

Estonian Higher Education Accreditation Centre

Evaluation of Research in Educational Sciences in Estonia

Institutes evaluated

Department of General Education, University of Tartu

Department of Special Education, University of Tartu

Institute of Sport Pedagogy, University of Tartu

Tallinn Pedagogical University

Evaluation dates

December 4th to 8th 2001

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1. Approach to the evaluation

The evaluators were asked to

- judge the activities of the research and development institutions and the research topics implemented by them to ensure the state funding for internationally recognised research and development;
- identify deficiencies in the activities of the research and development institutions;
- give recommendations on the development of research and development and research areas necessary to the state of Estonia.

The team had obtained self-evaluation reports from the institutes a couple of weeks in advance. The team was also given the guidelines on the principles and criteria for evaluation and the working schedule.

The team arrived in Tallinn December, the 4th, 2001. After a short briefing the team was transferred to Tartu on the same evening. The Department of General Education, the Department of Special Education, and the Institute of Sport Pedagogy of Tartu University were visited on December 5th. In the evening the team returned to Tallinn and the Faculty of Educational Sciences of Tallinn Pedagogical University was visited the next day. This evaluation report was completed in Tallinn on December 7th and 8th.

The evaluation team applied a four point scale (excellent, good, satisfactory, unsatisfactory) on the overall capability, with some further refinement in some cases. The following criteria were used:

- the novelty of the results of research and development;
- the quality of research and development;
- the strategy and perspective of research;
- the competence of research groups and their capability for development;
- success in applying for funds and grants;
- national and international co-operation;
- the implementation opportunities for the research results and their importance for Estonian society;
- the relationship of research and development to international level activities.

We also rated the scientific activities of the groups using the same grading system. The grades are based on the importance of the results as well as on the publication records.

The Evaluators found the self-assessment reports very well done. Most of the institutes are well aware of their strong and weak points.

For future evaluations it is recommended that the evaluators have more time in Tartu. It seems that two days in Tartu would have been more appropriate.

2. Educational Research in Estonia

Educational research has gone through a period of substantial transition in Estonia. This transition period is continuing. The former research connections were very much with the Soviet Union, but these contacts no longer exist. The new generation of Estonian educationalists has found fresh research contacts in several European countries.

The Evaluators found a few examples of educational research on a high international level, and some of the researchers have a well-developed network of international contacts. However, other groups were not as advanced in this development.

The members of the educational research community have written many textbooks for schools. In the countries of the Evaluators this activity is not as widespread among the professors of the universities as in Estonia. This activity is not financially beneficial, but it is important that specialists have taken up this task. This activity should enjoy support from the Ministry of Education. On the other hand, the time spent on this work competes with the time actually spent on research.

The Evaluators have the impression that access to computers has greatly improved, but the libraries are not up to the European standard.

Since the beginning of the nineties, educational research has been based on the market principle. However, financial support is very limited. During the nineties, the number of researchers decreased dramatically.

There are two funding agencies: the Estonian Science Foundation and the Ministry of Education.

Educational researchers have to apply for grants, but they are in open competition with researchers from other disciplines. As there is a weak tradition among educational researchers to publish their research results in international journals, the position of educational research is also very weak in this competition. For both funds, 5 to 10% of the budgets goes to social sciences and within that $\pm 15\%$ goes to educational research.

This creates a vicious circle: there are no huge amounts of research money for educational research, so researchers lack the opportunity to write in international journals. Because the researchers have no international record of articles, they cannot get grants on a regular basis. It seems to be that at the moment the education research groups lack the capacity to break out of this vicious circle, though they are fully aware of its consequences.

The evaluation team realises that the attitude towards educational research and education in general in society can be improved. This is not only the case for the Estonian context.

In spite of the financial difficulties the evaluation team has been impressed by the energy and determination of many of the educational researchers encountered during the visit.

3. Evaluation of Educational Research

3.1. Department of General Education, Tartu University

When Estonia regained independence, the Department of General Education belonged to the Faculty of Philosophy. From 1 July 2001 the Department of General Education together with Curriculum Development Centre, Department of Special Education and the Tartu Teacher Training Seminar belongs to the newly founded Faculty of Education. The academic faculty consists of 1 professor, 4 associate professors, 8 lecturers + 3 x 0,5 lecturers, 1 assistant and 2 x 0,5 researchers.

