

The Research Council of Norway

Programme for Practice-based R&D in Pre-school through Secondary Schools and Teacher Education (2006 – 2010)

Work Programme

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Summary

The Programme for Practice-based R&D in Primary through Secondary Schools and Teacher Education (Programme for Practice-based R&D) was initiated by the Norwegian Ministry of Education and Research, which asked the Research Council of Norway to administer the programme. The programme is to last four years beginning in 2005 and have an overall budget of NOK 92 million.

The aim of the programme is to generate new, research-based knowledge in areas of key importance to basic education by promoting organised cooperation between institutions responsible for teacher education and school owners. The teacher education institutions will serve as project owners for the R&D activities to be conducted.

The programme's primary objective is to promote the development of knowledge that can be used to strengthen basic and teacher education, advance R&D activities in teacher education programmes, and improve coordination between professional education and professional practice. The target groups are instructors of teacher education, students in teaching programmes, school owners (at the municipal and county levels), school administrators and teachers of basic education. In their role as project owners, the teacher education institutions may establish cooperation with other groups of researchers that can provide necessary or supplementary R&D expertise to the projects.

Under the main heading of "learning and learning organisations", the programme has three prioritised areas of research. The first is "learning processes and learning outcomes", which has a core focus on inclusion and contains didactic challenges within and across school subjects. The second research area, "organising for learning", focuses on forms of organisation and leadership at different levels of the school system, on the cooperation between school and home, and on various aspects of the national quality assessment system. The third area, "professional practice and teacher education", focuses particular attention on the relevance of teacher education for professional practice, and it addresses such important issues as different forms of practice in teacher education programmes, follow-up of recently qualified teachers, and the participation of students in teaching programmes in R&D activities.

Most of the funding awarded over the programme will be channelled through grants to *researcher projects* with user involvement. This encompasses projects to document cooperation between school owners, teacher education institutions and potential supplementary research groups, as well as other activities where it is constructive for students in teaching programmes and teachers of basic education to play an integral role. It is recommended that project management groups be set up to ensure active participation from all parties involved in the projects. Applications for project establishment support may also be submitted by applicants in need of funding to develop their proposals more fully. Institutions that receive allocations over the programme will be required to provide some of their own resources as well.

The Programme for Practice-based R&D gives priority to disseminating research results to users and the public at large, both nationally and internationally. Further, it is viewed as extremely important that research findings not only are made available to basic and teacher education, but that they are also actively utilised. Therefore, all funded projects are required to

present a clear plan designating how the project results will be applied. The programme will also employ various means to help to achieve this objective.

1. Background, perspectives and challenges

The Programme for Practice-based R&D in Primary through Secondary Schools and Teacher Education (Programme for Practice-based R&D) has been initiated and financed by the Norwegian Ministry of Education and Research on the basis of Recommendation no. 268 (2003-2004) to the Storting and Report no. 30 (2003-2004) to the Storting on “Culture for learning”. In its input to the annual fiscal budget proposition, the ministry proposed that a practice-based R&D programme be established to generate new knowledge that will promote the development of a learning culture and increase competence in basic and teacher education. In a letter dated 19 May 2005, the ministry asked the Research Council of Norway to administer this programme within the framework of NOK 23 million allocated annually over a four-year period.

The aim of the Programme for Practice-based R&D is to generate new, research-based knowledge in areas of key importance to basic education by promoting organised cooperation between institutions responsible for teacher education and school owners. The teacher education institutions will serve as project owners for the R&D activities to be conducted.

The programme will extend to basic as well as higher education circles, and both are expected to cooperate closely in the planning and implementation of the R&D projects. Perhaps the greatest challenge for the programme will be to achieve genuine research collaboration, since the research institutions, which traditionally have defined the research questions, will now be participating in a collective process in which the school owners and schools have an important role to play in all aspects of the R&D effort. Another overall challenge for the programme will be to establish channels of dissemination and cooperation which ensure that the R&D results are not only accessible, but that they are also used to further develop basic and teacher education.

The programme focuses on the relationship between teacher education and the demands faced by teachers of basic education as they practice their profession. A key question is whether it has been possible to adequately renew and develop teacher education programmes in the face of the rapid changes taking place in schools and in society at large. This is especially true in light of the stipulations relating to inclusive education, which entail that teachers of basic education must be able to perceive the perspective of others and to target their activities accordingly to an even greater degree than before. There is little doubt that these requirements will have a significant impact on the development of teachers’ professional competence as well as for the framework of R&D activities in teacher education programmes.

Previous R&D efforts have generated new knowledge about professional practice, leadership and the organisational culture in Norwegian schools. Some examples of this include:

- Evaluation of Reform 94
- Evaluation of Reform 97
- Evaluation of the Differentiation Project

- Research on school leadership
- Publications from the Norwegian Competence Report
- Publications from the research programme Knowledge Development in Professional Education and Practice (KUPP)
- Publications from the research programme Knowledge, Education, Research (KUL)
- Evaluation of Norwegian educational research

Even though such knowledge exists, there is no guarantee that it will be applied and provide a basis for change in teacher education or in the schools. Today schools and school owners are actively seeking more relevant research that they can employ as an important tool in their development activities. While it is essential that development processes have a solid knowledge base, there may also be conflicts in the relationship between R&D and practice. For this reason, it is important to organise forums in which researchers and users can interact and share their views in all phases of the R&D process. One main challenge of the Programme for Practice-based R&D will be to establish a satisfactory dialogue between school owners and researchers in teacher education programmes, thereby ensuring that the field of practice is linked to the design of new research projects and that the knowledge generated can be utilised.

