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CORECHED

OECD/CERI Review

Educational Research and Development in Switzerland

Country Background Report

on behalf of the

Swiss Council for Research in Education

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Contents

Introduction

Purpose of the Review

(1) The scientific research and development of educational systems has increased in importance over the past several decades. In education as in other fields, political and administrative entities are increasingly in need of scientific findings as a basis for decision-making; they also define research desiderata and commission specific research projects and studies. One question in this regard is whether the education sciences practised in Switzerland are capable of generating the governance knowledge required by policy-makers and administrators while adequately addressing the issues that are of concern to educational practitioners. This, in turn, also depends on whether government policies on research and education afford educational research a general setting in which best-practice research is possible in terms of both quality and quantity.

(2) Periodic reporting on the status quo and trends in educational research in Switzerland is one of the main tasks of the Swiss Council for Educational Research (CORECHED).[1] CORECHED decided to participate on behalf of Switzerland in a project in the field of knowledge management launched by the Centre for Educational Research and Innovation (CERI) at the OECD that is designed to examine national educational research and development systems (OECD 2003b). A number of countries[2] have already participated in this project. The external perspective of foreign experts offers the twin benefits of a neutral appraisal of the situation in Switzerland and a potential enhancement of the current knowledge base through international comparison (Klöti 1995).

(3) A primary intention of this project is to *review the structures and general environment* for educational research and development. The central question this review seeks to answer is whether today's educational, university and research policies are conducive to the performance of research and development that measures up to international scientific standards and are also capable of generating, gathering and transferring the steering knowledge required by educational practitioners and political entities. *The primary focus is not a mere analysis of the disciplines involved or the quality of their research output but rather the functionings of the knowledge system in and of itself:* Does educational R&D effectively contribute to the knowledge base in a learning society?[3]

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1 Art. 2, § 4 CORECHED Statutes of February 20, 2001

2 England, New Zealand, Denmark and Mexico (cf. OECD 2003b).

3 cf. Generic Template in: OECD 2004. National Review of Education R&D. Examiners' Report on Denmark. Paris, p. 10–18

(4) This present report is the Country Background Report for Switzerland that was submitted to the OECD experts. It was prepared by the Swiss Coordination Centre for Research in Education by order of CORECHED.

Terminology

(5) Educational research («Bildungsforschung» in German or «recherche en éducation in French») is understood in this report to refer primarily to multi- and interdisciplinary research in the humanities and social sciences. Besides the traditional pedagogic research conducted in education sciences («Erziehungswissenschaften» or «sciences de l'éducation»), educational research is also conducted in psychology, sociology, economics, political sciences and linguistics (Hofstetter & Schneuwly 2001).

(6) *Educational research and development* examines the reality of educational activity. It also formulates, supports and evaluates the progressive development of educational systems. The OECD defines educational research and development as follows: «Educational Research and development is a systematic, original investigation or inquiry and associated development activities concerning the social, cultural, economic and political contexts within which education systems operate and learning takes place; the purposes of education; the processes of teaching, learning and personal development of children, youth and adults; the work of educators; the resources and organisational arrangements to support educational work; the policies and strategies to achieve educational objectives; and the social, cultural, political and economic outcomes of education.[4] Educational research can also be described in a functional sense, with attention focused on the following five functions: the analytical and explanatory function; the synthetic and theory-building function; the evaluative function; the prospective function; and the consultative function. Educational research always encompasses basic as well as applied research, and also has development and advisory functions» (SGBF 1985, 36f). The German term for educational research («Bildungsforschung») is occasionally used in an all-inclusive sense, as a kind of catch-all term to denote research *and* development in the field of education.

(7) Educational research and development is also distinguished by a relatively high degree of *practical relevance* in comparison with research in other disciplines. Research and

4 OECD 1994; 1995a

development in the field of education is performed at university institutions and, in many cases, by non-university public institutions (affiliated, for example, with public administration) or private institutions (Grossenbacher & Gretler 1992).

The education and research system

(8) Education and research are organized decentrally in Switzerland, mirroring the small-scale, federalistic structure of the country's political system. Federal, cantonal and municipal bodies share responsibility for the educational system. According to the Swiss Constitution, the main responsibility for education lies with the cantons but in reality there is a complex interaction between the three levels of government. Consequently, the authorities responsible for regulatory guidelines (R), subsidies/grants (S) as well as for oversight and primary funding (O) vary in accordance with the level of education and the educational institutions involved.

Distribution of authority in the Swiss educational system

	Federal government	Cantons / EDK	Municipalities
Compulsory schooling (1st to 9th year of schooling); up to ISCED 2		R	O
Secondary II: General education schools; ISCED 3A		R, O, S	
Secondary II: Vocational education programs; ISCED 3B, 3C	R, S	O, S	
Tertiary: Higher vocational education; ISCED 5B	R, S	O	O
Tertiary: Universities of applied sciences; ISCED 5A	R, S	O, S	
Tertiary: Universities of teacher education; ISCED 5A		R, O, S	
Tertiary: Cantonal universities; ISCED 5A, 6	S	R, O	
Tertiary: Federal Institutes of Technology; ISCED 5A, 6	R, O		

(9) The regulatory authority for the preschool and compulsory school level (elementary and secondary level I), as well as for the general education schools at the secondary II level, in particular the upper secondary schools, lies with the cantons. Switzerland's cantons joined forces to promote nationwide coordination of educational activities at the close of the nineteenth century when they established the *Swiss Conference of Cantonal Minis-*

ters of Education (EDK). A legal treaty basis [5] was created for the Conference in 1970 which obligated the cantons to cooperate in the field of education. This agreement was augmented and intensified in the 1990s, when additional agreements [6] were signed.

(10) Vocational education, the entire realm of advanced professional education, the universities of applied sciences and the two Federal Institutes of Technology (ETH Zurich and EPF Lausanne) are under the regulatory authority of the federal government.

(11) The promotion of scientific research is primarily the federal government's responsibility (Research Law from October 7, 1983). The federal government has created two promotional agencies towards this end, the *Swiss National Science Foundation for the Promotion of Scientific Research* (SNF) and the *Innovation Promotion Agency* (KTI). Pure basic research and targeted applied research are primarily supported through the SNF, application-oriented research activities of greater business relevance through the KTI. Moreover, the federal government supports scientific academies, provides grants to non-university research institutions, finances research in government departments throughout the federal administration and it participates in international research programmes.

(12) In Switzerland, considerable importance attaches to education, research and technology. When compared internationally, Switzerland consistently ranks among the countries where research and development spending (R&D) is a high percentage of gross domestic product (GDP). More than two-thirds of R&D expenditure [7] is funded by the private sector (largely for research in the chemical, pharmaceutical, electrical and mechanical engineering industries).

Public spending on education

(13) Public spending on education is largely financed by the cantons and municipalities (just over 85% of total spending); the federal government funds only a small share of

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5 The Agreement on Education Coordination from 1970 empowers the EDK to issue formal recommendations to the cantons (e. g. establishing universities of teacher education). These recommendations are not legally binding but they, nevertheless, have a far-reaching harmonisation and coordination effect.

6 Intercantonal Agreement on the Recognition of Diplomas (1993); Agreements on Financing and on Freedom of Access to Education (Agreement on Universities 1981; 1997; Agreement on Universities of Applied Sciences 1998).

7 R&D spending in Switzerland totalled just over 10 billion francs in 2000, which was equivalent to 2.6% of GDP (BFS 2004).

not quite 15%. Roughly one-quarter of the public funds are spent at the tertiary level (universities and universities of applied sciences).

(14) In the mid-1990s Switzerland experienced an economic crisis during which government finances came under severe pressure. As a result, government spending on education stagnated at around 20 billion francs (and even declined when measured against the rising number of students) for the rest of the decade and did not begin to increase until 1999, reaching approximately 25 billion francs in 2003, which is equivalent to 5.9% of GDP (BFS 2005a).

(15) Administrative reforms based on the principles of New Public Management were introduced at all levels of the political system during the 1990s, particularly in the area of education. Schools and universities were given greater autonomy; new instruments were created for steering and governing the educational system (global budgets and performance contracts). Greater autonomy for the institutions was linked with accountability obligations, which has led to greater demand for external evaluations.

Education reforms

(16) A broad array of far-reaching reforms have been initiated at both the cantonal and national level in recent years, ranging from preschool to the tertiary level and also encompassing teacher education. At the national level, more efforts were made to develop uniform steering and control processes. For instance, the federal government and the cantons are currently working on establishing a national system of education monitoring («Bildungsmonitoring») with the objective of systematically processing information on educational planning on a regular basis. A new intercantonal agreement on the *harmonisation of compulsory schooling* is currently being negotiated within the framework of the EDK. The curriculum-based objectives of compulsory schooling and school structures are to be harmonised. The agreement will also set binding educational standards that must be met at the end of the second, sixth and ninth year of schooling. The educational standards are being developed in EDK's HarmoS project. Furthermore, the new agreement will define instruments for system development and quality assurance that will be applied throughout Switzerland. Education monitoring is viewed as the single most important instrument for this purpose.

(17) At the cantonal level attention was centered on far-reaching reform projects pertaining to quality development (internal and external evaluation of schools, semi-autonomous schools/school administration) and in the field of impact analysis (different

forms of competency-oriented education and different ways of measuring competency). This strong momentum for reform in the cantons triggered a relatively high level of applied research and development activity.

(18) With the introduction of the new *Federal Law on Vocational Education and Training* (in effect since 2004), which placed all professions under federal jurisdiction for the first time, various changes were implemented concerning the basic vocational education system. Now, for example, the tertiary level of education can also be accessed after completing a vocational apprenticeship and obtaining a vocational matura («Berufsmaturität»). Teachers at all trade schools and vocational colleges throughout Switzerland now obtain their basic and continuing training at the Swiss Institutes for Vocational Training (SIBP). During the course of the tertiarization of the entire teacher education system, the SIBP will become the Swiss Federal Institute for Vocational Education and Training on January 1, 2007.

(19) One of the largest reform projects launched by Swiss education policymakers in the recent past was the establishment of *Universities of Applied Sciences* («Fachhochschulen» [FH] = «Hautes écoles spécialisées» [HES]) and *Universities of Teacher Education* («Pädagogische Hochschulen» [PH] = «Hautes écoles pédagogiques» [HEP]) in 1995. Practical training and degree programs within the higher education system (upper-level technical colleges, engineering colleges, vocational education and training at the tertiary level and so on) have undergone a radical transformation since 1995. Now there are seven universities of applied sciences located in the various regions of Switzerland with a total of approximately 60 sub-schools.[8] Unlike the traditional universities, the universities of applied sciences fall under federal jurisdiction. Besides the initial fields of engineering, economics and administration, federal responsibility now also extends to the areas of music, fine arts and design, healthcare and social work. Establishing these universities of applied sciences entailed significant investment, which caused federal spending on education to jump by 50% at the end of the 1990s. There was an accordingly large influx of new students at the universities of applied sciences in recent years and today almost one-third of all students at the tertiary level receive their education at one of these universities.[9] The universities of applied sciences also pursue applied research and development as set out in their respective performance contract; they are responsible for

8 Refer to the Web: http://www.bbt.admin.ch/fachhoch/die_fh/7fh_ch/d/.

9 In 2004 160,165 students were enrolled at Swiss universities (111,100 at academic universities and the Federal Institutes of Technology, 49,065 at universities of applied sciences), BFS 2005d.

the ensuing knowledge and technology transfer and also provide various services pertaining to continuing education and development.

(20) In the mid-1990s the cantons reached an agreement on a sweeping *reform of teacher education* that was carried out on the basis of the 1993 Intercantonal Agreement on the Recognition of Diplomas. Teacher education programs throughout the country were structured according to uniform criteria and placed at the tertiary level. Since the 2003/2004 academic year, basic education for preschool, elementary and, to some extent, also secondary level I and II teachers is now provided at universities of teacher education (PH). The universities of teacher education have the same status as the universities of applied sciences but are under cantonal jurisdiction. The objectives behind this reform were the professionalisation of teacher education and the achievement of a greater degree of academisation in the teacher education system and of nationwide recognition of cantonal teaching qualifications. Like the universities of applied sciences, the universities of teacher education are mandated to conduct research and development (EDK 1993, 1995).

(21) At the end of 2005 the two chambers of Swiss parliament approved the legislative draft of a new constitutional article on the Swiss education system that was conceived by the Lower House's Committee for Science, Education and Culture (WBK) in collaboration with the EDK (referred to as the «Bildungsrahmenartikel» or «Education Charter»). Swiss voters and cantons will vote on the proposed constitutional amendment in a mandatory referendum on May 21, 2006. The aim of the proposed constitutional amendment is the creation of a coherent, high-quality, and competitive educational system throughout Switzerland. Nationwide harmonisation of certain aspects of the cantonal educational systems is intended, in particular, to facilitate mobility within the system and improve system management and governance. More specifically, the constitutional changes would make coordination and cooperation between the federal government and the cantons mandatory in all areas of education and establish nationwide uniform guidelines for basic elements pertaining to the educational system (uniform age for starting school; same compulsory schooling requirements; same duration, aims and transitional interfaces between the different layers of the education system), and give the federal government and cantons joint responsibility with regard to coordination and quality control at the university level. The proposal would establish a subsidiary federal authority in the event that the set objectives cannot be attained in the course of coordination (report of the WBK of the National Council dated June 23, 2005 [WBK 2005]).

(22) In parallel to the efforts behind the so-called Education Charter, work has been proceeding on the realignment of the Swiss system of higher education. A commission composed of both federal and cantonal representatives has produced various reform proposals based on an analysis of the current situation. Today's weaknesses in the Swiss system of education and research are primarily rooted in the inadequate management and steering of the university system at a pan-Swiss level, the unjustifiable differences between similarly named courses of study at different institutions and the non-existence of any methodical assignment of objectives and responsibilities among the cantonal universities, the Federal Institutes of Technology, and the universities of applied sciences, not to mention within each of these different categories of higher education institutions. Therefore, the commission has recommended that the federal government create the conditions and instruments required for more manifest nationwide management of the entire university-level school system by introducing new legislation on tertiary education in Switzerland. Management and financing authority should be centralized at a federal level; the distribution of objectives and responsibilities between the federal government and the cantons should be disentangled and cooperation between the federal and cantonal level should be strengthened. The creation of three entities for the purpose of managing and steering higher education in Switzerland was proposed: A *Conference of Higher Education Institutions* for joint management of the system as a whole, a *Conference of University Rectors* of all university-level institutions for coordination purposes and a *University Council.*

International cooperation

(23) Switzerland's international cooperation in matters pertaining to education and research includes participation in the development of a European education area and a European research area and its collaboration with the committees and bodies of various multilateral organizations (Council of Europe, OECD, and UNESCO, for example) that carry out educational research projects.