The Department of General Education have expressed in their self-evaluation report the following main research areas:

- Teachers' professional development;
- Curriculum studies;
- Factors of the efficiency of computer programs;
- Textbooks' feasibility;
- Computer-based analysis of textbook complicity;
- Multicultural Estonia: integration of non-Estonians in to the society;
- Social exclusion and possibilities for social integration in educational reality;
- Gender role in textbooks;
- Study skills of pupils.

The research is mainly grant-based. During 1996-2001 there were 41 defended Master Theses and no doctoral degrees.

The academic staff have a great deal of experience in school based research. The main approach has been experimental research using questionnaires. That is a clear strength and gives evidence of high competence to use quantitative research methods. On the other hand it makes the approach fairly narrow and it is also important to use other paradigms that provide greater interaction between researchers and practitioners in

schools. Qualitative methods are needed as complementary approaches in educational research.

The research topics are very important for society and national development (e.g. multicultural issues, ethical issues) and provide an important contribution to teacher preparation (e.g. for multicultural schools) based on research findings. They also have a great importance at international level and to some extent results have been published at international level, although this has been mainly in conferences and national conference proceedings. The evaluation team recommends making more efforts to publish results also in international journals and to seek increased co-operations with researchers in other countries. Examples of such co-operation already exist (e.g. in multicultural issues) but other areas should actively seek greater co-operation with international research communities.

The department has only a few professors, but there were many doctoral students. They were very enthusiastic and committed in their research, although researchers' position is very uncertain and dependent on yearly grants.

The main weakness of the Department is a lack of a clear strategy for future research. The department does not have a clear vision of the future. National initiatives are not intensively promoted by research. ICT in education is weakly recognised in research. There is only a minor individual project. However, there is research evidence on multicultural education issues which is extensively elaborated and which has obvious relevance to Estonian and international contexts.

It would be important to clarify the role of research in education in the near future and the nature of research strategy needed. The current developmental plan is just a collection of the existing projects and does not contain a real strategy. There are defined priorities e.g. active learning and ICT in schools but there are no clear strategies on how to implement these priorities through research. The strategy could consist of a clear mission statement on the importance of educational research and how staff co-operatively will aim at joint objectives.

The current research is a consequence of individual interests and there is very little co-operation between individual projects and professors: each researcher is doing his or her research on his or her own. The evaluation team recommends improving the collaboration between the different research projects. There is also an obvious need for an interdisciplinary approach to research projects.

Another clear weakness is the absence of a publication policy at departmental level. The publications are mainly in the Estonian language. In the meantime, the evaluation team is convinced that there is enough research that is relevant for the international research community. There is a need for a clear strategy how to increase the staff's and doctoral students' readiness to make publications available to international community. It appears to be that one of the major current problems is insufficient active writing skills in other languages.

The vision and mission of Ph.D. programs are relatively weak. It is not clear for what purpose the Department is educating doctors. Also, the Department has no clear view of societal needs and the needs of the academic research community.

The department has relatively good resources concerning computers, programs, access to electronic databases and new books from the Hansa project, operated jointly with the Ministries of Estonia and Finland. Further, there are no adequate rooms for the staff. Carrying out research is almost impossible in those conditions. The staff have heavy teaching loads and additional staff are not easy available.

The **research activities** and the **overall capability** of the research group are rated as **satisfactory**.

3.2 Department of Special Education, Tartu University

The Department of Special Education is part of the Faculty of Education since this year (2001). The Department of Special Education is a small one, there are only 8 members who work in two chairs: the Chair of Special Education and the Chair of Speech Therapy and Methodology of Estonian Language.

The main areas of research are development of communication skills and methodology of the Estonian language teaching in remedial settings, reaction patterns of delinquent youngsters, and opportunities and provisions for pupils with special needs.

Obviously the department is too small to cover all specific areas in special education and the critical mass is too small for successful research. Of two professorships one has been vacant since 1998. This is the chair of Speech Therapy and Methodology of Estonian. On 2 occasions did not succeed to collect enough votes to become re-elected. To compensate for this apparent weakness, there is a part-time visiting professor contracted from December 2000 to increase the efficiency of graduate and faculty research. The outcomes of this output remain out of the scope of this evaluation.