The research projects must take their substance from the needs of the school owners and their development plans, and be designed in a collaborative effort between the research institution serving as project owner and the school owner. Moreover, it is crucial that the programme enhance the quality and relevance of R&D activities in teacher education programmes, which will strengthen teacher education programmes and improve coordination between professional education, professional practice and school development.

Programme activities will be integrated with the Research Council's current Research Programme on Knowledge, Education and Learning (2003-2007) and the Program for skoleutvikling ("Programme for School Development") from the Norwegian Directorate for Education (2005-2009), which run parallel to and complement the Programme for Practice-based R&D. Applicants to the Programme for Practice-based R&D should be familiar with the various facets of the two other programmes to ensure that cooperation between the programmes is established when it is natural to do so. This is especially true for the relationship between the Programme for Practice-based R&D and the Programme for School Development since they share a number of thematic parallels and a network between them would be beneficial.

2. Programme objectives

The main objective of the Programme for Practice-based R&D is to promote the development of knowledge that can be used to strengthen basic education and teacher education, advance R&D activities in teacher education, and improve coordination between professional education and professional practice.

Further, the research programme has the following secondary objectives:

- to promote the development of a learning culture in the school system and in teacher education
- to enhance the relevance of practice in teacher education programmes
- to increase practice-based research competency among teacher educators and students in teaching programmes
- to establish networks and cooperation on practice-based R&D in the schools and in teacher education
- to promote the practical application of research findings

3. Target group, focus and parameters

Report no. 30 to the Storting (2003-2004) “Culture for learning” states the following about the relationship between teacher education and basic education:

Teacher education also plays an important role in school development. A close connection between teacher education institutions and school owners/schools is essential for both parties. It will allow teacher education institutions to gain valuable knowledge about the specific professional and educational challenges faced by teachers in their daily work in the schools, thereby providing a basis for improvements in teacher education and enabling the institutions to better meet the schools’ needs for professional assistance and development. It will give the schools better opportunities to exploit research findings and to systematise their own experiences. [...] In order to enhance the relevance of research, it is important that teacher education institutions ascertain the various needs for research through a dialogue with school owners. (p. 96)

The programme’s target group includes instructors of teacher education, students in teaching programmes, school owners, school administrators, and teachers of basic education. Although the formal project owners must be teacher education institutions, it is presumed that other groups of researchers that can provide necessary or supplementary expertise will participate as key partners. The projects must take their substance from the needs of the school owners and their development plans, and binding cooperation between the project owner and the school owner must be established. Priority will be given to grant proposals that can document project collaboration between several research groups and/or institutions and that incorporate different frameworks and competencies in the R&D area.

Applicants should consider drawing upon existing, relevant development initiatives, such as the Learning Network, which was established to encourage schools and teacher education programmes to develop their ICT-based activities.

It should be emphasised that teacher education is not the thematic focus (research on teacher education) of the Programme for Practice-based R&D, but relevant research topics may be found in a number of areas in the interface between teacher education and professional practice. More details are given in Section 4: Prioritised research areas. It is important that vocational subjects/vocational teacher education be included under the programme. Although the programme does not encompass early childhood education and kindergarten per se, projects targeted toward the connection between pre-school and primary school may also be eligible for funding.

This work programme defines “practice-based R&D” as R&D activities which, through their choice of topic and methodology, are able to generate new knowledge of particular relevance for the field of practice in basic and teacher education. The term also implies an expectation that the R&D process itself will revolve around components relating to practice, as researchers are required to cooperate with school owners and basic education.

4. Prioritised research areas

The overall thematic umbrella of the Programme for Practice-based R&D is learning and learning organisations. “Learning organisations” refers to those organisations that develop a culture for learning through their method of organisation and their activities, in which a learning perspective is applied to the development of the organisation itself as well as to the efforts carried out within the organisation. This means that the programme will give priority to research on learning and learning outcomes, regardless of whether the learning takes place individually or in groups. Focus will be placed on the organisational factors that provide a framework for learning and how these factors influence learning and learning outcomes at the level of the individual pupil, group and institution.

Under this umbrella, the programme is divided thematically into three prioritised areas of research: (1) the *content* of learning processes, (2) *organising for learning*, and (3) the *relationship between teacher education and basic education*. Projects that address topics at the interface of these prioritised areas will also be eligible for funding. However, all projects must adequately reflect the programme’s main framework and represent a need explicitly expressed by the school owner. The designation of these priority research themes illustrates the programme’s focus on enhancing the relevance of practice in teacher education.

The following provides a brief description of the three prioritised research areas. For each area, potential research themes are suggested and examples of possible research questions are provided.

Area 1: Learning processes and learning outcomes

Inclusive education, achieved through various strategies for differentiation, is a main objective of Norwegian basic education as well as its primary challenge. Experience from initiatives such as the Differentiation Project in upper secondary education shows that there are various reasons why some schools are not wholly successful in providing differentiated and inclusive education. Examples of obstacles to achieving inclusive education include insufficient knowledge of pupils’ abilities and their possibilities for learning, inexpedient organisation of the school day, and limited teaching facilities and resources. It is important to use this experience as a basis for further research on the conditions for, possibilities for and limitations on differentiation for various age groups.

The introduction of new curricula poses new challenges to basic and teacher education, and the emphasis on fundamental skills and increased freedom in pedagogical methods are relevant issues that should be followed-up in R&D activities.

Differentiated teaching promotes greater flexibility in lower secondary education through measures such as allowing pupils at this level to choose their own programme subjects. This is a pilot project launched with high expectations, but little is known of its impact on the schools and the pupils. Little is also known about its ramifications for the transition to upper secondary education. In addition to programme subjects, lower secondary school pupils may also choose curriculum subjects from upper secondary education - in other words, this is a differentiation strategy targeted primarily toward pupils who are seeking greater challenges in theoretical subjects. Giftedness is another area that has been not been well researched in Norway.

