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of Vocational Training

ERO NATIONAL RESEARCH REPORT 2007

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European Centre for the
Development of Vocational Training

ERO National Research Report 2007

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1. Links between National VET/HRD research and development initiatives and VET/HRD policies (in particular recent reforms/innovations).

Although ESF is not primarily focused on research, currently most important topics concerning VET/HRD were primarily covered by the so-called national (systemic) ESF projects. These national projects were developed to respond to the most urgent policy issues identified by the Ministry of Labour, Social Affairs and the Family of the Slovak Republic and the Ministry of Education of the Slovak Republic. The most urgent is the project "Creation, development and implementation of an open system of life-long learning in the SR for the labour market". It had four project tasks aimed at monitoring training needs, quality management in continuing education and training, introduction of horizontal and vertical transferability between initial and continuing education and all learning settings, financing continuing education/lifelong learning. Outputs of the project are as follows:

- Information system for continuing education and training;
- Model of survey of education needs of individuals, companies, and territorial units;
- Model of quality management system in non-formal learning;
- Fundamentals of introduction of the credit system in continuing education and training;
- Comparative analyses of financing regional schooling, continuing education and lifelong learning.

The project resulted in elaboration of the policy paper "Concept of lifelong learning and lifelong guidance in the SR" submitted for adoption to the Government of the Slovak Republic. This paper will be followed by preparation of the Act on lifelong learning in 2007.

A project "**Improving the quality of ISCED 3C level vocational education and training in the Slovak Republic**" carried out by State Institute of VET is aimed at development of 16 national educational programmes defining employer's demands which are to be complemented and adjusted within specific programmes by respective schools. A survey focused on employer's requirements was conducted as a precondition of the aforementioned curricular reform. A respective policy paper is to be submitted to the Government of the SR in spring 2007.

The main objective of the project "**Curricular transformation of teaching the general-education part of the secondary-school education in the process of preparing young people for the needs of the labour market**" carried out by the National Institute for Education is transformation of the vocational training system, in particular adjustment of general-education subjects to the needs of the labour market, Curricula and teaching materials created by means of a project should be based on surveys identifying needs of labour market and of a knowledge-based society.

The Structural Funds of the European Union should play a substantial role to help all regions build research and innovation capacities. Investment in regional R&D and innovation is expected to increase from 2007 onwards; as the EU's regional policy will increasingly focus on knowledge, research and innovation. In this context, the National Strategic Reference Framework for 2007 – 2013 is currently under preparation. Operation Programme Research and Development (approved in December 2006) proposes to allocate the amount of EUR 1 209.4 million for the specific priority 2.3 Research and Development for the "Convergence" objective. Following operational priorities are proposed within this specific priority :

- Renewal and building of technical infrastructure of research and development;
- Support of research and development workplaces networks with outputs on excellent level as pillars of regions development and regional cooperation support;
- Research-driven knowledge and technology transfer applied practically.

Currently, negotiations with the EC are in progress.

Specific problem of the Slovak Republic is that the area of Bratislava and its surroundings represents approximately 50% of the research-development potential of the Slovak Republic. At

the same time, the area of Bratislava and its surroundings has the same structural problems in the area of R&D like the rest of Slovakia: insufficient technological equipment and technical infrastructure of research and development. It is not possible to carry out research without good-quality equipment and well-technically equipped research and development institutions, even though they might dispose of good-quality personnel. These were the major arguments in negotiating so called “Bratislava exemption”. Recognizing the tremendous challenges that the region faces in consolidating and developing its R&D potential, the European Commission granted a special exception allowing institutions based here to be eligible for support from EU Structural Funds under the “Objective 1” interventions for R&D related activities. Normally only institutions from regions whose GDP per capita in PPP is less than 75% of the EU average are entitled for Objective 1 interventions under Structural Funds. Under this exception, approximately EUR 300 mil. can be used for financing R&D related activities in the Bratislava region from the structural funds (European Fund for Regional Development) in the programming period of 2007-2013.

Besides 2006 introduced RDA (Research and Development Agency) grants (see chapter 5), research was in a long run based on bottom up activities within the VEGA (Scientific Granting Agency) and KEGA (Cultural and Educational Grant Agency) granting schemes.

There are no HRD/VET related projects supported by RDA grants in addition to those identified within earlier ERO reports. There are projects within VEGA and KEGA aimed at VET/HRD however their impact on policies is very limited. A promising cases with potential to influence policies are as follows:

VEGA 2005 project 1/2541/05 A system of education in Technical Education at basic schools in terms of accession of the Slovak Republic into the European Union, VEGA 2004 project 1/1401/04 A system of lifelong learning in the field of technical vocational subjects in information society, KEGA 2005 project 3/3038/05 Development of personal and professional potential of vocational counsellors with a focus on improving the quality of services in the field of occupational and job counselling, and KEGA 2004 project 3/2346/04 Increasing the focus of secondary education with respect to professional structure requirements.