(24) Switzerland is participating in the development of the European education area through the implementation of the *Bologna Declaration.* According to the guidelines established by the Swiss University Conference [10], the main structural adjustments at all

10 «Directives for the coordinated renewal of teaching at Swiss universities within the framework of the Bologna process», Swiss University Conference, December 4, 2003.

university-level institutions in Switzerland must be made by 2010. Switzerland has been able to participate in the EU education and youth programmes within the scope of a so-called silent partnership since the 1990s (Socrates: general programme for education; Leonardo da Vinci: professional & vocational education; Youth: informal education, extra-curricular activities). Switzerland and the EU intend to legally anchor Swiss involvement along the lines of a full formal partnership in the near future.

(25) Switzerland has been an associate partner of the *EU Framework Programme* for Research and Technological Development since 2004. These programmes for promoting research activities are, however, of little relevance to Swiss educational researchers. Swiss researchers are primarily involved in technological sciences (life sciences, ICT); they are underrepresented in social sciences research (Balthasar et al. 2001; Bieri et al. 2005).

(26) Switzerland has federal (EDI, EVD) and cantonal (EDK) representatives in the various committees and agencies of international organisations that are responsible for policy consultation, analysis and development. In reference to the field of educational research and development, Switzerland participates in various priority research programmes, for example in OECD competency measurement programmes (IALS, PISA and ALL) or the Council of Europe's Education for Democratic Citizenship project (SBF 2005b).

(27) Generally speaking, Switzerland is a relatively active participant in international projects dealing with educational research (see overview in the Appendix). However, the initial decision whether to participate in a project and any subsequent implementation is usually determined by the corresponding administrative offices; the traditional educational research community is seldom engaged in these projects.

Structure of this report

(28) This report is divided into three sections. The *first section* takes a look at Swiss research policies in the field of education. It focuses on management and governance aspects of knowledge production, the current state of information and documentation pertaining to educational research and development and on the promotion and financing of research activities. The *second part* is devoted to the production of knowledge, to the research output: What institutions are involved in educational research and development? What kind of research do they do and under what conditions? The *third section* explores the use and application of R&D and the outcomes of knowledge production.

1. Management and steering of knowledge production

A national policy and agenda for educational R&D

1.1 Education and research policies

(29) Management and steering instruments in educational policy primarily comprise national and cantonal legislation, the corresponding appropriations in education and research budgets and general political statements of intent (e. g. the Federal Council's so-called «BFT Messages» or policy statements on education, research and technology) or expert recommendations (e. g. from the OECD).

(30) At the *federal level,* research policy is mainly determined by the executive government (the Federal Council) and Parliament. On the executive side, two Federal Council members who oversee the responsible departments, among other areas, for matters pertaining to education and research are likewise responsible for formulating national research policy. At the administrative level we have the Federal Department of Home Affairs (EDI), where the *State Secretariat for Education and Research* (SBF) is situated, and the Federal Department of Economic Affairs (EVD), into which the *Federal Office for Professional Education and Technology* (BBT) is integrated. On the parliamentary side, each chamber has a committee that is responsible for education and research (the Committee for Science, Education and Culture of the National Council and of the Council of States).

(31) In reference to educational policy, a congruous whole approach with regard to policy formulation, regulatory authority, the commissioning of R&D projects and financing is most tangible at the cantonal level (Gretler & Grossenbacher 1994). Several cantons have established and are implementing a coherent, more or less knowledge-based education policy. Most of the educational reforms are initiated, implemented and scientifically guided and evaluated in individual cantons. It is much more difficult to identify the contours of a national education policy at the federal level. One consequence of Switzerland's federalistic system of government with very discrete and strongly locally oriented educational policies is that coordination and cooperation between the cantons *as well as* coordination between the federal and cantonal (EDK) levels must be established if a national policy on education is to be to developed and implemented. Considering Switzerland's regional, cultural and linguistic heterogeneity and the varying standpoints regarding public and political functions and responsibilities, this kind of multi-dimensional coordination is a challenging undertaking.

Approaches to research policy in the field of education

(32) Research policy is formulated primarily at the national level, and this is also true for the field of education, although the cantons, by virtue of their authority over the universities, for instance, do play an important role here. The promotion of research, in particular the promotion of basic research, is primarily a matter for the federal government, and it is also explicitly mandated to do so (Art. 64 of the Swiss Constitution). The cantons, being the bodies responsible for the universities, construct the necessary framework for research activities at the cantonal institutions of higher education. However, the decisions that shape research policy are rarely made at cantonal level. Instead, they are made at a national level, for example, by the intercantonal coordination panels, by the EDK or in collaboration with the federal authorities.

(33) In an effort to develop and promote a national policy on educational research, the federal government and the cantons (EDK) set up the *Swiss Council for Educational Research* (CORECHED) in 1991, an institution in which the main bodies responsible for educational research policy at the national level are represented: the Swiss Conference of Cantonal Ministers of Education (EDK), the two administrative agencies within the federal government – the State Secretariat for Education and Research (SBF) [11] and the Swiss Federal Office for Professional Education and Technology (BBT) – as well as the Swiss Federal Statistical Office and the Swiss Society for Research in Education (SGBF). The establishment of this council had been preceded by prolonged and concerted action by various parties involved in educational policy. CORECHED was founded with the objective of better coordinating and managing both educational research activities at the national level *and* Switzerland's participation in international research projects. One of CORECHED's main duties, for example, is to document and record educational research activities on a regular basis. The Council also strives to encourage joint participation of federal and cantonal bodies in the process of determining thematic priorities. CORECHED is expected to set research priorities and clarify the desirability of Swiss participation in international research projects. Switzerland's participation in international comparative performance measurement programs is, to a certain extent, also attributable to CORECHED's initiative (CORECHED 1996; Gretler 2000, 136).

11 The former Federal Office for Education and Science (BBW) has been integrated into the recently established State Secretariat for Education and Research (SBF).

(34) Guidelines for developing Swiss educational research were set by CORECHED in 1994. All relevant parties were called upon to contribute to the requisite framework and conditions so that a bona fide research strategy could be drawn up in the field of educational research and development. Regular exchange of information between research producers and administrators/policymakers was advocated. This, however, is contingent on researchers seeking contact with the entities ultimately responsible for the educational system and on educational policymakers acknowledging the benefits of educational research. Educational research has a number of serious shortcomings to rectify. For example, new problematic areas of relevance to education policy need to be explored and the variety of methods and disciplines involved needs to be broadened (e. g. to include sociological, political and economic perspectives). CORECHED also called for improvements in the basic and continuing education of educational researchers; better promotion of young research talent; increased cooperation and delegation of duties at the interregional and international levels; and for more efficient expenditure of resources (CORECHED 1994).

(35) Acting on an initiative from the research community, CORECHED launched an educational research award, which was granted for the first time in April 2005. This CORECHED award (cash prize of up to 25,000 francs) will henceforth be presented at regular intervals in recognition of innovative and outstanding research within the field of educational sciences.

(36) Turning to CORECHED's policy toward research, a clear strategy has so far been lacking. Its research promotion activities have not necessarily followed uniform criteria, in regard to both the thematic direction and the methods and scope of research projects. The conclusions of the Council's two evaluations, 1997 and 2005, are as follows: In order to prevent CORECHED from being perceived as merely an auxiliary source of financing, and being utilized as such, its promotional resources should be increasingly allocated according to a predefined policy and it should primarily support important projects that address current issues and that have the potential to help mould future research and policies (CORECHED 1997; 2005).

(37) The cantons in French-speaking Switzerland have a special panel of their own devoted to the coordination of research policy issues. It is called the «Conseil de la recherche en éducation» (CRE) and is composed of political, administrative, research and school representatives.

Research funding

(38) The federal government makes a substantial contribution to the research and development conducted in Switzerland. Total appropriations for R&D in the federal budget amounted to approximately Fr. 1.4 billion in 2004, plus an additional Fr. 400 million was appropriated to international research organisations and research programmes (BFS 2005b).

(39) The largest share of direct research funding from the public sector stems from the two national agencies for research promotion (SNF and KTI). Almost Fr. 350 million is provided by the SNF and approximately Fr. 50 million by the CTI. The federal government thus finances about 8% of total expenditure at the university institutions (incl. ETH). Unlike the federal government's financial contributions to institutions of higher education that are specified by law, this funding is provided as competitive research grants.

(40) Besides the direct funding of research through the SNF and KTI, the public sector also provides funding to the university institutions through ordinary budget appropriations. The cantons provide most of the funding for the universities (the host canton of each university plus financial contributions from other cantons as specified in the agreement on institutions of higher education); the federal government funds the Federal Institutes of Technology (ETH Zurich, EPF Lausanne) and provides general funding for the other universities in accordance with the Federal Law on Financial Aid to Universities. In 2004 the cantons financed about half of the total expenses at the universities (Universities without the ETH) and the federal government approximately 15%. Together with the competitive research grants (SNF and KTI/CTI) and direct research mandates, the federal government finances about 25% of total expenditure at the cantonal universities (BFS 2005b).

(41) Direct R&D financing by the federal government comprises the R&D conducted within the federal administration itself (so-called intra muros research), R&D contracts (mandates) and R&D grants. The *intra muros* research and the research mandates constitute «Ressortforschung» (or «La recherche de l'administration publique fédérale»), a term used to describe the research conducted in Swiss government departments. This government departmental research provides governance knowledge that the federal administration requires in discharging its own duties and responsibilities. Its share of total funding has declined in recent years. A large share of direct R&D funding by the federal government is provided to the various recipients through the SBF, i. e. through the Swiss National Science Foundation (SNF).

Total R&D expenditure by the federal government in 2004 [12]			
	Research in Swiss government departments	R&D grants	Total
SBF (incl. SNF)	4.8m	862.6m	867.4m
BBT (incl. KTI)	3.4m	108.6m	112.1m
Other federal administration agencies	211.8m	199.6m	411.3m
Total	220.0m	1,170.8m	1,390.8m

Source: BFS 2005

(42) The SNF received 423 million francs of the SBF's research grants in 2004; the research arms of international organisations received Fr. 280 million and the European Space Agency (ESA) received Fr. 126 million. The BBT appropriated Fr. 67 million to research centres in the tertiary sector, a large share of which was allocated to the universities of applied sciences; Fr. 29 million in R&D grants were awarded to private-sector companies. Switzerland also provided a total of Fr. 300 million in funding for EU research programmes in 2004 (European Framework Programme for Research and Technological Development).

(43) It is relatively difficult to determine the share of funds allocated to educational research because the usual statistics do not contain any detailed information on the recipients of such funding. Usually the only distinction made concerns the field involved and, within the field of humanities and social sciences, the education sciences – which spans several other disciplines as well – account for only a very small share of total research funding. For example, only Fr. 1.4 million [13] (just over 3%) of the approximately Fr. 44 million that the SNF provided for projects in the humanities and social sciences (SNF, Div. I) was allocated to the education sciences (SNF 2004). [14]

(44) As for the research activities in Swiss government departments (internal and external research contracts), the BBT plays an important role today by virtue of its re-

12 Direct financing of R&D, excluding the share of expenditure covered by the regular operating budgets of the institutions.

13 Average amount of approved funding per funding request in the education sciences: 85,000 francs per year (SNF 2004).

14 There are no data available on the share of educational research in other disciplines like sociology or economics.

search in vocational education. In recent years the BBT has expended approximately Fr. 6 million annually for mandated educational research (including research projects assigned to the «leading houses» or designated centres of expertise; see paragraph 55). The funds expended at SBF on government departmental research in the field of education amount to only about Fr. 200,000 to 300,000. Adding up the various numbers, we estimate that approximately 3% of total spending on research in Swiss government departments is earmarked for educational research (BFS 2005c).

Selective research promotion: Targeted research

(45) The federal government selectively promotes research activities on the basis of scientific criteria and political priorities through the Targeted Research Division of the SNF (Division IV, SNF). The specific instruments for doing so are National Research Programmes (NRP) and National Centres of Competence in Research (NFS).

(46) Currently 14 *National Research Programmes* (NRP) are underway with a scheduled duration of 4 to 6 years and framework funding of Fr. 2 to 15 million for each programme. Approximately 50 NRPs have been conducted during the past two decades. Educational research has been represented in several NRPs since the latter half of the 1980s, as shown in the table below.

National Research Programmes (NRP) involving educational research projects

	Title	Management	Framework budget	End (E) or start (S) of research
NRP 10	Education and Acting in Society and Professional Life (NRP EVA)	Prof. G. Steiner, University of Basel	CHF 8 million	1986 (E)
NRP 33	Effectiveness of our Education Systems	Dr. U. P. Trier, Bern	CHF 15 million	1999 (E)
NRP 43	Formation and Employment	Prof. K. Weber, University of Bern	CHF 8 million	2004 (E)
NRP 52	Childhood, Youth and Intergenerational Relationships in a Changing Society	Prof. P. Perrig-Chiello, University of Bern	CHF 12 million	2003 (S)
NRP 56	Language Diversity and Linguistic Competence in Switzerland	Prof. W. Haas, University of Fribourg	CHF 8 million	2005 (S)

(47) The first two programmes listed in the table above were concerned with education sciences. *NRP 10* focused primarily on non-academic vocational education and training and *NRP 33* was the first instance of outcomes research spanning all levels of education in Switzerland. In the other programmes listed above, the education sciences were competing with other disciplines active in the field of educational research.

(48) *NRP 43* is a programme accommodating other disciplines such as sociology and economics because of the thematic focus on the transition into the world of work. In this sense NRP 43 reflects the current broad disciplinary spectrum of education sciences. The field of adult education and training was also well represented in this programme. In *NRP 52,* which likewise has an interdisciplinary design, 8 out of approximately 30 projects are associated with education sciences. They cover the fields of sociology, education sciences, economics, psychology and medicine. *NRP 56* addresses itself to linguistics with two areas of emphasis, «linguistic competence of adults» and «language and school», and also contains several projects in the area of educational research. The design and make-up of the more recent NRPs indicate quite clearly that education sciences represent a heterogeneous field that is being explored through various disciplines and by means of different methods.

