

8 Teacher training and professional development

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Some of the factors characterizing education in schools (class size, expenditure per pupil) do not have demonstrable effects on student performance while teacher quality (as measured by skills, knowledge and qualifications) plays a decisive role in students' progress (HANUSHEK, 2003; BARBER & MOURSHED, 2007; VARGA, 2007). Based on an analysis of teacher training policies in 25 countries, the OECD (2005) report cogently entitled *Teachers Matter* comes to the conclusion that teacher quality is the most important factor in an education system, and the second most important factor (only preceded by family background) among the variety of influences affecting student achievement. McKinsey & Company investigated the factors behind the accomplishments of the most successful education programmes in Asia, Europe, North America and the Middle East as evaluated by the OECD PISA survey¹ conducted between May 2006 and March 2007. In their summary of the research results, the McKinsey report comes to the conclusion that certain education systems achieve substantially better outcomes than others because “they have produced a system that is more effective in doing three things: getting more talented people to become teachers, developing these teachers into better instructors, and in ensuring that these instructors deliver consistently for every child in the system. (...) The quality of an education system cannot exceed the quality of its teachers” (BARBER & MOURSHED, 2007). This appears to be the area that resources should target; knowledge-intensive training institutions and knowledge-rich teacher development centres should be provided.

▪ DIAGNOSIS

1. *Teacher competences, training requirements.* The primary aim of teacher training is to develop educational skills that are compatible with education policies and to enable teachers to deliver these policies. It is a complex task to define teaching practices that have an impact on student performance since what counts as an effective teaching strategy varies by student age group, per-

[1] *Programme for International Students Assessment.*

Different age groups, personalities, learning abilities and social backgrounds call for different teacher skills.

sonality, learning ability and social background, and different strategies call for different teacher skills (GUSTAFSSON, 2003). Easy-to-gather, formal measurements such as student test scores, teacher qualifications and years of teaching experience are insufficient in evaluating teacher competences (HEDGES & GREENWALD, 1996). Several other factors need to be taken into consideration: the ability to convey knowledge, communication skills, knowledge of the subject matter and professional development attainment.

Most studies concerned with the teaching profession look at measurable characteristics: the composition of the teacher population, the work load of teachers and their salaries. Convincing portrayals of teachers' life histories, their attitudes towards their profession and their vocational creed have been published in several case studies, collections of interviews and other studies summoning the tools of cultural anthropology or sociology as well (FALUS, 2002). It is a teacher's duty – among other things – to develop the skills which are essential for a knowledge-based society and economy to prosper, to be committed to change, to counterbalance rampant consumerism, to create a community and to lessen the gap between the rich and the poor. Among key teacher competences good communication skills often receive prominent mention. For a teacher to fulfil his or her professional function in a given domain, a synthesis of knowledge, attitudes and practical skills is needed (FALUS, 2002).

European teacher training experts (the national delegates of the EU working group) have compiled a list of new requirements concerning teacher competences, which combines issues of education policy and research in setting a direction for teacher training. Comparing these requirements to the Hungarian regulations on teacher qualifications, we fortunately find a substantial overlap (Table 8.1). The Hungarian set of requirements, however, does not include two groups included in the EU document: social and civic competences and, within that, an interest in highlighting and solving problems. The EU document makes it clear that key competences include a readiness to attend to the needs of pupils or students of different social, cultural or ethnic backgrounds. These requirements are substituted in the Hungarian set of objectives by the following: “exploit the pedagogical potential inherent in learner communities, assist an understanding of individual differences, make use of inter-cultural education programmes, develop co-operation skills” (Appendix 4 to Ministry of Education Decree 15/2006 [April 3]).

A new professional profile needs to be created, and training practices should meet the new challenges and tasks.

A sound requirement is one that yields better outcomes for those teachers who observe it compared to those who do not. The experiences of the EU working group on teacher training point to the conclusion that a *new professional profile* needs to be created for teacher training, and training practices should meet the new challenges and tasks. Greater emphasis should be placed on cooperating with schools and teaching staff should have a greater say in defining a good teacher. Practicing educators' aptitude for self-reflection needs to be reinforced, external inspection should be given a greater role and teachers should be more open to new education methods. These changes, however, can-

[TABLE 8.1] TEACHER COMPETENCES AS SET OUT IN EU DOCUMENTS AND IN HUNGARIAN REGULATIONS

KEY COMPETENCES IDENTIFIED BY THE EU WORKING GROUP	HUNGARIAN REQUIREMENTS OF TEACHER QUALIFICATION
Competences related to the learning process	To shape students' personalities
To help students to become citizens of their countries	
To develop skills and competences that are needed in a knowledge-based society	To support and develop student groups and communities
To connect new competence development with subject knowledge acquisition	To develop educational methods
Competences related to the teaching process	To use professional skills to increase students' knowledge, skills and competences
To attend to the needs of pupils or students of different social, cultural or ethnic backgrounds	To exploit the pedagogical potential inherent in learner communities, to assist an understanding of individual differences, to make use of intercultural education programmes, to develop co-operation skills
To create an effective learning environment which supports the learning process	To use a variety of educational assessment methods To organize and lead the learning process
To incorporate information technology in various learning situations and all teacher activities	To develop varied teaching and learning methods, to select appropriate learning resources, to use new information and communication technologies, to create an effective learning environment
To collaborate with other teachers/instructors and other professionals involved in the education of the same groups of pupils or students	Professional collaboration and communication
To participate in the development and evaluation of school or teacher training curricula and organization.	A commitment to professional development and learning
To build a partnership with parents and other social partners	Professional collaboration and communication
Competences related to the civic role of teachers	<i>Not included explicitly!</i>
An interest in highlighting and solving problems	Not included!
To organize and advance one's own professional development as part of lifelong learning. [Teachers must equip their students with competences needed in a knowledge-based society. (...) Teachers must be prepared to take initiative in their careers.]	To develop the foundations of lifelong learning
[SOURCE] EU: NAGY (2004); Hungary: "Objectives of teacher training, key professional competences" in Appendix 4 to Ministry of Education Decree 15/2006 (April 3).	

not be delivered unless the different partners involved in education services collaborate in their efforts.