The Norwegian educational system has traditionally divided learning activities into subjects. The same is true for the development of methodology and didactics related to individual subjects and subject groups. In the past three to four decades, subject-based research has generated a great deal of knowledge about working with curriculum subjects. Still, it would be of great interest if further studies were conducted on the characteristics of teaching and learning in various subjects and at different levels in light of the substantial freedom of choice in teaching practices in Norwegian schools. Relatively little subject-based research has been targeted toward cross-disciplinary teaching and learning or toward the new areas of knowledge that have entered the schools as a result of reforms from the 1990s to the present day.

Relevant research topics and possible research questions in the area of “learning and learning outcomes” include:

- *Inclusive and differentiated education, including pupil assessment*: How do teachers understand what it means to adapt and differentiate their teaching at different levels in Norwegian schools and how do they work to achieve this? What are the consequences of their efforts, and how are pupils, parents and other participants involved? What does pupil assessment mean for the development of inclusive and differentiated education?
- *Subject-related challenges in the wake of educational reforms*: To what degree and in what ways are the educational reforms reflected in teaching in the various school subjects and cross-disciplinary topics? What factors direct these educational processes of change? What subject-related consequences have the new school reforms had for inclusive and differentiated education?
- *Learning outcomes of pupils and apprentices*: How do various differentiation measures help to promote learning outcomes? What role do multi-cultural factors play in pupils’ learning outcomes, and how do various strategies for differentiation function in this context?
- What are the potential effects on pupils’ learning outcomes of various ways of using ICT? How can these effects be documented and measured?

Area 2: Organising for learning

As a starting point, the schools have a great deal of freedom to choose their organisational forms. Many schools have introduced a flexible school day, team organisation of teachers, and flexible pupil groups. Consequently, a new type of collective work style and thinking has developed in the schools that emphasises what is to be learned and which learning activities

are to be implemented. Many school owners are asking for research-based knowledge about this development.

It is well known that leadership is crucial to the functioning of the school, and consequently for pupils' learning outcomes as well. A fundamental question may then be asked: What do we understand good school leadership to be? Although the report on the "Knowledge Promotion" reform in basic education points out the importance of focusing on school leadership, it does not elaborate on what this means in practice. It will be important, therefore, to obtain knowledge about the requirements and expectations placed on the new role played by school administrators and how this role can be developed within a learning-oriented school organisation.

Today many teachers feel that they alone bear the responsibility for providing an inclusive and differentiated education and that it is difficult to meet the demands placed on them. Therefore, the question may be raised: Is it possible to avoid such individualisation of responsibility in the schools, and if so, how could this be achieved? It would be interesting to investigate what factors such as organisation, leadership and resources mean for the relationship between individual and collective responsibility.

The main report from the Evaluation of Reform 97 sums up the cooperation between school and home by stating that there "...is ample room for change, and this may benefit both the activities and the pupils" (p. 39). It would therefore be interesting to investigate further whether changes in the organisation and substance of the cooperation between school and home may be significant for pupils' learning and development.

The National Budget proposition for 2003-2004 affirms that the objective of the national quality assessment system is to enhance quality by creating a framework that makes it possible to take informed decisions at all levels of the educational system. National tests and the website Skoleporten.no are key components of the national assessment system, and are seen as aids to be used by school owners and individual schools in their pedagogical and professional development processes. A number of different assessment systems have been developed and employed by school owners. Several are instrumental and do little to stimulate reflection on or analysis of the data that emerge. As a result, school owners will require more knowledge about how data on their own organisations can be interpreted and applied in a responsible manner.

Relevant research topics and possible research questions in the area "organising for learning" include:

- *Organisation of education:* What do the various methods of organisation mean for the exercise of leadership, responsibility for teaching, and pupils' learning and development? How are the ways in which schools organise for learning influenced by varying resources? What are the impacts of various types of organising? How can ICT help to develop and improve the school as an organisation?
- *Leadership at different levels:* What characterises good leadership, and how can this be developed?
- *Cooperation between school and home:* What kinds of changes do the various participants want? What kinds of changes are possible, and how will these change processes transpire? What role do the various steering documents play in the cooperation between school and home?

- *Quality development - national quality assessment system*: How is the quality assessment system used and by whom? What types of processes are entailed in these efforts, and what types of effects is it possible to identify? Is it possible to develop good assessment systems that promote learning?

Area 3: Professional practice and teacher education

NOU 1996:22, *Teacher education between requirements and ideals* (“Lærerutdanning mellom krav og ideal”) establishes that teacher education is to be practice-based, i.e. it is to be grounded in practice-oriented teaching activity. Recommendation no. 262 (2001-2002) to the Storting points out the obvious need to strengthen contacts between the field of practice and teacher education institutions. This need is stressed in a new report from the evaluation committee appointed by the Norwegian Agency for Quality Assurance in Education (NOKUT) to study the quality of general teacher education: “The experiences and expectations of the assessment’s informants indicate that a majority feel there is little coordination or systematisation between the university colleges and the schools where student teachers undertake their placements. Many stressed the importance of establishing stronger ties between the theoretical components of the educational programmes and what occurs during the practice period” (p. 25).

Report no. 16 (2001-2002) to the Storting states that students are expected to participate in R&D activities at the teacher education institutions. Students should not only be met with research-based lectures, but should also be considered an integral part of the research culture. The report emphasises that R&D projects in general teacher education appear to be governed more by the interests of the teacher education institutions than by the expressed needs of the school system.

