textbooks used, but this data has not been analysed to date.

The textbook market was the subject of the content development project coordinated by SuliNova Kht. and financed from the Structural Funds that aimed at a fundamental reform of the culture of education and methodology (see our analysis of competence-based programmes in an earlier part of the study). The research-based programme packages were developed in short order with a Herculean effort, struggling to meet the tight deadlines, and then tested in schools. Subsequently, a tracking network was set up. However, numerous problems were identified towards the end of the development. First of all, the whole phenomenon was so new the regulatory environment was struggling to keep up with it. Textbook publishers complained that because the materials were not classified as textbooks nor teaching aids, they had not gone through the accreditation process. While development was taking place, Hungary adopted EU copyright laws, which meant that the materials that had been available free of charge for use in education were not free anymore. Given that costs and market considerations were not taken into account in the development, the product itself ended up being rather expensive.

The materials were uploaded to the website, but not as "intelligent" digital material. Numerous problems arose: the programme package was not in line with the National Core Curriculum, individual school curricula or the qualifications of teachers, while

¹² A privately owned education consultancy and expert group, Commitment, used to have a textbook research institute

textbook publishers complained about being pushed out of the market by a large quantity of state-financed study material. There was a danger that the years of development work would go to waste, or else ruin the textbook market. A competence consortium was set up, they accredited the packages and some of them made it onto the official list of textbooks, but few schools decided to use them, partly due to their high price. Now several experts believe that carrying out the development work without involving market players was a mistake, so now there are attempts to involve textbook publishers in marketing and further developing the programme packages via calls for tender.

4.2.4. Education service providers and consultancies

Education services here means primarily: conducting examinations, carrying out student performance measurements and providing consultancy services at subregion level. These service providers are fundamentally not in research and development, but they can have a direct effect on research and development. Since 2000, the number of institutions involved in such activities has been growing: it tripled between 2002 and 2006 to 160, out of which 120 were in municipal or state hands, with the rest being run by foundations or private persons (Report 2006). Most of these service providers do not do research, but they may organize conferences and commission research.

Organisations that are not run by a local council and thus have no supply obligation tended to focus on areas that promised the highest profit: in-service training and measurement and evaluation, and consultancy during the reform of the network of vocational training institutions. However, quality assurance in relation to these activities is not guaranteed; the market is being relied on. Some private consultancy firms do take on research projects, but these – due to the nature of the requests they get – are often not public (and therefore little known). We should also add that the largest such company, Commitment Zrt., founded in 2003, used to have a research institute specifically for analysing textbooks, but has since terminated this activity due to economic reasons.

4.3. Human resources

4.3.1. Hungarian pedagogical capacity

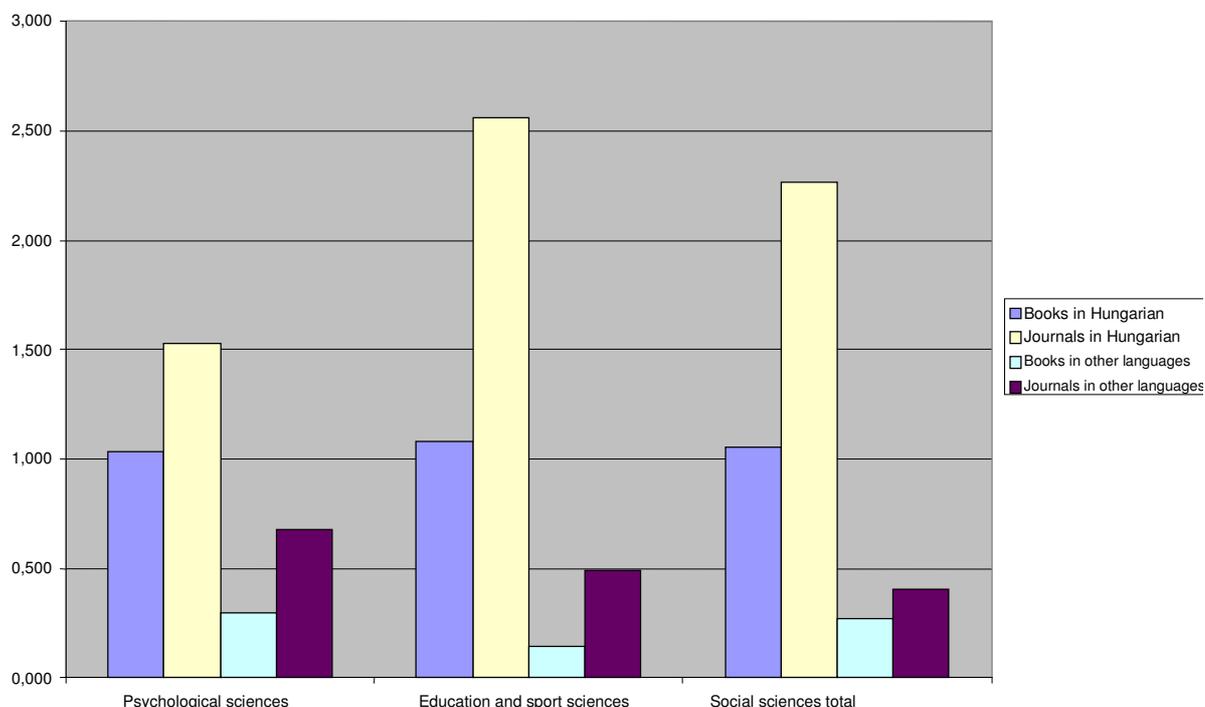
The scientific activity of Hungarian pedagogy was surveyed by WARGO Institute in 2008, commissioned by the Education and Children's Chance Round Table (*A magyar neveléstudomány... 2008*). The survey, on the one hand, examined one indicator of the publication activity and scientific effect of teachers and researchers of Hungarian pedagogy (this indicator being authors' citedness score); on the other hand, it analysed publications issued in the major journals of Hungarian pedagogy with the empirical methods of science sociology and sciencemetry. For this purpose, two resources were examined: the major data bases of publications on social sciences (the collections of *Social Science Citation Index* and *Art and Humanities Citation Index*) and the Google Scholar (a collection of publications available online). A significant conclusion is that *as a rule, the works of the majority of Hungarian teachers of pedagogy are not cited even for one instance*. It was possible to calculate the citedness score for 72 teachers; results show that among the teachers of pedagogy there is a small group whose scientific effect is considerable: for 30 teachers, citation

per one publication is at least 1.4 and for 14 teachers at least 2.0, which may indicate a considerable effect in the field of science (*A magyar neveléstudomány...*, 2008).

As for citedness score per publication, teachers of the Institute of Pedagogy of the Faculty of Art of the University of Szeged show by far the best results with an average score of almost 20; at the same time, publications written by teachers of seven other institutes are not cited at all. The average age of major researchers is above 60; only 12% of them are younger than 45. Publication activity shows no correlation with teaching activity at doctoral schools, the time spent pursuing one's career or with the fact if the person in question is a head of department. That is, it cannot be concluded that those major Hungarian researchers of pedagogy who issue publications in high-quality journals teach at doctoral schools, become members of the Pedagogical Committee of the HAS or are heads of department in a Hungarian HEI. Out of the three surveyed professional journals of Hungarian pedagogical sciences, only Magyar Pedagógia displays a considerable difference (albeit due to the small number of cases this difference cannot be interpreted statistically). Nine out of the ten surveyed members of the editorial staff have written articles published in SSCI or AHCI. As for Új Pedagógiai Szemle and Iskolakultúra, respectively one and three persons of the editorial staff have a publication of the type (*A magyar neveléstudomány...*, 2008). 96% of major researchers have a citedness score of 0.

CSO statistics also show that in the field of pedagogy, the majority of publications are issued in journals in Hungarian; as for the number of international publications per person, it is lower than in the case of psychologists (*see Table 2 and Appendix*).

Table 2
Number of publications per researcher, 2008



Source: CSO

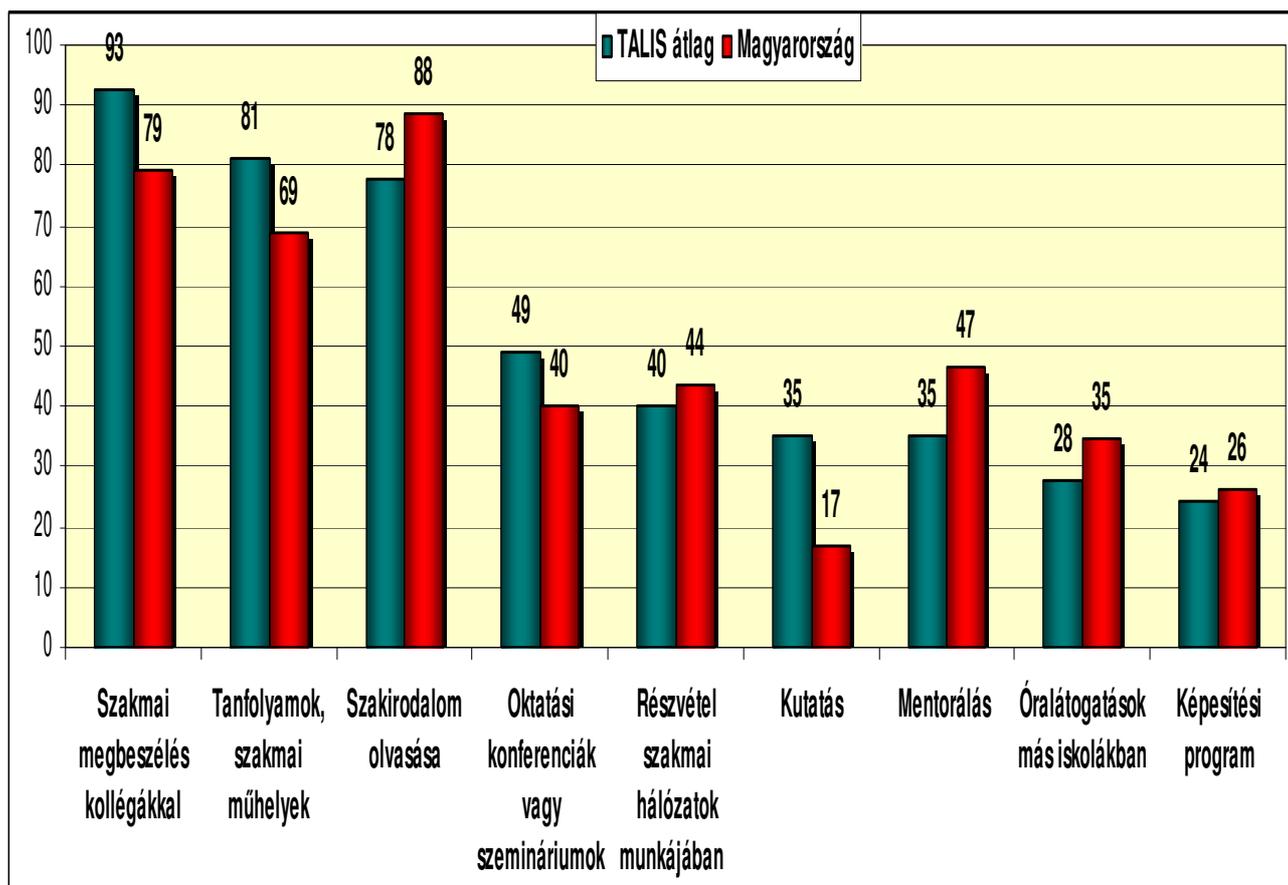
Representatives of related fields of sciences (economists, psychologists, sociologists) criticize pedagogy for being dominated by experts of the history of pedagogy and for a lack of Western-type professional education. It is a fact that in the field of psychology these indices are more favourable: there are academic doctors and the number of foreign publications per one person is higher (*see Table 2 and Appendix*). Experts on psychology think that the reason for this is that in Hungary in their field there are no representatives of an elder generation devoted to an old-fashioned-style science; this generation, however, plays a dominant role in the field of pedagogy. Only a relatively low ratio of experts on pedagogy speak foreign languages; very few speak excellent English. As opposed to countries successful in this area, in Hungary there is no intense import of knowledge, and the quality and quantity of empirical training is inadequate.

4.3.2. Teachers

In the 1990s, approximately 15% of the schools were innovative (institutional data survey, OKI, 1995). This is primarily due to the curricular reform and the resulting obligation to prepare local curricula. A recent survey of teachers (*A survey of teachers' working time and workload, 2008, TÁRKI-TUDOK*) concluded that a great percentage of teachers participate in innovation. Still, it is not entirely clear what is meant by the expression "innovation". The fact that the rate of young teachers who participate in research and professional innovation is significantly lower than international rates makes the quality of these innovations questionable (*See Table 3*). Another notable fact is that in contrast to other European countries participating in the survey, in Hungary experts in their forties employ up-to-date group methods while younger experts use almost exclusively the frontal method (*a lecture by Zoltán Hermann at the TALIS conference, 2008*)

Table 3

Participation of young teachers in innovation in Hungary and in TALIS average



Top: TALIS average, Hungary

Bottom:

Consultation with colleagues

Courses, professional workshops

Reading professional literature

Conferences or seminars on education

Participation in the work of professional networks

Research

Mentoring

Visiting classes in other schools

Qualification programmes

Source: TALIS, OECD

It was probably the proposals of the OKA for teacher training reforms that was received by the most explicit antipathy; the interest of embedded lobbies would be damaged by the upset of the system. The chapter on this issue (*Kárpáti, 2008*) underlines that the special subjects of teacher training have no content- and methodology-related connection with the pedagogical and psychological part of the training; that teacher training in Hungary is not adequately research-oriented and that Hungarian teachers have no adequate possibilities to reflect on their own work as they are not in the possession of the required scientific tools. In Hungary, teacher training of higher education takes place without a systematic control mechanism, in a large number of institutions of mixed quality and of considerable autonomy. A new role model is needed: the teacher who does research and innovates. The present conditions

of accreditation and the framework for the launch of academic programmes and financing are not favourable for high-quality work.

4.4. *Publicity and its forums*

The role that communities of researchers play in the circulation of valid knowledge is at least as important as their contribution to the creation of new knowledge. To share knowledge is a greater challenge than to transfer it. Publicity is not only for transferring and sharing information but it is also an important tool of legitimation that enhances accountability and feedback. The introduction of Internet contributed to the publication of data and research to a great degree. However, it is also a fact that sharing and publishing data and information has not always been that obvious. The OKI played a pioneer role when published its analyses, books and data bases on its homepage on a regular basis and thus carried out significant activity in the field of knowledge management. The PISA survey of the OECD was a breakthrough: since 2000 there has been online access to the data of competence surveys in Hungary broken down to schools; school reports are accessible, and databases containing non-aggregated student data are accessible for researchers. Similarly, the annual education statistics of the Ministry of Education are accessible in the form of data bases. At the same time, there are data bases that are important for education research yet are not accessible.¹³ There are numerous public forums and homepages that contain interesting information but, quite obviously, are not used to a great degree. Data of national research register fall into this category. Although the register is free and accessible for everyone, the technical background of registration is not provided; in addition, this problem had been unknown for operators for a long time, as the homepage was not used. There are numerous homepages with inadequate structures; the basic impression is that the main objective is to meet an EU directive. A yet greater problem is that several homepages contain information but it is not clear if the information constitutes valid knowledge.