The evaluation of teacher competences can only fulfil its objective of becoming a catalyst and benchmark for professional renewal if it is based on a broad professional consensus. The criteria used for teacher evaluation in Hungary were surveyed in terms of the responses of school headmasters in the National Assessment of Basic Competencies (NABC) in 2004 and in the following year's analysis of school outcomes carried out by the research centre of the National Institute for Public Education (OKI). These reveal that headmasters tend to rely on their personal experiences and pay less attention to feedback from students, parents or colleagues, or to the literature on teacher competences, since – as was mentioned before – scarcely any studies are available in Hungarian. (There are two studies, however, which headmasters would find illuminat-

ing: FALUS, 2004 and GOLNHOFER & NAHALKA, 2001.) The top-rated requirement identified by headmasters is the following: “*a keen interest in shaping student personalities,*” while ranked bottom is “*a willingness to perform additional duties.*” (This might be an indication of how talented those students are who go on to become headmasters!) The list of assessment criteria also includes experiences of class visits, participation in professional events and students’ competition results.

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The only way to assess teacher competences is to observe teachers at work, in the school. Class visits offer a direct means of doing this but appropriate data can also be collected regarding new or experienced teachers by looking at student accomplishments or by interviewing headmasters, colleagues, students and parents. Researchers find it difficult to monitor teacher performance systematically because – in contrast with student assessment tests – *there is no regular data collection and even the sporadic data collected are not retained. Thus the relationship between changes in student outcomes and teaching activities cannot be assessed.* This is unfortunate, since – as has been demonstrated by research into teacher assessment in American school districts – this task is just as important and fruitful as devising plans of new education programmes.

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Requirements defined in terms of teacher competences cannot fully replace qualification requirements since the latter must be measurable in an unambiguous and economical way (FALUS, 2002). Indicators of teachers’ qualifications, the so-called *standards* define levels of competence in a way that is sufficiently specific, explicit and simple to measure in order to provide a clear and reliable criterion for awarding qualifications regardless of where a candidate completed teacher training studies (TDA, 2005). For the assessment of teacher performance, in contrast, at present no indicators are available which could provide unambiguous and simple to use methods of measurement.

2. *Reform of teacher training.* In June 2004 the Hungarian government approved the national Bologna-strategy and a Teacher Training Subcommittee of the National Bologna Committee was set up in the same year. It was soon decided that the earlier dual training structure would be replaced by a new multi-level, linear structure. A number of new clauses were added to the set of teacher training regulations which addressed the problems of the old system and outlined a new approach to teacher training.² The most important element of the reform is that teaching qualifications are now awarded at the second, master’s stage of the multi-level training system. At the first level of training, students acquire the foundations of their chosen subjects – accord-

[2] The Decree on the introduction of the multi-cycle education structure names 102 degree courses at bachelor’s level and six so-called uninterrupted courses leading to master’s level (the latter of which do not offer a Bachelor’s Degree). §7 of the Decree defined the general principles of master’s level teacher training as a continuation of bachelor level programmes. The requirement of a standardised master level teacher training programme has been included in the new Higher Education Act.

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ing to a standardized curriculum. The implementation of the Bologna process in Hungary encounters the problem that the criteria of quality training are not defined in sufficient detail. There has been a need for a standardized, university-level teacher training programme for a long time. But now colleges are licensed to launch master's programmes for teacher training, which means that the proposed standardization process may be realised at college level rather than at university level.

The Hungarian Parliament ratified a legal framework for the Bologna process in 2005. The major features of the new teacher training system are set out in the new Higher Education Act.³ A government decree has been issued regarding bachelor's level and master's level education outlining the principles of teacher training and specifying a list of subjects that are accepted as majors in teacher training. To obtain the new Master's Degree in Education students must earn 40 credits in subjects in pedagogy or psychology and subsequently undertake teaching practice (internship) at a school for a full semester, which is worth 30 credits. Introductory courses worth ten credits can be taken at the first stage of studies in parallel with BA or BSc courses. In addition to these 80 credits, students are required to earn at least seven credits in teaching methods relevant to their subjects.

The detailed training requirements mention several modern methods which are markedly missing from current training. It is also stated that a large element of the programme should be taught in small groups. The traditional teacher training curriculum encompasses three broad areas, one of which, the history of education, is not a compulsory subject in several EU countries.

It is highly debatable whether this increasingly voluminous subject area should remain part of the compulsory curriculum of the new shorter training programme.⁴ Pedagogy and education theory courses should be modernized. Foreign language education, for instance, is characterized by a shift from an academic philological focus towards applied linguistics and methods which have been empirically proven to be effective, which are clearly more profitable skills in everyday teaching practice. The teacher training programme currently awaiting approval is expected to introduce a similar shift in pedagogy and in the education theory syllabus, with the results of research on classroom teaching included. Hungary has a tradition of high standards in teaching academic subjects as part of the teacher training curriculum but these are not linked to pedagogy or psychology blocks either in content or in method. In other countries, representatives of different subject-based teaching methods and instruction

Academic subjects of the teacher training curriculum are not linked to pedagogy or psychology blocks either in content or in method.

[3] Higher Education Act CXXXIX of 2005 (Nov. 29th, 2005).

[4] The history of education appears in various incarnations in master's curricula. The history of educational institutions and childhood is part of the foundational stage of teacher training. The history of different subject areas and even youth movements are taught in separate courses later on. For the time being only one of these, usually the traditional, chronological history of pedagogy, is compulsory.

theory are all gathering into a united scientific-professional community characterized by a commitment to empirical research methods based on classroom teaching. In Hungary, in contrast, different interpretations of a teacher's role and subject-based orientation remain the norm – in large part because people have no experience of research of this kind leading to professional debates.

The new teacher training model assigns an important role to subject specialists on the teacher training staff, who make regular visits to schools and maintain contact with senior teachers, and work with students in the form of case-study seminars. However, not even the methodologically most progressive foreign language education programme can provide instructors of this kind in all of the subjects on offer; an intensive continuing professional development programme is therefore needed. Co-operation between teachers specializing in different subjects within the same subject area (e.g. foreign languages or natural sciences) should be encouraged by offering shared foundational methodology classes. Subject teaching methodology courses could be more uniform and effective if methodology common to all subjects in a given area was taught to all trainee teachers as a foundational course and subject-specific methods were added at a later stage.