2. Links between EU sponsored VET/HRD research and development initiatives and VET/HRD Policies (in particular recent reforms/innovations).

Slovakia had a relatively strong R&D potential, but after years of severe brain drain and insufficient funding (see expenditure on R&D data in chapter 5) its output quality is well behind developed countries. Involvement of Slovak VET/HRD researchers in European activities is insufficient, as visible e.g. from Research Forum Education and Society (WIFO) at <http://www.b.shuttle.de/wifo/vet-pr/CEEC05.pdf>, where Slovakia is together with Latvia and Bulgaria among Europe’s worse performing countries. Thus, human resources development for R&D is a question of urgency in Slovakia.

The main aim of the “Action Plan for Science, Research and Innovation”, approved by the Government of the SR in July 2005, is to improve research, development and innovation systems to be comparable with the international standards. Implementing the Action Plan, should minister to Slovak subjects to profit from financial means from the EU funds.

The year 2005 was marked by specific horizontal themes of the 6th Framework Programme. The best results were reached in following topics: information society technology, nanotechnology and sustainable development. On the contrary, life science, genomics and biotechnology and health lagged behind, although these topics were the most successful in the 5th Framework Programme from the point of Slovak applicants. With regard to the 6th Framework Programme, there is no VET/HRD project coordinated by the Slovak subject; nevertheless, there are projects with Slovak subjects’ participation. Within the priority ‘Citizen’ there is one project with Slovak participation that includes an important component of HRD targeted at ethnic minority youth, assisting them in integration into the world of work. It is very promising that three private

subjects participate at thematically relevant research activities within the priority ‘Information Society Technologies’, and 4 additional subjects participate in a specific support action within this priority. Furthermore, there are 5 projects containing regional HRD component within the specific tool ‘Innovation, coordinated by Slovak subjects (regarding self-governing regions of Banská Bystrica, Prešov, Žilina, Trenčín, Trnava).

3. Overview of important issues and themes addressed in current VET/HRD Research and Development projects.

The Ministry of Education of the SR as the central authority in the area of national research and development policy supports R&D within 10 state R&D state programmes (six complex and four thematic). Within the state R&D programmes approved by the government (Resolution of the Government No. 1007/2002) the complex programmes most relevant to VET are as follows:

- the complex programme No 1 Informatisation of Society, in particular 1.2 Informatisation of education;
- within No 6 Contribution of Social Sciences to Development of Society in particular 6.2 aimed at regional development, 6.5 aimed at transformation of economy, and 6.9 aimed at social system transformation and risks of social cohesion violation.

Within 4 thematic programmes the most relevant programmes are as follows:

- No 1 Development of personality and skills of young PhD students below 35 years;
- No 2 aimed at support and effective utilisation of R&D infrastructure;
- No 3 Prognoses of the development of science and technology till 2015;
- No 4 in particular 4.1 Human resource development and 4.1.2 Labour sources and labour market.

As already indicated earlier some ESF projects contained important research component. So called National ESF projects were developed to respond to the most urgent policy issues and reflect very important themes. Three most relevant projects were reported in the chapter 1. It is however worth stressing that one of the most urgent issues – forecasting of labour market needs planned within Measure 3.3.B aimed at systems for linking VET with the labour market was not covered due to the lack of research capacities. There was no project submitted and as a consequence, planned research of early recognition of skills needed for labour market is still missing. There is no institution systematically interested in such forecasting based on macro-economic model and there are just sectorally or regionally limited ad hoc surveys based on self-reporting of stakeholders. A larger survey on this topic is planned at the State Institute of VET in 2007. In 2006, corresponding to the requirement of the Ministry of Education of the SR, the State Institute of VET carried out analysis and survey based on a set of questionnaires. It resulted in the study “Analysis of current situation and possibilities of cooperation between education system and labour market institutions”.

Some research components were contained in projects of SPD Bratislava NUTS II Objective 3 programme, since increasing the role of LLL and research and development in provision of adaptable labour force was declared a specific goal of this programme.

Limited capacity of VET research is however also visible from modest volume of VET/HRD related themes in open-call research schemes. There is no project within APVV scheme and there are only 4 new projects within VEGA scheme approved in 2006, of which 3 are aimed at HRD and one on practical skills and intelligence of Roma children. Thus no typical VET topic was covered. There were 10 new projects within KEGA scheme approved in 2006, among which curricula innovations and ICT supported learning are dominant topics. Worth stressing is a project aimed at assessment of competences, which is highly relevant within current shift from input based to learning outcome based approach of programming VET. Within the KEGA scheme however, applicability of outputs dominates over genuine research activities.