The Evaluation Centre of the Educational Authority issues informative publications and operates a homepage on international surveys. However, it is much more difficult to find one's way on the homepage of the Ministry of Education: for the most part, it (or at least its main page) provides for the representative publicity of the Minister. In the same way, the OFI webpage represents the field of education in terms of R+D less successfully than the homepage of its predecessor, the OKI. The homepage of the OFI contains publications and books yet as for research, no analyses are given, only descriptions. The first page basically contains calls for tender, the majority of which

¹³ A most significant negative example is an adult literacy data survey (ALLS), where Hungary was a participant yet neither the analysis nor the data are accessible for researchers. It is all the more regrettable as Hungary's participation in the recently launched PIACC survey seems to fail due to the indecision of the representatives of professional policy and to the technocratic attitude of the NDA. An interesting fact is that the same person took measures in both cases.

are for children and schools.¹⁴ The material made accessible within the framework of the Calderoni programme seems not to be completely finished and evaluated – as a source of information its quality is far below the acceptable.

The homepage of the OTKA is an important information source of research; it contains evaluations of research yet no links are given to the homepage where these results are accessible. Similarly, no information is given as to the costs of the research. The homepage of Educatio Kht is quite colourful. It gives a lot of information but only the information for university students can be considered well constructed. The results of innovation done within the framework of NDP are accessible via several links yet there is no assessment; a yet greater problem is that the directory of good practice is empty.

The Observatory for Education Development, operating within the framework of the Institute for Behavioural Sciences and Communication Theory of the Corvinus University of Budapest operates an informative webpage (<http://www.observatory.org.hu/>). The major European partner of the workshop that gathers information, performs analyses, contributes to development and establishes relations for the purpose of the development of vocational training is Cedefop (European Centre for the Development of Vocational Training); the workshop participates in several international Cedefop programmes of cooperation and research. The Hungarian coordinator of the ReferNet programme launched by Cedefop is the Observatory for Education Development.

Besides others, the portal of Hungarian Educators (<http://www.mphp.hu/>) is to be mentioned; its objective is to carry out educational and teaching activity, contribute to pedagogical innovation, systematize Hungarian and international electronic resources prepared for purposes of research on pedagogy, and provide for their accessibility. Another important pedagogy-related R+D portal is the homepage of the National Educational Library and Museum (NELM) (<http://www.opkm.hu/>).

It can be concluded from the research of NELM carried out in 2002¹⁵ that Hungarian education researchers tend to refer to Hungarian webpages instead of international ones (See Table 2).

Table 2
Use of information by education researchers

Web-based source of information	In Hungarian	Rate of users (N=139)
On-line journals	on-line havilap	82.2%
On-line library catalogues	on-line könyvtári katalógus	76.5%
national government web-sites	kormányzati website.ok	74.6%
Nat. Ed. Research Institute	OKI ?	72 %

¹⁴ A major news in December was a Santa Claus Festival, “Talking about non-violence in children’s language with Ganxsta Zolee.” The homepage seems to suit a site of general education rather than a R&D institution.

¹⁵ During the survey, 400 education researchers were interviewed online about their use of online information; 139 responses were suitable for analysis. Only 16% of the respondents are under the age of 35; 3/4 of them work in higher education.

(NERI)		
on-line newspapers	on-line napilap	65.4%
Web sites of professional associations	Szakmai szövetségek honlapjai	63.1%
Hungarian Education Index (HED)	Magyar Oktatási index ? (HED)	48.5%
IRISZ-SULINET (Schoolnet)	IRISZ-SULINET	46.6%
education portals	oktatási portál	35.1%
ERIC		31.9%
EURYDICE		17.9%
EUDISED		11.5%
European Training Village		3.9%

Source: http://www.perine.eu/archive/hu_survey_2002.htm

4.4.1. Pedagogical journals

The four major journals of specialised press on pedagogy are *Educatio*, *Új Pedagógiai Szemle*, *Magyar Pedagógia* and *Iskolakultúra*.

4.4.1.1. *Educatio*

Educatio was first issued in 1992 (three years after the democratic transition) under the aegis of the Institute for Education Research to analyze and assess education policy from the aspect of sociology. As a rule, the readers of the journal belong to a small group of teachers of higher education and intellectuals; as the starter of the journal, Tamás Kozma points out, they could not address teachers who actually practice their profession but this was not an express objective in the first place. Due to its past, the journal is of historical significance. It is probable that its novelty and transfer effect are decreasing as other forms of media are being introduced yet it is still the only journal that is known and consulted by not only experts of the field but other intellectuals as well.

4.4.1.2. *Magyar Pedagógia*

Magyar Pedagógia is the journal of the Pedagogical Committee of the HAS but it is edited by the Institute of Pedagogy of the Faculty of Art of the University of Szeged. Benő Csapó, who became general editor after the democratic transition, stated explicitly that his objective was to introduce a journal on pedagogy that applies Western European scientific standards. Due to the high expectations, the rejection rate of the articles is 30-40%.

Most probably it is not accidental that the study of specialised press on pedagogy found that it is this journal that meets the requirements of European standards to the greatest degree. On the basis of various criteria it was concluded that among the examined journals of Hungarian pedagogy it was *Magyar Pedagógia* whose qualities were the closest to the qualities represented by the leading English journal (*Learning and Instruction*) and most probably exhibited by other major journals of pedagogy (see Table 3).

Table 3: Some qualities of *Magyar Pedagógia*, *Iskolakultúra* and a leading English journal on pedagogy

3.3.6.1. táblázat: A Magyar Pedagógia, az Iskolakultúra és a neveléstudomány egy vezető angol nyelvű folyóiratának néhány jellemzője

Jellemzők	Learning and Instruction ⁽¹⁾	Magyar Pedagógia ⁽²⁾	Iskolakultúra ⁽¹⁾
Többszerzős cikkek aránya, %	66,7	20,8	7,9
Empirikus és statisztikai eredményeket felhasználó cikkek aránya (emp), %	86,4	70,6	42,1
Hivatkozások átlagos száma	37,3	31,4	7,3
Folyóiratcikkekre való hivatkozások aránya, %	52,1	31,1	24,4
Idegen nyelven megjelent publikációkra való hivatkozások aránya, %	-	38,6	22,3

Megjegyzés:

1): 2000 és 2005 évi cikkek adatai

2): 1995-2006 között megjelent cikkek adatai

(Table 3.3.6.1. Some qualities of *Magyar Pedagógia*, *Iskolakultúra* and a leading English journal on pedagogy

Horizontal: qualities, *Learning and Instruction*, *Magyar Pedagógia*, *Iskolakultúra*

Vertical:

rate of articles by more than one authors, %

rate of articles that use empirical and statistical results (emp), %

average number of references to journal articles

rate of references to publications in foreign languages, %

Notes:

1): data of articles published in 2000-2005

2): data of articles published in 1995-2006)

In the last volume of *Magyar Pedagógia*, about one fourth of the articles were written by more than one authors. Mostly, the references are international. If compared to *Educatio*, a general difference is that in *Magyar Pedagógia* almost all studies are empirical in nature; that is, theoretical summaries are almost invariably published with research data and the authors in many cases give an account of their relevant research experience. The number of articles on history is insignificant. On the other hand, there are theoretical studies that touch upon actual school activity and quality assurance. Examples for this are the articles on mentored innovation and on test theory.

4.4.2.3. *Iskolakultúra*

Iskolakultúra was first published in 1991. Its publisher is the University of Pannonia; its general editor is János Géczi. Since 1997, it has operated a portal that is distinct from the paper-based journal. The journal *Iskolakultúra Online* offers an opportunity of publicity for scientific publications in Hungarian and English on the basis of the principles of peer-review. It also displays journals and institutes of the same profile; its newness, however, is somewhat reduced by the fact that the majority of the links are not active – partly due to the fact that the institutions referred to have undergone changes since then.

On the basis of the examined issues of the last volume of *Iskolakultúra* it can be concluded that this journal lays a relatively great emphasis on historical studies that discuss the educational system of a given period from a historical aspect. In addition, there are articles of empirical nature that deal with present research; a significant rate of them discuss certain methodological issues or deal with research based on classroom observation.

4.4.2.4. *Új Pedagógiai Szemle*

Currently, *Új Pedagógiai Szemle* is published by the OFI; the general editor is József Mayer. Before, it was edited by the OPI under the name of *Pedagógiai Szemle*; in 1990, it was renewed as a journal of the OKI and it received its new name. The journal also has problems of financing (characteristic of all journals on pedagogy); there was a period when it was published exclusively in an electronic form. It is difficult to have online access to the journal; the Google search offers no link to it. It can be accessed via the main page of OFI by clicking on an icon on the right. It offers exclusively the issues of the journal; in contrast to *Iskolakultúra*, there is no extra information and no extra services are offered.

4.4.2.5. *Other journals*

Szakképzési Szemle was founded in 1984 by the National Institute of Vocational Education and the Hungarian Association of Vocational Education. *Szakképzési Szemle* is a quarterly on education and training distributed all over the country; principally, it contains theoretical articles on VET. The webpage of the National Institute of Vocational and Adult Education offers access to journals on VET and links to international (mainly English-language) journals of the same profile; in addition, the content of the journals is displayed in Hungarian.

Szakoktatás is the only journal on VET that is distributed all over the country; 10 issues are published per year. Its main objective is to provide fair, unbiased and professional information on VET-related events.

Felnőttképzés is the only journal in Hungary that deals with the training of the generation above 18 years and their chances in the labour market. It is published quarterly. The first issue was published in 2003 by the National Institute of Vocational Education; since 2007, it has been published by the National Institute of Vocational and Adult Education.

A new journal entitled *Felsőoktatási Műhely* was launched under the aegis of Educatio Kht; it principally operates as a forum for research on higher education with a focus on professional policy. As such, it is a stop-gap in Hungary; research on higher education did not have a separate forum before. (Albeit the Institution for Education Research was called Institution for Higher Education Research for a time, its field of research included other areas as well.) The first issue, published in 2007, dealt with the Bologna process; the latest issue (published in December) discusses teacher training.

Thus there are forums for publications on pedagogy and each of them has a specific profile. The greatest problem is the financing of the journals; they are almost constantly on the verge of ceasing being published. There were periods when they were not published. The situation had become so grave that a representative on pedagogy-related press wrote an open letter to the then Minister of Education. Now the journals try to continue in existence with money received via calls for tender. It takes a considerable amount of time and energy to maintain a high-quality scientific journal with an appropriate review system. Therefore, this type of uncertainty has a most adverse effect on quality.

4.4.3. Conferences, forums, exhibitions

Conferences are important means of share and transfer of knowledge. In the 1990s, much more conferences were organized, as the participation of teachers was supported by the state as a form of continuing training. More specifically, there was the annual conference of the OKI, and there were conferences of local governments and conferences on management theory. Although these conferences are no longer organized, certain forums still exist. Every year, a conference is organized in Lillafüred by the institute for pedagogy of Borsod-Abaúj-Zemplén county; it is a significant opportunity for teachers to get information. In Szeged, a conference on quality assurance is organized; its main focus is public education.

The most important conference of education research and pedagogy is the National Conference on Pedagogical Science, which was first held in 2001 at the Academy; a review system was introduced and a participants were required to pay a registration fee. After overcoming the initial concerns, it functioned for several years; in the last two years, however, its financing has become highly unreliable. In 2009, it was organized not at the Academy but at the University of Veszprém with a considerably smaller organizational background (<http://www.nevelestudomany.hu/onk2009/>). The Conference on Pedagogy cannot perform its functions completely as generally an extraordinarily large number of panels are organized, which, on the one hand, weakens the emphasis of the conference of the given year and, on the other hand, results in a lack of time and opportunity to listen to each other. Thus the conference becomes somewhat like a self-representation. The situation is further deteriorated by the fact that in the venues usually there are no places or common spaces where members of the professional community have a chance to discuss issues of the profession while having a coffee.¹⁶ Some say this is a cultural phenomenon.

¹⁶ The impression given by the Congress on Pedagogy in summer, 2007 was quite similar. The venue (Budapest University of Technology and Economics) was not quite suitable: the panels were overcrowded and isolated and there was not much opportunity for constructive discussions.

In 2007, very few Hungarians registered for the Earli international conference organised by the University of Szeged (<http://earli2007.hu/nq/home/>). The organiser pointed out that, on the one hand, the international setting is unfamiliar to Hungarian education researchers and experts on pedagogy and, on the other hand, they do not have results to present on such a forum. Another great problem is the lack of knowledge of languages. In other professions (regardless the lack of resources) there is stronger professional activity as there are more projects of the kind.

Besides the lack of knowledge of languages, another problem is that it takes an extraordinarily great effort to publish an article in English; in the international stage there is no significant support or lobby force on the part of the Hungarians. Albeit the general opinion is that adequate presence in the international stage is important, there are no fully developed concepts and funds that would contribute to this end. The success of those participating in EU calls for tender is not prominent either in the field of pedagogical sciences or in other fields. Presently the Academy is planning to carry out some lobby activity in Brussels. If this effort proves to be successful it is still not clear if pedagogy is capable of profiting from it in its present condition.

4.4.4. Interactive up-to-date forums and new forms

As for tools of publicity, they can be categorized into conventional and up-to-date (internet) or non-conventional forms, and state or market financing (*see Table 4*).

Table 4
Forums of knowledge transfer and knowledge share (incomplete)

Media	Financing	Knowledge transfer	Knowledge share
Conventional	State	Educational Authority publications, OKI-OFI books, conferences (Educatio, Nevtud, congress, formerly: OKI)	workshops Schooling for tomorrow, TEMPUS conferences in Lillafüred
	Market	Mentor Grand Prize	TÁRKI and TUDOK workshops, Educatio exhibition
Up-to-date	State	Electronic journals, Tempus, etc. Educational Authority PISA and other data	on-line forums, Schooling for tomorrow, Round Table, Civil Round Table, Educational Authority MoEC
	Market	Mentor magazine, Aula, Encompass (“Mindentudás egyeteme”)	Kölöknet, National Professional Association of Form Teachers, Táarki data base

Another way of differentiation is whether the forum transfers or shares knowledge. It is probable that the most interesting tools are those non-conventional forums that share or even create knowledge. One of these promising initiatives is the series of workshops on the future of education launched by the OKI (*see insert*). Unfortunately, due to a lack of money a central demand, this positive initiation stalled in Hungary albeit the long-term use of EU funds flowing to Hungary would require precisely this type of interprofessional and intersocial dialogue of thinking together, for which, in turn, tools developed within the OECD programme could be used.