3. *The quality of trainers.* Hungary has a number of higher education institutions, of varying standards, that offer teacher training programmes – 33 institutions in total.⁵ 85 per cent of teacher trainees attend one of 16 academic universities or 10 vocational colleges under state ownership. Teacher training is also offered in two church-run academic universities and three church-run colleges as well as in some endowment-funded or private colleges. The heterogeneity of teacher training is well illustrated by the fact that there are institutions where only one teacher training specialization is offered. Not counting the wide variety of musical instrument and vocational subject teacher specializations, about 130 different teaching majors are on offer at present, with a declining number of students taking them (NAGY & VARGA, 2006). Training programmes at the large number of independent, largely autonomous institutions are run without any sort of regular central outcome assessment or other control mechanism. It is doubtful whether the entire range of institutions – which are incomparably distant from each other in terms of mission, infrastructure and human resources – will be capable of offering teacher training programmes meeting the same requirements. (See the box *International experiences in central control over teacher training programmes.*)

The EU working group finds that teacher training institutions should implement a quality assurance and evaluation system that incorporates measures to prepare for the new competence requirements (NAGY, 2004). A quality assurance programme of this kind – or any other kind that has a genuine impact on

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[5] While medicine, for instance, is offered by only four institutions in Hungary.

INTERNATIONAL EXPERIENCES IN CENTRAL CONTROL OVER TEACHER TRAINING PROGRAMMES

Teacher training is subject to central control in some European countries. In the United Kingdom (England and Wales), for instance, central control of teacher training was increased in the nineties by introducing standard curricula in teacher training programmes and/or professional benchmarks for teacher qualifications. A training inspection system has also been implemented. Teaching staff at British universities are assessed every five years; the assessment, far from being a simple formality, is a highly rigorous process. The Research Assessment Exercise (RAE) (<http://www.rae.ac.uk/>) is based on peer review. In teacher training, for instance, a panel of 16 specialists is commissioned by the government to visit institutions and evaluate the quality of professional achievements of eminent members of staff selected by the institution for inclusion. The evaluation is not simply based on the number and prestige of publications and research projects but also on their contents – that is, the publications selected by their authors as their best works are read through by the panel! The results of the RAE have a direct effect on the future of the institution, as the rating is one of the most important considerations in allocating funding. (The Hungarian system of ranking universities by research involves a similar proc-

ess but there is a fundamental difference: every senior member of academic staff is included in the RAE. Those who are not selected for inclusion by their institution will soon need to look for another job.)

In Britain (similarly to Germany, for instance) even university professors are subjected to a strict evaluation process three years into their appointment. In Germany, academic appointments (*Berufung*) are initially given for three years only, and the rule equally applies to everyone from junior lecturers through to the highest academic ranks. It is a frequent event here that an institution parts with a full professor due to inadequate achievement – something that is unthinkable in Hungary. An interesting component of the evaluation procedures applying to would-be professors is the requirement to teach a class in addition to giving a university lecture. By teaching an unknown class of pupils, would-be professors must demonstrate their practical knowledge of the type of school about which they will lecture. They must show that their teaching skills meet (at least) as high standards as they expect of their students – i.e., that they are authentic teacher trainers. The system is clearly not without faults, but it guards against one problem: sinking into a state of idleness after completing a PhD.

education – can only be set up if teacher training has a firm position within a given higher education institution. Traditionally, pedagogy and psychology departments, and specific subject instructors are in charge of teacher training programmes and are also the most active participants. These institutions typically form isolated islands of training; they struggle with the new requirements of teacher training on which they make little impact and where their concerns carry little weight. Their programmes are delivered with no consideration given to the career prospects of their students nor is it examined whether graduates who choose a teaching career will make good teachers or, whether the knowledge they have acquired can be put to good use. Opinions of, and feedback from, the students concerning the institution where they completed their training is rarely sought.

A possible measure of training (and professional development) institutions is to what extent they can fulfil a basic education task. It has been shown by several studies that teachers' views of child development and learning only marginally differ from the views of the general public (HERCZ, 2005). The following example provides an apt illustration of the gap between teachers' assessment practices and the outcomes of standard competence evaluations. Teaching quality greatly depends on teachers' competence in assessing the progress of their pupils and providing feedback on their performance. Teachers test pupils' knowledge orally and in writing on a daily basis and the responses are marked. Marks give a fairly good indication of what is considered by the teacher to be important in a pupil's performance. Studies (e.g., CSAPÓ, 2002a, 2002b) reveal, however, that marks in many cases show little correlation with the results of tests that assess pupils' knowledge objectively. There is an even weaker relationship between teachers' marks and the results of tests assessing comprehension, the ability to apply knowledge or to solve problems. Teachers tend to equate learning with reproducing knowledge, and the consequences of this approach are clearly reflected in an international comparison showing that Hungarian students have underdeveloped learning skills with the main emphasis on rote learning (OECD, 2003a). Teachers often appreciate subsidiary aspects of pupils' performance such as good communication skills. They may thus continue teaching using the same methods year after year in the firm belief that those methods are the best. Teachers must be much better acquainted with the personal development features of their pupils, with learning processes and with the indicators of learning quality and knowledge application, and they must discover tools for assessing the progress of their pupils more accurately. This should clearly be the responsibility of teacher training and professional development programmes, the effectiveness of which can be assessed through teacher competence tests and by monitoring changes in pupil assessment culture.

Teachers must be much better acquainted with personal development features of their pupils, with learning processes and with the indicators of learning quality and knowledge application.

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4. *Research-based teacher training.* Since the decentralisation of the education system commencing in the early nineties teachers have regularly been given tasks for which they have not been prepared. At most schools, for instance, teachers have had to devise local curricula while the country has had difficulty putting together a single team of educators competent in curriculum design. The decentralisation of knowledge and its transfer to a local level is a task still waiting to be completed in several areas. If teachers are to be given ever greater responsibility in decision making they must be equipped for the task. Teachers, however, constantly make decisions which could always be, at least, improved. It is this problem that research-based teacher training is intended to solve.