Within the department, there is an obvious lack of strategy and research agenda for the future. The consequence is that the current research is very fragmented. To date, the department didn't succeed with applications for special purpose financing. Grant applications at international level have not been really effective. However, some researchers have managed to gain some grants from the national funds for research work on developing speech skills of special needs children, treatment of behavioural problems, and work with parents of special needs children. These projects create interesting and useful data, but the publication rate is unsatisfactory. They have mainly been published in journals and books of national significance. Very little has been published in international journals and in CC-journals. There is a minor contribution to international and national conferences on special education. One can conclude that there is no departmental publication policy.

There is no clear framework of perspective or opportunities for further development of all embracing areas in special education to make it a real tool to avoid exclusion in the society.

The main strength of the department is that research work is organised on the basis of integration of theory and practice by creating inner networks, by developing teams of researchers and teachers at schools. The results obtained in the research can be applicable in practice with special needs children, e.g. speech problems of special needs children in the Estonian language.

There is a tendency to implement an integrated approach to research by working out joint research applications with psychologists. However, that does not lead to visible results. The same can be said about the contribution of some researchers to the world wide RPR/ASL-network.

The Masters Degree programme (established in 1995) can possibly create promising opportunities. It was observed that young researchers are not motivated to undertake research in the field of special education. There is an obvious need to educate new researchers for the area of special education. However, this process is hindered since there is no doctoral programme in special education. There is now an informal agreement with the department of general education to accept doctoral students who would partially specialise within the framework of their doctoral programme.

The facilities and resources for research were good: the building and the premises have been renovated, technical equipment is available, and there is good access to Internet and electronic databases.

Attention should be paid to establishing international networks, especially among Baltic countries in joint research and publications. This would be very helpful in areas with a limited number of special needs children such as visually and hearing impaired children. The experienced researchers should be more inspirational in order to motivate young researchers and be more ambitious for international co-operation and publication of research results on a wider international level. However, there is some hope for improvement since there are doctoral students, co-operation with the doctoral programme in general education can create opportunities and the co-operation with specialists in sociology and psychology can be translated in visible results. Networking at national and international level for joint research is strongly recommended.

The **research activities** and the **overall capability** of the research group are rated as **unsatisfactory**.

3.3 Institute of Sport Pedagogy, University of Tartu

The Institute of Sport Pedagogy is a structural unit of the Faculty of Exercise and Sport Sciences. The Institute has currently three chairs: Sport Pedagogy, Coaching Sciences and Sport Social Sciences. Recently, two new chairs were established, a.o. a chair on social sciences of sports. Due to a lack of qualified candidates, some posts are still vacant. At the moment, the staff consists of 15 persons, including 7 in teaching positions, 4 researchers, 3 administrative and 1 technical positions. There is a formal connection between the Faculty of Exercise and Sport Sciences and the Faculty of Education of the University of Tartu, but both have separate budgets and separate staff.

There are two main fields of research of the Institute: biomedical and educational research. There is no connection with the Faculty of Education with respect to educational research. The evaluation committee believes that a synergy between both units could create added value. The Institute is one of partners with the Faculty of Social Sciences planning to create a centre of excellence, but the Faculty of Education is not involved.

As a result of careful thinking and strategic planning, there is a clear agenda for the future, based on a developmental plan of the Institute. Its priorities concern infrastructure and the strengthening of the academic structure. Though there is a tradition to co-operate with other research groups from different disciplines, a more intensive collaboration with colleagues is necessary, since the Institute aims to become the leading centre of Sport Pedagogy with respect to education and educational research. A Ph.D. study program must be developed in greater detail and the search for research funds will have to be intensified e.g. on EU-level. At the moment, there is only one doctoral student in educational research a year.

The staff are very active and participate on a regular basis in national and international conferences. There is a tradition of publishing in relevant English and Estonian journals, which is also reflected in the study program. Students are involved in research at an early stage -from the 2nd year on, and at the level of the Master program they are obliged to write in English. Every two years, there is a conference for young researchers.

Besides the work with the scientific community, there are also summer schools for teachers and the staff are involved in writing textbooks for teachers.

The computer equipment is sufficient and each researcher has his / her computer. Despite that, there are not enough grants to maintain the material. There is no specific budget to buy books and journals. Because of the increasing prices especially for English journals, the number of journals and teaching resources have to decrease. This tendency could create a lack of adequate resources in the near future.

The research activities and the overall capability of the assessed unit are rated as good.