The School of the Future Programme in Hungary

Based on the OECD Schooling for tomorrow, the National Institute for Public Education launched a series of mixed workshops in spring, 2006, where teachers, head teachers, leaders of local governments, parents and politicians had the opportunity to discuss future prospects. The participants of the series of debates represented relatively wide professional and social groups. Representatives of the profession, strategic preparation, decision-making and education-related organisations and actors were present. The construction of the series of debates was based on the principle that instead of a small group of professionals, wider groups of the society should be addressed. The groups were mixed in terms of professional field and of the profession of the participants, which proved to be inspiring: the talks were creative and rich in ideas. The professional-social debate was supported by a facilitator. The participants, relying on the OECD scenarios, outlined various trends; then, with the dialogue method, they worked in small groups to outline variegated scenarios that took into consideration specific Hungarian conditions. New terms were introduced, e.g. the demand for glocalization (i.e. when global processes are successfully translated by local actors into a local level), personalized education or the importance of virtual spaces. As for the future, the majority of participants consider teachers as facilitators: that is, teachers no longer transmit canonical knowledge in a hierarchical relation but are horizontal actors who contribute to orientation in extant knowledge and information. As for the changes of schools in the next 20 years, participants had variegated opinions. Some said that HEIs will be “diploma-factories” and institutions of public education will turn into “boxing rings.” However, others outlined more favourable prospects: schools will be communal spaces and the process of education will turn into a creative form of entertainment. The conclusion of the four workshops is that although the future is up to us, in order to create a feasible future prospect (and a feasible future), we need to talk and to enter into dialogue, and thus to contribute to reflective thinking and the development of empathic skills.

Another significant initiative to share knowledge was the Civil Round Table (<http://civil.magyarorszagholnap.hu/>), which came into existence under the aegis the Education and Children’s Chance Round Table. It was an online forum moderated by a professional journalist where those interested could comment on the most urgent education-related issues. When the work of the Round Tables were finished, the initiative started to decline due to a lack of financial background.

The Oktpol Cafe was an important and significant forum of dissemination, which was first a forum for debate on the conclusions of educational policy drawn by studies coordinated by first the OKI and then the Centre for Educational Policy Analysis of

Sulinova Kht. The forum invited decision-making politicians of the Parliament as well. Unfortunately, the initiative has also ceased to exist.

4.4.5. Non-state forums

Knowledge transfer is not a privilege of scholars or the state: numerous civilian actors and actors of the market participate in the process. *Mentor Magazine*, the Aula portal or the webpage and interactive forum for teachers operated by the Association of Form Teachers exemplify this fact. Companies that deal with education research organize workshops and round table talks, and publish the latest results and data on their home pages.

Another highly interesting initiative that comes from the civil sphere and aims at innovation in education is the Mentor Prize (*see insert*). The objective of the initiative launched by civil actors was to restore the esteem of the profession. The general editor of *Mentor Magazine*, the Chairman of the Alliance of Researcher Teachers, the Vice-President of the HAS and the founder of the Association for Innovation supported the case. The prizes were raised by contributions by companies, that is, civil actors had to perform a considerable fundraising activity, which became highly difficult due to the financial crisis.

Mentor Prize

Mentor Magazine awarded the “Mentor of the Year 2009” Prize on 23 November 2009 for the first time, at the Hungarian Academy of Sciences. Major professional sponsors include the Hungarian Academy of Sciences and the Hungarian Association for Innovation; the patron is György Oláh, Nobel Prize winner chemist.

The launch of the Prize was published this spring by *Mentor Magazin* and by its cooperating partners: the National Professional Association of Form Teachers, the Independent Forum for Teachers and the National Association of Teacher Training Institutions. The objective was to find talented, creative and innovative teachers on all fields of education, teaching and instruction who display the qualities of the new ideal teacher of a new age. This is the first comprehensive recognition founded by civils that breaks down the walls between the levels of education and acknowledges the creative work of teachers from the level of pre-school education, primary school education and secondary school to higher education and adult education, and is based on a unified concept.

The educators’, teachers’, parents’ and students’ communities of institutions of teaching/education of all levels could submit their nominations until September, giving an outline of the nominee’s activity and his/her effect on children, pupils and students. 61 acceptable nominations were submitted; the prize winners were selected by a jury of the eminent representatives of the profession, of art and of sports.

The Mentor Prize was awarded in three categories: (I. pre-school and primary school; II. secondary school, vocational training school and residence halls; III. higher education and adult education). The work of three retired teachers was awarded with a life achievement award; two special awards were offered by Microsoft Magyarország

Kft and Szabad Tér Színház Kft; seven teachers were awarded by a Diploma of Merit

Source:

<http://www.mentormagazin.hu/index.php?rovat=hirek&oldalszam=1&mu=370>

5. Management and financing

5.1. Educational R&D from various funds

As a scientific discipline, pedagogy (the art of teaching) had been classified with humanities up until quite recently. Institutional frameworks and the standards of financing R&D are still subject to the mechanisms of humanities faculties, which is not favourable either for meeting the financing needs of empirical research or for developing the space required for accommodating the materials and support personnel necessary for empirical research or for maintaining the electronic infrastructure needed for analysing data. Burdened as they are with teaching duties, the prestige of mostly smallish pedagogy departments is low, and institutions pay hardly if at all any attention to developing them and the development of the infrastructure of empirical research falls victim to both financial obstacles and factors related to approach.

Due to the reasons listed above the outlook of creating the research funds needed for developing education seems more problematic at present compared to a few decades ago. The scientific infrastructure, the financial and organisational background of the research into instruction and learning are worsening both in comparison to western countries and to their own former status. The teachers' training colleges and universities of the seventies were engaged in active development efforts as far as conditions permitted. HUF 20 million was distributed for research purposes in an application process as part of the 6th Major Research Direction (research to support the long term development of public education). During the eighties, the tenders opened as part of Public Education Research, a continuation of the former mechanism, funded surveys and in-school experiments. After the political system changed, the barriers of communication with western countries in research matters ceased to exist simultaneously with the drying up of funds available for research projects to be presented at conferences or in publications.

There were several sources of funds for research and development projects in the nineties. A Fund for Reviving the Teaching Profession was set up in the early nineties, but less than prudent management drove it into bankruptcy. The Foundation for the Development of Public Education (KFA) was set up in 1990 and operated until 1994 only to go out of business around 1996 when it ran out of funds. Later on KOMA, the Foundation for Modernising Public Education became a major source of funds as it set out to support development projects conducted by individual institutions of public education. Practically, it focussed on curriculum development up to 1998. The new board of the foundation promoted the idea to part with the curriculum development approach and to introduce professionalism into supporting innovation. A map of problems was plotted for the purpose and tender calls were put out to institutions with follow-up and monitoring. The board had 10-12 people

working for it including practical school experts, higher education staff and researchers. Funding was allocated from the Vocational Fund.

The Ministry of Education and the Pedagogy Committee of the Hungarian Academy of Sciences have operated a common applications system set up in the mid nineties. Eligible applicants for funding research into the development of public education include pedagogy and psychology departments of colleges of education, background institutions of the education portfolio, educational service providers as well as the units and associates of these institutions. Eligible project themes can relate to both general and vocational education. Priority is given to cooperative partnerships including schools and in-service teachers.

Originally created through the merger of Basic National Scientific Research Programs (OTKA) and five public foundations to manage around HUF 2 billion in a single fund, the Public Foundation for Education ceased to exist in 2005¹⁷. The Fund for Social Sciences Research Projects of National Priority, which had been operation since the nineties and also invited tenders for funding educational research, was also merged into the Foundation. A successor arrangement, called tkOKA, invited its first round of applications for funds designed to support public policy research in the field social sciences relating to vocational education and granted about HUF 36 million in funding to 13 projects with a wide variety of themes in 2006. A total of 63 proposed research projects were submitted requesting funding at altogether HUF 240 million under the second tkOKA call for applications in 2008. The board of trustees selected 13 of the mostly high quality applications (most of the selected projects related to vocational education) and distributed the NSZFI fund of no more than HUF 40 million, which was complemented by HUF million provided by the Ministry of Education. No applications for funding research projects were invited in 2009 and funds were allocated to supporting journals of education, environmental awareness programs and institutions for training in the arts.

Mention must be made of the role of the SOROS Foundation, which supported several innovation projects and several teachers, who still continue to foster innovations, had progressed in ranks in the movement for Self-developing Schools (e.g. Suliharmónia Foundation).

Recently, the funds managed by the ministries have slowly dried up, and the bulk of funds designated to educational R&D are available from Basic National Scientific Research Programs (OTKA) and the Structural Funds. The former provides funding for basic research, international cooperation, development of research infrastructure and fellowship type support for young researchers. OTKA distributes its funds more or less according to a 40-40-20% ratio to support researchers active in life sciences, natural and engineering sciences and social sciences. Receiving 60-65% of the funds, universities are among the main beneficiaries of the program, while 25-30% of the funds are spent to support the institutes of the Hungarian Academy of Sciences. The strategy of OTKA identifies the instability of financing and the reduction of resources as major threats, which is why program managers press for cooperation with the National Office for Research and Technology (NORT) (*OTKA Strategy*, 2007).

¹⁷ http://www.oktatasert.hu/files/OKA_kozhasznu_jel_2008.pdf

Research projects closed in 2007 and PhD theses supported after 2003 are accessible at the NORT website. Browsing the titles reveals clearly that the vast majority of scholarship winners research biological, chemical, medical or social science themes. Linguistic and literary topics are few and far between and only a couple of research projects have dealt with the history of education in recent years. A single research project, which can to a certain degree be associated with educational research, focussed on the integration of higher education.

The document entitled “New Hungary Development Plan 2007-2013 (NHDP) – Employment and Growth” sets the framework for utilising the funding available for the Structural and Cohesion Funds of the EU and the related national portion. A total of EUR 23.9 billion is available in EU development funds for Hungary during the budgetary cycle and are complemented by domestic governmental and private resources. The NHDP has several objectives, including the development of the economy and transport, social renewal, environmental protection, energy, regional development and the state reform. The objectives of the National Strategic Reference Framework (2007-2013) are manifested in six thematic and regional priorities and the fifteen associated operational programs identify the priority areas eligible for fund allocation.

Close to HUF 60 billion was spent on developing education as part of the HRD Operational Program during the first phase of the NDP (*see Table 5*). Although SROP programs 3 and 4 are especially targeted at the area of education within the NHDP framework, hundreds of schools will be refurbished as part of the SIOP arrangement, which should, in theory, run concurrently with educational innovations.¹⁸

Table 5

Funds awarded to developing education from the NDP budget by December 2009

OP	Description	HUF million
HRDOP 2.1.	Equal opportunity for pupils with handicaps	8450
HRDOP 2.1.	Study halls	1200
HRDOP 3.1.	Life long development of competencies (competence packages, SIOP, etc.)	20505
HRDOP 3.2.	Development of vocational training (TISZK)	10973
HRDOP 3.3.	Higher education (Bologna)	8237
HRDOP 3.5.	Adult education	9393
NFT1 összesen		58758
SROP 2.1.	Step one forward	27000
SROP 2.2.	Vocational training, TISZK	28023
SROP 3.	Quality access	50750
3.1.	<i>Promotion of competence based instruction</i>	33719
3.1.1.	<i>Public education, issue 21</i>	10165
3.1.4.	<i>competence based instruction, equal access in innovative institutions</i>	22421
3.1.5.	<i>teacher training</i>	0

¹⁸ It has recently been published that tenders were subjected to strict audits to no unauthorised spending occurs, but the audits were confined to the condition and quality of buildings, no one investigated the professional content of education associated with the refurbishment projects. Moreover, several varieties have been published of the number of winning applicants.

3.1.6.	<i>EGYMI (common methodological institute of special education)</i>	369
3.1.8.	<i>comprehensive quality development</i>	0
3.1.9.	<i>diagnostic measurement, Szeged</i>	750
3.2.	<i>Innovative solutions and cooperation</i>	12062
3.3.	<i>Reducing the segregation of pupils with multiple handicaps and Roma pupils</i>	4795
3.3.2.	<i>Equal opportunity programs</i>	1470
3.3.5.	<i>Study halls</i>	1273
3.4.	<i>SEN</i>	714
SROP 4.	quality of higher education, K+F infrastructure	21347
SIOP 1	Educational infrastructure	78480
NFT2 total (Dec. 2009)		205600
SROP 7.	Technical assistance	24232

Source:

http://emir.nfu.hu/nd/kozvel/?link=umft_1_1&sc=2&ml=3&sr=1377&offset=9&id_op=11&id_tamogatascel=45&id_paly_tip=57&id_paly_altip=-1

As no information is available, it is hardly if at all possible to discern the actual target of spending from these huge amounts. That is to say only estimates are possible regarding the amounts spent on education. As the longitudinal study of the Szeged University has a row of its own, it is clear that Szeged will spend HUF 750 million in the next two years. At the same time there is no information on the amounts spent on the Career Path study of the Institute of Economics of the Hungarian Academy of Sciences, as the project is funded from the technical assistance allocation. It is striking, however, that the technical assistance budget is quite substantial and lacks any breakdown, which does not promote transparency. After all, assessment is also research, i.e. spending on assessments can also offer some guidance. Laudably, there is a separate tab on the National Development Agency website about this (formerly it took extremely long to mine for and extract such data), but the number of completed assessments is small and there is no information on the amounts spent (*see below*).

5.2. Educational R&D Expenditure Reported by the Central Statistical Office

The Central Statistical Office (CSO) is responsible for collecting official statistics of R&D expenditure, but the data are far from perfect. These statistics are based on voluntary reports filed by economic actors and frequently companies with R&D expenditure are not covered as they are not contacted by the CSO. Expenditures are not itemized, and there are critics claiming about the Hungarian Academy of Sciences that funds could be spent on the network of vacation resorts or on the vehicle fleet rather than on research. The global statistics maintained by the CSO about these matters is not regarded to be reliable and the indicators designed to describe the level of R&D sophistication are not considered to be a good approach. The annual account closing exercise of the government lends all this a sultry aspect as the amounts reported but unspent by government are captured by the statistics and are therefore extremely misleading.

Statistical reports about education are not superior either. On the one hand, CSO statistics treat Education and Sports Sciences as a common theme, and it is impossible to detect which research topic relates to the problems of education and what ratio history or philosophy, etc. represents from the variety of topics. At the same time, several other social sciences (such as psychology, sociology, economics, health sciences, etc.) are engaged with studies related closely to the issues at hand. A review of these (Csapó, 2007) could provide additional detail. Naturally, this area is not crystal clear in other countries, either, and the CSO has only been maintaining such statistics since 2000. Certain initiatives have set out to increase the accuracy of the definition of innovation, primarily in the technological domain, though. A department head of the office of statistics said no request has so far been received from the educational portfolio for analysing or interpreting these statistics. The goodness of data would, however, greatly benefit from active use.