(49) In the sense of actual capacity-building, the *National Centres of Competence in Research* (NFS) serve as instruments for promoting long-term research projects concerning topics of strategic importance for the future of the sciences in Switzerland as well as for the Swiss economy and society. Approximately 80% of the funds designated for the NFSs are available for applied research. Each NFS is attached to an institution of higher learning or a recognised research institute. Besides the research groups at the home institution, each NFS must have a network which includes other research teams from throughout Switzerland. NFSs are distinguished by three key points: Excellent, internationally acknowledged research; knowledge and technology transfer; and training and affirmative action for women. Furthermore, the NFSs are intended to help enhance the structure and organisation of the Swiss research landscape. Block funding grants for NFSs must be approved by the Swiss Parliament. In addition, funds from the universities' own budgets and from third parties must be made available. Funds for the individual NFSs are allocated in a two-stage process involving the SNF (scientific evaluation) and the DHA (evaluation based on research policy criteria). This research promotion instrument launched in 2001 has spawned 20 NFSs in the meantime. A NFS generally has Fr. 10 to 20 million at its disposal for a period of 4 years. The envisioned duration of funding for a NFS could cover a period of as long as 10 years, however (SNF 2005a). Educa-

tion sciences have so far not been successful in having one of its applications for a NFS accepted.

(50) In order to promote applied research at the cantonal universities of applied sciences, the SNF and the KTI created, by order of Parliament and the Federal Council, temporarely the *Do Research!* programme (DORE). Research activities in the various faculties and specialist fields of the universities of applied sciences, which include education sciences, have been supported through DORE since the year 2000. More than 100 projects received total funding of Fr. 6.5 million during the first three years of this programme (SNF 2004, 2005b).

(51) The objective of DORE is to create a culture of research at the universities of applied sciences and the universities of teacher education, both of which tend to have little experience in R&D. International experts who have evaluated the programme say that the intended objectives of DORE are being well met. An innovative feature of the DORE promotion programme is the requirement that every project must involve, at a minimum, one university of applied sciences and a partner with practical experience (local or cantonal government, for example, or a federal office, a hospital or a private-sector enterprise) who must assume at least one-third of the project costs. A major advantage of this set-up is the key role played by the practical partners in disseminating the project findings. The scientific teamwork within the scope of DORE represents an innovative combination of basic research and specific applied research. The share of R&D in the area of education that has been supported through DORE has remained relatively low since the inception of this instrument (SNF 2004, 2005b).

Contract research

(52) The federal government and the cantons also directly commission specific research projects that are conducted by the universities as well as by non-university entities. Since the pertinent statistical information is lacking in detail, we refer to a study performed expressly on this topic. Hanhart (2001) established that a total of nearly Fr. 5.2 million was expended by public-sector authorities on research contracts in the area of education sciences in the year 2000, yet only approximately 15% of this sum was for research performed by university institutes. The remainder was awarded to non-university research institutes.

(53) The fact that barely 20% of the funds appropriated for R&D purposes and research contracts (through the SNF, for example) constituted academic research grants goes to illustrate that research in the field of education is being managed and steered to rather a

limited extent through the allocation of resources (figures for 2000; Hanhart 2001). A large share of the public-sector funds appropriated for educational research is designated for contract research that, for the most part, is not conducted at university institutions; it is also usually not funded on a sustained basis.

Concentration and capacity-building in vocational education research

(54) In the field of vocational education and training, sustained research capacity for vocational education has been developed in a top-down approach. The sobering conclusion that research in professional education and training was largely limited to application and development projects and that there was a glaring lack of research- and data-supported findings for vocational educational policy actually marked the starting point for a sustained research capacity-building effort. This entailed, in particular, the build-up of the requisite human and institutional infrastructure. A work group set up expressly for this purpose came to the conclusion that application-oriented research in vocational education and training should be not only coordinated but also steered by determining specific research priority areas. In its report, the workgroup proposed the creation of competency networks where the existing broad range of thematic research fields would be classified into seven areas: Quality standards; learning competencies; social competencies; new media; the economics of professional education and training; system and transition issues; and, the most recent research priority area, the economics of education. Measures to support policy-makers were also recommended, such as the creation of relevant forecasting instruments for professional education policymakers (BFT 2004–2007; GWF 2003; BBT 2000).

(55) Subsequently, in a top-down/bottom-up approach, seven centres of competency, the so-called Leading Houses, were created. These are responsible for research in specific thematic areas. The Leading Houses conduct research on their own account; research contracts are granted and young research talent is promoted. Another distinguishing feature of the Leading Houses is that they are well networked internationally. Funds of Fr. 1 to 1.5 million for authorised projects with a duration of three years are set aside for each Leading House.

(56) This example of strategic research management qualifies as an exception in the field of educational research in Switzerland, not least because there is virtually no other segment within the Swiss education system where one single government-run administrative entity (in this case the BBT) possesses such extensive competencies and resources as in professional training.

1. 2 Coordination of research policy issues

(57) The decentralised federal structure of the Swiss education system and the fragmentation of research-performing agencies are two reasons why a nationwide educational research policy encompassing all areas of the education system has been difficult to develop. Obtaining the governance knowledge required by political and administrative elements is – provided this has even been deemed necessary by policymakers – a task that is contracted out decentrally by cantonal agencies, either to the corresponding cantonal research-performing bodies or to the universities, which today can include the universities of applied sciences. Research findings flow into policy development processes through administrative and political channels but in a manner that is hardly systematic. The influence of research knowledge on educational policy thus depends to a great extent on the general cantonal environment (e.g. the existence, size, significance, funding and quality of university and non-university research bodies).

(58) Initial efforts to coordinate educational research throughout the country can be traced back to the 1960s. After the Swiss Science Council (SWR [15]) and other relevant bodies reported that Switzerland was lagging behind in the area of educational research, the federal government and the cantons (EDK) assumed responsibility in 1974 for an institute that had been established in Aarau in 1971 for the purpose of documenting educational research, and have since operated this agency under the name *Swiss Coordination Centre for Research in Education* (SKBF). Today, the SKBF performs an important coordination and clearing function: It documents research projects in the field of educational research and makes them accessible to the interested public through an electronic database. [16] Moreover the SKBF informs the interested public and specialists from the research, administration and education practice communities about selected findings of educational research and school development on a regular basis, contributing thereby to the dissemination of research results. Research on current issues of interest and the latest developments in the cantons are periodically documented in special reports and meta-analyses. In addition, the SKBF regularly documents the current situation and trends in educational research. The SKBF not only performs a coordination function but is also closely involved in the collection, documentation and processing of the necessary system knowledge.

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15 Today's Swiss Science and Technology Council (SSTC)

16 German: www.skbf-csre.ch/datenbank_de.html and French: www.skbf-csre.ch/datenbank_fr.html

(59) Coordination between the cantons primarily takes place through the *Swiss Conference of Cantonal Ministers of Education* (EDK) and the *Regional Conferences of Cantonal Ministers of Education* of «Suisse latine» (CIIP for Western Switzerland and Ticino), Northwestern Switzerland (NW EDK), Central Switzerland (BKZ) and Eastern Switzerland (EDK Ost). The level and intensity of intercantonal cooperation varies. For example, the Conference of Cantonal Ministers of Education of French and Italian Speaking Switzerland (CIIP) and the Conference of Cantonal Ministers of Education in Central Switzerland (BKZ) both have their own centre (IRDP in Neuchâtel, «Bildungsplanung Zentralschweiz» in Lucerne). The regional conference of French- and Italian-speaking Switzerland (CIIP) also has a central governing body for educational research in its region, the «Conseil pour la recherche en éducation» (CRE), which discusses strategic issues concerning the management and steering of educational research. Grossenbacher & Gretler already noted ten years ago with regard to regional cooperation, however, that there was substantial synergy potential that could be tapped through joint research and development, especially in the field of school development, curriculum-related work and teaching aids development (Grossenbacher & Gretler 1994).

(60) Finally, the individual institutions pursue coordination on their own through their own governing bodies. This kind of self-coordination is, for example, pursued through the various university organizations (CRUS, KFH, SKPH), but they have an only limited steering capacity. [17]

1. 3 System knowledge

Knowledge base and knowledge management in educational R&D
Evidence-based knowledge of the education system

Data on the education system

(61) A cornerstone of the system knowledge base in the education system is provided by the *Swiss Federal Statistical Office* (BFS), which collects and publishes the most important key figures by level of education and institution at regular intervals, based on a range of different indicators. [18] The data refer in particular to the number of school children and matriculated students, school-leaving qualifications and diplomas, teaching staff

17 Further information on these organizations is available in the Appendix.

18 The information is also processed and made accessible on its extensive website (see www.bfs.admin.ch/bfs/portal/de/index/themen/15.html.)

and key financial figures. The BFS also conducts various analyses pertaining to educational research and acts as the Swiss partner in various international projects.

(62) Besides the BFS, most cantons have their own statistical agencies that gather information on their respective cantonal education system. There is very little coordination in terms of how the data is collected and processed and the quality of this data varies. One consequence of this decidedly decentralized approach is that the BFS's task of centralising educational statistics at a national level has been rendered much more difficult.

(63) So far the only detailed information on the effectiveness of the system in the form of standardized output values comes from *international assessments* of student achievement or *competency assessment* projects such as TIMSS, IALS, PISA and ALL. They represent the most important approaches for achieving evidence-based system governance at a national level and also serve important diagnostic functions within the educational system. Last but not least, they have revealed the necessity of output measurements for system management purposes.

Reports on educational research

(64) Detailed system knowledge has been compiled on a regular basis since the 1980s by means of qualitative studies and reports on the current state and development of educational research. The «Development plan for Swiss educational research», published by the SGBF in 1988, marked the starting point of these efforts. The Swiss Science Council (SWTR) subsequently published various reports on educational research. A study on educational research (Grossenbacher & Gretler 1992) was published within the course of the Inquiry into the Situation of Social Research in Switzerland (SOWI). A historical analysis of the development of educational research in Switzerland in the period from 1970 to 1990 was published (Patry & Gretler 1992) at about the same time. The situation for educational research at Swiss universities was investigated in a report on education, training and research in education sciences (Poglia et al. 1993).

(65) Switzerland first began to participate in OECD programmes on R&D in the field of education in the mid-1990s. Gretler produced a Country Report for Switzerland (in: OECD 1995b) in conjunction with the third OECD seminar on educational research and development in Vienna in 1994.

(66) In 1996 CORECHED, pursuant to its statutory mandate, issued its first report on the current state, developments and general trends in educational research in Switzerland (CORECHED 1996).

(67) In a study commissioned by a regional conference of the EDK, the SKBF developed proposals on how to more effectively structure collaboration between the cantons on school development and educational research (Gretler & Grossenbacher 1994). The authors noted, among other things, that the functions of applied educational research and development at the regional and national levels were largely unexplored and that the educational policy priorities and the current areas of emphasis in educational research were generally not congruent. It was also pointed out that intercantonal collaboration within the various regions was pursued with varying degrees of intensity. For example, greater cooperation in the field of educational research and school development was observed between the French-speaking cantons and in the cantons of central Switzerland – both are regions where a centralised R&D centre has been set up. [19] These findings are arguably still valid today, albeit with a few minor qualifications.

(68) Against the background of the teacher education reforms at the tertiary level, the Swiss Society for Research in Education (SGBF) and the Swiss Society for Teacher Education (SGL) instructed the SKBF to conduct a survey of research and development in teacher education (Grossenbacher, Schärer & Gretler 1998). Criblez analysed the situation for education sciences «between profession and discipline» in 1998, referring, among other things, to dissertations on this topic that had been finished between 1987 and 1996. Gretler presented a comprehensive review of educational research in Switzerland since World War II (Gretler 2000) in the first issue of the «Schweizerischen Zeitschrift für Bildungswissenschaften» (a Swiss journal of education sciences) following its conceptional relaunch.

(69) At the end of the 1990s, the Swiss Science Council commissioned the *Prospective study on educational research* in Switzerland (Hofstetter & Schneuwly 2001) for presentation at the SGBF's annual conference in 2000, which focused on the topic of education sciences in Switzerland. The SKBF prepared, as a supplementary report for this contract, a report on educational research at the universities that was based on case studies of four university institutes (Cusin et al. 2000). In 2001 the Hanhart report commissioned by CORECHED was published (Hanhart 2001). It represented the first investigation of nationwide financial flows for R&D in educational research.

19 Institute for Pedagogical Research and Documentation (IRDP) in Neuchâtel for western Switzerland; Education Planning and Consulting Service for Central Switzerland (ZBS) for central Switzerland.

(70) All of these different efforts and reports constitute an attempt to define and describe the heterogeneous field of educational research and to establish its boundaries within the context of educational policy. They render an account of the current state, development and future prospects of education sciences; they identify strengths and weaknesses and make several recommendations for political decision-makers. Basically, all of the reports had one key objective, namely to improve the general environment for Swiss educational research so as to establish good long-term research of relevance to science as well as to political and administrative entities. The research community itself, then, drew up a development plan at the end of the 1980s and thereby undertook a self-evaluation, drawing attention to structural problems and presenting several development possibilities. Various organizations, for example the regional conference of education ministers NW EDK, followed suit and directed their attention to educational research; the Swiss Science Council (SWTR), which was the first to point out that educational research was underdeveloped, likewise published several reports on the issue of educational research. The fundamental problems have actually been known for quite some time; they are the common thread that runs through all these different reports. And yet, hardly any concrete steps and measures have consequently been taken to address these problems, apart from the creation of new coordination agencies such as SKBF and CORECHED.

(71) All the main elements of the administrative education system at the national level are represented in CORECHED today, and the periodical reporting and assessment of the current state of educational research is one of the main tasks of this Council. Nevertheless, the situation has still not fundamentally changed. Problems that are identified in CORECHED's current reports already featured in earlier reports.

(72) The present report should therefore also be viewed in the light of this now almost two-decade-old struggle on behalf of educational research in Switzerland. The assessment by foreign experts within the scope of the CERI Review on Educational R&D is, therefore, accompanied by hopes that analysis of educational research in Switzerland will benefit from an external perspective and rise to a level that meets international expert standards.

(73) The situation in several areas of educational research has changed considerably since the latest reports on the subject were published. New university chairs have been created; with the reform of teacher education, R&D is now being conducted at universities of teacher education; and the situation in the non-university domain has likewise changed. However, because there is no present-day data that we can refer to for this

report and we were unable to conduct any new surveys, we had to sometimes make do with somewhat outdated information and data. That said, we emphatically draw attention to today's new developments and changing framework conditions. However, as far as the basic structural difficulties are concerned, and especially in the education sciences, most of the key statements made in previous reports are still valid today.