3.4 Tallin Pedagogical University

Tallin Pedagogical University (TPU) was founded in 1919 as a Teacher Training Seminar and obtained the status of university in 1952. TPU provides academic degree programs in educational and social sciences, as well as in humanities. The Faculty of Educational Sciences is one of the six faculties of the TPU. There are two colleges and four research institutes a.o. the Institute of Educational Research. TPU has several formal agreements with universities from abroad.

The Faculty of Educational Sciences was established in 1993 and aims to converge different units of the university involved in educational sciences and research, to converge the initial professional education of teachers of all education levels and to update the curricula in educational sciences as well as the study process. At the moment, the faculty staff consists of 34 lecturers, 31 full-time and 3 part-time, 18 of them have a Ph.D. in education, 10 have a M.Ed. There are no separate positions for researchers in the Faculty.

The Institute of Educational Research was created in 1998 with the aim of integrating research work in educational sciences and supporting practical implementation of educational sciences. The main content of the activities of the Institute is the initiation and implementation of fundamental and practical research projects and participation in international projects.

The Institute has no permanent financing since educational research depends on short-term financial support by the Ministry of Education and the Estonian Science Foundation. There are only four persons working at the Institute (of whom two are researchers).

In the period 1996-2001 there were 2 defended Ph.D. studies and 82 M.Ed. studies.

Subject didactics has an important role in the mission of Faculty of Educational Sciences in TPU.

The research work is connected with practice in schools. Subject didactics is well organised and Master degree students participate in research work. They also disseminate initiatives in schools through their research work. As a result of research there is high quality text book production for school in Estonian society. Subject didactics has an open interdisciplinary approach in organising research and doctoral studies. Attention paid not only to traditional school subjects but there are also new themes which have emerged in recently (e.g. computing sciences and educational technology, environmental studies, health education).

There is a good continuum between bachelor, master and doctoral programs. Both basic and applied research are used in a balanced way and there is good integration with teacher education. Different varieties of research methods have been used (observations, case studies, interviews, action research, surveys, experiments etc) and the research community has a clear understanding of how to use project based approach effectively.

In the subject didactics research community there was an obvious tendency to analyse the previous Soviet time experiences and new Western approaches and evaluate what would be the best elements in developing their own future strategy in developing the curricula in schools, in writing new text books.

Although researchers of subject didactics have succeeded in many respects, they still require increased co-operation between different subjects. They also should be more visible at an international level and actively make their research results available. Publications are needed in an international contexts.

They should take seriously a challenge to establish a strong network with subject didactic research communities in other countries and aim to create a joint European level centre of excellence in subject didactics. The positive signs within the university level are the plans to have a chair of subject didactic in all faculties. This would raise a previously low status of subject didactics within the university level research community.

Teacher education in Tallinn University has good traditions and experiences of relating teaching practice with educational research. It was strengthened when the Research Institute specialists joined to Faculty.

The Faculty staff is aware of the crucial changes that are taking place in society and education and have responded to the needs in the country. It is reflected in the choice of research problems, which are influenced by the need to educate followers, the needs of the new teacher education programmes, international developments such as inclusive education and the priorities set by the Ministry of Education.

In spite of the diverse demands of the national education system and international trends, they have succeeded in developing a series of research projects that are logically linked and that have a common conceptual framework. The researchers have developed basic underlining theories of education that promote the process of paradigm change from the Soviet time. The work covers interdisciplinary and philosophical approaches, sociological aspects of education, strategic and political developments.

‘Learning’ is the key concept of several consecutive research projects: Development of Learners and Educational Reality in Cultural Space, Approaches to Learning of Estonian Students and Teachers, Learning Style as an Anthropological and Esthetical Phenomenon. Great attention is paid to research of various aspects of pre-school and primary school children and also special needs children. A characteristic trait of the research projects is their inter- and transdisciplinary approach.

The Department has actively developed new research areas such as Adult Education, Curriculum Design and Development, Philosophy of Education, and Information Technology. The researchers have been successful in obtaining grants for a number of projects from various funding sources. The staff has been very active in participating in national and international conferences and congresses.

Great care has been taken to educate new doctors in education. The doctoral programme involves young researchers in the new areas, e.g. information technology in education (which is a good investment for the future of education and education research) and there are well-equipped computer classes. There is the necessary equipment and facilities for the research work.

Masters degree and doctoral students have courses that help them develop academic and scientific writing skills. The students study a large variety of research methods, techniques and statistical analysis programmes. Masters and doctoral students are involved in research projects.