The NOKUT assessment confirms this impression:

An association with research as a means of promoting students’ curiosity and creativity as a resource for future efforts in school development...is not mentioned in the self-assessments. In most cases, the students do not appear to be part of the research culture in general teacher education. [...] The interview informants explained that they received little information about research and the dissemination of research findings through their educational programmes. [...] The impression of the candidates is that many instructors are engaged in research projects that have little to do thematically with basic education or didactics. (p. 28-29)

The Report on Knowledge Promotion challenges teacher education institutions to participate actively in the development of basic education, especially as participants in and contributors to the strategic plan “Kompetanse for utvikling” (“Competence for Development”). This applies to subjects and subject didactics (including inclusive and differentiated learning), the pupils’ learning strategies, and development and leadership of the school as an organisation.

Against this backdrop, the Programme for Practice-based R&D intends to fund projects that can help to improve coordination between teacher education and professional practice. The starting point is the expressed needs of basic education and the manner in which teacher education institutions can help to meet these expressed needs through their R&D activities. In

this way, the projects will strengthen basic education as well as R&D competency in teacher education. Projects that address training of students in R&D activities will be encouraged.

Relevant research topics and possible research questions in the area of “professional practice and teacher education” include:

- *New forms of practice in teacher education programmes*: What constitutes good professional practice in teacher education programmes? What practice models best support the aims of the educational programmes and meet the needs of the school system? How can new models be developed and implemented?
- *Follow-up of recently qualified teachers*: How can teacher education and the school system work together to assist new teachers in their professional practice? Which cooperative models may be relevant? What experiences have the new teachers had?
- *Students in teaching programmes as participants in R&D activities*: What opportunities and limitations are implied in this requirement? How can various models best be implemented?
- *Connection between school subjects and teacher education curricula*: What is the relevance of teacher education curricula for professional practice? What weaknesses can be identified, and how can improvements be made?

5. Strategic priorities and instruments

Forms of support

Applications to the Research Council of Norway will only be accepted in response to specific calls for proposals, which are announced on the Research Council’s website:

<http://www.forskningsradet.no/>.

Applications must be submitted electronically using the application form available on the Research Council’s website. More information is provided in the specific call for proposal and on the website.

The work programme is the fundamental professional and strategic document upon which projects should be developed. The Programme for Practice-based R&D will provide funding for two types of projects. All applications must be written in Norwegian or English.

Researcher project with user involvement

The programme will be targeted toward projects classified as “researcher projects”, where active user involvement will also be a requirement. Priority will be given to projects that - in addition to scientific merit and development - can document components of network-building between several teacher education institutions or groups of researchers. Research institutions other than those responsible for teacher education may also be included in the project cooperation when they can help to strengthen the research process. Organised cooperation between the teacher education institution(s) and school owner is required, and this must be described in the application. Priority will also be given to projects that are designed to enhance the expertise of the personnel at the institutions, increase student involvement, and promote the recruitment of new researchers. This means that the projects should include participants with different competencies and backgrounds. However, all projects are required to stipulate one teacher education institution as the formal applicant, and the projects must be

actively led by a project manager with expertise and experience in research. The minimum academic requirement for project leaders is a completed doctorate degree or formal qualifications for employment at the associate professor level.

Projects are also required to show an active commitment on the part of the participating institution(s). Grant proposals must specify the manner in which the various institutions will contribute their own resources, possibly in the form of employees' work hours.

To ensure that both R&D groups and users are able to influence the project, a project management group in which all parties to the project participate should be established for each project. Plans for this should be included in the application.

Project funding may be sought for a period of up to four years, but it will also be possible to apply for funding for a shorter project period, e.g. two years. Doctoral fellowships, post-doctoral fellowships or the qualifying programme for advancement to university lecturer may be included in the projects. It is not possible to apply for personal doctoral or post-doctoral fellowships.

Project establishment support

Applications for project establishment support may also be granted to applicants in need of funding to develop their proposals more fully. Project establishment support may be awarded for up to NOK 100,000, and grants may comprise up to 50 per cent of the institution's costs of developing the project.

The funding period may be used for a number of tasks, such as preparing the organisational framework for the project, establishing networks between partners, and preparing a more detailed proposal for the main project. To be eligible for project establishment support, a satisfactory project outline must be submitted. The outline must contain the key components of the main project, a list of participating partners, and specification of plans for project administration. Project establishment support will be disbursed when the final project application has been submitted to the Research Council.

The programme board will also employ various instruments to actively promote the development, implementation and follow-up of the research projects. These instruments will be assessed throughout the entire programme period and be adapted to the specific needs of the projects. Applicants should refer to the section "Utilisation of research projects and research findings".

Utilisation of research projects and research findings

Previous research programmes and projects in the education sector have generated new and important knowledge. Even though such knowledge exists, it does not necessarily mean that it is applied to provide a basis for change in teacher education or in the schools. There are indications that relatively few administrators and teachers in the schools actively *use* new research findings, or incorporate these as a key tool of organisational development, teaching and learning. One aim of the new research programme is to draw attention to this situation by e.g. focusing on channels for dissemination and communication. All projects granted funding under the programme will be required to specify in detail how the research results are to be utilised. This applies not only to publication in various types of media, but also to the

practical application of results to promote organisational development and changes in teaching and learning. The programme will fund various measures that seek to achieve these aims both during and after the project period. Examples of such measures include:

Networks, seminars and conferences

The programme will emphasise active network-building and scientific/popular dissemination activities through conferences, seminars, courses and other professional forums, which will be important during the project period as well as after its completion. Target groups for these dissemination activities may be internal – between participants in the programme – or external – between the programme/aspects of the programme and the general public. This implies that seminars, conferences and similar forums may in part serve as a means of refining the programme itself, as they will enable researchers and research groups taking part to communicate, discuss and correct professional choices along the way. Such activities will also enable programme participants to have contact with researchers and other interested parties who can observe the programme from the outside, thus promoting professional reflection and development.