Other reports and evaluations

(74) Aspects of educational research were also explored through the *OECD's Thematic Reviews of Tertiary Education.* For example, in its examiners' report published as part of its review of tertiary policy, the OECD recommended in reference to the planned establishment of universities of applied sciences that the qualifications of teaching staff be improved, that the course curricula be restructured and that applied research and interdisciplinary activities be strengthened. It was also noted that the management and steering of the education system should be improved through better coordination at the federal level. Moreover, the creation of a national research agency for the higher education system was recommended. One of its tasks would be to provide training for the administrators of tertiary institutions and of the system itself (OECD 2003a). Another issue was the absence of proper tertiary research in Switzerland, i. e. of research centres that were specifically focused on researching the higher education system and thereby contributing to the knowledge base on tertiary education.

(75) Prior to the publication of the Federal Council's «education, research and technology message» for 2004–2007 that was addressed to Parliament, a working group for the *Promotion of Humanities and Social Sciences* was created to survey the current situation in these disciplines and to put forward specific proposals. The efforts of this working group generally revolved around the humanities and social sciences, yet many of its resulting conclusions and proposals are particularly applicable with regard to educational research. In its final report, the working group specifically proposed better promotion of young scientists (e. g. through graduate schools, tenure tracks and professorships for younger academics), the creation of special promotional programmes for the humanities and social sciences (e. g. two or three National Centres of Competence in Research for these disciplines), an increase in funding and the elimination of institutional deficiencies (improving the teaching situation by creating about 500 new professorships in the humanities and social sciences by 2007) (BBW 2002).

(76) Due to the absence of a centralized authority, a consistent research policy conceived at the national level does not really exist in the field of education, just as there are hardly

any significant national educational research institutes of nationwide stature. Research and development in the education system takes place throughout the different political levels and at different institutions. The difficulties this engenders for educational research can be traced to the fragmentation, the heterogeneous institutional structure and the lack of critical mass (Gretler 1994; Hofstetter & Schneuwly 2001).

2. Organisation and production of knowledge

Organisation and funding of educational R&D

2 1 Organisation: The institutional landscape in educational research

(77) The organisation of educational research and development in Switzerland mirrors the decentralised, federalistic structures of the Swiss educational system. Educational research policy and management therefore involves different hierarchical system levels (federal, regional, cantonal). On the educational research side, there are numerous different kinds of institutions (university and non-university research centres). These are organized to some extent according to their primary function, either basic or applied research/ development, and also according to their parent agencies (government vs. private research establishments).

(78) *Basic research* is science-driven; the subjects researched stem from science-immanent issues. Basic research is conducted primarily to expand the store of knowledge, and with a theoretical intent (Gretler & Grossenbacher 1994). It is mainly pursued at academic universities, for example at the pedagogical institutes and at other faculties and departments of social sciences, which are likewise engaged in educational research. The great majority of these institutes are affiliated with one of the ten cantonal universities in Switzerland; there are also several departments or centres that conduct research at the two Federal Institutes of Technology, for example the Institute of Behavioural Sciences and the professorship for work and organisational psychology at the ETH Zurich). Furthermore, basic research is also now being conducted at some of the universities of teacher education.

(79) *Applied research and development* is usually politically and practically driven. It is commissioned by political and administrative bodies and is conducted at some of the universities, but mainly at internal research centres owned and operated by cantonal administrative bodies (Gretler & Grossenbacher 1994). In the Swiss system of federalism there is a need for applied educational research and development at all levels – national, regional and cantonal. For this reason various cantons and regions have created their own internal administrative institutions for educational research and development. Development projects, program evaluations and similar tasks are being delegated to these internal administrative research centres (for example, «educational planning» or «educational services», «Service de recherche»). The cantons are thus financing a large share of the applied research and development in the field of education on their own (see also Hanhart 2001).

(80) Owing to the federalist structure, we have a variety of very different institutions in Switzerland that are active in the area of educational research and development. This situation can be an advantage in the sense that these institutions are usually closely associated with the political and administrative realities of a canton or region. A disadvantage, on the other hand, is that most of these research centres are distinguished by a diminutive size and a lack of critical mass, and this leads to fragmentation and a lack of continuity in research (CORECHED 1996). Therefore, it is no easy task to form a general picture of this heterogeneous research landscape which, to complicate matters further, is in a constant process of transformation.

(81) There is also another reason why a comprehensive survey of the entire field of educational research and development in a broader sense (see definition in paragraph 2 of the Introduction) is a difficult undertaking. Categorising R&D in the field of education according to institutional aspects and the kinds of research conducted is a relatively straightforward process only with regard to the actual core discipline, to education sciences. Educational research and development conducted in other social sciences, or in economic sciences, psychology, medicine or linguistics, at the traditional universities or universities of applied sciences is generally not identifiable by a corresponding specialization of the institution or the corresponding professorial chair nor is it recorded as such. Educational research is, however, only one aspect of research, and the intensity with which education sciences topics are researched depends on the holders of the professorial chairs and their research interests. It is not possible to determine what share of research output consists of educational research without launching exhaustive, time-consuming inquiries.

(82) Determining the financial and personnel resources devoted to the entire field of educational research is, therefore, an even more difficult task. As regards the collection of data by subject, we can make a rough estimate based on the project database [20]

20 Scientific pursuits in the area of educational research have been documented in the SKBF's Internet database since 1987. The following is not entered in the database: qualification papers below the dissertation level (bachelor's, master's and licentiate's theses; term papers), newspaper articles, statistical reports (repetitive surveys without any further processing of the data collected), reports on the use of evaluation instruments (without theoretical or empirical comparison or impact analyses), development projects without empirical examination, pure opinion polls and interim reports on projects for which a final report will be available within a year's time. The data is based on self-declaration by the researchers but most of the project information is now acquired by the SKBF itself through its own efforts and inquiries.

maintained by the SKBF. It is thus safe to say that the amount of educational research that is being conducted beyond the field of education sciences or pedagogy accounts for a rather small share of total educational research activity and that educational research beyond the field of educational sciences plays a marginal role.

(83) Therefore, the following information and remarks on educational research refer mainly to the discipline of education sciences and pedagogy.

Education sciences at university-level institutions

(84) Research in education sciences is conducted and a regular course of study in pedagogy («Pädagogik» resp. «Erziehungswissenschaften» or «sciences de l'éducation») can be taken at most university institutions in Switzerland (see table page 33/34). As shown in the overview, the institutional placement varies: Education sciences or pedagogy is placed within the humanities as well as within the social sciences. There are considerable differences with regard to the staffing of the individual institutes.

(85) The university landscape in the area of education sciences is dominated by the large education sciences department of the Faculty of Psychology and Education Sciences (FPSE) of the *University of Geneva* with more than two dozen professors, as well as by the institutes of education sciences at the *University of Zurich* and the *University of Bern.* Together these three institutions account for two-thirds of professorships in education sciences. In Zurich and Bern this discipline is structured by field of specialty, each of which is assigned its own professorial chair. In Fribourg, both the French and German departments have a professorial chair. There are various, relatively stable research teams in Geneva, each grouped around a professor (Hofstetter/Schneuwly 2001). In Neuchâtel education sciences is offered as a course of study in cooperation with the University of Fribourg.

(86) During the course of 1990s, new *academic research centres* affiliated with a university or a university institute were created, in particular at the universities them-selves, that primarily conduct applied research and development in a specialized area of education: In 1994 the *Department for Research in School Quality and School Improvement* («Forschungsbereich Schulqualität und Schulentwicklung», FS&S) was established, in 1999 the *Competence Centre for Educational Evaluation and Assessment* («Kompetenzzentrum für Bildungsevaluation und Leistungsmessung», KBL). Both institutes are closely affiliated with the Institute of Education at the University of Zurich. The *Research Centre for Educational Economics* («Forschungsstelle für Bildungsökonomie», FfB) of the University of Bern was established in 2001 and is associated with the Institute of Economics.

These research centres meet the growing need of the educational administration for quantitative research and expertise in the area of school improvement, quality control, performance measurement and system management and steering. In addition, the calls for institutional enlargement of the Swiss educational research system were finally met with the creation of the Chair of Sociology of Education and the Research Centre for Educational Economics at the University of Bern.

(87) The *Jacobs Center for Productive Youth Development,* in operation since 2004, is a joint venture established by the Jacobs Foundation and the University of Zurich. Its purpose is to promote interdisciplinary research on youth development. The centre's research program consists of several main research areas, each having a long-term core project and a number of smaller related studies. Its research activities are also designed to produce research-based recommendations of practical relevance.

(88) At present there is no university chair in Switzerland specialized in the field of empirical-quantitative educational research with regard to school performance assessments and competency measurement. This, in turn, leads to a problem in developing new specialists/researchers and with regard to quality, in the sense that very few researchers are involved in the large-scale competency measurement projects and their scientific work might be inadequately reviewed and followed up by independent sources.

University-level institutions: Institutes and research centres in the field of educational research *			
Canton	University/Institution	Institute/Department	Professorship *
Basel	University of Basel	Philosophisches Seminar, Abteilung Pädagogik *(Humanities Sub-Faculty: Department of Education)*	1
Bern	University of Bern	Pädagogisches Institut *(Institute of Pedagogy)* – General & historical pedagogy dept. – Pedagogical psychology dept. – Sociology of education dept. – Didactics department	5 (4)
	University of Bern	Forschungsstelle für Bildungsökonomie (FfB) *(Research centre of educational economics)*	1
	University of Bern	Koordinationsstelle für Weiterbildung (KWB) *(Coordination Centre for Adult Education)*	1
Fribourg	University of Fribourg	*French Dept.:* Sciences de l'éducation *German Dept:* Pedagogy and Pedagogical Psychology	4 (1) 4 (1)
	University of Fribourg	Institut für Sonderpädagogik *(Department of Special Education)*	4 (3)

University-level institutions: Institutes and research centres in the field of educational research *(continued)*			
Canton	University/Institution	Institute/Department	Professor-ship*
Geneva	University of Geneva	Faculté de psychologie et des sciences de l'éducation (FPSE), Section des sciences de l'éducation *(Faculty of Psychology and Education Sciences, Education sciences department)* [21]	25
Neuchâtel	University of Neuchâtel	Institut des sciences de l'éducation *(Institute of Education Sciences)*	1 (1)
St. Gallen	University of St. Gallen	Institut für Wirtschaftspädagogik (IWP) *(Institute of Business Education and Educational Management)*	5 (2)
Zurich	University of Zurich	Pädagogisches Institut *(Institute of Pedagogy)* – General pedagogy – Social pedagogy – Pedagogical psychology – Forschungsbereich Schulqualität und Schulentwicklung (FS&S) *(Division for Research in School Quality and School Improvement)*	6 (6)
	University of Zurich	Institut für Sonderpädagogik (ISP) *(Institute of Special Education)*	2 (1)
	University of Zurich and ETH Zurich and University of Teacher Education (PHZH	Hochschulinstitut für Schulpädagogik und Fachdidaktik (ZHSF) – Middle school pedagogy – General didactics – Vocational education – Subject didactics	5 (4)
	University of Zurich	Kompetenzzentrum für Bildungsevaluation und Leistungsmessung (KBL) *(Competence Centre for Educational Evaluation and Assessment)*	

* This compilation is based on the web-source «www.proff.ch»; amendments made by institutes themselves are taken into account. In parenthesis: ordinary professorships

21 The education sciences department of the FPSE at the University of Geneva is also entrusted with the education of primary school teachers, which in other cantons is assigned to the universities of teacher education. Usually more than one-third of the student body is enrolled in the primary school teacher programme at the FPSE (licence mention enseignement). In 2004, for example, it was just over 40% (BFS).

Research and development in teacher education

(89) The nationwide process of tertiarization of teacher education initiated in the 1990s led to significant institutional changes. This process was shaped to a large extent by the EDK, which set the general direction early on and recommended the creation of universities of teacher education (EDK 1993, 1995). This reform was intended in particular to improve the quality of teacher training. A course of study building upon the baccalaureate or maturity certificate was envisioned at a level commensurate with the universities of applied sciences. One particular aim here was enhancing the *scientific and research aspects in the education of teachers.* Additional aims were to improve the nationwide recognition of diplomas and the mobility of students and graduates (EDK 2005).

(90) The reform project is now in its final phase. Today teacher education programmes are offered at 15 universities of teacher education (PH) and at three universities. The first class of students at the universities of teacher education commenced their studies in 2001. In the 2004/2005 academic year more than 9,000 people were enrolled in a teacher education course of study (BFS 2006).

(91) The pursuit of «vocationally specific research and development» was another goal associated with the relocation of teacher education at the tertiary level (EDK 1995). Integrating R&D into teacher education is, to a certain extent, a key element of the new university status given to the institutions for teacher education. Just as R&D departments had to be developed at the universities of applied sciences, the emerging universities of teacher education were required to set up their own research departments.

(92) The table below provides an overview of the current institutional underpinnings of R&D in teacher education. With regard to the number of scientific staff, it must be noted that researchers at universities of teacher education are usually also employed as teachers and in some cases are assigned only limited hours of research.

Research at Universities of Teacher Education	
Canton	*University* /Institution
Aargau, Basel, Solothurn	*University of Teacher Education of the University of Applied Sciences (PH FHNW)* Institut Forschung und Entwicklung
Bern	*University of Teacher Education Bern (PHB)* Centre for R&D
Bern	Swiss Federal Institute for Vocational Education and Training (EHB)
Berne, Jura, Neuchâtel	*Haute Ecole Pédagogique des cantons de Berne, du Jura et de Neuchâtel (HEP-BEJUNE)* Recherche, ressources documentaires et multimédia
Fribourg	*University of Fribourg* Educational Science Department
Fribourg	*University of Teacher Education Freiburg (PH FR)* R&D office
Graubünden	*University of Teacher Education Graubünden (PFH GR)* R&D department (in the process of being established)
Lucerne, Uri, Schwyz, Zug, Obwalden, Nidwalden	*University of Teacher Education Central Switzerland (PHZ); 6 different institutes:* – Institute for Teaching and Learning – Institute for Educational Professionalism and School Culture – Institute for Special Education – Institute for International Cooperation in Education – Institute for Management and Economics of Education – Institute for Media and School Education
Schaffhausen	*University of Teacher Education (PHSH)*
St. Gallen	*University of Teacher Education St. Gallen (PHS) and* *University of Teacher Education Rorschach (PHR)* Research offices
Thurgau	*University of Teacher Education Thurgau (PH TG)* Research & knowledge management
Ticino	*Alta Scuola Pedagogica (ASP TI)* Ricerca
Vaud	*University of Teacher Education Vaud (HEP VD)* Recherche en HEP
Valais	*University of Teacher Education Wallis (PH VS)* Competency centre R&D (in planning stages)
Zurich	Zürcher Hochschulinstitut für Schulpädagogik und Fachdidaktik (ZHSF)
Zurich	*University of Teacher Education Zurich (PHZH)* R&D department

Research at Universities of Teacher Education *(continued)*	
Canton	*University* / Institution
Intercantonal body	*Intercantonal University of Special Education (HfH)* Research

(93) Vocational school teacher education for secondary level II is provided at the Swiss Institutes for Vocational Education (SIPB) based at one of three locations: Zollikofen (Bern), Lausanne and Lugano. Research, in particular applied research, and development are pursued at all three locations. In all, approximately 20 full-time equivalents are active in R&D at the SIPB. Upper secondary teachers for the vocational strand are also trained at the cantonal level at universities, e. g. at the «Zürcher Hochschulinstitut für Schulpädagogik und Fachdidaktik» (ZHSF), which is engaged in teaching and research (cf. p. 34).