Staff are well aware of their own weaknesses and their character. There are a great number of national publications. However, more attention must be paid to creating joint international research projects and research results must be published more widely in international journals and books. At the university level language services should be offered to help researchers in international publishing.

There is a certain insecurity in the continuation of research projects due to the yearly reports and allocation of funding for each year. It causes tension and interferes with the success of the research. The large workload of the staff and insecurity of the researchers as to their position as well as the small number of researchers could develop into a serious threat to the research success.

The atmosphere in the faculty is full of energy, enthusiasm, hope and willingness to solve problems. The department has found a good combination of traditional research projects using quantitative methods and new kinds of paradigms, especially constructivist research which contains more interaction with researchers and the field and identifies, in an effective way, the needs of schools and offers opportunity to develop the practice.

At the university level, and at the departmental level there is a good understanding of the meaning of educational research.

The **research activities** and the **overall capability** of the assessed researchers are rated as **good**.

4. General recommendations to improve the quality of educational research

Estonian educational research has had to face dramatic changes at many levels. The period after the country regained independence has been a transitional period politically, economically and culturally. The whole educational system from pre-primary to higher and adult education has changed rapidly. The changes have created new demands for educational researchers. Their contribution is needed in school curriculum development. In connection with curricula changes new kinds of text books have been needed in schools and university people have had an active role in new learning material production. Educationalists have also been needed in restructuring and reconceptualising teacher education as well as redefining their own role as members of an academic community which is based on competition and market principles. At the same time international co-operation and global needs in education have rapidly increased creating many challenges and tasks for researchers of education. They have an important national mission and they are partners in the international research community. All these demands have made educational researchers work under high pressure. There is a danger that the pressure of many important tasks may spread their potential in too many directions. They do not have a real opportunity to concentrate on research work. The serious consequence is that there are difficulties in being competitive at a national level with other disciplines and at the international level within the educational research community. Most researchers whom the evaluation team met were very aware of many demands and they were also very committed in their work. This evaluation report wishes to emphasise that Estonian researchers in education have great potential to achieve a high standard in research but some basic problems should be reconsidered and resolved in the near future.

More attention to social sciences and education in national funding

Social sciences, including education, have to compete with “hard sciences” in the Estonian Science Foundation. The research traditions and publication cultures are very different when comparing social and cultural sciences with natural and technological sciences. The funding will remain very low to social and cultural sciences if the same indicators and criteria of research are applied to all disciplines.

Recommendation 1

The National Science Foundation should have a Council or Department of cultural and societal sciences which has its own research budget and which allows that social sciences including education will compete according to criteria which are relevant to those disciplines.

Intensive research needs more secure conditions

The grant based research funding system causes serious uncertainties for researchers. As well as grant funding there should be established research posts which guarantee 3-5 years of work within the research community of the universities. Solid and high standard research needs professional researchers and intensive researcher training. Both basic and applied research in education also needs longer implementation periods than the current system has allowed.

Low salaries of researchers and insecure working conditions do not attract talented young researchers.

Recommendation 2

There should be established researcher posts of 3-5 years duration, which are available for doctoral students and senior researchers and based on open competition.

More Support for publication policy in education

The Baltic countries and small countries which have a relatively small national language group compared with large international languages need strong co-operation and joint efforts to publish their research for larger international audiences.

Recommendation 3

The universities and faculties should encourage the staff to publish at international level, and at the university level language services should be available, e.g. language checking by native speakers. This would be necessary when submitting articles to international journals and writing applications for grants.

Recommendation 4

Courses for writing in international journals should be organised for staff members and doctoral students in educational faculties.

Recommendation 5

A joint international journal between Baltic countries and other small countries should be established in order to publicise educational research which is of a high standard but not necessarily in the main interest areas of international journals of larger countries.

National research program on teaching and learning

Many European countries have identified the importance of learning as a real investment for the future. The national document '*Learning Estonia*' provides important guidelines for the future. It would be important that The Ministry of Education and Estonian Science Foundations would provide real funding opportunities by establishing a national research

program on teaching and learning as it has been done in many other European countries (e.g. in England, Norway, Finland, in the process in Netherlands and Iceland). The European Union plans for the Sixth Framework Programme of research and for European Research Area, which are more accessible if there are solid and large research groups at the national level.

Recommendation 6

The national research program on teaching and learning should be established as soon as possible and initially it would be important to work in co-operation with other countries that also have established, or are planning, these kinds of research programs.

Tallinn, December 8th, 2001

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