Data suggest that the amounts spent on educational (including sports) research out of the total expenditure on research into social sciences keep falling (from 13% in 2003 to 9% in 2008), whilst the proportion of funds spent on psychological research was stable during the same period (see Table 7).

Table 7 – Expenditures by R&D units by branch of science, 2003-2008 (HUF million)

Branch of science	2003	2004	2005	2006	2007	2008
Psychological research	828.3	656.7	675.3	997.3	895.7	835.2
Education and sports	2,022.4	1,931.9	2,150.4	2,233.9	2,067.0	1,787.4
Social sciences total	15,958.5 ¹⁹	14,596.7 ²⁰	15,491.4 ²¹	18,050.2 ²²	18,444.8	18,892.8
Grand total	166,628.8	181,525.4	167,923.5	237,953.2	245,692.8	266,388.0

Source: CSO

A calculation of per researcher spending shows that the specific research spending in education is among the laggard and keeps diminishing with the passage of time. The same ratio shows an increasing trend for social sciences (see Figure 4).

Figure 4
Spending per Researcher, HUF million

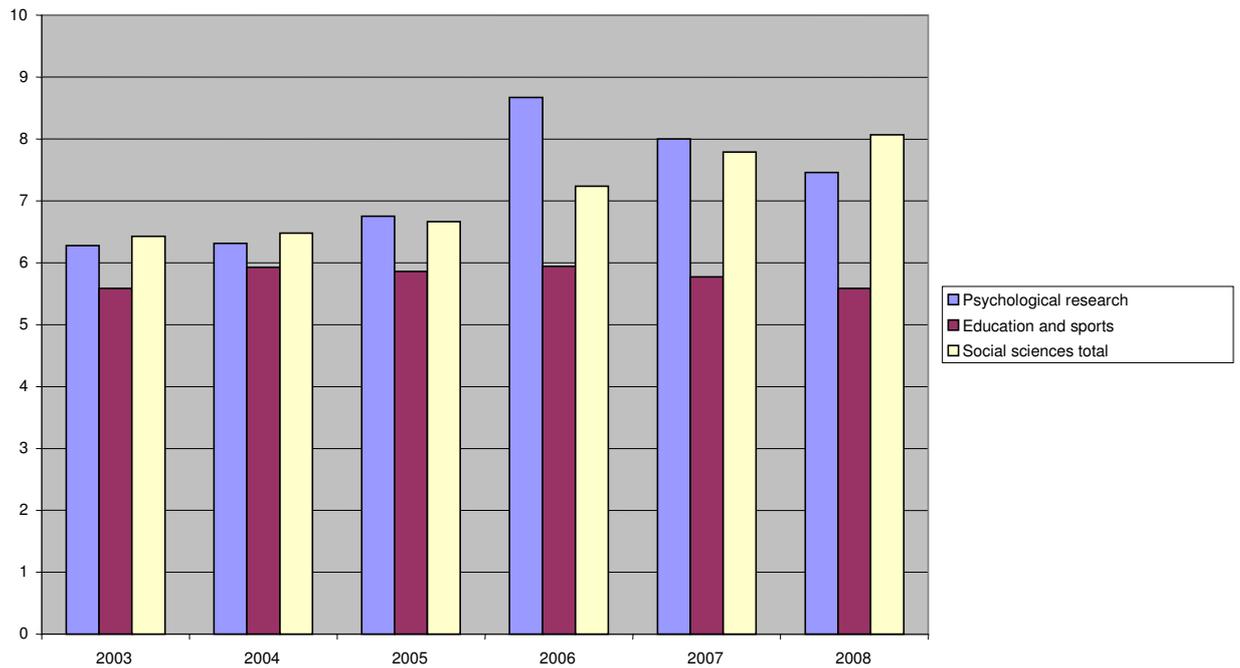
¹⁹ Humanities

²⁰ Humanities

²¹ Humanities

²² Humanities

Spending per Researcher, HUF million



Source: CSO

A comparison of education and the health sector based on CSO data suggests that the latter has a smaller share of the GDP than education. At the same time the funds available for financing health research and development are 9 times higher than those available for educational research (www.magyarorszagholnap.hu).

5.3. Program Assessment

It is common practice to evaluate the results of policy interventions and developments. Doing so is especially common and even mandatory when programs rely on EU funding. Applicable law provides programs should be regularly assessed, funds should be set aside for the purpose and the results should be made public²³. There is even a separate decree²⁴ about the required content of assessments. It provides that an evaluation plan should be drafted during the planning stage of each program, attainable objectives must be defined, indicators have to be assigned to show the level of achievement and action must be taken to ensure the scheduling of evaluations.

²³ Section 13(4) of Act CXXXIV of 2004 on Research, Development and Technological Innovation

²⁴ Government Decree 198/2005. (IX. 22.) on the System and Required Content of Assessing Publicly Funded Research, Development and Technological Innovation Programs

Although the regulations are thoughtful, it only sets the necessary framework, including, as discussed above, a 1.5% cap to maximize the funds allocated to evaluation, which seems to make sense. However, as demonstrated (*see above*), principals allocate extremely tight budgets and assign very tight deadlines to evaluation due to the lack of a bottom limit²⁵. They do so in spite of the higher ratios (5%) published in international literature where authors (*Weiss, 2005*) also emphasize that evaluation work integrated into the process of research takes more time and costs more money than improvised evaluation, which is based on intuition, opinions or a refined sense of criticism, and is also characterised by a level of accuracy not shared by more informal evaluation efforts.

It is a pleasure to see that completed evaluations (few as they are) are directly available at the website of the National Development Agency (NDA). Formerly, it took ages to hunt them down. The website features the evaluations of two educational development programs, including the evaluation of HRDOP 3.1 “The development of skills and competencies required for life long learning and of ROP 2.3 “Development of infrastructure at kindergartens and institutions of primary education”.

Altogether 0.0005% of the total program budget was spent on an independent evaluation of program 3.1²⁶. Originally, a more substantial amount had been allocated to the purpose but the funds melted away somehow, or as the evaluator put it:

“The need to distribute *suliNova* program packages was formulated without subjecting program packages to input and output side measurement. The amount of HUF 1.5 billion initially budgeted for measurement and evaluation dropped to no more than HUF 54 million in the wake of several amendments to the Assistance Contract. Indications of the quality of packages are limited to feedbacks from teachers and pupils.” (Evaluation of HEFOP 3.1)

Unfortunately, limited budget allocations do not really support truly serious and methodologically sound analyses. Another hindrance involves the tendency of these programs to exhibit their true impact only after a longer period of operation. At present, in addition to the brevity of time allotted to evaluation (altogether four months in this specific case) it is also a problem that programs are subjected to evaluation immediately without letting them breathe a while. It is even more distressing when a program is interrupted, which renders any evaluation of the attainment of specific objectives extremely difficult. Also, lack of time and money are not the only culprits to blame for the substandard quality of the majority of evaluations accessible on the web. Program 3.1 was evaluated by subjecting program managers and participating institutions to 18 deep interviews and 5 focus group discussions and conducting an online survey of 108 TIOK units and 361 participating schools. The original call for applications included the same number of control schools, which happened to vanish during the evaluation phase. By the same token, the original call identified a much larger scope for the evaluation (separate evaluation by program package, SDT and IT system, control schools) than what was actually

²⁵ The assignment of about *two weeks* to writing an assessment in support of a decision on continuing a recent IPR program is another example of tight deadlines.

²⁶ There is no paper based information about this. The author of this study knows from recalling the specific call for applications (which is not available any longer). It was published as a simple public procurement tender, i.e. the amount budgeted for assessments could be no more than HUF 10 million, the maximum that could be spent.

covered. It is quite difficult to demonstrate results without control schools; moreover the evaluations do no more than list or plot simple frequencies without a single analysis of contingency tables. These evaluations cannot be classified as research integrated exercises as they tend to be based upon the intuition and refined critical sense of the evaluators. Naturally, evaluations offered a lot of good advice in respect of both the formulation and the logistics of managing developments. Evaluations also claimed that large scale development plans could hardly if at all rely on research findings, which is why future development plans should invest more in “basic and applied research of learning, collecting domestic and international best practices of competence based education and studying effective synergies between traditional and digital school components”. (*HRDOP 3.1 evaluation, 2007*)

Similar problems are encountered with the evaluation of the ROP program (*NDP ROP Kindergartens and primary..., 2008*). Although the evaluation makes a reference to nationwide statistics, the graphs only present the impacts seen in beneficiary schools and occasionally there is only a reference in the footnotes about how the shift should be evaluated in comparison to national or micro regional ratios. Although the document itself is carefully worded, it makes statements about cause and effect relationships that are not necessarily supported fully by the database and methods used. Perhaps it is not by accident that the evaluations of ECOP programs are the only ones among the few reviews that apply truly state-of-the-art methodology (dif-in-dif regression, matching model) with control groups and can therefore identify true cause and effect relationships. Not so surprisingly the author is an economist.

Issue 4/2008 of the journal *Educatio* discusses the full spectrum of program evaluations. In contrast with those hosted by the NDA website, the evaluations presented on these pages are sounder but not completely devoid of limitations (which emanate from the circumstances).

- Most evaluations focus on cross sectional data, which are normally a technical feature. It is mostly the consequence of failure of most programs to realise at the outset that input data should be collected to support the evaluation of program outcomes. And frequently, even if program designers were aware of that circumstance, they failed to formulate the objective the attainment of which should have been measured and evaluated.
- The most noteworthy evaluation was written by Gábor Kézdi and Éva Surányi about the Educational Integration Network (*Kézdi-Surányi, 2008*). The authors surveyed pupils' educational achievement and background variables year after year and also used a control school in the analysis, i.e. control and longitudinal character were simultaneously present. At the same time, it is highly unfortunate that initial data were collected only two years after program launch due to technical and financing reasons, which reduced the efficiency of the analysis heavily as the authors could not measure development from scratch.
- There are hardly any program evaluations that compare program cost and social benefits. A Gábor Kertesi and Gábor Kézdi penned a unique study of this nature (*Kertesi-Kézdi, 2006*) discussing arrangements to get young Roma people obtain a certificate of education.
- Not one of the evaluations manages to discuss the means: the quality of the program implemented. Neither the evaluation about in-service teacher training

(Liskó, 2008), nor the evaluation by the National Network of Integrative Education (NNIE) or indeed by any other author engages in a proper analysis of the implemented program based on the assumption that it operates exactly as it was conceived by its developers. Kézdi et. al. also observe the teachers in class but focus on how pupil-oriented they are rather than whether or not they teach as the program assumes they should. Their findings suggest that IPR-related teachers are somewhat more pupil-oriented, which could as well be owing to selection, as the teachers of participating schools are presumably more sensitive *a priori*. The reasons why evaluations of programs as a whole failed to materialise include, on the one hand, the inability of program designers to clearly grasp the true essence, the protocol driven standard methods and the goals of their programs and the fact that evaluations of this nature would require serious interdisciplinary research, involving economists and sociologists supported by experts of proper theories of learning and classroom processes. Such cooperation is sacrificed at the altar of scarce funds and money and the weakness of or lack of interest in cross-disciplinary dialogue.

The evaluations completed so far naturally draw several important conclusions to be discussed below during the analysis of the obstacles facing developments and innovations.

Cost-benefit analyses would actually be interesting both regarding the programs and the evaluations themselves. Some think that the evaluation and measurement lobby of researchers (few as they are) overemphasize the need for evaluation, which appears to be an end in itself. They claim first of all that evaluations are worth the amount they cost if they can offer true feedback to competence development, education and instruction. That is yet another argument for research integrated evaluations of more interdisciplinary character. Cheap jobs ordered rapidly are the costliest and the least efficient and are exactly of the kind the NDA have been using. Ordering these evaluations must have been motivated on the one hand by the need to perform a mandatory exercise and by the desire to have researchers validate programs. Recycling evaluation findings effectively into the process did by no means feature among the motifs. Even the management of the NDA expresses scepticism towards evaluations, saying there is neither time nor opportunity for integrating findings at the forced speed of development. Another blocking factor is the lack of a culture of evaluation, or in other words, the target being evaluated will tend to interpret criticism as an attack rather than as an opportunity to improve future program designs. Needless to say Hungarian public conditions are not favourable for fact based criticism. Both stakeholders and the media lack the sophistication to interpret or analyse such criticism properly. We bashfully conceal the failures of equal opportunity programs and the program of study halls, because there is a real risk that the public will directly go on to ignoring the final goal (social integration). Being so bashful will in turn block the development of even the germs of critical and self-reflective behaviour and will prevent program participants from learning from their mistakes and from getting a chance to do better next time.

There are positive initiatives as well. For instance, evaluation tools have been developed for the HRDOP 2 programs and it is worth noting that one of the objectives of the SROP Career Monitoring research program is exactly an analysis of the impact

of these programs.²⁷ There are also other initiatives aspiring to get program participants to evaluate programs on the fly to eliminate the risk of major failures. The lack of validated indicator systems is a problem, which is not limited to Hungary only.

Indicators are frequently selected ad hoc and do not always match the final goal of a program or fail to offer differentiation by the various opportunities available to program implementers.

Nevertheless there is a positive, mostly grass roots initiative in the area of indicator development: the indicator committee operated in the Ministry of Education and Culture. The chair of the committee started out to organise and manage the work of the committee on a voluntary basis with reliance on the efforts of several volunteers. The data processing statistics unit of the ministry, the international department, OFI researchers, representatives of the Central Statistical Office and the Ministry of Social Affairs and Labour along with independent experts participate in the committee. There are bimonthly meetings discussing topical issues based on a prepared discussion paper. The meetings provide regular information to attendees about participation in and the results of international measurements and the development of statistics. The work of the committee could be a useful input for educational research and development, but the committee itself operates on a voluntary basis without being organically integrated into the structure of the ministry. Its budget is minimal.

6. Main qualitative and quantitative system parameters

Hungary has an established system of managing and financing innovations, but the RD&I of the education sector are not really integrated into this system. The lack of a uniform strategy concerning education, the instability of the supporting system of institutions and the modest academic presence cannot be seen as favourable phenomena. At the same time, a fair evaluation of the performance of educational RD&I is almost impossible without proper data. Nevertheless, the past 25 years show certain discernable tendencies.