Research at the Swiss Institute for Vocational Education (SIBP)	
Responsible body	University / Institution
Federal government (BBT)	Swiss Institute for Vocational Education (SIBP) – Zollikofen – Lausanne – Lugano R&D department

(94) Discussions about *R&D in teacher education* always revolve around the questions «What kinds of research should be pursued at the schools for teacher education?», «Who should be conducting research?» and the fundamental questions «What is research?» and «What importance attaches to research in the practice of teaching?» – questions that must also be viewed taking into consideration the problematic aspects in the relationship between research and practice, for it is precisely in the field of teacher education where fears and bias regarding a perceived «academisation» need to be overcome.

(95) In their recommendations for research and development in teacher education, Grossenbacher et al. listed the following functions that should devolve upon the research and development activities at universities of teacher education (Grossenbacher et al. 1998):

– R&D contributes to the production of knowledge; research outcomes should also be integrated into the teaching practice and students should be familiarised with the scientific method.
– R&D enhances the competency of teachers in the classroom.
– R&D contributes to the education of future teachers
– by familiarising students with scientific methods and making them capable of independently applying such methods in later projects;
– by making students more aware of scientific thinking processes and encouraging them to become users of research results;
– by encouraging students to cultivate a scientific approach and cast a critical and objective eye on their own teaching.

(96) Educators at teacher education institutes should, as a basic rule, be involved in R&D, in accordance with the postulated correlation between research and teacher education at a higher institution of learning. At universities of teacher education that have set a target of assigning 10% to 20% of their personnel resources to R&D (with development traditionally occupying the largest share), the issue of how best to implement these objectives has prompted heated debate, however. Three forms of organisation are basically conceivable:

a) *Model 1:* Clear separation (institutionally and staff-wise) between teaching and research. Researchers are, therefore, not necessarily involved in teaching. The advantage of this model is that critical mass can be achieved with regard to both the research resources available at the institutional level and the time spent on research, which ensures a high research quality. The disadvantage is the absence of a personnel structure that bridges both research and teaching.
b) *Model 2:* Based on the motto «Researchers teach, and teachers research», is the originally recommended model and also the model most commonly in use. An advantage is certainly the cross-fertilisation between research and teaching, and it is easier to actually apply research in a teaching environment. The dispersion of the generally meagre research resources across the numerous universities of applied sciences has a negative impact as far as research is concerned. The hours assigned for research are so few that it is hardly possible to conduct research of a high quality. Taken to extremes, research degenerates into an empty exercise – «un bricolage émietté», «une affaire de dada personnel» (Paquay 2005).
c) *Model 3:* embodies the attempt to unite Model 1 and 2. Teachers do research and researchers also teach but each schedule is staggered (sequentiation), creating a

structural separation that gives individuals longer periods during which they can conduct research. The advantage is that research issues may be inspired in classroom settings and research outcomes are personally carried back into the classroom. Because of staff fluctuation, however, it is very difficult to build up institutional research knowledge. Most of the universities of applied sciences, in particular the smaller ones, tend to use this form of organisation.

(97) And then there is also the issue of *qualifications.* Most of the lecturers in the teacher education system are transfers from the former teacher education institutions who do not necessarily have a scientific background at the university level and who are likely to have accumulated very little research experience elsewhere. Consequently, it was realistically assumed that research activities would initially be the province of dedicated research assistants (Criblez 1996; Hügli 1998).

(98) The issue of the research qualifications of teacher-education lecturers, and also of any teaching staff involved in R&D, is of crucial importance for the significance that this research eventually acquires in the overall field of educational research. This issue has been the subject of controversy, due to the different ideas of the role of R&D in teacher education (Grossenbacher et al. 1998). The actual development tends to adopt the common international standards of scientific research.

(99) The research mandate given to the universities of applied sciences in the EDK recommendations for teacher education programs had a catalyzing effect on the build-up and expansion of R&D at the teacher education institutions. Various isolated research activities varying considerably in scope and magnitude had a genuine R&D strategy imposed on them; R&D departments were equipped with the necessary resources and quality standards were introduced. The establishment of universities of applied sciences seeking to enrol at least 300 students also allowed these R&D departments to try to achieve the critical mass imperative for achieving continuity in research.

(100) Nevertheless, the problems identified in the study by Grossenbacher et al. (1998) constitute challenges that the newly established universities of applied sciences will have to overcome. Several critical questions remain as yet unanswered: the research qualifications of the university lecturers, the question of academic mid-level staff (the right to confer doctoral degrees), the coordination and collaboration with other institutions at the tertiary level.

Cantonal administrations: Research and development

(101) The R&D activities of the cantonal education administrations and pan-Swiss attempts at systematization can be traced back to the end of the 19th century when statistics on the educational system first began to be collected (e. g. «Das Jahrbuch des Unterrichtswesens in der Schweiz», an annual collection of public education statistics in Switzerland). In response to the growth of the education system and the various school reforms carried out in the 1960s, many cantons set up institutions or support entities for the purpose of gathering specialised information on the educational system. Although most of these entities within the cantonal education administrations are still relatively small support units staffed with only one or two people, a couple of them have developed into larger, relatively well staffed research and development institutions.

(102) Worth mentioning in this regard are first and foremost the institutions in the cantons of Vaud (URSP), Geneva (SRED), Ticino (USR), Zurich and Berne (BiEv), and also the regional organisations set up in French-speaking Switzerland (IRDP) and central Switzerland (educational planning). These institutions look back on a long history and, because of the number of their staff, they also have the critical mass to conduct research with a far-reaching impact (Berger 2001). These offices were not created to compensate for the absence of academic institutions; indeed, they were mainly established in regions where education sciences already had a strong university anchoring (Hofstetter & Schneuwly 2001). Some of the cantons created their own R&D units because past experience in cooperating with the universities did not produce the desired results (Huberman 1989) or because targeted, «decision-oriented research» (Gretler 2000) and development was not practised at the universities yet this was what the cantons were interested in. Currently, collaboration between universities and teacher universities (HEP) and cantonal research centres takes various forms (common research projects, involvement in teacher training, expertise etc.) aiming at reinforcing mutual complementarity. For some of the cantonal research centres (e.g. SRED, Genève) research on education is a core activity that complements other services such as preparing and publishing cantonal statistics on education, carrying out forecasts on students and teachers as well as developing monitoring and steering instruments for decision makers (e.g. indicators and evaluations).

(103) The challenge faced by these research and development offices was and still is satisfying the differing needs of the constituent groups: the expectations of the scientific community on the one side and those of the administration and school practice on the other (Gretler 2000). The creation of research units at the universities of teacher educa-

tion that are specifically active in applied research and development eliminated the need for internal administrative research offices in many cantons. Many of these operations have been scaled back considerably or entirely shut down in the past ten years as a result and in some cases they have been integrated into the universities of teacher education. As yet no studies on the R&D that was conducted by these internal administrative offices have been made nor have any studies addressed the question as to whether and how these activities will be continued at the universities of teacher education.

(104) There are actually no research centres in education sciences at the national level in Switzerland, although one can say that the BFS and the SKBF do conduct educational research in a narrower sense even though their primary mission is to collect information and documentation.

(105) The various internal administrative educational research centres throughout the country are brought together in the *Conference of directors of cantonal centres for educational R&D* (CODICRE). This agency promotes intercantonal coordination in relevant school development issues such as the organisation of the preschool level, co-education and the harmonisation of educational standards (HarmoS project). Another important function derives from its vertical connection with the EDK, which, however, is no longer institutionalised.

(106) Individual cantons are working together at the regional level and have established joint research centres. This is the case in the French-speaking cantons which created the «Institut romand de recherches et de documentation pédagogiques» (IRDP) [22] in the early 1970s and in central Switzerland, where a regional institution for educational planning was set up in 1974, the *Education Planning and Consulting Service for Central Switzerland* (ZBS). [23] With regard to the IRDP, initiatives launched by researchers and educators were instrumental in setting up a regional research centre with the intended objective of underpinning school reforms with a scientifically sound base (especially experimental research; sic!) (Weiss et al. 2001). As for the Education Planning and Consulting Service for Central Switzerland, development work closely connected with educational practice was of prime importance; research was hardly pursued for a very long time (Oggenfuss 2001).

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22 It has since been renamed the Institut de recherche et de documentation pédagogique or Institute for Pedagogical Research and Documentation.

23 The regional advisory office for education issues became Bildungsplanung Zentralschweiz, or Educational Planning Service of Central Switzerland, during the course of recent reforms. It is located in Lucerne

2.2 Research output

Main issues and research methods

(107) Research in education theory is a discipline with a strong national stamp reflecting the different academic cultures in different countries. Thus, Keiner & Schriewer (2000) describe the educational sciences in the German-speaking world as a «tightly directed discipline» with a narrow internal focus on the subject itself and on classical philosophical reference systems. In educational research, considerable emphasis is placed on traditional theory as opposed to contemporary knowledge production. In contrast, French educational research, for example, tends to resemble interdisciplinary social sciences, and North American research is dominated by a pattern of «pragmatic field and occupation-related specialization» (Keiner & Schriewer 2000, 29).

(108) Educational research in both the German and French-speaking parts of Switzerland, traditionally focussed to quite some extent on historical subjects. Until the late nineties, the proportion of quantitative empirical studies has remained rather low in Switzerland. Studies of systemic or institutional aspects of the education system were quite rare. In an analysis of dissertations submitted in the period from 1987 to 1996, Criblez (1998) found that the majority of graduate papers were neither oriented towards the empirical social sciences nor specifically related to the teaching profession. Although educational science's primary legitimacy still rests on its value to the teaching profession, amazingly few dissertations were about the institution of schools as such (Criblez 1998, 189).

(109) Concerning the different stages and fields of the educational system, Gretler (2000) observed, based on evidence form the SKBF database [24], that there was a fairly constant focus on research projects in the compulsory school years (elementary school and secondary level I). One reason for this particular research focus might be sought in the mandates of the cantonal research and development offices and agencies, which are mainly concerned with compulsory schooling (Gretler 2000, 133f.).

(110) In terms of content, dissertations on aspects of teaching and learning (curricula, methods, and didactics) account for the lion's share. Various types of evaluations are another common theme as well as historical education research. The percentage of re-

24 Assessment for the years 1993 to 1998 (n=1956 project notifications, including 267 multiple counts)

search devoted to actual basic research is very low, according to Gretler (2000). This conclusion probably continues to apply today. An important part of academic studies continues to be philosophical or historical in content. Empirical projects are generally conducted using qualitative methods. Quantitative empirical studies based on representative samples with generalizable results continue to be in the minority.

(111) A number of structural factors are responsible for this situation. Most university institutes involved in education sciences do not have the critical mass necessary for continuous research with a corresponding specialization (Gretler 2002). For instance, universities do not have the resources to fund long-standing or tenured research positions (Grossenbacher & Gretler 1992; Poglia et al. 1993; Cusin et al. 2000). Consequently, most institutes do not conduct regular major empirical research projects in which junior academics might find employment.

(112) The OECD's large international assessment studies (TIMSS, IALS, PISA) have increased the *importance of quantitative empirical educational research* but there has not been a corresponding increase in the number of researchers involved in this area over the past decade. The surveys were conducted and evaluated by individual university-based and non-university-based research institutions. These studies were not performed under the auspices of a particular university chair but instead were delegated to specialist bodies where researchers with the necessary experience in quantitative methods were based. Quantitative methods have also been employed in various cantonal and nationwide evaluations and in other large surveys (e. g. EVAMAR, army recruit survey ch-x, Zurich matura school evaluation, Zurich school achievement tests). Many of these large projects were organised in networks or professional associations, supported in each case by national steering committees and supportive groups.

Graduate papers

(113) In an evaluation of *dissertations* from the 1987–1996 period, Criblez noted a fairly constant number of doctoral dissertations, with approximately 20 to 30 such papers being completed every year. The topics dealt with were in most cases determined by the researchers themselves. Specialisations in particular areas such as remedial or special-needs teaching and business pedagogy (Wirtschaftspädagogik) were common. In French-speaking Switzerland, students of foreign origin tended to write dissertations on an educational topic concerning their country of origin. Few dissertations were concerned with the topics of school or educational administration, which are actually the headline topics in this profession. Qualification papers were fairly rarely published as articles in scientific

journals. Criblez concluded that researchers completing their doctoral degree in Switzerland very rarely involved themselves in the discourse of educational theory. This also has to do with the institutional integration of these junior academics. Criblez noted a lack of systematic integration of young researchers into the research activities of university departments. Consequently, involvement in educational research becomes nothing more than a «biographic episode» (Criblez 1998, 181f).

Acquisition of research funding

(114) The percentage of educational research projects funded by the SNF indicates the priorities of public research policy and also tells us something about the strength of the discipline in general. This applies in particular when political decision-makers unequivocally come out in favour of funding the humanities and social sciences, as was the case during the second round of applications for *National Centres of Competence in Research* in the autumn of 2003. These programmes were reserved explicitly for the humanities and social sciences, disciplines that had emerged largely empty-handed from the first NFS round of applications in late 2000. Only one of the 17 projects submitted concerned educational research, but it did not make it onto the list of six projects approved in 2004. Various coordination efforts on the part of CORECHED and EDK had preceded the decision not to pursue this project, but to no avail. Direct competition with other humanities and the social sciences appears to present a significant challenge to education sciences.