Research-based teacher training was put in the spotlight thanks to the spectacular achievements of the Finnish education system (JAKKU, SIHVONEN & NIEMI, 2004). In sectors with a fast paced accumulation of knowledge there is no time to wait for new knowledge to be incorporated; it must be transferred to practical application almost as soon as it emerges. In Finland, nursery teach-

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ers and primary and of course secondary school teachers are proportionally represented among professionals with Ph.D. degrees (KANSANEN, 2003). This disposition to attain advanced academic qualifications increases the added value of school work to pedagogical research (as the majority of candidates choose an educational problem rather than the turbulent history of a teacher training college in a Finnish suburb as their research subject). Also, teachers with experience at all three levels of teacher training, where in addition to research methods important international literature is also studied, will be substantially more inclined to adopt the key requirements of an education reform. A teacher training programme that integrates a teacher model with a researcher model not only encourages but also substantially speeds up the continuous renewal of education.

To achieve this goal, research centres should be established supporting teacher training. In developing a knowledge base for education, two important factors must be taken into consideration – research into instruction theory⁶ and the education of teacher trainers (CSAPÓ, 2006, 2007). Studies on the significance of education research and the interrelationship between research and training invariably point to the fact that the system is severely underfunded.⁷ It is therefore especially important that the few research outcomes that are produced in the face of meagre resources should be incorporated into teacher training without delay. Researchers who find new evidence, make new discoveries in connection with education or develop new teaching and learning methods should be able to pass these on to would-be or practicing teachers directly. This is why it is crucial to transfer teacher training programmes to research universities, where pedagogy and psychology courses are taught by academics who are active participants in research projects in their respective fields. With research and training combined at the level of the individual, the process of incorporating new knowledge into the training syllabus will be accelerated since in addition to contributing their own results to the available body of knowledge, trainers also keep up with the literature in their research area and thus constantly renew their knowledge. Furthermore, publications detailing the results of their research are the best evidence of the knowledge they possess.

The quality and citation index of publications can be assessed with reference to recent research data (TÓTH, 2008) evaluating publications by 463 academics in pedagogy or education theory working at 28 higher education institutions offering nursery, primary or secondary teacher training programmes. Almost 80 per cent of the observed 430 instructors had no publications accessible on

[6] The issue of the scientific foundations of learning and teaching is discussed in detail in Chapter 9 of this volume.

[7] The disadvantage of Hungarian research is shown by several indicators. The United States and Japan allocate more than three per cent of their GNP for research. This indicator has an average value of less than two per cent in the European Union and less than one per cent in Hungary while Finland and Sweden lead with about four per cent.

the Internet, 11 per cent had one or two and only seven instructors had over ten publications. An examination of local publications, the Social Sciences Citation Index (SSCI) and the Google Scholar database revealed that 90 per cent had a citation index of zero (including self-citations!), barely over 5 per cent reached a citation index of five and under 2 per cent were cited at least ten times. Citation indices could be calculated for 91 academic staff members. The results show that only 28 members of staff in education had 1 citation per publication on average, which is an indication of their professional impact. Only 14 of the 430 observed academics were cited at least twice per publication – they can be regarded as having a major scientific impact (TÓTH, 2008).

The success of the innovation is equally endangered by the large number of teacher training institutions and their meagre achievements in research and development, by academic staff who stay away from international research communities and fail to follow the development of innovative models in countries with successful education programmes, and by the obsolete infrastructure of teacher training institutions. If educationists are not expected to keep up with the results of international education studies, the competence-based education model developed with substantial Hungarian and international resources cannot be incorporated into teacher training programmes and the powerful new paradigms will not reach beyond an experimental phase. If teacher training continues to be characterized by frontal teaching and provincial content, the millions of Euros allocated for the renewal of education will remain without effect; modernization will halt at the gates of training institutions.

5. *Researcher-teacher.* Teachers must be shown how to recognize good practices emerging around the world and where to find new scientific results in connection with teaching. They must be equipped with the skills needed to participate in research activities, to contribute to research and development projects and to make use of research conclusions in their teaching practices. Research-based teacher training goes even further: a teaching career is seen as a continuous research and development process, whereby the teacher makes use of scientific evidence to generate the knowledge needed to improve teaching activities. This approach gives rise to a new role model, that of the researcher-innovator teacher. This model used to have a tradition in Hungarian secondary schools but was displaced as a result of a shift towards over-standardized and bureaucratic education policies which were accompanied by declining prestige and pay.

The significance of the transformation of the role model cannot be overestimated – it is the driving force behind the renewal of visual culture education in Hungary, for instance, thanks to which traditional fine art education is now complemented by visual communication and environmental studies in thousands of primary and secondary schools. When art teachers only included painting in their syllabi, there was no channel to teach modern visual culture (KÁRPÁTI & GAUL, 1995).

A good example for research-based teacher training in Hungary is the programme launched in 1991 at the University of Szeged, where assessment spe-

The researcher-innovator teacher as a new role model.

cialists are trained in a professional development programme. Students learn to construct assessment tools and to set up experiments. They draw on these skills to write their dissertations. After graduation most of the students return to their original schools to teach and put the knowledge they have acquired into practice. They improve teaching methods, conduct professional experiments and evaluate their results with scientific methods. Many of these teachers keep in contact with their former tutors and take part in research projects. They come back for advice, tools and ideas; many of them publish professional papers on the outcomes of their experiments and innovations.

The research-teacher role is also advocated by excellent pedagogy conferences organized in Hungary (the National Conference in Education Studies, the annual pedagogy meeting held in Lillafüred, the annual education assessment conference organized by the Institute of Education, University of Szeged, etc.) It is our hope that educators and researchers participating in these meetings will soon find the motivation to attend relevant international forums as well, thus expanding the currently very small group of professionals with international experience.

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Very few teacher training institutions offer mentor training.

6. *The role of teaching practice in teacher training.* Every study focusing on a good strategy observed in teacher training highlights the importance of teaching practice and school placement (also known as school residency program). In Hungary, the massive expansion of teacher training has not been accompanied by a proportional increase in the number of schools participating in teaching practice schemes, which has had a negative impact on quality. A further problem is that participating schools are of excellent standards (far exceeding the national average) and are thus unsuitable for preparing trainees for the reality shock they are likely to encounter at their first workplace. The current 2–4 week period of in-school training is to be extended to six months, which requires several additional senior teachers, or mentors, assisting the trainees' work.