Local innovation received a great momentum in the mid nineties (and there were some earlier upswings as well). Regulations permitted the development of alternative programs which led to the establishment of mostly alternative schools and movements by 1985-95 and continue to be looked upon as examples by other innovations. The curricular reforms of the nineties gave rise to the development of local curricula and syllabuses. These processes were financed by public and non-governmental funds. The activities of the Soros Foundation were just as outstanding KOMA's today. The network and trade association of self-developing schools were created in the nineties. Some of these local initiatives were grass roots developments. Most of them followed western patterns or were based on experimentation rather than on domestic research findings. Innovations implemented in vocational training and higher education related mostly to organisation and management processes and to a lesser extent to the development of methods and programs. At the same time, top to bottom movements were by and large typical of the processes of these large systems. Rationalising the

²⁷ It is another matter that this research project could not fit any of the normal programs and had to be financed creatively out of the technical assistance budget. This program would never have started without the lobby pressure exerted by researchers.

system of vocational training, the development of training modules and the national list of occupations were funded from resources provided by the World Bank, PHARE and later on the EU. Higher education was subject to large-scale expansion in the nineties, which explains the supremacy of forces motivating innovations to stakes in maintaining institutions. However, the financing problems associated with the conversion to the Bologna system and reducing student headcount forced even higher education to respond in the first years of the twenty first century. The major ongoing changes in higher education are also managed and driven from top-down and are based on EU funding.

Issues of equitability and efficiency in public education had become acute by the first decade of the new century and led to several steps that would in theory improve the accountability and quality of the system, such as the launch of the National Competence Test and the reform of the school leaving exam. The accession to the EU opened the taps of structural funds for Hungary and despite the bottom-up approach, nowadays changes imposed top-down dominate development and innovation in public education due to the anomalies of implementation. European funds seem to have brought with them a new and unique model of bureaucratic control that complements the command economy and the market driven models, yet the efficient and effective absorption of these massive funds continues to be a headache. Paradoxically, the emergence of larger amounts of funding and ‘pouring’ them top-down keeps suffocating small local innovations, whilst the developments invented this way are frequently not sustainable due to the lack of future (human and financial) resources for operating them. A powerful top-down model rules the area of development and innovation at present.

The funds set up in the nineties to finance research projects have kept shrinking and whilst the new innovation fund created new opportunities for technological development, educational RD&I had neither a proper owner nor proper financing. That does not mean the lack of high completed quality research projects. Although Hungary has found laudable connections with the international arena by participating in OECD studies, one must clearly see that in case this participation needed support from outside the educational portfolio, it would be threatened. Policy makers tend to avoid research that may offer unpleasant findings due to the lack of coordination across portfolios and the fear from what may get revealed. Accordingly, Hungary was almost the only European country to shun participation in the CIVED research project coordinated by IEA despite the fact that active citizenship could be a key topic for 2011 when it is Hungary’s turn in the troika to take the EU presidency by rotation. Similarly, Hungary’s failure to participate in the PIACC study can also be traced back to the lack of cooperation between ministries and the fear from the data that might get exposed.

However, the structural funds financed the launch of two major research projects, a career monitoring study and a longitudinal research project of diagnostic measurements conducted by the Szeged University. The follow-ups conducted by Educatio Kht. in the area of higher education and vocational training could be added as the third member of this group. lack of coordination in Hungary is also demonstrated by the launch of several longitudinal studies of similar character without any interconnection. It is worth comparing these projects and the school panel study (*see insert*) planned in Germany (a country richer than Hungary). In Hungary,

isolated research groups conduct studies on smaller time horizon without truly putting synergies to work and using the resulting databases will most likely be limited to the researcher group compiling them. Even a country richer than Hungary cannot afford such luxury.

A longitudinal study of developing competences of the population in Germany

A research agreement signed by the Federal Government of Germany a few months ago envisages the follow-up of the development of the competences of the population for several decades across several cohorts from infancy to adulthood. Several universities and research institutes have united forces for the sake of the project. Bamberg University leads the research project which is designed to track the development of the competences of the population both in terms of cross section and time. The goal of the project is to produce 'evidences' for policy makers and to evaluate current developments and innovations. The sample will include roughly 60 thousand people and the budget of the first five years to be provided by the German government amounts to EUR 70 million. It is clear to see that the strategy of interdisciplinary cooperation between researcher communities united with governmental will and funds. Also they found someone, namely Karl Blossfeld, an internationally acclaimed researcher who has the capacity to manage the whole process.

The relationship between Hungarian research and development is also far from perfect. Evaluating programs should be one of the most obvious research topics, but the funds appropriated to such studies are far from being sufficient to fund evaluations that could truly enrich the knowledge base. Evaluations were far less typical earlier before they became a statutory obligation.

The relationship between theory and practice is a problem. Interdisciplinary research is not typical, economists, sociologists, psychologists and education specialists perform studies in isolation. Setting up application funds designated for the purpose is likely to enhance cooperation. The relationship between theory and practice is not evident. Innovative teachers cannot really answer the question about the knowledge base and research results they rely on for their innovations. The lack of connection between theory and practice is not a new problem of the present day; it used to be the most striking deficiency even during the days of KOMA, as observed by the chairman of the trustees of the Foundation. It is suggested that the main reason behind this is²⁸ the lack of researcher-teachers because it is not possible to manage the two activities jointly in Hungary and the academic community does not really rely on practical applications.

Truly local grass roots innovations are typically spread by word of mouth due to the lack of systematic evaluation, a strategy of knowledge management and an appropriate agent (the best practices of the Sulinova website are still under construction, self representational websites are not really suitable for the purpose, and only the Tempus website makes an attempt to meet this end). The Mentor of the Year

²⁸ The opinion of the chairman of the trustees of KOMA is shared by the chairperson of the National Association of Researching Teachers. He claims there is no such thing as a researcher-teacher as a teacher is either involved in teaching or in research, it is impossible to do both. Association members are not necessarily researcher-teachers, they are mentors.

(*see above*) is also an initiative of an NGO and the best practices that evolve through innovation are published by non-governmental stakeholders due to the lack of governmental assistance. These innovations emanate from truly local initiatives and do not draw on EU funds. Policy makers frequently encourage such innovations in arrears not really intending to provide assistance and to aid distribution, rather to share some of the limelight of success. However, these innovations are not really integrated into the system as a whole²⁹, and if they are, their results run contrary to objectives (*cf. the program of study halls*).

Networking is another method of rolling out results. Funded by the SOROS Foundation, the network of self-developing schools continues to operate up to the present day even though this kind of external funding has ceased to exist. The members of the network help each other by sharing information. Partial networks may be set up and can participate successfully in new tenders. Naturally, an operation of this kind is susceptible to personal influence, which frequently is exerted in institutions where management changes.

Whenever a call for tenders makes it a criterion contacts may be established between formerly unrelated actors. The chairman of the KOMA Foundation reported the creation of contacts between local actors who had had no relationship (although they had every reason). Active relations may even get formed between applicants during the planning process, which promotes the flow of information. The online forum of applicants participating in the SROP 3.1.4 program is a good example and was maintained later on.

Nevertheless Hungarian networks are not fully aware of each other. Interestingly, the network of self-developing schools knows the Association of Eco-Schools and has connections with the background institutions of the Ministry of Education, but they are ignorant of proper NGO networks. By the same token, there are contacts between the Association of Form Masters, the National Association of Researching Teachers, the Mentor magazine and the Association of Innovation but this circle and the one above are unrelated. That may be the outcome of the Soros Foundation being more closely related to public administration and the networks it created got more deeply embedded in the status quo without any real connection to NGOs proper. At the same time the chairperson of an innovative non-governmental foundation (Suliharmónia) used to be involved with self-developing schools, which demonstrates a positive ripple effect mediated by persons even if the networks are unrelated.

Innovations that emanate from a circle identified by public administration are more likely to become mainstream, including for instance the institution of Grade 0 (Reception Year) or the system of epochal education. Grade 0 was initially rolled out in self-developing schools to become a common nationwide solution. The epochal system of organising education, which served as a basis of instruction in several schools in the early nineties, has become a mandatory practice designed to support innovation within SROP 3.1.4. Participating schools have to agree to provide

²⁹ A grass roots initiative affecting education is known as WiFi Village, which seeks to provide web access to handicapped communities with participating families also contributing. The organiser of the project would have liked to expand it to a major development program, but as no funds had been budgeted for the purpose from the structural funds, the program cannot be introduced as a new element regardless of its merits.

instruction by blocks of disciplines within the framework of subject-based education at least up to 5-10-15% of the total mandatory teaching hours of the institution as provided in section 52(3) of the Act on Public Education. The minimum target value must be accomplished in 3 years in an ascending system (selected cultural domain/subject) and the non-subject based instruction of at least a single branch of knowledge. Even the headmaster of the school excelling in managing the epochal system, who is a member of the establishment (National Public Education Board), was against making it mandatory for all the schools participating in the tender to adopt this method, which is tailored to local characteristics and needs local creativity in many ways. Hopefully a methodologically sound evaluation report will disclose to the public how successfully it was implemented.

6.1. The operation of the R+D+I system of education (using OECD analytic framework)

The quantity and quality of knowledge about education system is evaluated by the experts interviewed to be appropriate. More strategies have already been elaborated consisting well-based diagnosis, besides the Reports on public education published by the National Institute for Public Education and the Green Book give a comprehensive description of the system and its problems. However the understanding of causality that makes real implementation possible is less characteristic. This is the type of problem that not only Hungary but other countries are struggling with.

There is neither explicit strategy for R+D activities in the educational sector, nor sectoral strategy of education. On the other hand the notions of research, development and innovation are explained thoroughly in the Act on Innovation. These concepts have not been translated into the sphere of education, so they are interpreted very differently by the several actors. A strategy on R+D+I in education would help to clarify these ideas and to develop professional consensus.

There is no thematic priority in the field of R+D+I in Hungary. That is characteristic to the whole innovation system according to the experts. R+D+I in education is supported and financed by the New Hungarian Development Plan via the Structural Fund of the Union. Priorities are determined by the priorities of developmental policy. Due to the fact that the most important indicator of success is the amount drawn down from the Structural Fund, to strive at it needs more and more money from the budget by necessary cofinancing and the necessary financial budgetary background of the normal operation of R+D is fading away. The kickback of it is that the appropriate institutions and human capital for the gigantic development ideas are not guaranteed. So sustainability of developments is in danger. Resources for basic research are less and less and the share of the educational sector from them is very low.

The model of Hungarian R+D+I is not linear but circular where one can find innovations and research either on the up of on the downside. These are not connected gradually. The most important factor of changing innovation to development or into reform is the network system between the actors of the HELIX triangle. If one actor is politically imbedded, its innovation can become the part of the mainstream much

more easily. One can find also innovations pretended or made of necessity, where their operation is not sustainable in the long run.

Research and development are scattered activities in the field of education. Coordination and flow of information between the actors is far from perfect. Since there are not any research priorities and there are not funds to finance them and there is no political wish to nurture them, information and data are not collected and managed systematically. Pedagogical reviews and conferences and the website of certain organizations are important forums. However they do not function as a brokerage, agencies are missing (one exception is the TEMPUS public foundation).

International imbeddedness of R+D+I of the education sector is not sufficient. There are experts nurturing excellent international relationships but this has not much effect on the home public life of research. Often actors outside of the mainstream appear in the international market and due to the lack of national connection they cannot import the new knowledge to the home professional society. International relationship is based more upon individual professional career than on systematic activities of professional workshops. The Union provides some opportunity for local organizations to latch on to innovation and some of them tries to make the best of it.

The results of research can be transferred most efficiently through teacher training, but here we find serious problems and lagging behind. Neither research nor practise constitutes organic part of the training. This can be improved by the obligatory half year outside practice launched just now into the teacher education. The results of research are spread usually through conferences and off- or online publicity. Serious obstacle of absorption and quick and efficient import of international knowledge is the lack of foreign language knowledge of the teachers. Developments are helped and based very often on tacit knowledge. Process based on research and supported by feedback is less present. The tacit knowledge is developed by self-educating activities and daily practice of teachers and researchers.

Quality assurance of research and development activities is not appropriate. Conditions of accreditation of doctoral schools are strict, but the rigour of the input side impedes the enter of the new actors. What is more the lack of process and output regulation the continuous high quality is not guaranteed. Professional forums are missing where instead of self-representing deep professional discussions can be made. One of the most important element of quality assurance could be the permanent communication with foreign experts, professionals, to enter into the international research market, but it is hindered by the lack of foreign language knowledge and the financial background. One of the most important feedback of the developments could be their evaluation. There are several opportunities for it through the Structural Fund but these are not exploited. The reason for it is not only the lack of time and professional capacity, but there is not real demand for it from politicians and high level public employees.

Some of the capacity building for the R+D+I activities of the educational sector might be done through the programs of the national development plan (training of mentors for teachers, regional education centres, cooperation with universities, capacity building on the local level, etc.). Important field is the four doctoral schools in pedagogy and teacher training. However more advance is needed in focusing on

research and practice and on their relationship and strengthening internationalization. Capacity building must be guaranteed by the yearly state budgetary priorities (fund for educational research, stabile institutions, helping actors enter the international arena, etc.) and not only by the Union's periodic (episodic) expansion of resources.

Concluding one can say that Hungarian R+D+I activities in education has good traditions to be built upon. All the formally necessary elements can be found in the system (see SWOT table), but vivid interrelationships, continuous building and feedback is not solved, yet. It is like to have bones and flesh without connective tissue, blood circulation and muscles that make the system move.

SWOT table

<p>Strengths</p> <p>Professional traditions Existing institutions Professional workshops, doctoral schools, public fora National Assessment of Basic Competencies and its publicity Traditions for innovations from the eighties-nineties Professional calling</p>	<p>Weaknesses</p> <p>underfinancement lack of coordination between organizations, lack of synergy lack of political commitment for educational research and development strategies are unrealistic, without timing, budget and responsibilities education is not embedded into the national innovation system there is not academic support of background institution in the field of education lack of appropriate knowledge of foreign languages, weak international relationships, embeddedness quality of teacher training needs improvement there is not real feedback mechanism (acreditaion, professional for a, evaluation of programs)</p>
<p>Opportunities</p> <p>Resources from the Structural Fund of the Union Opportunity for capacity building by developing professional program evaluation There are private and civil actors in the arena The appearance of the researching university status New and up-to-date researches have just been launched, they can be spread FP framework of the European Union</p>	<p>Threats</p> <p>Professionals do not stick together, cannot win a stable position in the academic sphere, so there is a danger of lagging behind Inefficient use of structural funds, short deadlines and project philosophy favours for maintaining institutions for management not for research and development Spending little on this field from the state budget Due to lack of feedback proper quality assurance is not guaranteed</p>

7. Examples of innovation in the branches of education

Although innovations of product, process, organisation and marketing are simultaneously present in education, their distribution across time and by sector is not even. Public education and adult training tend to show more innovations of process and product (teaching materials and tools, new methods of instruction, e-learning), whilst higher education and vocational training are more heavily dominated by innovations of organisation and marketing.

7.1. Public Education

Systemic developments organised top-down and local grass roots initiatives have been simultaneously present in public education (*Oslo Manual, OECD*).