Leonardo da Vinci projects are not primarily research focused but there were four projects

approved in 2006 with research component identified. Out of them a project on quality evaluation of LLL is worth stressing as the most relevant.

In the annex seven projects significant for current development and newly introduced to the ERO base are listed.

ANNEX: SELECTION OF ERO BASE PROJECTS.

Improving the quality of ISCED 3C level vocational education and training in the Slovak Republic

http://www.trainingvillage.gr/etv/projects_networks/ero/prj_view.asp?theID=1247

Analysis of current situation and possibilities of cooperation between education system and labour market institutions

http://www.trainingvillage.gr/etv/projects_networks/ero/prj_view.asp?theID=1246

Analysis of the social security system of internal doctorands of research and development aged up to 35 years, impact analysis, evaluation of current state and proposals for improvement of the system

http://www.trainingvillage.gr/etv/projects_networks/ero/prj_view.asp?theID=1148

E-learning for Introduction and Management of Tele-working

http://www.trainingvillage.gr/etv/projects_networks/ero/prj_view.asp?theID=1148

Implementation of regional labour market needs into economic education (with focus on commercial academies in the SR)

http://www.trainingvillage.gr/etv/projects_networks/ero/prj_view.asp?theID=1149

Increasing information and communication competences of secondary school teachers

http://www.trainingvillage.gr/etv/projects_networks/ero/prj_view.asp?theID=1145

System of integrated employment and retraining of blind and partially sighted people

http://www.trainingvillage.gr/etv/projects_networks/ero/prj_view.asp?theID=1124

4. Major institutions involved in VET/HRD R&D in your country.

- **Slovak University of Technology, Faculty of Materials Science, Department of Technical Teacher Training**, provides pre-graduate and post-graduate training of technical subjects teachers. Key research activities of the department have been oriented towards competences in pedagogy of VET teachers, innovation of training of technical subject's teachers, and quality of education.
- **University of Economics in Bratislava, Faculty of National Economy, Department of Pedagogy** offers pre-graduate and post-graduate training of economic subject's teachers. Its research activities have been focused in particular on innovations in economic education including new curriculum development.
- **Technical University of Košice: Department of Engineering Education** offers complementary pedagogical study providing secondary vocational subjects teachers – diploma engineers, with teacher qualification. The department is accredited by the international organisation International Gesellschaft für Ingenieurpädagogik (IGIP) in Klagenfurt. **The Centre for Information and Telecommunication Technology** is

focused on the research on application of artificial intelligence, on expert activities in the field of operational systems, and educational activities related to ICT.

- **Matej Bel University, Banska Bystrica: Faculty of Economics** provides study programmes in tourist trade, economy and business management, public economy and services. The scope of its research activities also includes human resource and quality management issues. **The Department of Human Sciences'** research activities are focused e.g. on the issues of European citizenship and implementation of EU legislation the field of administrative law into the system of public administration in the SR. **Faculty of Natural Sciences, Department of Informatics** is focused on educational activities and research in the field of ICT.
- **Pavol Jozef Safarik University: Kosice, Faculty of Natural Science Research, Educational Centre for ICT** provides educational and research activities in the field of ICT.
- **Comenius University, Bratislava, Faculty of Philosophy, Faculty of Education, faculty of Social and Economy Sciences, Faculty of Natural Science Research and Educational Centre for ICT.** Comenius University is the oldest and greatest university in the SR. As a scientific institution it comprises research in almost all scientific disciplines.
- **University of Constantine the Philosopher, Nitra: Faculty of Education, Institute of Technology Education** provides training of future teachers in didactics and technology. The research activities are focused primarily at application of ICT in education, and creation of educational environment.
- **University of Trnava, Faculty of Education,** Trnava, provides teacher training for basic and secondary school teachers. Within its research activities the priority is given to application of ICT in education and to the educational theory.
- **University of Žilina, Institute of Continuing Education,** providing of the system of continuing education for all age categories with a qualitative system of study support and following the latest trends in technology and science.
- **Institute of Social Sciences, Slovak Academy of Sciences, Kosice,** is focused on a research in history, sociology and social psychology. The topics in the field of social sociology research also include the human capital issues, and its links to educational system and labour market.
- **Institute for Sociology, Slovak Academy of Sciences, Bratislava,** aims at the research of current problems of Slovak society resulting from political and social changes in the SR.
- **Research Institute of Child Psychology and Patho-psychology,** Bratislava, is the only institution in the SR dealing with a comprehensive research of mental development of children. The activities comprise research in the three key areas: mental development of healthy children, mental development of handicapped children, and the issues of social development of children and youth.
- **Institute for Labour and Family Research** (up to 28 February 2006 Centre for Work and Family Studies) arose on September 1, 2003 from the merger of the Bratislava International Centre for Family Studies and the Research Institute of Labour, Social Affairs and Family. The Occupational Safety Research and Educational Institute became the part