At present very few teacher training institutions offer *mentor training* (training programmes for teachers assisting teacher trainees during their practice). A programme of this kind can only be developed by a co-operative effort between subject specialist teachers, general educators and education policy professionals for each individual field. Instructors of teaching methodology (with the exception of those in charge of organizing placement) do not maintain regular contact with teachers at schools participating in teaching practice schemes. It is difficult enough to fit the observation of the growing number of trainees' practice classes into their work schedules, let alone accommodate training courses for mentors.⁸ While the extended period of

[8] The work of *subject specialist teachers* should be rewarded with all their duties taken into consideration. Class observations, dissertation assessment and participation in qualifying examination boards are often disregarded in evaluating departmental work load with the result that these activities remain essentially unpaid.

teaching practice — one of the key components of quality teacher training — is a welcome change, both the necessary human resources and material conditions are missing.

7. *Selectivity in teacher training.* Countries with successful teacher training programmes enforce strict selection criteria in granting admission (one in six applicants are admitted to teacher training programmes in Singapore and one in ten in Finland). Countries with successful and unsuccessful programmes differ in their selection strategies. Successful countries are selective in admitting applicants while less successful systems allow great numbers of candidate teachers to obtain their academic degrees leaving the selection process to schools. (See the box *Student selection in teacher training* for a discussion of teacher training admission policies.)

In Hungary, teacher training programmes are oversized in terms of student numbers and skewed in terms of the distribution of specializations. It is both impossible and uneconomical to deliver quality teacher training.

In Hungary, an excessive number of students are enrolled in teacher training programmes and different specializations are offered in skewed proportions. It is both impossible and uneconomical to deliver quality teacher training to congregations of this size. Trends in the number of applications indicate a decline in the proportion of school leavers who find a teaching career an attractive choice. The number of people who apply to nursery, primary or secondary school teacher training institutions as their first choice has recently plummeted and the school results of applicants are below the national average (NAGY & VARGA, 2006).

Teacher training programmes were chosen by school leavers with poorer than average skills (VARGA, 2007) and, since there were relatively few applications for a large number of places, applicants were practically freely admitted. If students bring with them poor levels of knowledge and skills, training cannot maintain high standards.

Those students are suitable for a teaching career who are equipped with *entry competences* that can provide the foundations for the acquisition of a set of effective methodological tools in the course of their studies. These competences include advanced literacy and numeracy, good social skills, effective communication, an aptitude for lifelong learning and a desire to share knowledge. All of these can be assessed by a selection procedure, in the course of training or even at the time of resident training.

In principle, the introduction of two-stage teacher training could have improved selectivity since teacher training has been transferred to master's level and students now have to pass two selection procedures: their school leaving examination results must meet certain criteria to be admitted to bachelor's courses and their suitability for master's courses will be assessed through a teacher training entrance examination to be introduced in 2009. There is no guarantee, however, that teachers graduating from the new system will be better than previous generations unless fundamental changes are introduced to make teaching careers more attractive. If this does not happen, no-one other than the weakest third of bachelor graduates will be motivated to take master's

An improvement in teacher quality cannot be expected unless fundamental changes are introduced to make teaching careers more attractive.

STUDENT SELECTION IN TEACHER TRAINING

The most successful countries are selective in admitting applicants to teacher training programmes. The two most important examples are Finland and Singapore. Selection procedures are designed to assess skills and aptitudes needed for a teaching career and are used to select applicants for admission. The selection procedures of both countries focus on applicants' academic performance, communication skills and professional motivation. In Finland, applicants are assessed in two screening cycles. The first round of entrance examinations is under central control throughout the country, the national test was introduced in 2007. It is a multiple-choice task testing mathematical, literacy and problem solving competences. Applicants attaining the highest scores are admitted to the second round, which is administered by individual universities. Assessment at this stage focuses on communication skills, learning aptitude and skills, and on applicants' commitment to a teaching career. Finally,

the most suitable candidates are selected on the basis of their teaching practice and it is those who are awarded a degree and can get a job (10 per cent of admitted trainees) (JAKKU, SIHVONEN & NIEMI, 2006).

In Singapore, only every sixth applicant will become a candidate teacher. Those whose curriculum vitae meet some basic entry requirements are invited to attend an examination where their literacy skills are assessed, which research results have shown to have the greatest impact on teacher success. Applicants next attend an interview and personality assessment, which also feature practical exercises. 80 per cent of applicants are rejected at this stage, 18 per cent start the teacher training programmes to which they have been admitted, the same number of students complete their studies, and each one of them starts a career as a teacher. The students are employed by the Ministry of Education from the beginning of their studies and receive a salary.

courses in education. Also, as no changes have been introduced in the structure of nursery and lower primary school teacher training, student quality is unlikely to improve.⁹

In Hungary, the Bologna process could be used to reduce the number of places in master's courses by introducing sufficiently rigorous conditions on offering master's programmes. Ongoing accreditation processes suggest that strict quality requirements are only met by a few general knowledge courses with long-standing traditions. At the same time, a dozen or so new master's programmes have appeared in teacher training, which do not have a background of strict professional control by a community in an established scientific discipline. The ample range of programmes successfully passing the accreditation process, i.e., gaining approval to be launched, act as an encouragement to the large number of Hungarian universities to seize the opportunity and launch these programmes, if not with government-funded student places, then with self-financing places. It seems, then, that without central intervention the Bo-

⁹ The issue of negative self-selection in choosing a teaching career and proposals on improving newly qualified teachers' salaries are discussed in Chapter 10 in this volume.

logna process will not reduce the number of teacher trainees, even though the number of schools and especially pupils declines year after year.

Certain natural science programmes, in contrast, struggle to attract a sufficient number of students to secure new supplies of teachers minimally needed in the education system. There is a serious risk that the huge number of new teachers with dubious professional backgrounds will further weaken the position of subjects intended to equip pupils with general foundational knowledge, and natural sciences will irreversibly lose their footing in public education. The only solution is to limit the number of student places in parallel with making teaching careers more attractive. If teachers' working conditions do not change, there will be nothing to reverse the current negative self-selection effect. International experiences show that in addition to improving teachers' salaries, several measures can be introduced to make this career more attractive (see the box *International experiences of making teaching careers more attractive*).