7.1.1. Systemic developments

The discussion of HRDOP 3.1 above covered larger systemic developments and innovations such as the national competence test and competence based program packages. The two major directions of development in the education system include the development competences required for life long learning and the improvement of equal opportunity. One of the major interventions has been the creation of the national integration network and the development of the integrated system of pedagogy (IPR) (*see insert*).

National Network of Integrative Education and the Integrative System of Education

Since September 2003, altogether 650 schools of 340 municipalities joined the a program of integration designed to eliminate any form of education suitable for discriminating against or segregating pupils with multiple handicaps across and inside the schools of a settlement. Moreover, 160 schools of 140 additional maintainers agreed to achieve measurable improvements in the educational attainment of pupils with multiple handicaps. By 2007, the program (Integrative System of Education, ISE) had already been rolled out to almost 800 schools. ISE also covers the application of innovative methods of education, attention to the transition to school from kindergarten, maintaining intensive relations with parents and other actors in society, paying attention to attrition and progress to higher levels and the ensuring certain HR and physical conditions. The National Network of Integrative Education (NNIE) provides support to teachers, encourages inclusive education and monitors the management of talent and integrative preparation.

A questionnaire based survey conducted by the NNIE in summer 2005 and reports by regional and micro-regional coordinators suggest that ISE had instigated institutional developments and changes in methodology and approach of a nature typical formerly only of alternative schools, where these processes did not occur in an integrative environment.

Source: Ministry of Education and Educatio websites

Overall, an evaluation report about the NNIE and the ISE program (*Kézdi-Surányi, 2008*) speaks favourably about its impact. Pupil oriented approaches, cooperation among pupils tend to be more typical in participating schools and the social competences and self-evaluation of pupils benefited from the program.

HRDOP 2.1 covered the introduction of another program (known as Study Hall), which was also designed to improve equal opportunity (*see insert*). This program is worth mentioning as it is fundamentally evaluated as a failure and therefore lends itself readily to illustrating development related problems.

The Extra-curricular afternoon school ('Tanoda') Program

Programs of this nature have been running in Hungary for more than 10 years. Initially, NGOs started these initiatives to provide support to pupils with multiple handicaps, a group "ignored" by Hungarian public education. A methodological manual issued in 2005 to offer guidance to organising study halls defined these as "institutions seeking to help pupils with multiple handicaps, including especially Roma children, whose handicaps are more severe due to negative discrimination, by lending assistance to be more successful at school and to progressing to higher levels of education thereby improving their future the labour market opportunities and chances for social integration".

In February 2004, the Managing Authority of the Human Relations Development Operative Program (MA HRDOP) of the Ministry of Employment and Labour published a call for applications with technical support from the Ministry of Education for the "Helping pupils with disadvantages succeed in school through supporting study hall type (extracurricular) activities to be used as a model". The minimum and maximum duration of the local implementation of such programs from funds provided by the European Social Fund and central governmental sources was 10 and 24 months, respectively. A single project could apply for non-refundable grant at HUF 12-15 million.

In June 2005, acting on its own, MA HRDOP issued yet another call for applications with the title "Supporting Study Hall Programs". Specifying explicitly pupils with multiple handicaps rather than those with disadvantages as the target group, applications program HRDOP/2005/2.1.4.B went beyond rolling out successfully operated study hall type programs and also identified the implementation of new study hall type programs and increasing the number of operating study halls as objectives.

Only non-profit organisations, including associations, churches, foundations, non-profit companies and non-profit organisations with different legal status could apply for funding for these projects, which were conceived to last at least 20 months. Institutions of public education, NGOs they established, profit oriented organisations, municipalities, minority local governments and their institutions were excluded as main applicants. An element of the call for applications was conceived to ensure the quality and full implementation of the activities required by the call and specified that it was "mandatory to involve as a partner the school providing education to the children participating in the study hall program".

Source: Németh, 2008

The findings of an evaluation report commissioned by the Roma Education Fund suggest half of the study halls were not operational in summer 2008 (Németh, 2008). The conclusions of this report echo almost perfectly the conclusions drawn by the evaluation of HRDOP 3.1, suggesting that the time horizon for development was extremely tight, which is why planning is ad hoc and is unsupported by (missing) research and overdue payments topple the management of implementation. What the organisers of the study hall program had in mind was the rolling out an operating non-governmental initiative to the nation as a whole. However, the concept was lame due to the lack of a true horizontal strategy as it was not crystal clear whether the problem of Roma children should be solved by an external (non-school) institution or rather by getting schools to improve their act. The concept itself, which was not completely considered and was also modified along the way, may also have been responsible for the hiccups of financing and invoices were frequently left unpaid because of the excessively bureaucratic administration, mechanic monitoring, lack of feedback or personal consultation rather than because of problems with performance. Study hall managers kept complaining about having to wait months for the payment of invoices, for grants to get transferred and frequently they were left in the dark about who administrated the funds. The people responsible for professional control were frequently replaced and were not appropriately accountable therefore. Study halls have *permanent liquidity problems* which they try to overcome by borrowing which lands them in a tax trap. The *competences necessary for implementing projects successfully* were also inappropriately defined by both the entity inviting applications and the applicants themselves. Naturally, requirements and standardization alone are not sufficient for remedying the lack of professional and financial competences. The program lacked the required transparency: the Roma Education Fund, actually one of the financial supporters of the program, has to the present day not received study hall progress reports from the fund manager acting on behalf of the Ministry of Education with reference to the report not containing data of public interest.

It is a very important fact that the point of the program was to allocate central resources to rolling out and strengthening a non-governmental initiative. However, that raises several dilemmas. On the one hand, public support might be conducive to weakening civil courage partially by replacing it and thereby crowding it out, on the other hand, the processes of government run programs fall victim to bureaucracy by their very nature, and hence the flexibility and swift responsiveness of civilian existence are lost. Red tape in controlling also works towards this eventuality and it may discourage stakeholders unless truly professional support is provided.

Another evaluation of the study hall syndrome (Krémer, 2008) says “it is typical of Hungarian projects that no one knows where they are heading. Once upon a time, György Márkus, described philosophies of history in his criticism their Marxist variant by stating they present history as express trains in the Balkans: destination is known, but time of arrival is not. Domestic projects are just the opposite: destination is unknown, but the mandatory time of arrival is normally very accurately specified. ...As the objectives to be attained are unclear, money becomes the essence of projects. ...The lack of clarity in goals helps reduce the responsibility of the commissioning entity to ordinances specifying how funds ought to be used and controlling the same, whilst the responsibility of identifying and accomplishing each and every theoretical and practical goal is shifted to the entity entrusted with and

supported for implementing projects. ...Under the present circumstances the entity inviting applications and applicants are not partners (cooperating to achieve an a priori non-existent goal), they are distrustful opponents.”

SROP programs seem to be somewhat different partially due to the lessons drawn from HRDOP programs. It is worth emphasizing Program 3.1.4 “Competence based teaching, equal access in innovative institutions”, which follows on the results of competence development programs started in the HRDOP framework, as it was launched with the specific goal to motivate innovation. Eligible applicants are municipalities rather than schools. An eligible municipality may have no more than 8 maintained venues. The goal of the program was to have school maintainers rethink their policy of education and develop their institutions accordingly. The entity issuing the call wished to avoid an earlier mistake as an independent school had been able to submit an application without discussing it with its maintainer and some of these were equipped with modern facilities which the maintainer could not operate and had to close down. The maintainers that applied for funds under this arrangement, however, frequently engaged consultants to write their applications and some schools were informed in arrears that they were participating in an innovation project. It may not be a coincidence that truly local innovators do not regard maintainers to be key actors in development, as our interviews testify.

In essence SROP 3.1.4 intended to couple institutional development with the development of content and methodology. Accordingly, certain activities were specified as mandatory, such as the use of innovative teaching methods (project, themed weeks and modules), instruction by subject blocks, launching a program package in a key competence area and professional upgrading. Tender terms also contain a list of recommended innovative activities. Interestingly enough, all of these are methodological by nature and fail to mention any innovations typical of organising and managing vocational training and higher education.

7.1.2. Innovations at local level

Local innovations started to accelerate in the eighties, but most of these involved the emergence of innovative institutions using alternative teaching methods.

7.1.2.1. Methodological (process) innovations

The impact of early innovators (Gyermekek Háza /Children’s House/, Deák Diák Innovative Primary School, Alternative Economics Secondary School) is still important and the elements they developed are still present both education policies and development policies (such as Grade 0 and the epochal organisation of learning).

At present methodological innovations tend to be typical of talent management and the compensation of handicaps. Unfortunately, good practices, which certainly exist, are not shared and are not properly communicated to teachers. It may not be an accident that an innovative school discovered earlier the Association of Researching Teachers has recently been granted the Mentor Award and it took years of civil preparation to trigger media attention and to trigger a response from top policy

makers. As an agricultural engineer, the headmistress of the school had no background in public education, which may have contributed to being courageous enough to experiment and use innovative solutions. Her playful approach to mathematics, which also draws on international experience, yields measurable success. All of the Roma pupils continue their education and their results do not deviate from the average (*see insert*).

Successful compensation of handicaps: Béla IV, District Primary School, Hejőkeresztúr

It was in 1996 that the headmistress (then a deputy) started the developments, which have since developed into a complex system of education of 4 programs that cover the areas of school instruction and upbringing considered to be of essence for shaping the achievements of pupils. This Complex Program of Instruction had been designed at Stanford University to close the backlog of language skills of students with Spanish as a mother tongue and was adapted to a younger generation of primarily Roma pupils in the district school of Hejőkeresztúr. The headmistress stressed the power of the program to create social cohesion through linguistic development. The second program relies on Board Games of Logic. It creates an environment that motivates logical thought processes and enhances skills through the use of games (such as checkers, go and bridge), which are common outside but are not normally used in schools. The Program entitled Dialog Between Generations seeks to involve parents into school processes. One of the tools require pupils to draw family trees and state the “skills and competences” of their living relatives. Family trees are used to send parents targeted invitations to participate in school discussions and share their skills with those in attendance. The educational aim of the program is more than simply sharing knowledge, it also emphasizes the process by which parents get involved with (and hence take part in supporting) the development efforts of the school. Differentiated Organisation of Learning is essentially a “transversal” program. It trains teachers to acquire and apply a culture of organising learning in line with skills. These programs integrate the know-how of organising learning for the sake of developing competences, such as team work, projects, flexible organisation of space and pupil oriented teaching solutions. The programs of the school had become widely known by 2009 and the institution itself has become a demonstration site for the national publisher of textbooks. The headmistress exerts conscious effort to disseminate their achievements in teaching and education.

7.1.2.2. Product innovation

Introducing a product to the market is also quite difficult in education as there are concerns with economies of scale due to limited market size, and the lack of production background can also be a problem. The latter is exemplified by the ill fate of the award winning teaching kit of the chairperson of the National Association of Researching Teachers, which is manufactured after all by the innovator as no producer could be found despite the positive response and the prizes.

7.1.2.3. Organisational innovations

Although most innovations focus on new methods of teaching in public education (some of which require restructuring the organisation), organisational innovations generally triggered by acute problems are quite frequent at the local level. In Hódmezővásárhely, for instance, desegregation of the school system was achieved by a full-blown restructuring of institutions rather than by applying new methods of teaching (*see insert*).

An example of desegregation in Hódmezővásárhely

Segregated institutions were wound up in Hódmezővásárhely by closing down and re-establishing urban schools with a new composition. The program was supported by the mayor who employed independent consultants to make sure the intervention was based on facts. The results of competence tests were also analysed when the new school system was set up. The teachers of a Roma school, which had actually worked well, were retained and children from farming community schools were distributed across the new institutions. Teachers were also reorganised, reemployed or dismissed based on an evaluation of their work. Before the new system was launched, teachers and parents were prepared and the program of desegregation coupled with simultaneous social policy and employment programs. The tokens of potential success are as follows:

- clear-cut political will
- fact based development
- involvement and preparation of stakeholders
- horizontal rather than sectorial approach

The sociologist who have analysed the case will definitely see it as a disadvantage that the extremely well thought out process and employing independent consultants eliminated need to include teachers in planning, which harnessed the development of certain competences (such as the analysis of competence test results).

There is also an example of integrating competence test results into organisation development. It is also a model for transferring and enhancing an ongoing development project. It shows how an institution can operate coherently despite management changes (*see insert*).

Organisational innovation integrating test results: Szandaszőlős Primary School, Cultural Centre and Primary School of Arts

The institution had far reaching traditions and air of the past before the developments began. In 1996, a new headmistress, formerly a staff member, was appointed to replace a predecessor who had been in office for decades. She launched comprehensive organisational and educational developments and the school was among the first to join the development program funded by the central government. In 1996, they joined the efforts of the Association of Self-Developing Schools and developed a local teaching program and curriculum. After elaborating the components of a quality management system, they developed a comprehensive quality management system for the institution under the auspices of Comenius II between 2000 and 2003. They won the Shiba Award, the Award for Quality in Public Education and the European Seal of Excellence. The headmistress applied management of change techniques consciously: she organised in service teacher training in line with long term development goals (e.g. training of measurement

experts), she shared information with teachers supporting the change process and relied on their creativity to further the process of development. At critical development stages, she agreed to play the role of supporter.

The new headmistress continued the culture of teaching and organisation inherited from her predecessor, with whom she entertains good relations. The culture of development at the institution is such that identifies development stages clearly, expected development results are measured and measurement outcomes are used as feedback for decision making. Teaching chess was introduced in the first grade of primary school in 2008/2009 and has since been rolled out to the second grade. The goal is to develop logical thinking. Experimental classes work in tandem with control classes. Each class is subjected to initial and follow-up tests (DIFER) of logical thinking to capture development. The measurement expert of the school performs comparative analysis of the results to check pupils' individual progress and progress against the control group. A summary evaluation is prepared once at the end of each year. Measurement results are used to give feedback in general for determining the direction of organisational and educational developments at the school in the years to come and necessary goal adjustments.

7.2. Vocational education and training (VET)

One of the most far reaching developments in VET involves the reform of the **National Vocational Qualifications Register (NVQR)**³⁰. The reform converted a fragmented and extremely detailed corporate level list of qualifications into a systematically organised, modular and competence based system. The reform involved the preparation of serious analyses of the competences required by various occupations and their training implications. The reform of training relies on a major effort to develop large volumes of content as part of SROP 2.2.1, including the development of programs and curricula for close to 2.5 thousand modules based on examination requirements (*Áttekintés ...*, 2009).

One of the goals of reforming the NVQR called for approximating the system of qualifications to labour market requirements and to ensure that the organisation of the system of VET harmonises with these requirements. The competence based approach makes it easier to recognise both formal and non-formal education, whilst the modular structure facilitates carrier paths and life long learning. Professional requirements and the system of examinations are also reformed accordingly.