of it in January 2004. The Institute is the Ministry of Labour, Social Affairs and the Family of the SR affiliated institution focused on the sociological research related to social and family policy, labour market and employment policy, and in the field of occupational safety and health.

- **State Institute of VET**, Bratislava, is the Ministry of Education of the SR affiliated institution. It is a methodological, pedagogical, co-ordinating and training institution responsible for vocational education and training issues at secondary VET schools. The activities include the development of educational programmes and educational standards, co-operation in development of textbooks, in-service teacher training, involvement in international projects, developing methods for simulation of activities for training firms.
- **National Institute for Education**, Bratislava, is the Ministry of Education of the SR affiliated institution. Its mission is to carry out research in education and provide pedagogical guidance to primary and secondary (especially grammar) schools. The main activities include curriculum development, consultancy, methodology and in-service teacher training.
- **Academia Istropolitana, Bratislava** is the Ministry of Education of the SR affiliated institution focusing on further education and lifelong learning. It develops and provides educational programmes and offers methodological support and guidance in these fields.
- **Institute of Information and Prognoses of Education**, Bratislava, Ministry of Education of the SR affiliated institution, is responsible for information gathering and education statistics including UOE statistics, and ad hoc analysis on request of the Ministry of Education.

5. Funding frameworks and support structures.

R&D in the SR is carried out by higher education institutions, research institutes of the Slovak Academy of Sciences, public sector research institutes, all funded from the state budget, private research institutes funded by the private sector and non-profit institutions.

Bottom-up research is implemented via the Research and Development Agency (for details see later) and two sectoral agencies – the Scientific Grant Agency VEGA and the Cultural and Educational Agency KEGA. VEGA projects are submitted by institutions from the education sector in accordance with the priorities of science policy approved by the Ministry of Education of the SR, and based on recommendations of scientific community. KEGA projects are submitted by HEI for the solution of current issues related to education and art. Total amount of funding via these three agencies was SKK 940 000 000 in 2006.

Furthermore R&D is supported top-down within 10 state R&D state programmes (six complex and four thematic) identified by the Ministry of Education of the SR as the central authority in this field. The methodology for preparation of state R&D programmes for 2005-2006 was based on Act No. 132/2002 on Science and Technology) (§15 to §17) and on the Concept of National Science and Technology Policy till 2005. A new Act No. 172/2005 was approved in March 2005, newly stipulating state support of science and technology, and transforming the Agency for the Support of Science and Technology to the Research and Development Agency. The main objective of this law is to create the clear conditions of R&D environment in Slovakia in accordance with Lisbon Strategy and Barcelona Target. After increasing the transparency in funding flows and increasing the efficiency in investment, funding sources from the state budget for science and research will increase. The Ministry of Education of the SR is currently preparing three state R&D programmes, one state R&D infrastructure development programme (for support technical and human infrastructure as well) and one state programme for establishment

of National Research Centres. A new system of state programmes should be introduced by the end of 2007.

In 2006 all steps in the national research and development policy followed adoption of the Act No. 172/2005 Coll. on organization of state support of R&D. Adoption of this piece of legislation which entered into force on July 1, 2005 meant to be the beginning of the new reform process which was aimed mainly at:

- building up the central state agency in support of Research and Development;
- working up the long term intents and objectives of the National Science & Technology Policy by 2015;
- working up a system of assessment of quality science and research results;
- proposing a new system of the National R&D Programmes;
- proposing a new system for state support of the National Centres of Excellence;
- designing of a new financial instruments to support the human resources in science, research and innovations;
- internationalisation of existing R&D state programmes mainly through adding foreign experts into boards of these programmes;
- raising objectivity of evaluation (mid-term and final evaluation) mainly through more regular use of foreign experts as evaluators, etc.

After establishment of the new Research and Development Agency (www.apvv.sk), approval of members of the Agency Board (October 2005) and approval of the Agency Programme aimed at support of human potential in research and development and science communication, the Agency started to function in operational mode. In April 2006 the Agency published call for proposals in the area of human potential in research and development and science communication. The call was closed in June 2006. In April 2006 the Agency organized a national conference aimed at introduction of new system and place of the Agency in the R&D system. In May 2006 the Agency published so called “general call” for proposals that is published only once in a year and is aimed at raising quality of frontier research and also raise competitiveness of Slovakia through applied research. In 2006 the Agency over-took management of international cooperation calls from the Ministry.