Dissemination of research findings to users and the general public

This is the most important dissemination component of the programme, and it is targeted toward teacher educators and students in teaching programmes, administrators and teachers in the school system, pupils and parents, as well as the public at large. Although the research findings will not all be of equal relevance or interest to all target groups, all projects must have an information component that is clearly focused on the users and public at large. This can partly be addressed by presenting popularised versions of findings in reports and articles in journals or newspapers, and on radio, TV or the Internet. Efforts to plan and provide information through some of these dissemination channels require a significant time commitment, and therefore, it is extremely important that all projects devote special effort to preparing for such activities.

Scientific dissemination and publication

It is assumed that as many projects as possible will focus on publishing their results in referee-based international and/or national journals. Furthermore, efforts should be made to ensure that projects result in or are included in international and/or national book publications.

Internationalisation

There are indications that various other countries are facing the same challenges related to basic and teacher education as Norway. For this reason, project applications that can document an international component will be viewed in a favourable light. An international focus may for instance be reflected in a comparative, international angle on a topic/research question, international publication targets or through plans for professional travel/conferences/networks. Funding may also be made available to projects that actively establish links to relevant, international research projects, e.g. within an EU or Nordic context.

6. Time frame and funding

In a letter dated 19 May 2005, the Norwegian Ministry of Education and Research asked the Research Council of Norway to administer the Programme for Practice-based R&D in

Primary through Secondary Schools and Teacher Education. The ministry established a time frame for the programme is 2005-2008, with an annual budget of NOK 23 million.

A primary call for proposals for research funding over the programme is expected to be published in early December 2005 with the first deadline for submission of applications to the Research Council set for 15 March 2006. A new call for proposals is planned for March 2007 to provide the groups allocated project establishment support with sufficient time to develop their projects.

7. Targets and performance indicators

In order to be eligible for programme funding, projects must incorporate cooperation between teacher education and school owners. This stipulation has been introduced to emphasise that R&D activities must be systematic and practice-based if teacher education is to be strengthened and renewed. This implies both short-term and long-term expectations:

In the short-term, efforts will seek to ensure that:

- Processes will be initiated at the individual teacher education institution to enhance profession-based research through new projects, thereby strengthening both the standard of research and teacher education.
- Processes will be initiated in the schools (primary through secondary schools) that systematically study and develop competence and quality in basic education, particularly in the context of development of learning organisations.

In the long-term, efforts will seek to ensure that:

- Research findings will be used to enhance teacher education in general through dissemination of knowledge and development processes.
- A system for cooperation will be established between the field of practice (schools/school owners) and teacher education programmes, in which the development of theory and knowledge is closely tied to professional practice in a reciprocal relationship between the institutions.
- The research findings will be used as models for development activities in the schools.

These short-term and more long-term expectations may be made specified in terms of “targets” and “performance indicators”.

Targets	Performance indicators
Develop the school as a learning organisation	Number of relevant projects funded by the programme
Flexible organisation Good leadership Enhancement of teachers' skills	

Pupils with high learning outcomes
Ability and willingness to perform
critical self-assessment

**Enhance the competence of professional
personnel at teacher education institutions**

R&D competence

Researcher recruitment

Inter-disciplinary cooperation

Regional and national networks

International networks

-

**Improved coordination between
teacher education and
professional practice**

Students participating in R&D
activities

Professional and pedagogical relevance
of teacher education

Improved student teacher practice
sessions

Good routines for cooperation
between teacher education
and the school system

**Number of first promotions/new
appointments**

Number/quality of reports/papers funded
by the programme

Number of doctoral fellowships funded by
the programme

Number inter-disciplinary projects funded
by the programme

Number of papers, lectures, etc. related to
the programme, in regional and national
networks

Number of papers, lectures, etc. related to
the programme, in international networks

**Number of cooperative projects
funded by the programme**

Number of projects with this
profile, funded by the programme.
Number of students in teaching
programmes who participate in R&D
activities as a documentable result of the
programme

Number of projects with this
profile, funded by the programme

Number of projects with this
profile, funded by the programme.
Number of measures implemented as a
documentable result of the programme.

Number of projects in the programme that
reflect this, or other cooperative measures
attributable to the programme

8. Programme board and administration

Programme board

The programme board is comprised of the following members:

Members:

- Svein Lorentzen, Professor and Director of the Programme for Teacher Education, Norwegian University of Science and Technology (NTNU)
- Elaine Munthe, Associate Professor, Centre for Behavioural Research, University of Stavanger
- Tomas Kroksmark, Professor, Jönköping University
- Marit Strømstad, University Lecturer, Faculty of Education and Science, Hedmark University College
- Wenche Tove Cajina, Assisting Director, Norwegian Directorate for Education and Training
- Sven Eirik Nilsen, Municipal School Director, Gjøvik municipality
- Marit Dahl, adviser, Union of Education Norway

Alternates:

- Svein Michelsen, Associate Professor, University of Bergen
- Anne Marie Borgersen, Adviser, Norwegian Association of Local and Regional Authorities

A reference group or user forum will be established to ensure that contact is maintained with a broader spectrum of user groups.

Programme administration/contacts

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Norway

Supplement to the PraksisFoU work programme:

Practice-based R&D in the pre-school sector (2006 – 2010)

This supplement was prepared in autumn 2006 to provide essential documentation for grant applicants seeking funding for research projects relating to the pre-school sector under the Programme for Practice-based R&D in Primary through Secondary Schools and Teacher Education (the PraksisFoU programme). This supplement presents the clarifications and specifications applicable to research involving pre-school institutions and pre-school teacher education under the general framework of the PraksisFoU work programme. Please note that the overall objectives and guidelines in the work programme apply to all segments of the programme's focus area: pre-school education, basic education and teacher education.