(115) The situation is somewhat different with *DORE,* the national system for supporting applied research at universities of applied science and teacher education universities. Given an average success rate of over 50%, universities of teacher education certainly have a genuine chance of conducting research projects with DORE's support. However, few universities of teacher education have submitted applications to date. In the period from 2000 to 2003, only around 14% of project applications to DORE were from education science departments. The application figures are even lower for applied psychology and applied linguistic departments that also concern themselves with educational research issues. The acceptance rate for pedagogical projects is 52%, which is somewhat below the average acceptance rate of 68%. The most common research areas are information and communication technologies, teacher education, aspects of school organisation, and student competence.

Overview of DORE applications (2000–2003)			
Department	Project submissions (no.)	Project approvals (no.)	Success rate
Social work	67	60	0.90
Health	36	22	0.61
Educational research	25	13	0.52
Fine arts	21	12	0.57
Music and drama	14	9	0.64
Applied psychology	4	1	0.25
Applied linguistics	6	2	0.33
Total	173	119	0.69

Source: SNF 2004

Quality

(116) Despite the fairly extensive body of literature now available on the situation of educational sciences in Switzerland, *little information on the quality* of this research is available. An expert report investigating the situation of the social sciences rated the quality of educational research as mediocre, in particular with regard to its output: «Swiss educational research produces internationally recognized publications, and contributes to the improvement of educational theory and practice. However, the output is not as good as would be expected given the number of academic researchers involved in educational science, nor is it as good as it should be with regard to societal and academic demands» (Poglia et al. 1993). This report was already pointed out the lowly position of research methods in the pertinent university curricula. It recommended setting up postgraduate schools to promote young academics and improving the coordination of research activities. However, postgraduate schools make sense only if there is sufficiently active research practice. Junior academics would need to have the opportunity to able to work on large-scale, longer-term projects.

(117) A general remark that needs to be made is that too little evaluation is being done in educational research. SNF projects are usually not systematically evaluated after their completion in the sense of an outcome study. This applies to all disciplines, however, not just to educational research.

(118) Another point is that the prevailing publication practice in the education sciences, the publication of books and book articles, is not very appropriate for setting interdisciplinary or supraregional and supranational quality standards.

(119) Development in the field of education (reform projects, teaching materials, curriculum planning) tends to be in the hands of educational departments in cantonal administrations, with experts and practitioners (mainly teachers) consulted in many projects. A study investigating curriculum planning in seven cantons revealed that this work was far removed from educational research circles, which the researchers attributed to the non-university nature of teacher education and the poor state of professional didactics. As a matter of fact, it was precisely the group of professional didactitians working in teacher education that said scientific theory is of little relevance to schools and classroom instruction. Yet this same group of people, together with the participating teaching staff, happened to be instrumental in shaping this curriculum planning work, (Trier 1999; Künzli 1999).

Accumulation of knowledge

(120) It is striking to note how little of the educational research done in Switzerland builds upon existing research. This shortcoming is compounded by a general deficit in basic research and theory in the education sciences (Hofstetter & Schneuwly 2000, 82).

(121) Many dissertations are written on isolated topics unrelated to ongoing research. Heterogeneous, poorly coordinated research production of this kind is a hindrance to an effective and efficient accumulation of knowledge. The result is a fundamental lack of a culture of discussion with regard to scientific research and its outcomes.

2. 3 Costs and funding

(122) It is relatively difficult to obtain precise figures on the funding of educational research because the flow of financial resources is not systematically mapped due to the disparate research landscape and the federalistic structure of the authorities involved, in addition to the difficulties of categorizing educational research by scientific discipline. As a result, most of the data referred to in the following paragraphs is based on incomplete surveys and relatively rough estimates.

(123) Generally speaking, the resources available for the purpose of educational research are very limited compared to other disciplines. According to comparative studies

for the early 1990s by the OECD, national expenditure on R&D corresponded to approximately 0.18% to 0.37% of total spending on education during that time, and approximately 1% of all spending on R&D (OECD 1995a).

(124) Corresponding data for Switzerland can be found in a SGBF study conducted in the 1980s, which estimated that about 5.6 million francs was spent annually on R&D in Switzerland, and in a survey by the SKBF for the year 1990, which arrived at a figure of about 7 million francs (SGBF 1985; Grossenbacher & Gretler 1992). However, it must be noted that these surveys were by no means comprehensive and that only the direct project costs were input, i. e., costs for infrastructure (including personnel) were not reflected. As a result, R&D spending as a percent of government spending on education was reported to be very low (0.04% to 0.06%), which does not reflect the actual total investment in educational research, considering that most of the educational research in Switzerland takes place at publicly funded universities and administrative bodies. In early 2000 the EDK estimated that the total human resources devoted to educational research amounted to about 200 full-time equivalents (Hanhart 2001).

(125) Based on a study made in 1999/2000, Hanhart estimated that annual total expenditure for educational research (incl. infrastructure costs) amounted to approximately 24 million francs. This finding must be qualified, however, by adding that Hanhart investigated only the public academic (response rate 0.67) and non-academic research bodies (response rate 0.8) and limited his study to the discipline of education sciences or pedagogy (Hanhart 2001).

(126) In view of the slightly more than 21 billion francs that the government spent on education in the year 2000, the disbursements on R&D, even though they have probably been underestimated at 24 million francs, constitute a minor investment expenditure. We can, therefore, say that Switzerland probably ranks at the lower end of the range with regard to the OECD comparison of R&D spending in the field of education.

R&D funding: Financial flows

(127) The federal government and cantons expended 2.475 billion francs on research and development in the year 2000. Approximately 70% of this sum stemmed from federal coffers and 30% from the cantons. Four-fifths of this nearly 2.5 billion in public funds spent on R&D was disbursed to the universities (ETH, cantonal universities, universities of applied sciences). This means public spending on R&D in the field of education accounts for about one percent of public spending on R&D (BFS 2002).

(128) Indirect research funding in the form of lumpsum grants and global budgets accounts for the largest share of research funding. In the year 2000 about 55% of total spending by public authorities for R&D was appropriated indirectly through the ordinary budgets of the institutions at the tertiary level (BFS 2002). In educational research, however, the corresponding percentage share is smaller. Hanhart, for example, based on an investigation conducted in 1999/2000, estimated that the institutional funds, or the financial resources allocated to educational research in ordinary university budgets, amount to approximately 4.5 million francs.[25] This corresponds to nearly 20% of total spending on educational research. These calculations are based on a survey finding among researchers that research activity accounted for about 45%[26] of the total work time at these institutes (Hanhart 2001).

(129) Besides the universities, there are numerous non-university research institutes. The funds appropriated to these institutions via ordinary cantonal budgets vary con-siderably from one canton to the next but, all in all, they are quite substantial. Hanhart calculated that almost 12.5 million francs were appropriated for educational R&D in these budgets in the year 2000 (Hanhart 2001).[27] However, it is not certain that the additional resources (largely in the form of personnel) can actually be equated with research work.

(130) Finally, particularly in the field of educational research and development, the research mandates awarded by the government are of considerable importance. Hanhart calculated that public expenditure on research mandates amounts to more than 5 million francs, of which a minor share (approx. 0.7 million) goes to university-level institutions, and the largest share (about 4.5 million) to non-university research and development centres (Hanhart 2000).

2. 4 Working conditions/environment

Human resources

(131) It is difficult to arrive at precise data on human resources in connection with educational research. Because educational research is conducted in a sporadic fashion at in-

25 Forty full-time positions were factored into the calculations, divided among 105 researchers.

26 Share of research activity as a percent of total working time. Data averaged for all employee categories (one-third of the professors and lecturers did not participate in the survey, however).

27 Hanhart also groups the Swiss Institute for Vocational Training (SIBP), which is a subsidiary of the BBT, with the non-university institutions.

dividual facilities that conduct virtually no other educational research, or is done by individuals who are not habitually engaged in active research in any regular capacity, it is virtually impossible to exhaustively investigate the human resources aspect.

(132) Older papers on the situation of Swiss educational theory made various attempts to investigate educational research capacities. An educational research survey in 1991 estimated total research capacity was equivalent to just over 100 full-time equivalents, divided among some 500 researchers. Out of these 500, Grossenbacher & Gretler identified a «hard core» of approximately 100 researchers who practiced educational research on a regular and continuous basis (Grossenbacher & Gretler 1992, 28f.).

(133) Based on the output data from the SKBF's project database, we can see that, over a period of three to five years, a *fairly constant number of researchers* (approximately 100) are engaged on a regular basis in educational research projects today. The «hard core» thesis is backed up by the observation that research output remains fairly steady even beyond those periods when a national research programme is ongoing. The additional funds available during such phases do allow new researchers to be hired, but those thus employed lose their jobs when the projects end. This results in the often criticized lack of continuity and sustainability in educational research (Grossenbacher & Gretler 1992, Gretler 2000; Cusin et al. 2000; Criblez 2000; Hofstetter & Schneuwly 2001). As can be seen, the kind of targeted research initiated by the Swiss National Science Foundation does not necessarily create the desired additional research capacities. In many cases, in fact, the program has no more than a «windfall effect». [28]

(134) As far as the research staff at *universities of teacher education* is concerned, initial reports suggest a mixed verdict. It is not yet clear whether research at universities of teacher education meets the initial expectations. In connection with accreditation processes in Western Switzerland, Paquay gives teacher educators bad marks as far as research expertise is concerned. Paquay says that most teacher educators at universities of teacher education do not themselves have proper training in research and lack the conceptual and methodological basis for conducting bona fide research projects (Paquay 2005, 17f.). He says there is an urgent need for better qualified personnel, and that further education and a suitably supportive setup would remedy this shortcoming. Paquay contends that universities of teacher education need to come up with more sharply defined

28 Similar saturation effects were observed in an evaluation of applications submitted to the SNF in other areas such as the social sciences and humanities (Wolter et al. 2005, 34f.)

research strategies. He believes they should focus on a small number of coherent research areas [29] and cooperate in larger networks with other universities of teacher education, tertiary institutions, universities and regional research centres. According to Paquay, genuine research of true benefit to political and administrative entities and to science and teacher education can take place only when research and development at universities of teacher education takes on a critical mass as defined by an adequate number of active academics with a proper background and training in scientific and research methods who are actively engaged in international networks (Paquay 2005, 17). Under the auspice of the Swiss Conference of Universities of Teacher Education the research institutes of the Universities of Teacher Education have now set up a coordinated research strategy building on research networks with a clearly defined focus (Vogel (2006, 9).

The new research generation

(135) The cultivation of a new generation of researchers and academics is the sole preserve of university institutions since only the latter have the right to confer doctoral degrees. Despite rising numbers of students in the education sciences, the number of dissertations has plateaued at an annual 20 to 30 papers for the past number of years (Criblez 1998; Cusin, Grossenbacher & Vögeli-Mantonvani 2001).

(136) A look at the statistics for theses in education theory, as regularly published by the «Schweizerische Zeitschrift für Bildungswissenschaften» (a Swiss education sciences journal), shows that this situation has changed little over the past number of years, although there has been an admittedly slight increase in the number of doctoral conferrals. An average of *21 doctoral degrees* were conferred annually between 2000 and 2004, and 10 postgraduate degrees (Habilitation) were completed over the five-year period at universities in German-speaking Switzerland. Half of these postgraduate papers were submitted by women. One paper was concerned with special education. Many of the papers had a historical theme or were concerned with the evaluation of curricular and school development aspects. Few postgraduate theses were based primarily on the use of quantitative empirical methods.

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29 Paquay proposes three areas of research that would be the privileged domain of universities of teacher education: a) Educational institutions; b) Research into teaching and learning; c) Other topics but in close cooperation with recognised research groups (cf. Paquay 2005, 18).

(137) Considering that a postgraduate thesis (Habilitation) is the paper required to qualify as a university professor in the German-speaking world, it is possible to hazard a guess as to the preferred specializations of the new generation of Swiss academics. Given that there are approximately 12 regular professorships at education science institutes in the German-speaking part of Switzerland (approximately two of which on average become vacant during a given five-year period), ten postgraduate papers in five years translates as a large number of potential professorial candidates from Switzerland. However, a look at the newly created or planned professorships in areas of contemporary relevance to educational research (educational sociology, empirical education theory, education system), it becomes apparent that, in view of their postgraduate thesis topics, junior Swiss academics are not ideally qualified to occupy the new university chairs.

(138) Compared with other social sciences, courses of studies in pedagogy for a long time displayed some shortcomings in terms of training in *research methods,* empirical/quantitative methods in particular (see expert report in the SOWI project, Poglia et al. 1993). Various efforts to remedy the situation have been made in the meantime. For instance, a doctoral programme in education sciences was created as part of the «Demain la Suisse» NFS project, and the University of Geneva set up a «3rd cycle level» programme to enable specialisation in educational research. Geneva University, in collaboration with other universities in Western Switzerland, recently became the first Swiss institution to offer a postgraduate programme in education sciences.[30]

(139) There are quite a few researchers in mid-level staff grades («Mittelbau») who started their academic career after first studying something else (and frequently after being employed as a teacher). Many continue to work part-time in their original profession, which may be a major hindrance to an academic career. This is particularly true for women (Hofstetter & Schneuwly 2001). Stable, longer-term research positions for mid-level academic staff are fairly rare.

(140) The *job situation* improved dramatically with the creation of universities of teacher education. The associated large requirement for teaching and research personnel significantly boosted demand within a relatively short period. This situation represented a unique opportunity in the field of educational research for many higher-education graduates. However, these positions also involve teaching requirements, which vary depending on the proportion of R&D time to teaching time. Moreover, quality is another point to

30 Visit http://blogs.unige.ch/fapse/Ecole-doctorale/drupal/

consider whenever there is a much greater need to fill specific positions in the labour market.

(141) Fend (2005) paints a generally *unfavourable picture* of the situation with regard to the *next generation of empirical education researchers* in Germany. Quantitative/empirical description of the education system has been neglected over the past few decades, Fend says; as a consequence, qualifications in the use of empirical methods have not been established on a broad basis. This problem can also be seen in the fact that the PISA studies encountered few education scientists who would have been capable of using the data for active and independent research of their own. Fend says this explains why there are so few secondary analyses of the datasets. The situation is probably not very much different in Switzerland. Fend identifies the following problems (Fend 2005, 69f.) [31]:

– Junior academics are rarely integrated in larger programmes that would provide a basis for continuity of research.
– Upcoming researchers frequently operate in isolation on subjects they choose themselves.
– The typical young academic lacks an international focus and rarely attends or presents at international conferences.
– Junior academics receive little, if any, systematic support during their doctoral studies.
– Junior academics are heavily burdened with teaching and administrative tasks.