In April 2006 the Ministry introduced the new system of mid-term evaluations of state R&D programmes. Major changes in the system were the following:

- compulsory use of international evaluators for mid-term and final evaluations;
- introduction of limited number of pages for mid-term and final evaluation reports;
- introduction of system of benchmarking that will help to evaluate individual R&D tasks;
- more strict conditions for conflict of interest for evaluators;
- introduction of qualifications conditions for external evaluators, etc.

A new system of state R&D programmes depends on the approval of thematic priorities to be set in the Long-term Intents and Objectives the National Science&Technology Policy by 2015. This documents is still (April 2007) under preparation. In July 2006 the Ministry of Education of the SR presented and updated version of the “Analyses of Results of State Programmes with quantification of financial means within 2002-2004 divided according to administrators of these state programmes and Evaluation of effective use of financial means”. This updated version was more detailed analyses and contained short description of each R&D task financed from the state budget through State Programmes.

In March 2006 the Government of the SR also approved the Statute of the Science and Technology Council of the Government of the SR (Resolution No. 277/ 2006 of 29 March 2006) which acts as a permanent advisory body to the Government. The council is chaired by the Minister of Education of the Slovak Republic and decides on strategic and conceptual documents regarding the research and development policy in the Slovak Republic.

In July 2006 after general elections the new Government approved its Programme Resolution

that declares to:

- focus on projects of international programmes;
- support significant improvement of role of universities in the research and development system;
- raise the use of results of research and development in industry and society;
- support of development of basic and applied research at universities that helps to stimulate and raise quality of educational process;
- stimulate better use of results of research and development for development of SMEs;
- raise support of research and development from private sector etc.

In December 2006 the Government of the SR approved Annual Report of State of Research and Development and its Comparison with Abroad for 2005 (resolution No 1012/2006). This report was basically the very first document analyzing status of research and development policy whereas using set of international benchmarks on the input (amount of invested financial means, HR, etc.) as well as on output side (economic importance and importance for society). Currently the Ministry of Education of the SR is preparing an updated version of annual report for 2006.

In February 2007 the Government of the SR approved “Strategy for Popularization of Science and Technology in Society”.

In March 2007 the Ministry opened tender for elaboration of Central Information Portal (CIP). CIP is supposed to become central information portal for research, development and innovation in the Slovak Republic for researchers as well as for general public. It should start functioning by the end of December 2007.

In April 2007 the Government of the SR approved new Programme of the Research and Development Agency by its Resolution No 318/2007. Basis for the elaboration of new programmes of the Agency was the Programme Resolution of the Government which declares main priorities for building up knowledge-based society. Board of the Agency prepared the proposal for the programmes of the Agency for 2007 – 2010 as follows:

1. Support of cooperation of universities and Slovak Academy of Sciences with private sector;
2. Support of research and development in SMEs;
3. Support of formation and operation of research and educational centres of excellence;
4. Support of preparation of projects within the 7th Framework Programme of the EU.

Programme of The Agency	Year / Financial support (SKK mil.)				
	2007	2008	2009	2010	Total
Programme No 1	0	6	86	166	258
Programme No 2	0	100	190	280	570
Programme No 3	0	50	100	150	300
Programme No 4	5	15	20	20	60
State Budget	5	171	396	616	1 188
Private Sources	0	100	350	600	1 050
Total	5	271	746	1216	2 238

According to international data, there is a strong decline of the total expenditure on R&D as a percentage of GDP. (1992: 1.78%, 1995: 0.93%, 2000: 0.65%, 2004: 0.53% - OECD data), (1995: 0.92%, 2004: 0.51% GDP, 2005: 0.51% GDP – Eurostat data). The total amount of funding from the State budget in 2005 was SKK 4 278 637 000. This corresponds to the 0.29 %GDP according to national statistics. Furthermore 0.19% was covered from private sources and 0.031% from foreign sources. In respect to the call for improving investment in the EU and in the light of the Barcelona target (3% GDP), the Government of the SR approved 1.8% GDP as a

national 2010 target. Nevertheless this target is below estimated 2005 EU27 average (1.84%). Furthermore, only one third of the total amount should be covered from the state budget and 1.2 % GDP should come from private sources. It is feared, that poor R&D infrastructure will not be able to compete for private funding and that such a large share of private funding will not be achievable without strong fiscal incentives for businesses.