1. Background

In 2002 the Research Council of Norway prepared the report *Forskning om barnehager. En kunnskapsstatus* (“Research on pre-schools: A state-of-the-art review”). The authors Lars Guldbrandsen, Jan E. Johansen and Randi D. Nilsen concluded that the scientific merit of research in the field and the level of international publication varied widely. The report called for a research initiative focusing on areas pertaining to quality, curriculum and practice in pre-school institutions and which views the pre-school sector in the broader context of educational policy. Other reports have also noted a need for enhanced research efforts on the inner life of pre-schools and on pre-schools as an element of lifelong learning. The heightened political focus on the establishment of new pre-school facilities indicates the substantial need for research that increases knowledge about how the pre-school level of the educational system is organised and operated, and how the pre-school as an institution fulfils the social responsibility assigned to it.

In autumn 2005 the Government transferred responsibility for pre-schools to the new Ministry of Education and Research, thereby bringing all levels of the educational cycle under the ministry’s sphere of responsibility. In a letter dated 5 July 2006, the Ministry of Education and Research requested that the Research Council of Norway expand the Programme for Practice-based R&D in Primary through Secondary Schools and Teacher Education (the PraksisFoU programme) to include the pre-school sector, with an annual allocation of NOK 15.5 million for the period 2006 – 2009. NOK 2.5 million of the annual allocation was earmarked for research on the pre-school curriculum and quality for children with disabilities.

The task assigned by the Ministry of Education and Research is part of a large-scale initiative to raise the level of expertise in the pre-school sector.

2. Objectives

The pre-school segment of the programme seeks to:

- Generate research-based knowledge about pre-schools as social institutions, about the pre-school curriculum and quality, and about the relationship between teacher education and professional practice;
- Strengthen practice-based R&D activity in pre-school teacher education, and develop R&D networks with relevance for the pre-school sector;
- Raise the level of expertise of pre-school staff, and promote the development of the pre-school curriculum and organisation.

3. Target group, focus and parameters

The target group mainly consists of educators of students in pre-school teaching programmes, students in pre-school teaching programmes, pre-school facility employees and pre-school facility owners. In light of the overall objective of enhancing R&D competence in teacher education, all projects applying for funding under the programme must incorporate the active

participation of one or more teacher education institutions. Projects must have one administratively responsible applicant institution. This may be an institution that conducts pre-school teacher education or a research institution with expertise in the pre-school sector. Focus will be placed on the applicant institution's scientific quality, and the project manager must at a minimum satisfy formal qualification for employment at the associate professor level. Priority will be given to network projects, either in cooperation between teacher education institutions or between these institutions and other research institutions that can provide necessary or supplementary expertise. Projects are required to involve genuine cooperation between research communities and pre-school facilities, and the roles of and distribution of responsibility between the project participants must be clearly stipulated in the project description.

4. Prioritised research areas

The pre-school segment of the programme is divided into three main priority areas:

- The pre-school-level curriculum and children's learning and development;
- The pre-school facility as an organisation;
- The relationship between professional practice and pre-school teacher education.

Within this framework the programme also seeks research projects that address the transition from pre-school to primary school, and the pre-school as an element of lifelong learning. In accordance with ministry stipulations, NOK 2.5 million of the programme's annual allocation to projects in the pre-school sector has been earmarked for research on the pre-school curriculum and quality for children with disabilities. Proposals will be accepted from research projects which fall within one or more of the priority areas or which lie at the interface between these areas. The Government's new Framework Plan on the Content and Tasks of Kindergartens¹ should form a key point of departure for research activity.

Area 1: The pre-school-level curriculum and children's learning and development

The pre-school is the first educational institution that children come in contact with, and it therefore plays a fundamental role in children's learning and socialisation. Pre-schools are to provide the individual child with challenges and support the child's development on the basis of his or her abilities and possibilities for learning. Consequently, research that more closely examines the role of pre-school education in children's development of knowledge, skills and attitudes will be crucial, as will research that poses questions about these concepts and investigates how children who attend pre-school learn and develop individually and as part of a group.

¹ In English translations of the Norwegian legislation referring to the pre-school sector, the Ministry of Education and Research has consistently used the term "kindergarten" to refer to pre-school institutions. Although the term kindergarten is widely used in Europe, it does not have an unambiguous meaning internationally, and we have therefore chosen to use the more generic term "pre-school" here.

Knowledge about language development is a vital part of this picture; this includes language development as such, the social significance of language, and how language learning is a prerequisite for other types of learning. The programme therefore seeks research projects that investigate language use and language learning, as well as the significance of language for the social contexts of which the children are a part.

Pre-school institutions are also multicultural and multi-linguistic institutions. In this area, the programme encourages research on how these institutions attempt to promote a multicultural and multi-linguistic community through their daily activities, which factors are present that lead to inclusion or exclusion, and how various approaches can help to realise the objectives of the framework plan.

Some of the children attending pre-school suffer from various types of disabilities. One important perspective of this component of the research programme is to generate new knowledge about how these children are integrated into the larger social group. The programme therefore seeks research on the significance of pre-school attendance for children with disabilities, and the impact this has on the social environment of the pre-school institution.

From the perspective of lifelong learning, it is of interest to obtain research-based knowledge about how pre-school attendance affects children's learning and socialisation later in the educational cycle, and which forms of learning are given priority.