The development has been financed from the EU Structural Funds mediated through HRDOP and SROP (2004-2006 EUR 21.2 million with 25% Hungarian contribution, 2007-2013 15% Hungarian contribution). In addition to funding, the theoretical framework is provided by the European Qualifications Framework project of the EU. Development was managed top-down by the National Institute of Vocational and Adult Education (NSZFI) with the affected portfolios and stakeholders involved. The pilot stage was omitted from the implementation due to the tight schedule. The use of formal knowledge seemed to be rather limited as the development was not

³⁰ 1/2006 (II.a7.) OM rendelet az Országos Képzési Jegyzékbe történő felvétel és törlés eljárási rendjéről

accompanied by large-scale, government funded research and therefore studies were limited to surveying employers and trainees for their opinion. Semi-formal knowledge sources and tacit knowledge seemed to be the primary basis for implementing the new NVQR. Job analysis was another key source of new knowledge. These analyses applied the DACUM method, previously used during a World Bank funded project in the early 1990s. Vocational training schools frequently resisted and the failure to receive educational support and textbooks in time was not helpful either. The development focussed more heavily on the labour market component (*OECD/CERI Study...*, 2008).

Many argue that restructuring the organisation of VET is also an innovation, but others disagree. Those viewing the situation top-down seem to be more satisfied than the local implementers of changes or researchers writing assessments. A study of the development of regional integrated VET centres (TISZKs) summarises the process by stating that professional considerations have been shoved aside for the time being and regional organisation has not always been rational. (*Mártonfi György, 2009*).

There are local innovations relating to constructing modular systems, which have come to an end as the modular system has been rolled out nationally (*see insert*).

An early bird of innovating VET: Handler Nándor Vocational Training School, Sopron

A competence based, modular VET experiment was started in 1992 by adapting a UK model. The school curriculum drafted in 1996 also covered this experimental model, which was adopted to training joiners and was further developed to cover 2-3 additional occupations. Subjects and grading were discarded. Teaching was organised into modules and competence tests formed the basis of evaluation. Instruction in theory and practical training were not separated as the school approached competence development in terms of the ability to perform in practice. Competence tests were administered to measure the application of knowledge necessary in a trade, i.e. whether or not a student was capable of working to required standards, pl. make a standard door. In addition to verifying awareness of principles (knowledge of standards and work processes), every test measured the practical implementation of jobs with assessments in two categories (satisfactory, not satisfactory). This innovation had been completed with the experiment ending in 2009 as rolling out the modular system of VET nationally and the modification of the legal environment prevent the model from being operated simultaneously. The headmaster of the school thinks the VET reform is more lenient towards schools than their experiment. For instance, the culture of assessments and examination show no conceptual change. The headmaster thinks therefore that they had to retrace steps and abandon the achievements of successful experiment that lasted 13 years. In addition to experimenting with modular instruction, the school also excelled in quality development and won a Quality in Public Education (QPE) Award.

7.3. Higher Education

Most of the innovations and developments are systemic and top-down in higher education. It is also striking that the bulk of these concern organisation and management. Policy experts classify the conversion to the Bologna system and the

development of management control as innovative despite the variety of assessments of the same by participants. Experts also look upon the introduction of Ph.D. training as a progressive innovation and there are innovative organisational changes relating to certain institutions, including the teacher training model of ELTE, the innovative institutional development of the University of Debrecen or the integration of private institutions of higher education.

One must see, however, that there many entertain negative views of the recent changes. Opinions are especially adverse in the circles of natural science, where the changes in teacher training are denounced outright as innovative fury and as highly destructive. This school of thought claims that the elimination of crafts lessons and experimentation from public education along with the reduction of the hours of teaching natural science have shifted training towards abstraction, which will in effect get most pupils do nothing else but rote learn technical jargon without understanding underlying relationships, which higher education simply cannot build on. Higher education responds to this challenge on the one hand by holding remedial and preparatory courses (which are by no means an innovation) and by granting fellowships through the Association of Innovators to ensure quality in the fresh supply of training future teachers of natural science. Whilst one of the camps consider the greater emphasis on teaching a success in teacher training, the other camp complains about the low number of credits one can earn by studying methodology. At present, it is very difficult to judge the impact of innovations and developments in progress in higher education, but there are no unquestionable success stories. Part of HDROP 3.3 collected Hungarian and international innovative samples for higher education (*see insert*). The report shows many good practices only appear in international literature and although the process model itself is accessible at the website of the Ministry of Education, its interpretation and applicability are not clear. Experts of higher education suggest these models are not yet integrated into the system.

Innovative organisational solutions, HEFOP 3.3

A pilot model of operating higher education institutions was completed for the Ministry of Education in early 2004. This model of process control for higher education institutions uses a series of flowcharts to capture the daily operations of a “sample university”. In addition to defining single jobs and steps to be taken, the flow charts contain a description of participating units of the organisation and show the related flow of data and documentation. The completed model is freely accessible under the process model menu of the website of the Ministry of Education.

The program of higher education institutions intends to reach both efficiency and effectiveness targets. One of the top priorities of the preparations for process modelling is the identification of innovative solutions based on examples taken from Hungarian and international higher education and business. The idea is to find solutions that are feasible in the Hungarian environment of higher education and would improve and develop current operations. A collection of identified, uniformly interpreted and thoroughly elaborated collection of innovations is the first independent outcome of the efforts of the consortium and also forms the foundations of the development of future process models.

The heading innovative operating concept covers a collection of solutions that are regarded to form the vanguard in the core operations and major functional areas of higher education institutions. Several of these solutions have been applied by

businesses for a long time and have either only recently been introduced in various areas of higher education or have reached a stage that the experience relating to their application is now complete.

Source: Innovatív megoldások..., 2005

8. Mechanisms supporting and hindering the creation, recognition and dissemination of innovation in education

Lack of concept and instability

If there are no obstacles to overcome, there is no creativity, a socio-psychologist said at an event organised during the Year of Creativity. The lack of standards and rules will eventually disrupt the frameworks against which innovation and creativity may emerge. Although the system of institutions of innovation has been established in Hungary, it has proven to be extremely unstable. Although a law on innovations has been enacted, neither money nor people responsible for innovation have been assigned. More exactly, there were people who were actually responsible, but their status has changed with the passage of time. Committees have been set up but they never convene.

R&D of the education sector is hardly noticeable within the system of innovation established as described above. Taken alone, the education sector is also burdened with instability. Background institutions exist, but they are in constant ferment, changing profile and orientation. With the arrangement as it is, the build-up of centres of power that can extinguish each other's objectives is frequently observed. The National Development Plan and the superimposed system of governance (NDA and managing authorities) exists side by side with public administration proper (ministries and budget) and the relationship between the two is unclear either in terms of strategy or operation.

The problem of sustainability

Nothing ensures the sustainability of innovations and developments. There is no two-column budgeting (of materials and costs) and there is no relationship between the operations of the sector, its own developments and the results of the system of development policy. Budgeting ignores the fact that the results created through innovation have to be maintained as they are part of public services. It is not at all certain in education that an innovative output is self-sustaining. The Ministry of Education proposed a system of applications for the NDP and the NHDP without taking into account how it will maintain outcomes.

As the draw-down of development funds siphons off money from the budget, developments progress paradoxically without a well thought out plan of operations. That is how development expenditure and applications funds covertly finance the operation of institutions, which is risky as it creates the illusion that we are spending on research and development, but in reality funds are channelled into maintaining institutions. All of that weakens the position of the R&D sector implicitly. On the other hand, using development funds this way will lead to innovation bubbles that are either forced, façade-like or inclusion-like, and are therefore unsustainable.

Problems of financing

There is no proper owner of the RD&I system of the education sector, including particularly education research and accordingly there is no proper financing, because

there is simply not enough money to finance education research, not even directly. The competent ministry accepts responsibility primarily for general policy of research and higher education and looks upon education research as something that will come by automatically. A limited proportion of development funds is distributed (not exactly in a transparent fashion) to research and assessments, and the only entity left to finance basic research is the Basic National Scientific Research Program (OTKA), where the share of education research is quite modest. Given the fragile financing of past years, background institutions do not tend to engage in research and are mostly involved with coordinating the funds allocated to the development of education from the structural funds. Education has no separate research group at the Academy of Sciences and doctoral programmes also fight for survival. All of that prevents the creation of a knowledge base that could underpin developments and innovations.

Liquidity issues are another aspect of financing problems that both research institutes and institutions implementing developments have to face. Financing in arrears and the obligation of government funded institutions to break even prevent institutions from participating in international tenders where costs (e.g. travel expenses) are incurred already during the planning stage. Researchers might advance the money themselves, but one cannot rely on that. Agreements between higher education and manufacturing businesses are alleged to have failed to materialise because of the government's delay pay up the money to finance the business trips of a few professors to a foreign country. Similar problems occur and innovations are often doomed to fail when funds due to an executing institution fall overdue and the institution cannot finance its operation from the back pocket.

The time factor

Project logic does not favour long term thinking or basic research. Academic institutions engaged in basic research also become project driven, which discourages the development of strategic approaches also in education research.

The project logic of structural funds covers two-three years and planning normally gets delayed only to shorten the time allotted to implementation extremely, which prevents true changes from getting introduced. Abandoned ideas and development interventions (e.g. foreign language year) absorb tremendous resources (both human and financial) and fail to contribute to the creation of sound knowledge bases and to enrich the storehouse of innovations.

Project logic is the frequent cause of temporal bottlenecks. Rash scheduling decisions and tight deadlines topple development arrangements. Educational institutions must engage in property development, in service teacher training and educational innovations simultaneously and at the same time tend to normal teaching jobs.

Attaching undue importance to the time factor is also responsible for the deficient funding of project-logic driven research and assessments and for unfeasible deadlines preventing any kind of sound evaluation, the expansion of research capacity, the development of competences and the enrichment of the knowledge base.

The forced speed of development frequently stifles the joy over and the motivation gained from enriching knowledge, as the hustle renders obsolete any acquired new knowledge in no time and thereby manages to suffocate even the motivation to learn. Teachers complain that by the time they have learnt to use a modern tool, it is already replaced by the next one.

No or overregulated supporting environment

The system is simultaneously characterised by overregulation and unpredictable regulatory environment, the abundance and the scarcity of resources. There are far too many regulations governing educational institutions and they keep changing at extreme speed. It is impossible to keep track, but as this area is generally subject to control, the system becomes increasingly bureaucratic with less energy invested into content, development and innovation.

At the same time, overregulation does not mean compliance. Higher education institutions are required in vain to have an R&D strategy, there is no sanction attached to not having one. It is futile to require that an assessment plan must be drawn up at the beginning of each development with the costs integrated into the project, baseline assessments are normally omitted and the fund allocated to evaluation melt away somehow by the end of a project. There is no legal security or predictable stability in the system to support long term programs.

The public is not sufficiently client oriented

Although the web pages operated by background institutions, the ministries and the NDA are becoming more and more informative but are still difficult to navigate. They fail to address society properly and frequently appear as a form of self-representation. Developments lack social scope, stakeholders, researchers, NGOs and teachers are not involved in planning which threatens sustainability down the line. Neither information nor knowledge management are sufficient, it is impossible to learn about good practices, there is no website dedicated to presenting them along with true assessments rather than with the intent to be representative.

Increasing the social scope of R&D processes requires more action and interaction from the social environment. At the same time, and not unlike during the communist era, output indicators are overemphasized, as they lend themselves to measurement. Accordingly communication processes, dialogues, knowledge creation in a process, changing attitudes and enriching the knowledge of individuals are not so important criteria.

The problem with human resources

The human resources problem of RD&I is perhaps the gravest in education and involves both quality and quantity. Many have indicated that the promise of large development resources is in vain if our capacity to absorb them is limited. As one of the interviewees put it you will not be twice as clever if you double the money. The

problem of human resources is underestimated in the case of both research and innovation. The number of properly qualified experts and teacher-researchers is insufficient; there are not enough innovative teachers. Moreover, time planes get tangled up yet again as schools should be introducing innovations simultaneously with offering in-service training to teachers. Besides, the number of required trainers is simply too high.

The condition of teacher training is another frequently analysed problem. Some accept the emphasised emergence of pedagogy as a positive phenomenon, and some criticise the system for the brevity of time spent on methodology. Many (including Green Paper experts) demand with reference to the Finnish example the introduction of qualitative filters into and a strengthening of the research component of teacher training. A marriage between pedagogy and methodology is likely to produce future teachers who are well versed in a culture of teaching methodology and at the same time have the affinity to experiment and innovate as well as a the mechanism of basic research methodology. Adding instruction in research methodology to teacher training could also widen the basis that feeds doctoral programs.

Developments are not yet professionally planned

Developments continue to progress on a learning by doing basis even today without procedures or rules. As a result, activities take on an ad hoc character with logistics and knowledge management not considered at all. There are no well thought out horizontal strategies to help developers and there is no standard know-how for helping grass-roots initiatives without stifling them. There is no proper quality assurance of development processes, as illustrated by the limited money and tight schedules allocated to assessment.

Inappropriate planning is also manifest in the lack of self evident communication and coordination between actors. The implementation of developments is not properly planned, tight deadlines could be responsible for blitz action, the lack of pilot programs, tests, assessments and feedback and the analysis of impact mechanisms is frequently ignored along with the development of suitable incentives.

The hazard associated with non-professional and improperly planned developments is that gigantic development projects undermine civil initiatives (study halls) or the market (program packages) and reduce the chance of sustainability. Examples demonstrate that the appropriation of money directly will frequently kill the engine of innovation. Creating a supporting environment is worth much more than pouring money.

Misinterpreted roles and lack of trust among actors

There is no definite idea about the role of the state in motivating innovation or about the connection between governmental and non-governmental actors. As long as government has a larger stake in saving costs than in the successful implementation of programs and developments, the representatives of government and public money and the implementers of innovation and development projects are not in the same boat.

We should not be involved with protecting public money, we should have the capacity to realise projects. If we spend little but our project fails, nothing is achieved.

Lack of professional assessment and feedback, immature methodology

The lack of professional control is one of the reasons why fiscal discipline, controlling invoices and money flows themselves become more important than achieving an end with the envisaged content. This is fuelled by the lack of trust between actors and the cynicism or scepticism of those at the top concerning the quality of and the ability to give feedback based on professional assessments. Thirdly, the lack of professional control may stem from the ignorance of policy makers, their inability to exercise professional control and the lack of awareness of the research methods of professional assessment. The system becomes bone-headed due to the lack of feedback, which also hinders learning and improvement and the take-up of good practices and contributes heavily to creating overlaps.

Overlaps emanate from improper coordination and the lack of clear-cut strategies. It is in vain for a developer to require that the development of infrastructure should be combined with innovative pedagogical developments when applicants for fund to finance the development of infrastructure are controlled by quality of life criteria only or if modern teaching tools are constructed in a manner to prevent team work due to security considerations or if the application funds designated to finance pedagogical innovations run out too soon.