(142) Fend's study indicates that only approximately 10% of education researchers operate according to empirical methods. While philosophical, historical and schooling-related dissertations are fairly common in professional journals, experimental data and large-scale quantitative data are rarely used as a basis for doctoral studies (Fend 2005, 70).

(143) In view of the imminent generational shift at German universities, the fact that no more than 10% of all postgraduate theses over the past ten years attest to bona fide empirical research skills is something of a problem. Scientific exploration of the education system urgently demands the systematic cultivation of a new generation of researchers. To achieve this aim, Fend proposes setting up a systematic nationwide system of centres of excellence in education research. [32]

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31 Similar conclusions were drawn by Grossenbacher & Gretler 1992; Poglia et al. 1993; Criblez 1998, 2000; Schneuwly & Hofstetter 2001 in their reports on the situation of educational research in Switzerland

Publication practice

(144) The report on the situation in the social sciences also included an analysis of publication activities in education sciences. Approximately 1,000 articles were catalogued in a two-year period, approximately half of which were from institutions of higher education. Analysis showed that few papers (less than 7%) were published in scientific journals in Switzerland or elsewhere. Publications in international, English-language journals were extremely rare. The preferred means of publication are book articles (16%) and practical publications geared towards a specific target readership (education press, brochures, reports, evaluations, etc.). Most of these contributions represent simple forms of diffusing the results of research to political and administrative entities and schools (Hofstetter & Schneuwly 2001).

(145) Switzerland has only *one* scientific platform of a general nature with the status of an internationally recognized trade journal for those involved in the education sciences. This is the «Schweizerische Zeitschrift für Bildungswissenschaften» (Swiss Journal for Educational Sciences), which is published by the Swiss Society for Research in Education (SGBF). The journal normally appears three times a year (now in its 27th year; it has been peer-reviewed since 2000) and it contains peer-reviewed research papers in French, German, Italian and English. The editorial team is made up of education researchers working at Swiss institutions of higher education (universities and universities of teacher education); the scientific advisory board comprises just over 40 experts, which includes 25 foreign experts. However, the journal's international scope and recognition are subject to certain limitations, mainly because of its multilingualism. Most of the authors are researchers working in Switzerland. A significant share of the input also comes from France, Belgium and Canada, where researchers are under more pressure to publish in peer-reviewed journals than their counterparts in Switzerland and Germany.

(146) German-speaking Switzerland also has the professional journal of the Swiss Society for Teacher Education, «Beiträge zur Lehrerbildung» (Articles on Teacher Education). This academic journal has more of a practical bent and addresses itself to teacher education lecturers. Most of the articles are short and their main purpose is to disseminate the latest research data on teaching and learning and to promote debate on topics of relevance to teacher education.

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32 «Research capacities with a budget equivalent to that of a middle-size primary school should be set aside per 100,000 students» (Fend, 2005, 71).

(147) In German-speaking regions the two German journals «Zeitschrift für Pädagogik» (Journal of Pedagogics) and «Zeitschrift für Erziehungswissenschaft» (Journal for Educational Sciences) are the most prominent peer-reviewed publications. One of the French counterparts is «Revue Française de Pédagogie». Swiss educational research is represented to a varying extent in these international trade journals. The «Zeitschrift für Pädagogik» has two professors teaching at Swiss institutions of higher education among its editors. The «Zeitschrift für Erziehungswissenschaften» and the «Revue Française de Pédagogie» have no Swiss researchers on their editorial team or their scientific advisory board. The «Zeitschrift für Pädagogik» tends to print slightly more Swiss contributions than the other two.

Swiss contributions to international scientific journals 2003–2005
(in parentheses: number of empirical papers)

	2003	2004	2005
Schweizerische Zeitschrift für Bildungswissenschaften	12 (4)	18 (7)	8 (3)
Zeitschrift für Pädagogik	1	5 (3)	6 (1)
Zeitschrift für Erziehungswissenschaft	1	3 (1)	2 (2)
Revue française de pédagogie	0	0	1 (1)

(148) The more common and readily accessible publication platforms are practitioner-oriented journals addressed to administrators and school practitioners (e. g. «Pädagogik», «Bildung Schweiz» etc.), series published by educational facilities (e. g. Geneva University's «Cahiers de la Section des sciences de l'éducation» and «Raisons Educatives») and book articles.

(149) Educational research papers are mainly printed in educational science journals but some also appear in linguistics, psychology and social science publications (Cusin et al. 2000).

(150) Publication trends, in turn, reflect the thematic orientation of educational science research in Switzerland. Because empirical research takes a back seat, papers from Switzerland are rarely published in the renowned international journals, most of which are in the English language and have a strong empirical focus.

Coordination

(151) Switzerland's institutional landscape (federalism, decentralisation of authority, different language regions) calls for a relatively high level of coordination. The creation of various committees and entities dedicated to coordination indicates that the need for coordination is generally recognized. However, efficient coordination can take place only if the players involved are willing and able to pursue a common strategy. However, the pursuit of a uniform, clear-cut line of action is frequently impeded because of the opposing interests of the various parties involved.

(152) Coordination within the field of educational research takes place at various levels. Political and administrative entities have various national and regional coordinating bodies such as CORECHED, CODICRE and the research council in Western Switzerland (CRE). The clout of these organisations depends, however, to a very large extent on the political and institutional support afforded to the respective coordinating body by the parties involved.

(153) Researchers themselves are organized in various *professional associations* such as the Swiss Academy of Humanities and Social Sciences (SAGW), the Swiss Society for Research in Education (SGBF), the Swiss Society for Applied Research in Vocational Education (SGAB) and the Swiss Society for Teacher Education (SGL). The influence of these different organisations on educational policy and research varies. They have an advisory function in addition to their function as representatives of a profession. Interaction between research and administration primarily takes place in these bodies or through their representatives in administrative committees. SGBF, for instance, is represented in CORECHED through its president.

(154) SGBF's impact as a guiding influence is fairly modest. This applies both with regard to its influence in the research community itself (for instance, important representatives of university departments are not active in the SGBF) and with regard to its impact on political and administrative entities.

(155) Researchers are also forced to organise among themselves if they want to be considered for major project allocations. The EDK's latest project allocation policy calls for active participation among researchers and usually makes it a condition that contractors organise themselves into consortiums of researchers or of their employers.

(156) Finally, the *language barrier* should not be underestimated. Professional exchange between German and French-speaking researchers is by no means a matter of course,

even in Switzerland. A focus on English, the international science community's lingua franca, might make communication easier for publications and conferences. Turning to English would also promote an international exchange of ideas.

International networking among the research community

(157) International networks among educational scientists tend to be less well developed than in other disciplines. In Switzerland there is a strong tendency to build these networks within a particular language region. German-speaking Swiss education researchers are oriented toward Germany and the research going on there while their counterparts in Western Switzerland tend to look toward France. International networking mainly takes place within the corresponding language community. The same applies in part to institutional forms of cooperation (e. g. in German-speaking CERI seminars and the French-speaking ADMEE). This may be due to cultural factors such as research traditions or research structures (Keiner & Schriewer 2000), but thematic trends in research are another major factor. Education science theorists, for instance, point to the strong national roots of this discipline (see Poglia 1986, 5; Oelkers 2000, 175). On the other hand, individual research biographies may also be significant. German and Austrian professors are fairly common in Swiss German professorships of education science, as are French professors in Western Switzerland. Consequently, the scientific platforms in their countries of origin continue to play a significant role.

(158) Unlike educational sociology, educational economics and educational psychology, the Anglophone science nexus (English-speaking journals, international conferences and seminars) does not play such a prominent role in the education sciences proper. This also applies to the next generation of academics coming up, as can be seen by the fairly low numbers of Swiss education researchers attending the conferences for new researchers organised by institutions such as the European Educational Research Association (EERA). An instrument created by the CORECHED coordinating conference to promote this exchange (funding for participation in foreign conferences) has attracted few takers so far.

(159) The same applies to the publication of Swiss research in international English-language journals. Most of the Swiss-based education researchers are so far only tiptoeing around the international English-language research stage. Here, too, instruments created by CORECHED to encourage such engagement (funding to have articles translated for international journals) have attracted very little interest so far.

3. Application and outcome

Interaction between producers of research, practitioners and policymakers
Impact of educational R&D on practice and its input to policy-making

3. 1 Application and utilisation of research: demand on the part of users of educational research

Interaction between producers of research and practitioners

(160) There have been repeated attempts to intensify interaction between the producers of research and educational practitioners (political and administrative entities, schools). However, most of these initiatives were isolated measures and not part of a larger strategy. CORECHED lists the following examples in its reports (CORECHED 1996):

– SKBF publishes abstracts of research study data in the educational press (journals for teaching practitioners, cantonal school bulletins etc.) on a regular basis.
– SKBF maintains and supports networks on specific topics. The networking includes conferences and seminars. Newsletters are used for routine communication.
– SKBF's services are used at various ends: practitioners, producers of research, political and administrative entities. Furthermore, media representatives with questions on education are increasingly turning directly to SKBF.
– The Swiss Teachers' Association (LCH) runs an education office whose mission is to transfer the benefits of research knowledge to education practitioners and to actively participate in research and education policy discourse.
– In 1994 a seminar was held in Aarau under the heading «Practitioner-Researcher: Theoretical concepts and practical examples of research in the basic training and further education of teachers».
– The «Société pédagogique romande» adopted a 1995 resolution for the attention of cantonal parliaments, calling for greater support of educational research.

(161) There is no systematic institutionalized interaction between research and politics in which policymakers can address questions to researchers or discuss pressing issues. Conversely, there is no regular culture of feedback that would provide a firm basis for putting research data into practice. The various administrative entities for education each cultivate their own connections with researchers or institutions. Exchange between producers of research and practitioners tends to take place on a fairly informal basis.

(162) The absence of any such exchange has various causes: a strained relationship between administrative entities and producers of research in the educational system, a low

level of awareness on the part of academic research for the practical concerns of administrators and school practitioners, and a lack of knowledge and expertise among administrative staff with regard to the relevance of research to educational policy matters.

(163) These problems are also evident in the case of the CORECHED coordination conference, which was supposed to bring the various players together. Interaction between research producers and political/administrative entities is not always easily managed. For example, CORECHED's original organisational structure with a steering committee representing the conference sponsors (EDK and federal agencies) and a scientific advisory board proved to be problematic in the course of time. Members of the advisory board complained of their lack of influence, and the steering committee was disappointed at the advisory board's lack of activity and initiative. The advisory board was eventually disbanded in the wake of the 2004 progress review. Educational research is now represented in CORECHED only by the president of the professional association, the SGBF. Other ways of improving interaction need to first be developed and tried out.

Research contracts and demand from users of educational research

(164) The call for independence between research producer and the contracting party is not easy to meet in the educational sciences. Contracting parties, practitioners and evaluators are in many cases equally dependent on the outcome of an evaluation study. This specific situation in the educational sciences means that research in general is bound so closely to its subject that it is difficult to thematise the impact of policy on research and the meaning of research for policy-making (Klöti 1995).

(165) This is probably why contract allocation in the field of educational research is not always transparent. The criteria applied by political and administrative entities in allocating research and evaluation contracts are in many cases unclear. Many contracts, especially at the cantonal level, are not the subject of an official public tender process, and very little data is available on the resources and funds employed.[33] However, the few analyses and estimates that exist in this area suggest that substantial resources are involved.

33 Precise data from the cantons on the appropriated funds are usually not available. Federal government contracts are entered in the ARAMIS information system but specific information on the appropriated funds is usually lacking.

(166) Educational administrative entities in the various cantons differ in the extent to which they utilise research data. More than a few reform projects are not based on basic scientific research. Scientific support and evaluation of reforms and their implementation is not proceduralised. There is a fundamental issue at stake here, i. e. the question of how best to shape the educational system on the basis of research (evidence-based policy research). How can administrative entities set priorities in educational research? Do the research agencies of administrative entities actually have staff with the capacity to produce the relevant scientific evidence on an ongoing basis, formulate key research issues, commission suitable research projects and evaluate them in accordance with contemporary standards?

(167) There are only rudimentary models of a systematic quality assurance of assigned educational research.[34] It is also unclear how educational administration entities are supposed to influence and codetermine the priorities set by research producers. Although the latter years of secondary school and the non-university tertiary education system started attracting significantly more educational policy debate and relevance in the late 1990s (various reform projects), there was no commensurate shifting of priorities in the issues tackled by education research producers. Gretler refers in this context to a widening abyss between educational policy priorities and research trends (Gretler 2000, 72).

(168) The fact that educational research and development is generating little evidence as a basis for decision-making by political and administrative entities may not just be due to one-sidedness in the choice of research fields by the producers of research; it may also be because political and administrative entities do too little in the way of asking for the kind of research they need. The educational monitoring project is now the first attempt to process research knowledge as a guide to policy-making on the basis of a monitoring process.

34 The federal government, for example, set up a quality control system for departmental research at the end of 2004.

3. 2 Outcome of research: What is the impact of educational research and development?

Policy evaluation: Putting research results into practice

(169) Educational research and development is effective only if the research findings impact on the system. Impact analyses conducted along social science principles would be necessary to evaluate this. Analyses of this kind are common in political science research, for example, but they still quite rare in the realm of educational research. It is the job of the relevant administrative and political entities to adopt an interdisciplinary approach in this situation and make greater use of politological and economic research.

(170) CORECHED identified the main problems and reforms necessary in Swiss educational research 10 years ago and made proposals to remedy the situation (CORECHED 1994). Appraisal of the situation today shows that almost none of the guidelines resulted in specific measures; most of the proposals were not implemented. While the networking principle was implemented with some success in NRP 33, we are still very far from achieving an optimum division of tasks and responsibilities in educational research and development (CORECHED 1996). No advances can be seen in German-speaking Switzerland with regard to the training of research producers. The idea of setting up a postgraduate programme at a tertiary institution in German-speaking Switzerland (a proposal already launched previously) has not been acted upon to date (CORECHED 1996).

(171) In NRP 33 (on the efficacy of the education system), did raise the key issues regarding the systematic efficacy of research as it is practiced (Trier 2000, 23f.):

– Would interdisciplinary approaches increase the relevance of research to the educational system?
– What significance do research findings have for the various sub-systems?
– Are feedback mechanisms in place to indicate when there is a need for action on the part of policymakers?
– What are the requirements and models needed to intensify the feedback mechanisms?