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8. *Funding teacher training.* Quality teacher training is not cheap. At present teacher training is one of the relatively low cost higher education programmes as it covers 32 per cent of state-funded student places while absorbing 30 per cent of the total education expenditure. This is probably among the reasons why substantially more students are admitted than the EU average. However, only 60 per cent of nursery and primary school teacher trainees and 40 per cent of secondary school teacher trainees choose a teaching career, that is, a large share of the modest resources allocated for teacher training is utilized in sectors other than education (POLÓNYI, 2004). The main source of funding for teacher training is the per-student grant received from the central budget for education and maintenance. The regulations introduced in 1996 rewarded teacher training with supplementary per-student grants but the extra funding was abolished in 1998. The problem of under-funding training institutions has persisted with little change for years. Tight budgets force training institutions to give preference to cheaper forms of education: lectures given to large groups of students cost less than seminars held in small groups.

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There is an increasingly pressing need to introduce information technology into education at universities and colleges. Important services include securing digital access to course materials, developing modern distance-learning infrastructure and acquiring digital portfolio software for portfolio-based evaluation. Substantially more resources could be allocated for these developments if teacher training institutions applied stricter selection criteria and reduced the number of student places. This would allow institutions to increase their spending per teacher trainee without an increase in state funding. This step is essential to the modernization of teacher training.

Spending per teacher trainee could be increased by reducing the number of student places.

Proposals that have been publicised suggest three sources for funding teacher training in the future. 1. an establishment maintenance fund – which is distinct from the education fund – to finance the infrastructure needed for training; 2. education subsidies to finance bachelor's and master's programmes.

INTERNATIONAL EXPERIENCES OF MAKING TEACHING CAREERS MORE ATTRACTIVE

In countries with successful education programmes it is not tradition, culture or the prestige of teaching but culture-independent education policies that make teaching careers attractive to the very best of secondary school students (BARBER & MOURSHED, 2007). There are two measures that have a decisive impact on the prestige of the teaching profession: 1. a careful selection from among applicants and high standards of training, and 2. good starting salaries.

In Great Britain, for instance, 25 per cent of graduates seeking a career change choose teaching as their second career, making teaching a more popular choice than the media (14 per cent) or banking (11 per cent) (TDA, 2005). The Teach First programme, (<http://www.teachfirst.org.uk>), is addressed to top performing students in England; it offers mentor support and secure jobs to participants. The most gifted participants of the programme become part of the team of “Teach First Ambassadors” – authentic and attractive role models who raise the prestige of the teaching profession by their mere presence. Another British initiative, the Training and Development Agency for Schools (TDA, <http://www.tda.gov.uk>), emphasises three attractive aspects of a teaching career in its advertising campaign: making a living out of disseminating interesting knowledge among

enthusiastic young people, meeting intellectual challenges on a daily basis, and having attractive career prospects.

In Singapore, marketing strategies were combined with a recruitment programme to enhance the prestige of teaching. People – the winners of the future – are sought to deliver an education programme which has become a modern and effective success sector and who will be paid as soon as they start training as an incentive. Both countries designed their campaigns based on human resource management experiences in the business sector; they were not put off by fears that solutions that work in business life would be alien to education (EURYDICE, 2002).

The Teacher Residency Program in Boston (<http://www.bpe.org/btr>) and the Teaching Fellows scheme in Chicago and New York (<http://www.chicagoteachingfellows.org>, <https://www.nycteachingfellows.org>) help to improve teacher quality by offering scholarships to people choosing teaching as their second career to ease the financial burden of switching careers. Trainees participating in the training programmes building on a partnership between teacher training institutions and school districts are guaranteed a teaching position even before they start their training.

Unfortunately, it may be necessary to reduce the per-student grant rate applying to three-year bachelor’s programmes offered by academic universities to match the rate applying to colleges. 3. The third source is a research or quality-based subsidy, which may benefit university-based teacher training but will not grant extra resources to nursery and primary school teacher training programmes mostly offered by colleges (POLÓNYI, 2004).

The above and other tasks related to the reform of teacher training may also be financed from the EU sources of the National Development Plan. In the winter of 2004–2005 the Ministry for Education announced a call for proposals related to the reform of teacher training within the framework of the first National Development Plan – as part of the Human Resources Development Operative Programme (HEFOP) – in an effort to support programmes helping

to renew the teacher training system as the regulations changed. In the second National Development Plan, the issue – now as an independent area – has been given high priority. Billions of Hungarian forints have been allocated to each of a number of subject-specific programmes set up to develop teaching curricula and textbooks and continuing professional development schemes, and a few teacher training institutions (or, more precisely, their education theory and psychology centres) have been given support to develop materials for teacher training. We hope that the second National Development Plan secures resources for handbooks, electronic course materials and – at the same time – for experiments on methods, which are ever more sorely needed to establish the scientific foundations of teacher training.

It must not be forgotten, however, that increased spending does not guarantee an improvement in outcomes. If programmes fail to be restructured and new approaches fail to get a foothold, the availability of more resources for teacher training will simply have the effect of conserving the current system under new financial conditions.

9. *Professional development.* The amendment of 1996 to the Public Education Act specifying a requirement for teachers to participate in professional development programmes, states that a qualifying examination must be passed to obtain a teaching position and secures the conditions of funding the system by declaring that three per cent of any education budget must be spent on in-service training for teachers. A government decree was published following the amendment regulating the conditions of funding and participation in professional development courses and accreditation procedures applying to advanced teacher development programmes.

Teacher development programmes have received considerable financial support in recent years and, as a result, an in-service training market has emerged. The first list of programmes on offer was published in 2000 with a wide range to choose from. As the market later saturated and less favourable funding conditions were introduced, a steady decrease in the number of new programmes followed. Close to 60 per cent of formally approved (accredited) professional development programmes are offered by institutions with a tradition of teacher training (higher education institutions and institutions providing pedagogical services).

Professional development programmes are currently financed and commissioned (i.e., their contents are decided) by the same body – essentially the government education authorities rather than research or teacher training institutions. These institutions can only hope to see their research results or experiences incorporated into the teacher development process if their staff undertake advanced trainer functions together with the necessary propaganda and organisation activities, which require considerable sacrifices considering the worsening funding conditions. Current accreditation criteria and funding conditions are not conducive to quality work. The training requirements ap-

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plying to higher education institutions are unlikely to be successful in the unregulated market of professional development programmes.