Relevant research topics include:

- Care, play and learning;
- Pre-school as a disseminator of culture;
- Pre-school as an institution of knowledge and learning;
- Development of attitudes and basic skills;
- Gender roles and gender equality in pre-schools;
- Pre-school as an arena for social equalisation;
- Pre-school from a multicultural perspective;
- Pre-school and children with disabilities and other special needs;
- Co-determination in the pre-school.

Area 2: The pre-school institution as an organisation

It is also important that the programme generates research-based knowledge of the pre-school institution as an organisation. This pertains not only to the inner life of the pre-school (cf. Area 1), but also largely to the organisational structure, and how roles and tasks are distributed within the institution.

Pre-school institutions are largely free to choose their own forms of organisation and management. It would therefore be interesting to obtain research-based knowledge of how various forms of organisation and management function, and how these influence the content of the pre-school. Research on cooperative relationships with other institutions and government authorities is also sought.

In addition to the role played by the management, pre-school institutions are influenced by the expertise and roles of the other employees, and by the dynamics between the various types of employees within the organisation. It may also be beneficial to study the significance of customised professional development measures for the individual employees. In order for the pre-school to operate in keeping with the intentions of the framework plan, good cooperation between the institution and the parents/guardians must be established. In this context, the programme is open to research projects that investigate various forms of cooperation with parents, how these function, and, if relevant, how they may be improved.

From an organisational perspective, the transition from pre-school to primary school is also an important area of knowledge. The programme therefore seeks to promote research on contact and cooperation between pre-schools and primary schools as this relates to both organisational and professional/educational factors.

Relevant research topics include:

- Forms of management in pre-school institutions;
- The distribution of roles and tasks among various groups of employees, and the consequences of various personnel structures for the learning and working environment;
- The organisation of job duties and staff development measures;
- Cooperation between pre-schools and parents/guardians, and between pre-schools and primary schools;
- The physical learning environment in pre-school institutions;
- The role of pre-schools in the educational system as a whole;
- The role and function of the pre-school facility owner;
- Cooperation across agencies in the pre-school sector;
- Organisation of children into groups in pre-school institutions.

Area 3: Professional practice and pre-school teacher education

It is crucial that pre-school teacher education takes its substance from the pre-school's activities. As in other educational sectors, there is a lack of research-based knowledge of the impact of teacher education on professional practice in the pre-school sector. Systematic knowledge is also needed with regard to how the pre-schools and teacher education institutions interact, and to what degree this interaction results in satisfactory integration between teacher education and the field of practice.

Students in pre-school teacher education programmes are expected to participate actively in practice-based R&D activity as part of their preparation to work in the pre-schools. To date, knowledge is limited regarding the extent to which R&D activity is a genuine part of the students' teacher education, and how such activity can function in a manner that is relevant to professional practice.

The PraksisFoU programme will provide funding to projects that improve coordination between pre-school teacher education and professional practice in the pre-schools. The programme is especially interested in projects that focus on coordination between the pre-school facility and the teacher education institution. This may be achieved in part through an

assessment of the pre-school teacher education programme's own perception of its relevance to practice, and the professional and organisational consequences this has for teacher education. It may also be achieved through studies that focus on students in pre-school teacher education programmes and recently qualified pre-school teachers, and their expectations and experiences in this area.

Within the scope of these issues lie research areas related to forms of practice in teacher education, to the transition between teacher education and professional practice, and to the manner in which recently qualified pre-school teachers are being followed up in their work in the pre-schools. It would also be of interest to obtain research-based knowledge of how public and private pre-school facility owners assess the transition between teacher education and professional practice, and their role in this.

Relevant research topics include:

- Forms of practice and the integration of practice in pre-school teacher education programmes;
- Cooperation between the teacher education institution, pre-school facility and pre-school facility owner;
- Student expectations in relation to and recently qualified pre-school teachers' experiences with their teacher education programmes;
- Follow-up of recently qualified pre-school teachers;
- R&D activities as part of pre-school teacher education.

5. Strategic priorities and instruments

Forms of support

Applications to the Research Council of Norway will only be accepted in response to specific calls for proposals, which are announced on the Research Council's website:

<http://www.forskningsradet.no/>.

Applications must be submitted electronically using the application form available on the Research Council's website. More information is provided in the specific call for proposal and on the website.

The work programme comprises the fundamental strategic document upon which projects should be developed. The PraksisFoU programme will provide funding for two types of projects. All applications must be submitted in Norwegian or English.

Researcher projects with user involvement

The programme will be targeted toward projects classified as "researcher projects", where active user involvement will also be a requirement. All projects must incorporate the active participation of one or more pre-school teacher education institutions, but it is not mandatory that a teacher education institution serves as the administratively responsible applicant institution. While it is also not mandatory for pre-school facility owners to play an active role in the preparation of grant proposals and implementation of research projects, their participation will be preferable in many cases. All applications must incorporate organised, binding cooperation between the applicant institution and one or more pre-school facilities,

represented by the pre-school director, and this must be clearly specified in the application and project description.

Priority will be given to projects that - in addition to scientific merit and development - can document components of network-building between several teacher education institutions or groups of researchers. Priority will also be given to projects that are designed to enhance the expertise of the personnel at the institutions, increase student involvement, and promote the recruitment of new researchers. This means that the projects should include participants with different competencies and backgrounds. However, all projects must be submitted by one formal applicant, and the projects must be actively led by a project manager with expertise and experience in research. The minimum academic requirement for project leaders is a completed doctorate degree or formal qualifications for employment at the associate professor level.

Projects are also required to show an active commitment on the part of the participating institution(s). Grant proposals must specify the manner in which the various institutions will contribute their own resources, possibly in the form of employees' work hours.