(172) However, the project itself did not answer all of these questions and implementation was not subsequently evaluated. It seems that these aspects have not always been top of the agenda for the public entities commissioning research projects. This would include, for instance, the systematic evaluation of SNF projects after their

completion. In the case of NRP 33, there was an attempt in this direction in the form of a partial evaluation of the research programme which enquired, among other things, about the effects of an NRP on research producers themselves. This evaluation showed that NRP 33 triggered research activities amounting to approximately 200 full-time man work years, of which approximately one-third was not funded by the SNF. Levels of satisfaction with the scientific data were fairly high in general but the working conditions came in for more criticism. Research producers were highly sceptical as to the lastingness of the research activities triggered by the programme. More than half of the jobs created for targeted research were not retained after NRP 33 was completed (Meyer 1999).

(173) Hardly any in-depth analyses of the impact of educational policy measures and specific studies on their implementation in the educational system have been conducted to date. Klöti identifies a general need for political science-based evaluation research in relation to educational policy measures: policy analyses that include an investigation of factors such as political decision-making processes, social and economic influences, and the impact of politics on education, are rare. Klöti believes this is due to the particular research tradition prevailing in the institutionalised education sciences, to federalism in educational policy, the poor state of social sciences in Switzerland, and the marginal position of educational policy within national policy-making circles (Klöti 1995, 84f.).

Capacity building

(174) Extensive fragmentation of Swiss educational research, the situation of research producers (training, age, job situation), a lack of continuity (Criblez 1998) and deficits in the development of the next research generation, with all the implications for the young researchers described above (isolation, low level of international integration), are all reasons why educational R&D has no long-term impact on science itself.

(175) As long as the structural conditions do not allow continuous, sufficiently specialised research in the field of basic research, there will not be a sufficient basis for building up knowledge and developing the discipline. Applied research and development (curriculum development, evaluations, and so on), which is intensively pursued at university institutions, contributes little to the development of educational science. This situation is compounded by the low level of international networking in the education sciences, especially in the area of quantitative empirical research.

(176) The result is that entire areas of educational research are neglected in their development, junior academics receive inadequate support, and the evidence needed for policymaking by administrative and political entities is not generated on an effective basis.

Conclusion

(177) The need for educational research has clearly increased during the past few years. Time and again educational policymakers and administrators are finding themselves challenged in new ways by social and political developments. The sweeping reforms of the education system are indications that these challenges are being addressed, that measures are being adopted and new paths are being explored.

(178) While acknowledging the dynamic developments underway today, the question of the relevancy, effectiveness and efficiency of these measures should always be kept in mind. What is the scientific basis of the reforms? What effects are the reforms creating?

(179) This brings us to a major structural problem facing Swiss educational research, particularly the education sciences, which are not exactly understaffed in comparison with other social science disciplines: The widespread lack of socio-political relevance. The need for research and the relevance of educational research are by no means universally acknowledged in political and administrative circles. This has produced a general malaise in the discipline: Although educational research is defined as a social science, policymakers often are not used to ask the relevant questions. Without any policy-relevant questions from administrative entities and policymakers, however, it is hardly possible to cultivate a fruitful dialogue between educational practice and research. On the other hand, the educational research community does have some difficulties in presenting the added value of research to the education and administrative systems. This statement is not quite true for Western Switzerland, however, because an institutionalised interaction between education practice, politics and research was established in that region quite some time ago (the «Conseil de la recherche en éducation» or CRE, which is also institutionally anchored with the IRDP). At the pan-Swiss level the recently launched education monitoring project also deserves mention. This project, in concept, is likewise committed to cultivating a dialogue between policymakers and research producers and is intended to provide a scientific basis for strategic planning of education policy in the medium term.

(180) At present only rudimentary signs of a genuine strategy for educational research policy are visible at the national as well as cantonal levels. A broad strategic research policy would comprise a general inventory and evaluation of the status quo and the designation of the main research areas or issues and include action plans for developing research capacity wherever it is lacking. Within the area of educational research, this kind of a top-down strategy has been pursued most consistently and ardently by the BBT. It is here where a once badly neglected area of educational research was steadfastly developed.

(181) As a comparable instrument for the sustained build-up of research capacity, the education sciences do have access to NFS funds, but they are competing directly with the other social sciences and humanities for such funding. The absence of any success in the last round of applications for NFSs is, therefore, more likely the result of a deficiency in the scientific quality of the submissions rather than a faulty research policy.

(182) This fundamental problem is exacerbated by Switzerland's decentralized, federalistic structure. Research is fragmented; the lack of critical mass, at least in German-speaking Switzerland, largely prevents the establishment of areas of emphasis and specialist competency centres with the requisite impact on science, politics and practice. Lastly, the problematic situation with regard to the next generation of academics and researchers is a direct consequence of this general environment.

(183) Coordination of the educational research conducted at traditional universities and the universities of teacher education could often be improved. The institutions are not systematically informed about the research projects of other research departments. This could definitely be improved through greater dialogue, mutual transparency and mutual consultation at an early stage.

(184) Moreover, it has been observed that pure basic research still plays a negligible role in the field of educational research; certain aspects of educational research tend to be neglected, as various reports have pointed out. Considerable applied research and development is being conducted. Its relationship with the relevant basic research varies in scope and detail.

(185) Finally, it must be said that integrating the various disciplines involved in edu-cation sciences into a broad, interdisciplinary field of educational research has not yet been successful. In view of this situation, the coordination of research in the field of educational research is a veritable challenge.

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Appendix: Swiss multilateral cooperation in the field of education

OECD

Education indicators and competency assessment

INES (Indicators of Education Systems)	Since 1992, annually	Education at a Glance	BFS
DeSeCo (Definition and Selection of Competencies)	1997–2002	Rychen & Salganik 2003	BFS
PISA (Programme for International Student Assessment)	since 1998	Zahner Rossier 2003	BFS, EDK
IALS (International Adult Literacy	1994–1998	Notter, Bonerad & Stoll 1999	BFS, BBW
ALL (Adult Literacy and Lifeskills survey) Follow-up study of IALS	2001–2005	Hertig & Notter 2005	BFS, SBF

Thematic Reviews

Transitions	1997–1999	Galley & Meyer 1998 OECD 2000	EDK, BBW, BBT
Tertiary Education	2000–2002	OECD 2003	BBW, EDK
Adult Education	1998–2002	Bodart Senn & Schräder-Naef 2000, OECD 2003, OECD 2005	BBW, BBT, SVEB
Attracting, Developing, and Retaining Effective Teachers	2001–2005	Müller Kucera & Stauffer 2003, OECD 2005	CORECHED, BBW, EDK, BBT
Equity in Education	2004–	Coradi Vellacott & Wolter 2004, Equity in Educaton	SBF

Other Projects

New Information and Communication Technologies	1997–2001	McCluskey 1996, McCluskey 2000, OECD 2001	BBW, SFIB TECFA Uni GE
Financing Life-long Learning ELAP (European Learning Account Project) UK Projekt	2000–2001	OECD 2000	BBW, SVEB
Special Educational Needs		OECD 2005, Students with Disabilities, Learning Difficulties and Disadvantages: Statistics and Indicators.	Swiss Centre for Special Education, Uni FR, Uni ZH
Cross-sectoral partnership			
Intercultural education			
Stability Pact			
China			

UNESCO

CONFINTEA V (Conférence Internationale sur l'éducation des adultes)	1997–	UNESCO 2003, EFA Global Monitoring Report	

Council of Europe

EDC (Education for Democratic Citizenship)	1997–	Oser et al. 2000	CORECHED, BBW

European Union

Research framework programme	1996–		
Mobility programmes Socrates, Leonardo da Vinci, Youth	2000–		
EUN (European Schoolnet)		Worlddidac, BBW, European Schoolnet (2000) Internet and the Learning Citizen. International Conference March 28, 2000, Zurich; CD-ROM	
ICT Projects			

Stability Pact

EDC Multipliers			
Dadalos			
Improving Methodology (IMPACT)			

Francophonie

AUF (Agence universitaire de la Francophonie)	1990–		EDK, BBW, SUK
ADMEE (Association pour le développement des méthodologies d'évaluation en éducation en Europe)			IRDP

Other organisations

EUA: Bologna Follow-up QA			
Special Needs Agency			

Source: SBF

Abbreviations used

ALL	Adult Literacy and Lifeskills Survey
BBT/OFFT	Bundesamt für Berufsbildung und Technologie = Office fédéral de la formation professionnelle et de la technologie = Federal Office for Professional Education and Technology
BFS/OFS	Bundesamt für Statistik = Office fédéral de la statistique = Federal Statistical Office
BFT/FRT	Botschaft (des Bundesrats ans Parlament) über die Förderung von Bildung, Forschung und Technologie (in den Jahren 2004–2007) = Message (du Conseil fédéral au Parlement) relatif à l'encouragement de la formation, de la recherche et de la technologie (pendant les années 2004 à 2007) = Federal Council's Education, Research and Technology Message (for 2004–2007)
CERI	Centre for Educational Research and Innovation (OECD) = Centre pour la recherche et l'innovation dans l'enseignement
CIIP	Conférence intercantonale de l'instruction publique de la Suisse romande et du Tessin = Conference of Cantonal Ministers of Education of French and Italian Speaking Switzerland
CODICRE	Schweizerische Konferenz der Leiter/innen von Arbeitsstellen für Schulentwicklung und Bildungsforschung = Conférence suisse des directeurs/directrices de centres de développement scolaire et de recherche en éducation = Conference of directors of cantonal centres for educational R&D
CORECHED	Schweizerische Koordinationskonferenz Bildungsforschung = Conseil suisse de la recherche en éducation = Swiss Council for Educational Research
CRE	Conseil pour la recherche en éducation = Council for Educational Research (authority of the CIIP)
CRUS	Rektorenkonferenz der Schweizer Universitäten = Conférence des recterus des universités suisses = Rectors' Conference of the Swiss Universities
DORE	Do Research! (Research promotion programme of SNF and KTI for FH)
EDK/CDIP	Schweizerische Konferenz der kantonalen Erziehungsdirektoren = Conférence suisse des directeurs cantonaux de l'instruction publique = Swiss Conference of Cantonal Ministers of Education
EDK Ost	Konferenz der ostschweizerischen Erziehungsdirektoren = Conference of Cantonal Ministers of Education of Eastern Switzerland

EERA	European Educational Research Association = Association européenne de recherche en éducation
EHB	Eidgenössisches Hochschulinstitut für Berufsbildung = Institut fédéral des hautes études en formation professionnelle = Swiss Federal Institute of Vocational Education and Training
EPFL	École polytechnique fédérale de Lausanne = Eidgenössische Technische Hochschule Lausanne = Swiss Federal Institute of Technology Lausanne
EVAMAR	Evaluation der Maturitätsreform = Évaluation de la réforme de la maturité = Evaluation of Maturity reform
FH/HES	Fachhochschule = Haute école spécialisée = University of Applied Sciences
FPSE	Faculté de psychologie et des sciences de l'éducation (University of Geneva)
IALS	International Adult Literacy Study
IEA	International Association for the Evaluation of Educational Achievement
IRDP	Institut de recherche et de documentation pédagogique = Institute for Pedagogical Research and Documentation (Neuchâtel)
KTI/CTI	Kommission für Technologie und Innovation = Commission pour la promotion de l'innovation = Innovation Promotion Agency
NFP/PNR	Nationales Forschungsprogramm = Programme national de recherche = National Research Programme
NFS/PRN	Nationaler Forschungsschwerpunkt = Pôles de recherche nationaux = National Centres of Competence in Research
NW EDK	Nordwestschweizerische Erziehungsdirektorenkonferenz = Conférence des directeurs cantonaux de l'instruction publique de la Suisse du Nord-Ouest = Conference of Cantonal Ministers of Education of Nothwestern Switzerland
PH/HEP	Pädagogische Hochschule = Haute école pédagogique (HEP) = University of Teacher Education
PISA	Programme for International Student Assessment
SAGW/ASSH	Schweizerische Akademie der Geistes- und Sozialwissenschaften = Académie suisse des sciences humaines et sociales = Swiss Academy of Humanities and Social Sciences

SBF/SER	Staatssekretariat für Bildung und Forschung = Secrétariat d'État à l'éducation et à la racherche = State Secretariat for Education and Research
SFIB/CTIE	Schweizerische Fachstelle für Informationstechnologien im Bildungwesen = Centre suisse des technologies de l'information dans l'enseignement = Swiss Centre for Information Technologies in Education
SGAB/SRFP	Schweizerische Gesellschaft für angewandte Berufsbildungsforschung = Société suisse pour la recherche appliquée en matière de formation professionnelle = Swiss Society for Applied Research in Vocational Education
SGBF/SSRE	Schweizerische Gesellschaft für Bildungsforschung = Société suisse pour la recherche en éducation = Swiss Society for Research in Education
SGL/SSFE	Schweizerische Gesellschaft für Lehrerinnen- und Lehrerbildung = Société suisse pour la formation des enseignantes et enseignants = Swiss Society for Teacher Training
SIBP/ISPFP	Schweizerisches Institut für Berufspädagogik = Institut suisse de pédagogie pour la formation professionnelle = Swiss Institute for Vocational Training
SKBF/CSRE	Schweizerische Koordinationsstelle für Bildungsforschung = Centre suisse de coordination pour la recherche en éducation = Swiss Coordination Centre for Research in Education
SKPH/CSHEP	Schweizerische Konferenz der Rektorinnen und Rektoren der Pädagogischen Hochschulen = Conférence suisse des recteurs des hautes écoles pédagogiques = Swiss Conference of Rectors of Universities of Teacher Education
SNF/FNRS	Schweizerischer Nationalfonds zur Förderung der wissenschaftlichen Forschung = Fonds national suisse de la recherche scientifique = Swiss National Science Foundation
SOWI	Untersuchung zur Situation der Sozialwissenschaften in der Schweiz = Examen de la situation des sciences sociales en Suisse = Inquiry into the situation of the social sciences in Switzerland
SWTR/CSST	Schweizerischer Wissenschafts- und Technologierat = Conseil suisse de la science et de la technologie = Swiss Science and Technology Council *(up to 2000: Schweizerischer Wissenschaftsrat, SWR)*
TIMSS	Third International Mathematics and Science Study (IEA)
WBK/CSEC	Kommission für Wissenschaft, Bildung und Kultur des National- bzw. Ständerates = Commission de la science, de l'éducation et de la culture du Conseil national et du Conseil des Etats respectivement = Committee for Science, Education and Culture of the Parliament
ZBS	Zentralschweizerischer Beratungsdienst für Schulfragen = Education Planning and Consulting Service for Central Switzerland *(today: Bildungsplanung Zentralschweiz)*