With regard to research activities funded by the Ministry of Education of the SR from the State budget via state programmes – the total amount of funding in 2006 was 353 058 000 SKK.

Other ministries funded research activities of R&D projects via subsidies as well. Total financial support from the relevant ministries is as follows:

Ministry	Financial support (SKK mil.)
Ministry of Health Care of the SR	52 266 000
Ministry of Agriculture of the SR	299 509 000
Ministry of Construction and Regional Development of the SR	11 523 000
Ministry of Environment of the SR	99 218 000
Minister of Transport, Posts and Telecommunications of the SR	22 295 000

6. Professional research associations and networks.

No professional research associations in the field of VET and HRD are currently in place in Slovakia. However, networks aimed at VET and HRD within which research and development might be addressed are established, e.g. **Association of Adult Education Institutions** (www.aivd.sk) and **Slovak Association for Human Resources Management and Development** (www.zrhlz.sk, member of European Association for Personnel Management and World Federation of Personnel Management Associations).

Traditional professional bodies, such as the **Slovak Pedagogical Society** (www.ucm.sk/FF/slovensky/SPS), **Slovak Psychological Society** (www.psychologia.sav.sk/sps) and **Slovak Sociological Association** are in function. They support research in VET/HRD within respective fields.

Research initiatives and networking was supported by the **Centre of the Development of Science and Technology** (SARC, www.sarc.sk) established by Ministry of Education of the SR in 1992. In February 2006 SARC has been incorporated into the organisational structure of the Research and Development Agency (www.apvv.sk) and became **International Cooperation Department**. Research and Development Agency now also provides support for participation of research subjects in European R&D projects, and serves as contact points e.g. for Framework Programmes, COST and EUREKA; it also coordinates SIKAS+, a Slovak Information and Consultation Academic Network.

7. Brief review/assessment of the current R&D activities and indication of future issues that need to be addressed. This section should be completed by a research expert.

7.1 Firstly, comment briefly on the status, effectiveness and impact of current VET/HRD R&D activities in your country. (One third of a page)

VET/HRD related research is insufficiently developed due to several reasons:

There was no VET research specialised institution in Slovakia within former Czechoslovakia; there were only isolated researchers within universities and one department at the Institute of Experimental Pedagogy of the Slovak Academy of Sciences (closed in 1992). A department within the current National Institute for Education served Slovak VET schools making use of the research infrastructure of Research Institute of VET in Prague. This department was closed after transfer of competencies to State Institute of VET. Since establishment in 1991, the current State Institute of VET helped cover needs of the Ministry of Education of the SR in implementation of VET regulations. Service for the sake of the Ministry of Education of the SR still dominates while research activities remained underdeveloped suffering from a lack of researchers.

In contrast to VET research, the research in the field of labour, social and family affairs had originally solid grounds, partly also due to backing by the Research Institute of Labour, Social Affairs and Family located in Bratislava, with responsibility for Czechoslovakia as a whole. Nevertheless, capacities of this institute shrank substantially and after several mergers and changes in its profile the current Institute for Labour and Family Research has also very limited research capacities.

During 1990s hard times of restructuring economy insufficient funding of research caused reduction of research activities; and what is more serious research in VET and HRD is still only in limited extent able to reflect the new socio-economic conditions and to offer results usable in policy making. After 2002 first signs of revival in research are visible. It will however need more time to create efficient research teams in these fields.

Although policy making cannot be considered as separated from research initiatives the Slovak Republic is far from the developed system of mutual interlinking of policy making and research. Policy-making is influenced from ad hoc short-term research activities rather than from long-term and interrelated research of well-established research teams.

7.2 Secondly, briefly outline and comment on those issues that need to be addressed by R&D in the future. (One third of a page)

A rapidly growing economy (8.3% GDP in 2006) and decreasing unemployment make forecasting of skill needs a most urgent issue. Businesses recently used to find appropriate labour force among unemployed face a serious problem in recruiting new staff, shortage in professionals is indicated in the automotive industry, electrotechnics, construction. There is neither macro-economic model for forecasting of occupational skill needs nor reliable regional medium-term forecasts based on businesses' expectations. Without serious regional and sectoral analyses of skill needs adjustment of VET schools to labour market needs can be hardly expected.

- Supporting Copenhagen process is declarative and based on good will rather than resulting from respective changes in VET. There is a lack of experts able to support schools in transition from content based to learning outcome based VET. Working on modularisation of curricula and identification of measurable learning outcomes is insufficiently backed by research and left on initiative of engaged individuals at schools.