However, while professional conditions and infrastructure are at least to some extent guaranteed by regular accreditation exercises at higher education institutions, there is no such control applying to small businesses dominating the in-service training market. The largest share (34.9 per cent) of the programmes licensed to be offered to students before the end of 2002 were proposed for accreditation by higher education institutions. Almost half of the programmes which are not officially approved to be offered have been founded by higher education institutions. 98.9 per cent of programmes accredited by higher education institutions, where the founders of the programmes correspond to the organisations offering them, have a one-time license to be run. One of the gravest problems is therefore structural: *continuing teacher training has been separated from the site of teacher training*.¹⁰ A university instructor may find on-demand employment at a business good at exploiting market opportunities but he or she will probably need to part with the ethics and requirement system of the university when offering programme delivery rather than programme development services. In-service training – similarly to pre-service teacher training – displays decentralisation right to the level of individual training institutions. Course accreditation processes do not constitute quality assurance beyond the stage of planning – no data is gathered on how much of the proposed programme is in effect delivered. Self-respecting instructors doubtless teach effectively and seek to accommodate criticisms from participants, although there is no external force which encourages them to do so. Nevertheless, this several billion forint market deserves stronger and more transparent central control. (See the box *International initiatives in in-service training*.)

In evaluating Hungarian education (DAVIDSON, 2008), the OECD working group urges the introduction of strict quality assurance for professional development programmes, which will certainly not be quick or easy. *At present, quality assurance equals satisfaction questionnaires* – and the great majority of teachers participating in the programmes are genuinely satisfied. As an interview study reveals, mostly because the course successfully prepared the teacher for the duties that were “centrally” imposed, such as administrative and data supply tasks.

The outcome of research investigating the effects of professional development courses reveals that most participants cannot perceive perceptible im-

[10] An institution providing professional development programmes independently of higher education institutions – hiring their instructors as needed but avoiding organization level co-operation – may be very successful (such as the English BECTA in education information technology, <http://www.becta.org.uk>) or completely unsuccessful, such as the French Missions Académiques à la Formation du Personnel de l'Éducation Nationale (MAFPEN, <http://www.bibliotheque.iffp-suisse.ch/Document.htm&numrec=031934546911630>). The initial autonomy of these institutions was gradually restricted and their responsibilities were referred back to central authorities until they were finally closed down in 1998.

INTERNATIONAL INITIATIVES IN IN-SERVICE TRAINING

Two different forms of in-service teacher development are practiced around the world: 1. continuing professional development, which is aimed at updating existing knowledge and skills, and 2. so-called additional programmes which offer new skills and qualifications. These opportunities do not involve a reduction in teacher responsibilities. In Austria, for instance, teacher development programmes were modernized between 1997 and 2000 but in 2001 working hours were given a broad interpretation, which had the consequence of increased responsibilities for teachers.

Based on the findings of research for a project investigating teachers' professional development in 1993 – with the participation of Germany, Ireland, Japan, Luxemburg, Sweden, Great Britain and the United States – the OECD Centre for Educational Research and Innovation established the following classification in connection with their objectives: (a) updating teachers' professional knowledge; (b) renewing individual skills, approaches and attitudes; (c) laying the foundations of successfully transferring knowledge and skills; (d) changing teaching strategies; (e) developing effective ways of sharing information between teachers and non-teachers; (f) enhancing teacher efficiency.

Between 1996 and 2002, at the peak of EU teacher training reform processes, the new educational paradigms had a strong impact on the contents of pre-service training but professional development programmes did not change to the same extent. However, guidelines to ensure minimum standards were met and to improve compatibility between pre-service and in-service programmes were regularly issued by central authorities and, in some countries, special centres were set up for this purpose.

In 2002, a central institution was set up in Greece to organise, co-ordinate and maintain full compatibility between different types of teacher training and institutions offering training. In-service professional development was made compulsory or strongly recommended in eleven countries: Belgium (in the German speaking community), Germany, Estonia, Greece (only for newly qualified teachers), Latvia, Hungary, Malta, Poland, Portugal, Finland and Romania. In Germany (where in-service training had been compulsory before) and the Netherlands in-service professional development was seen as a formal requirement in teaching. In French communities in Belgium teachers are required to attend six half-day professional development sessions as of 2002 (EURYDICE, 2002).

Professional development courses offered little help in managing conflicts between pupils and teachers, in developing a partnership with parents and in finding solutions to conflicts between members of staff.

provement in their teaching after completing the programme. Teachers at academic secondary schools attribute relatively less significance to the contribution of in-service training to their professional development while their colleagues at mixed profile schools (where they have to cope with a new education structure) attribute greater than average significance to it (NAGY, 2004b). In-service training programmes had above average success in core subjects, subject-specific methodology and remedial education. They unfortunately offered little help in managing conflicts between pupils and teachers, in developing a partnership with parents and in finding solutions to conflicts between members of staff (LISKÓ, 2004). As regards funding practices, the research reveals that education providers were more likely to support schools with inherently better conditions.

In-service training will be seen as successful if participating teachers really acquire the necessary competences and the only way for central authorities to

ensure this goal is achieved is to inspect participants' final projects. International certification courses, such as ECDL¹¹ and EPIC¹² in information technology, the latter specifically aimed at teachers, are exemplary initiatives, where qualifications conform to international standards. There can be no professional objections to introducing similar evaluation systems in courses aiming to improve competences or self-awareness, or to propagate co-operative learning.

The first master level teacher training programmes are due to start in 2009, when the first cycle of bachelor's programmes ends. The first teachers graduating from the new education system will join the teaching force in four or five years' time. A further 10–15 years will have to pass (that is 15–20 years from now, 2007), however, before teachers with modern training outnumber previous generations. It is evident that the current education reform characterized by the keyword of competence development cannot tolerate this delay. In-service teacher development programmes can play an important role in disseminating modern educational methods.

The private sector creates strong incentives for employees to participate in in-service training. Teachers, however, do not need to worry about being dismissed because of having obsolete knowledge since the great majority of them are employed on permanent contracts.¹³ Also, successful completion of professional development programmes has no bearing on teachers' pay. What this means is that beyond individual ambitions and a modest bonus, the only way to create a practical incentive to in-service training is to make it compulsory. At present there is no way to assess teaching performance in Hungary or to take disciplinary measures against teachers no matter how unsatisfactory their work may be. That is, while teachers are required to complete 120 hours of in-service training every seven years, whether they incorporate their new skills and knowledge into their teaching is up to individual preferences.