Lack of cooperation between actors

Although networking, which also evolves from the developments, strengthens communication flows, but as soon as a project is over, networks tend to die and only a few survive.

There is no cooperation between developers; they concoct plans in isolation in narrow networks. There is parallelism in research and truly large-scale interdisciplinary studies are atypical. Everyone wants coordination for themselves and no one would let go, which gives rise to ad hoc planning and blurs strategic goals. Cooperation is frequently missing inside the walls of one and the same institution not to mention a consortium of institutions.

Internal resistance and fear from change

Most teachers are reluctant to change and are fearful of novelties. In-service training provided to a single person has frequently failed to enhance the culture of education methods as “one swallow does not make a summer”. Organisation development involving the staff of teachers as a whole tended to be more successful, but it was important that they had to continue for at least a year. The resistance of their immediate environment frequently kills the motivation of more innovative teachers. Sometimes opportunities are missed, teachers stick to the good old rut, which they think is mandatory. An external supporter who can overcome the deadlock frequently helps a lot.

Economies of scale

Hungary being a small market and the lack of language skills making it difficult to look around abroad are problems for both technological and educational innovations. Limited size renders most research and development projects uneconomical and forces them to rely on government grants. Also, international penetration should be supported through lobbying, strengthening language skills and importing foreign experience.

9. Proposals for a strategy of educational research, development and innovation

Creating the framework conditions for the system of research, development and innovation in the education sector

- 1.) Develop a uniform strategy of education along with the establishment of coordination across portfolios if necessary. A functional strategy would obviously float like a balloon without a sound underlying strategy of the sector. However, strategies only become workable if money and job owners are assigned. Strategic concepts falling victim to alibi meetings of committees should be avoided.
- 2.) Have the Ministry of Education accommodate the RD&I system of education (including education research. A research policy department alone is no guarantee, first of all because it is not only about sectorial R&D. Responsibility for education research might be assigned to the cabinet office, the department responsible for development or the statistics unit. It may be worth strengthening the latter with analytical capacity to ensure that data get analysed at annual intervals. That will expand the knowledge base, provide ammunition for education policy and ensure data reliability simultaneously.
- 3.) Set up a separate fund to finance education research from the annual budget rather than by reallocating development funds. Devise the applications system of the fund in line with international standards with the Ministry represented in the system. Prevent EU funds from crowding out national subsidisation.
- 4.) Create more opportunities for professional consultation. Assign the organisation of the national conference of pedagogy to the three existing doctoral programmes with rotating venues and allocate the necessary financial means. An international research fellowship fund could form part of the education fund and would accept applications from doctoral programs and other workshops of education research.
- 5.) Ensure the international dimension of education RD&I, import knowledge and support international presence. It would be advisable for the education fund to show preference for interdisciplinary studies, which should be combined with supporting participation in (and making sure that knowledge is imported from) international conferences. Organising international events in Hungary and developing websites in English would also be advantageous to communicate good research, development and innovation practices to non-Hungarian speakers. Participation in international research also promotes the international dimension of Hungarian research as discussed below.

- 6.) Consider launching a larger-scale national research project following the German example. That could create opportunities for cooperation between education research workshops and for international partnering.
- 7.) Allocate more resources to the development of indicators; it is advisable to provide status and funds to the indicators committee.
- 8.) Increase the presence of pedagogy in the Academy of Sciences or develop some form of cooperation between the Academy, Pedagogy Departments and teacher training with the possible involvement of regional training centres.
- 9.) Analyse the operation of RD&I systems of developed countries, integrate their experiences.

Improving the efficiency of the system of research, development and innovation in the education sector

- 1.) Submit policy tools to thorough evaluation and assess the balance between fiscal motivators and direct means of supporting R&D. Weed out tools that run counter to objectives, find missing tools. In general, develop a balanced policy mix avoiding the mushrooming of tools and gaps in tooling.
- 2.) Develop a protocol and a manual of procedures for developments. The rules should provide that assessment phase of research is mandatory and subject to control. A minimum as well as a maximum amount to be spent on the purpose should be identified. The protocol could include methodological guidelines about indicators (developed in cooperation by research and development workshops). The protocol should also contain a flow chart of adding a social dimension to planning a development, including the method and time of involving stakeholders and the various required components of assessments.
- 3.) Strengthen coordination between developers and harmonize the institutional system and the public administration system of structural funds to create clear reporting lines.
- 4.) The RD&I system of the education sector needs modernisation; rethink the responsibilities of background institutions and if necessary set up agencies for mediation.
- 5.) Strengthen cooperation between researchers; provide support to pedagogical doctoral programs and strengthen centres outside Budapest. Support the cooperation between schools of education and other workshops of education research either by motivating joint research or by supporting common events.

Expanding the human resources of the RD&I system of the education sector

- 1.) There is a shortage of researchers in some areas, such as assessment and measurement, financing education and other interdisciplinary areas. Jobs will have to be created. Considering its responsibilities, the Assessment Centre of the Educational Authority is understaffed (lack of experts).
- 2.) Assessment is a new occupation and the related methodology is not yet fully crystallized, not even in foreign countries. It is advisable to develop Hungarian assessment capacity, to support participation in international training or to start a master's course in assessment.
- 3.) Teacher training needs to be renewed to create the balance between pedagogy and methodology. Future teachers are to receive simultaneous training in the culture of methods and innovative, experimental and research attitudes. Methodology is indispensable for reaching efficiency in the latter.

- 4.) It is advisable to start targeted in-service training courses for researchers and developers to ensure superior planning, organisation and coordination of large-scale development processes and sound methodology in assessment

Simpler regulations

- 1.) Creating legal security is necessary in this area (and elsewhere). That means the funds allocated to education research are certainly available year after year, predictably to allow planning. Compliance with development protocols is ensured, the deregulation of school house rules is completed.
- 2.) Review normative financing, development funds and funds allocated by the budget to ensure secure and efficient financing of R&D and coordinate resources on that basis. That is also advisable from the perspective of education research.

The question of data

- 1.) Accurate data and indicators should be available about the RD&I system of education. That is especially the case with data about financing. It is advisable to join the development effort in progress at the CSO, possibly via the Indicators Committee (provided it is authorised to do so).
- 2.) It is advisable to create a database of education research that provides access to researchers under certain conditions (data protection protocol), and Ph.D. students would be motivated (with awards) to use it
- 3.) Providing access to a consolidated database should be considered. This database would cover the data of competence tests, education statistics, data from the Information Office of Public Education (KIFIR) and the data from databases financed from governmental development funds (Educatio follow up studies, diagnostic measurements at Szeged, career path research). Although access and research rights must be regulated, the databases of government funded research should by all means be made available for the broader society of researchers.
- 4.) Expand the capacity of data analysis, partially through adding human resources and it is advisable to maintain an analysis unit at each location that owns data so as to support regular analysis.
- 5.) It is advisable to draft regular reports about the branches of education based on the report about public education, which could also help define priorities for education research.
- 6.) Give priority to participation in research that allows international comparison, including PISA, PIRLS and TIMMS research as well as the continuation of TALIS. It is advisable to join PIACC and CIVED research projects. The research capacities required for the purpose should be developed on an ongoing basis. It is practical to set up several workshops in this field, if we truly wish to add an international dimension to education research.

Publicity, information and knowledge management

- 1.) It is advisable to support innovative actions where information flow is not unidirectional and includes sharing and potentially creating knowledge (e.g. Schooling for tomorrow)
- 2.) Create more up-to-date and user friendly websites and agencies. It is advisable to involve in this area professional market participants with skills in

marketing, media communications, PR, CRS, knowledge management and information management.

Market approach, creativity and motivating innovation

- 1.) Simplify application systems, particularly those of the structural funds where it is advisable to simplify invoice payment.
- 2.) Strengthen supporter attitudes at managing authorities engaged with development projects. It is indispensable to create joint interest in the professional success of projects. Appoint managers to lead large development projects with responsibilities for both professional and financial implementation. Sanctions should apply when projects fail and success fees should be allocated to successful ones. All of that depends obviously on sound independent professional and financial audits.
- 3.) Ensure liquidity management and create borrowing opportunities for budgetary entities and foundations to promote the implementation of developments and to protect against the risks of potentially poor management by managing authorities and the treasury. It is advisable to analyse the operation of spin-off businesses and to draw conclusions.
- 4.) Include researchers, businesses and civil actors in planning developments (could be part of the development protocol).
- 5.) Support importing and transferring new research methods and innovations.
- 6.) Transfer the results of market studies in the ICT area to practice in education. It is advisable to support (on a fifty-fifty basis) common research and development designed to strengthen pedagogical methodology, classroom practices or know-how of adult education.

Appendix

1. Table – The number of employees in the research and development sector by scientific branches 2003-2008

Year	Branch	R+D employees	researcher and developer
		number recalculated to full-time employees (person)	
2008	Psychology	149	112
	Education and sport	386	320
	Social science total	2 884	2 341
	Total	27 403	18 504
2007	Psychology	145	112
	Education and sport	555	358
	Social science total	3047	2367
	Total	25954	17391
2006	Psychology	150	115
	Education and sport	482	376
	Social science total	3 348	2 494
	Total	25 971	17 547
2005	Psychology	136	100

	Education and sport	527	367
	Social science total	3 021	2 324
	Total	23 239	15 878
2004	Psychology	146	104
	Education and sport	525	326
	Social science total	2 898	2 253
	Total	22 826	14 904
2003	Psychology	181	132
	Education and sport	525	362
	Social science total	3 274	2 484
	Total	23 311	15 180

2. Table – The number and proportion of those having scientific degree in the R+D sector by scientific branches 2003-2008

Year	Branch	member of the Academy of Science	Science		member of the Academy of Science doctor	Science	
			doctor	candidate		doctor	candidate
			number			as a percent of the scientific researchers and developers (%)	
2008	Psychology	3	16	86	1,4	7,3	39,1
	Education and sport	5	35	419	0,4	2,9	35,1
	Social science total	42	293	2 615	0,7	4,7	41,6
	Total	323	1 853	11 319	1,0	5,5	33,5
2007	Psychology	3	18	94	1,2	7,3	38,4
	Education and sport	2	28	440	0,2	2,1	33,3
	Social science total	43	320	2507	0,7	5,0	39,0
	Total	317	1 840	10 736	1,0	5,6	32,5
2006	Psychology	2	23	116	0,8	8,9	45,0
	Education and sport	11	58	366	0,8	4,3	27,1
	Social science total	62	375	2 596	1,0	5,8	40,2
	Total	331	1 903	10 488	1,0	5,8	32,0
2005	Psychology	–	20	88	–	9,9	43,3
	Education and sport	3	38	326	0,2	3,0	25,3
	Social science total	56	342	2 254	0,9	5,2	34,3
	Total	324	1 847	9 639	1,0	5,9	30,7
2004	Psychology	–	12	77	–	5,9	37,7
	Education and sport	3	33	289	0,2	2,6	23,2
	Social science total	45	337	2 169	0,7	5,2	33,5
	Total	327	1 777	9 185	1,1	5,8	30,2
2003	Psychology	1	15	92	0,3	4,7	28,8

	Education and sport	2	28	308	0,2	2,2	24,3
	Social science total	42	333	2 216	0,6	4,9	32,4
	Total	303	1 774	8 836	1,0	5,9	29,2

3. Table – The number of the scientific publication by scientific branches 2003-2008

Year	Branch	In Hungarian			In foreign language		
		books and chapters	articles in scientific periodical reviews	accepted doctoral theses	books and chapters	academical document	foreign scientific periodical
						published articles	number
2008	Psychology	116	171	15	33	45	76
	Education and sport	345	818	51	46	54	158
	Social science total	2 471	5 295	353	633	625	943
	Total	5 975	16 054	1 308	2 234	3 040	10 588
2007	Psychology	198	160	8	24	45	108
	Education and sport	362	917	51	42	67	128
	Social science total	2 285	5 792	446	515	782	1 055
	Total	6 026	17 402	1 468	1 720	3 085	10 714
2006	Psychology	73	237	13	6	41	86
	Education and sport	223	1 145	77	24	39	110
	Social science total	1 375	6 674	340	339	846	1 151
	Total	4 337	18 856	1 506	1 091	2 978	10 725
2005	Psychology	53	223	17	2	10	75
	Education and sport	196	1 157	57	16	47	125
	Social science total	1 303	6 655	344	288	775	1 266
	Total	3 796	19 510	1 588	949	3 140	10 762
2004	Psychology	57	186	13	10	12	53
	Education and sport	242	1 121	51	18	54	120
	Social science total	1 347	7 242	364	353	898	1 231
	Total	4 002	19 814	1 508	970	2 945	10 276
2003	Psychology	55	259	22	4	20	68
	Education and sport	225	1 174	58	27	42	123
	Social science total	1 311	7 091	461	420	1 141	1 370
	Total	3 835	20 441	1 727	1 024	3 746	10 408

Source: Central Statistical Office

Acronyms (as used in the paper):

CEDEFOP	European Centre for the Development of Vocational Training
CIDREE	Consortium of Institutions for

	Development and Research in Education in Europe
CSO	Central Statistical Office
EA	Educational Authority
EGYMI	Institute for Uniform Methodology in Special Education
EU	European Union
FSZK	Public Foundation for People with Disabilities
FTT	Tertiary Education and Research Board
HAC	Hungarian Accreditation Committee
HAS	Hungarian Academy of Sciences
HRDOP	Human Resource Development Operational Program
IPR	Integrative System of Education
KMD	Quality in Public Education Award
KOMA	Public Foundation for Modernising Public Education
MA	Managing Authority
MAG Zrt.	Magyar Gazdaságfejlesztési Központ Zrt.
MoEC	Ministry of Education and Culture
NCA	National Competence Assessment
NCC	National Core Curriculum
NDA	National Development Agency
NDP	National Development Plan
NHDP	New Hungary Development Plan
NORT	National Office for Research and Technology
NSZFI	National Institute of Vocational and Adult Education
OFI	Institute for Educational Research and Development
OKA	Roundtable of Education and a Chance for Children
OKI	National Institute of Public Education
OKJ	National Vocational Qualifications Register
OKNT	National Public Education Board
OKTK	National Social Sciences Research of High Priority
OMFB	National Committee of Technological Development
OP	Operational Program
OPI	National Institute of Pedagogy
OPKM	National Library and Museum of Pedagogy
OTKA	Basic National Scientific Research Programs

PSZM	For Reviving the Teaching Profession
RD&I	Research, Development and Innovation
REF	Roma Education Fund
SIOP	Social Infrastructure Operational Program
SROP	Social Renewal Operational Program
STI	Science, Technology and Innovation
TALIS	Teaching and Learning International Survey
TIOK	Regional Centres for School and Kindergarten Development
TISZK	Regional Integrated Vocational Training Centre
TkOKA	Public Foundation for Instruction in Research into Social Sciences
TPF	Tempus Public Foundation
UPSZ	Új Pedagógiai Szemle

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