- Interlinking financing schemes and a quality of VET is a crucial step in improving VET. Lacking research in both impact of fiscal instruments on the quality (currently financing per capita has rather negative influence) and alternative policies of quality assurance has resulted in a shortage of quality professionals for the labour market.

- Studies of efficiency of labour market training and more generally studying linking between initial and continuing VET could improve coherence in policies, efficiency in allocation of funds, and flexibility of labour force.

8. VET/HRD contact people.

Full name	E-mail address	Function	Particular expertise related to VET/HRD research
Sandor Albert, ass. professor	albert.sandor@selyeuni.sk	Selye University, Komarno	VET, quality assurance
Ján Bajtoš, professor	bajtos@science.upjs.sk	Technical University, Kosice	VET, curriculum development in technology
Rastislav Bednárík, ass. professor	bednarik@cspr.gov.sk	Institute for Labour and Family Research, Bratislava,	Social policy
Tomáš Kozík professor	tkozik@ukf.sk	Constantine the Philosopher University, Nitra	Technical education
Iveta Radičová, professor	iveta_radicova@nrsl.sk	Institute for Sociology, Bratislava,	Social policy, Member of Parliament
Rudolf Šlosár, professor	slosar@euba.sk	University of Economics, Bratislava,	VET, curriculum development in economy education
Ivan Turek, professor	tureki@stonline.sk	Slovak University of Technology, Bratislava	VET, teacher trainer training, quality assurance
Roman Hrmo, ass. professor	roman.hrmo@stuba.sk	Slovak University of Technology, Bratislava	VET, teacher trainer training
Viera Prusáková, ass. professor	viera.prusakova@fphil.uniba.sk	Comenius University, Bratislava	CVET, Andragogy
Milan Turčáni professor	mturceni@ukf.sk	Constantine the Philosopher University, Nitra	VET, ICT
Juraj Vantuch, ass. professor	vantuch@fedu.uniba.sk	Comenius University, Bratislava	Education policy

9. References to VET/HRD research resources.

Information listed above is derived from the following websites:

- **Úrad vlády Slovenskej republiky** [Government Office of the Slovak Republic]: <http://www.vlada.gov.sk/>
- **Ministerstvo školstva SR** [Ministry of Education of the Slovak Republic]: <http://www.minedu.sk/>; in particular **sekcia vedy a techniky** [Science and Technology Policy Division]: <http://www.minedu.sk/VaT/VaT.htm>, and **odbor vedy a techniky na vysokých školách** [Department of Science and Technology at HEI]: <http://www.minedu.sk/VS/OVTVS/ovtvs.htm>
- **Agentúra na podporu výskumu a vývoja** [Research and Development Agency]: <http://www.apvv.sk/>
- **Portál Veda a technika v SR** [Science and Technology in the SR portal] <http://www.veda-technika.sk/>
- **Ministerstvo financií SR** [Ministry of Finance of the SR]: <http://www.finance.gov.sk/>
- **Ministerstvo práce, sociálnych vecí a rodiny SR** [Ministry of Labour, Social Affairs and Family of the SR]: <http://www.employment.gov.sk/>
- **Portál ESF**: http://www.esf.gov.sk/content/01_esf_06.php
- **Slovenská technická univerzita v Bratislave**, Materiálovotechnologická fakulta, Katedra inžinierskej pedagogiky a psychológie [Slovak University of Technology in Bratislava, Faculty of Materials Science, Department of Technical Teacher Training]: http://www.mtf.stuba.sk/sk/pracoviska/katedry/kipp/index_1024.htm
- **Ekonomická univerzita v Bratislave**, Národohospodárska fakulta, Katedra pedagogiky [University of Economics in Bratislava, Faculty of National Economy, Department of Pedagogy]: http://nhf.euba.sk/katedry/kpg_a.htm
- **Technická univerzita v Košiciach** [Technical University of Košice]: Katedra inžinierskej pedagogiky [Department of Engineering Education] <http://www.tuke.sk/kip/>; Centrum pre informačné a telekomunikačné technológie [Centre for Information and Telecommunication Technology] <http://www.tuke.sk/CITT/>; Inštitút celoživotného vzdelávania [Institute of Lifelong Education] <http://www.tuke.sk/icv/>
- **Univerzita Mateja Bela**, Banská Bystrica [Matej Bel University, Banská Bystrica]: Ekonomická fakulta, Katedra humanitných vied [Faculty of Economics, Department of Human Sciences] <http://www.econ.umb.sk/katedry/asp/ke.asp>; Fakulta prírodných vied, Katedra informatiky [Faculty of Natural Sciences, Department of Informatics] <http://www.fpv.umb.sk/kat/ki/>
- **Univerzita Pavla Jozefa Šafárika**, Košice, Prírodovedecká fakulta [Pavol Jozef Safarik University, Kosice, Faculty of Natural Science]: Výskumno-edukačné centrum informačných technológií [Research and Educational Centre for ICT] <http://vecit.science.upjs.sk/>, Centrum celoživotného vzdelávania [Centre for Lifelong Learning] <http://ccv.science.upjs.sk/>
- **Univerzita Komenského, Bratislava**, Filozofická fakulta, Pedagogická fakulta, Fakulta sociálnych a ekonomických vied, Prírodovedecká fakulta/Výskumno-edukačné centrum informačných technológií, [Comenius University, Bratislava, Faculty of Philosophy, Faculty of Education, Faculty of Social and Economy Sciences, Faculty of Natural