In Hungary, there is no way to assess teaching performance or to take disciplinary measures against teachers no matter how unsatisfactory their work may be.

■ SUGGESTIONS

1. *An accountable, modern requirement system* is needed and a new professional profile should be created based on the assessment of teacher competences. Old policies and regulations with demonstrably detrimental effects should be subjected to revisions. Our recommendations are modelled on the strategies adopted in the countries that lead the PISA, IEA and SITES surveys and in countries which

[11] ECDL, European Computer Driving Licence. <http://ecdll.org>, <http://www.ecdl.hu>

[12] EPIC, European Pedagogical ICT Licence. www.epict.org, www.epict.hu

[13] "Hungarian teachers have fairly high job security by international comparison and compared to graduates employed in other sectors of the Hungarian economy, especially in competitive markets, as the majority of the large number of public sector employees are employed on permanent contracts. In 2004, 90 per cent of teachers were employed on permanent contracts" (NAGY & VARGA, 2006).

rank poorly in these surveys but have since implemented fundamental and successful reforms in response (France, Germany, Austria, Poland). The set of teacher training requirements recommended by the Strategic Working Group of the Education Division of the European Union are also taken into consideration.

2. *Accreditation procedures for teacher training institutions should be revised.*

Whether this is done by a local or an international expert team, the publication-based evaluation of instructors' research activities and involvement in the international science scene must receive greater emphasis than it does at present. Teachers' teachers must set an example in knowledgeability and active participation in the work of international research communities. It is especially important to monitor performance following attainment of a Ph.D. degree and to evaluate research and development activities. Work on drafting a new set of accreditation conditions should be started without delay and the new, modern quality requirements should be adopted by institutions as soon as they are available. An *accreditation process that conforms to international standards* and is applicable to all teacher training institutions can fulfil an important function in improving training quality: it shows which institutions have excellent standards and which ones should be excluded from teacher training on a temporary or permanent basis.

3. The most pressing task is to *make the central documents detailing the requirements for master's programmes in teacher training compatible with programmes approved in Europe*. The 83 disciplinary areas of teacher training should be revised without delay and special areas not pertaining to foundational subjects should be moved to professional development programmes. It should be ensured that such Master's Programme proposals that have already been submitted will be accepted.¹⁴

4. The role of *researcher teacher* should be modelled on teaching careers in top PISA countries. If Hungary is to be part of the European educational space, local teachers must be empowered to evaluate their own work professionally and on a regular basis, and to innovate themselves or adapt successful education schemes to their needs. One of the main causes behind the decline in teacher quality or the increasing shortage of teachers observed in several countries is a worsening of pay conditions. The pay differential between teaching and non-teaching positions is a decisive factor in choosing a teaching career. Higher pay alone is not sufficient to make the career more attractive but it should be considered whether the current pay and support structure leaves room for self-improvement and in-service training. Scandinavian and German

[14] The – small – number of trainee teachers expected to be negatively affected by these accreditation delaying measures can be simply estimated by looking at the number of trainees in their second year of bachelor's studies.

models demonstrate that a system of grants awarded for research and the development of course materials act as a strong incentive making both teaching careers and professional lifestyles more attractive. We therefore recommend setting up *a fund to reward researcher teachers* and establishing a scheme of *Ph.D. scholarships* to support Ph.D. level training in teaching methodology. It is impossible to carry out quality research and meet the requirements of Ph.D. qualifications while a candidate has to teach 24 classes a week.

5. *The contents, methods and funding schemes of the six-month practical training programme* should be launched without delay, in parallel with pilot schemes testing individual components of the new programme (as part of current practice teaching). Experts of education practice and education theory with thorough knowledge of recent research accomplishments in their subjects should be given substantially more responsibility as subject supervisors and advisors. We propose that an urgent decision be made on ways to fund this high-cost component of teacher training. Further tasks needing immediate attention are the selection of schools for participation in school placement schemes and the development and launching of mentor training programmes. In the long term, the financial needs of training will have to be reconsidered. It is essential to solve the problem of funding resident training and to grant 30 credits' worth of compensation to every teacher trainee. Another statutory matter of a financial nature is the status and funding of senior teachers (which should be spelled out in the Public Education Act).

6. *Professional development programmes for teachers should have stronger ties with the sites of teacher training.* We recommend regular inspection of the outcomes of in-service training programmes, primarily involving post-programme assessment of teacher competences that a given course intended to improve. This should be made among participants who successfully completed the course.

7. The OECD expert panel does not exclude the possibility of *pre-determining the number of places* in teaching careers in parallel with adopting the Bologna process (DAVIDSON, 2008) but this is held to be a viable process resulting from a rational, centrally induced policy of workforce size management rather than a direct consequence of adopting the Bologna process. The panel recommends giving more structure to admission procedures and in-course student assessment in order to curtail the overproduction of teachers typical of the current system and prevent large numbers of underskilled students and/or students who do not intend to follow a teaching career from starting and completing teacher training programmes. In agreement with these recommendations we propose that *the number of student places in teacher training should be limited and stricter admission procedures should be implemented.* Our suggestions concerning enhancing the prestige of the teaching profession and granting higher pay to new teachers are summarised in Chapter 10 of this volume.

■ LINKS TO OTHER PROGRAMMES

The reform of teacher training can benefit from the results of research in education studies initiated by the Education Round Table and the methodological experiences of programmes targeting young people with special educational needs or concerned with improving life prospects and integration. New findings related to educational assessment and evaluation can be directly incorporated into methodology courses and school placement programmes as well as into associated mentor training.

■ GAINS AND COSTS

The modernization of teacher training has led to a spectacular increase in student achievements in Scandinavian countries and some regions of the United States. The process of rationalizing teacher training involves a restructuring of training institutions (rather than increasing their number) and therefore does not need additional financial resources. Most institutions have poor infrastructure for teacher training, not even reaching the standards typical of an average secondary school. The second National Development Plan creates sources for investment but further regularly available sources corresponding to the “information technology quota” used in public education need to be secured. EU sources (such as the renewed Socrates programme) can contribute to Ph.D. and postdoctoral scholarship funds in financing study periods abroad but a substantial Hungarian contribution is also needed.

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