Science/Research and Educational Centre for ICT] <http://www.uniba.sk/>

- **Univerzita Konštantína Filozofa**, Nitra [University of Constantine the Philosopher]: Pedagogická fakulta, Ústav technológie vzdelávania [Faculty of Education, Institute of Technology Education] <http://www.utv.ukf.sk>,
- **Trnavská univerzita**, Pedagogická fakulta [University of Trnava, Faculty of Education] <http://pdf.truni.sk/>
- **Prešovská univerzita** [Presov University] <http://www.unipo.sk/>
- **Slovenská poľnohospodárska univerzita**, Nitra [Slovak Agricultural University, Nitra] <http://www.uniag.sk/>
- **Slovenská akadémia vied** [Slovak Academy of Sciences]: Spoločenskovedný ústav, Košice [Institute of Social Sciences, Kosice] <http://www.saske.sk/SVU/>, Sociologický ústav, Bratislava [Institute for Sociology, Bratislava] <http://www.sociologia.sav.sk/>
- **Výskumný ústav detskej psychológie a patopsychológie**, Bratislava [Research Institute of Child Psychology and Patho-psychology, Bratislava] <http://www.vudpap.host.sk/>
- **Inštitút pre výskum práce a rodiny**, Bratislava [Institute for Labour and Family Research, Bratislava] <http://www.sspr.gov.sk/>
- **Štátny inštitút odborného vzdelávania**, Bratislava [State Institute of VET, Bratislava] <http://www.siov.sk/>
- **Slovenské národné observatórium odborného vzdelávania, Bratislava** [Slovak National Observatory of VET, Bratislava] <http://www.siov.sk/> > SNO
- **Štátny pedagogický ústav**, Bratislava [National Institute for Education, Bratislava] <http://www.statpedu.sk/>
- **Academia Istropolitana**, Bratislava, <http://www.acadistr.sk>
- **Národná agentúra programu Leonardo da Vinci v SR** [National Agency of the Leonardo da Vinci Programme in SR] <http://www.saaic.sk/leonardo/>

10. Abstract

Research focusing on VET and Human Resources development is currently underdeveloped in Slovakia due to a lack of experts and institutional capacities caused by brain drain and long-year underfinancing of research and development. Slovakia was a net payer within 6FP, and substantial improvement in participation in international research and development cannot be expected without investment in research infrastructure. Currently there are 3 important financial sources for R&D: State R&D programmes approved by the Government of the SR, ESF based national projects, and Research and Development Agency grants. Other alternatives, as VEGA and KEGA grants or diverse private sector grants, are financially less attractive and only available on ad hoc basis.

The most urgent research topics are linked to the Copenhagen process and to the most urgent problems of VET in Slovakia – matching labour market needs, curricular reform based on learning outcomes, interlinking different learning settings and strengthening quality assurance. Nevertheless, links between research and policy making are still weak caused by both lacking research capacities and impatience of decision-makers. Nevertheless, there are some improvements in policy making already visible.

The institutionally strongest players are institutions directly managed by the Education and Labour Ministries, State Institute of VET, National Institute for Education, Academia Istropolitana, Research Institute of Child Psychology and Patho-psychology, Institute of Information and Prognoses of Education, Institute for Labour and Family Research. They are however limited by dominance of urgent operational requirements of their establishers. There are some capacities within HEI however scattered with no strong research school and institution. The strongest player in R&D, the Slovak Academy of Sciences, has only indirect impact in this field by activities of the Institute of Psychology, Institute for Sociology and Institute of Social Sciences.

National 2010 benchmark 1.8% of GDP, with two thirds from private sources and only 0.6% GDP guaranteed from the state budget indicates continuity in hard fiscal pressure on R&D institutions. It is hoped however, that some revival of research could come from structural funds and as an exemption also from Objective 1 investment from European Fund for Regional Development in the programming period of 2007-2013.