To ensure that both R&D groups and users are able to influence the project, a project management group in which all parties to the project participate should be established for each project. Plans for this should be included in the application.

Project funding may be sought for a period of up to four years, but it will also be possible to apply for funding for a shorter project period, e.g. two years. Doctoral fellowships, post-doctoral fellowships or the qualifying programme for advancement to university lecturer may be included in the projects. It is not possible to apply for personal doctoral or post-doctoral fellowships.

Project establishment support

Applications for project establishment support may also be granted to applicants in need of funding to develop their proposals more fully. Project establishment support may be awarded for up to NOK 100,000, and grants may comprise up to 50 per cent of the institution's costs of developing the project.

The funding period may be used for a number of tasks, such as preparing the organisational framework for the project, establishing networks between partners, and preparing a more detailed proposal for the main project. To be eligible for project establishment support, a satisfactory project outline must be submitted. The outline must contain the key components of the main project, a list of participating partners, and specification of plans for project administration. Project establishment support will be disbursed when the final project application has been submitted to the Research Council.

The programme board will also employ various instruments to actively promote the development, implementation and follow-up of the research projects. These instruments will be assessed throughout the entire programme period and be adapted to the specific needs of the projects. Applicants should refer to the section "Utilisation of research projects and research findings".

Utilisation of research projects and research findings

Previous research programmes and projects in the education sector have generated new and important knowledge. Even though such knowledge exists, this does not necessarily mean that it has been applied to provide a basis for change in teacher education or in the schools or pre-schools. There are indications that relatively few administrators and teachers actively *use* new research findings, or incorporate these as a key tool in their activities. One aim of the new research programme is to draw attention to this situation by e.g. focusing on channels for dissemination and communication.

All projects granted funding under the programme will be required to specify in detail how the research results are to be utilised. This applies not only to publication in various types of media, but also to the practical application of results to promote organisational development and changes in teaching and learning. The programme will fund various measures that seek to achieve these aims both during and after the project period. Examples of such measures include:

Networks, seminars and conferences

The programme will emphasise active network-building and scientific/popular dissemination activities through conferences, seminars, courses and other professional forums, which will be important during the project period as well as after its completion. Target groups for these dissemination activities may be internal – between participants in the programme – or external – between the programme/segments of the programme and the general public. This implies that seminars, conferences and similar forums may in part serve as a means of refining the programme itself, as they will enable researchers and research groups taking part to communicate, discuss and correct scientific choices along the way. Such activities will also enable programme participants to have contact with researchers and other interested parties who can observe the programme from the outside, thus promoting professional reflection and development.

Dissemination of research findings to users and the general public

This is the most important dissemination component of the programme, and it is targeted toward teacher educators and students in teaching programmes, administrators and teachers in the pre-schools, children and parents, as well as the public at large. Although the research findings will not all be of equal relevance or interest to all target groups, all projects must have an information component that is clearly focused on the users and public at large. This can partly be addressed by presenting popularised versions of findings in reports and articles in journals or newspapers, and on radio, TV or the Internet. Efforts to plan and provide information through some of these dissemination channels require a significant time commitment, and therefore, it is extremely important that all projects devote special effort to preparing for such activities.

Scientific dissemination and publication

It is assumed that as many projects as possible will focus on publishing their results in peer reviewed international and/or national journals. Furthermore, efforts should be made to ensure that projects result in or are included in international and/or national book publications.

Internationalisation

There are indications that various other countries are facing the same challenges related to pre-schools, basic education and teacher education as Norway. For this reason, project applications that can document an international component will be viewed in a favourable

light. An international focus may for instance be reflected in a comparative, international angle on a topic/research question, international publication targets or through plans for professional travel/conferences/networks. Funding may also be made available to projects that actively establish links to relevant, international research projects, e.g. within an EU or Nordic context.

6. Time frame and funding

The time frame for the pre-school initiative is 2006 – 2009, with an annual budget of NOK 15.5 million. A primary call for proposals for funding for pre-school sector research will be issued in December 2006 with an application deadline of 21 February 2007. A new call for proposals is planned for autumn 2007 to provide the groups allocated project establishment support with sufficient time to develop their projects. Because these projects will not commence until 2007, the Ministry of Education and Research will be consulted regarding an adjustment of the programme period.

7. Targets and performance indicators

In order to be eligible for programme funding, projects must incorporate cooperation between pre-school teacher education and pre-school facilities. This stipulation has been introduced to emphasise that R&D activities must be systematic and practice-based if teacher education is to be strengthened and renewed. This implies both short-term and long-term expectations:

In the short-term, efforts will seek to ensure that:

- Processes are initiated at the individual teacher education institution to enhance profession-based research through new projects, thereby strengthening both the standard of research and teacher education;
- Processes are initiated in the pre-schools that systematically study and develop competence and quality, particularly in the context of development of learning organisations.

In the long-term, efforts will seek to ensure that:

- Research findings are used to enhance pre-school teacher education in general through dissemination of knowledge and development processes;
- A system for cooperation is established between the field of practice (pre-school facilities) and teacher education programmes, in which the development of theory and knowledge is closely tied to professional practice in a reciprocal relationship between the institutions;
- The research findings are used as models for development activities in the pre-schools.

These short-term and more long-term expectations may be made specified in terms of “targets” and “performance indicators”.

Targets	Performance indicators
Develop the pre-school as a learning organisation	Number of relevant projects funded by the programme
Flexible organisation Good management Enhancement of teachers' skills Promotion of children's development Ability and willingness of pre-school staff to perform critical self-assessment	Make the project results available for implementation
Enhance the competence of professional personnel at teacher education institutions	Number of first promotions/new appointments
R&D competence	Number/quality of reports/papers funded by the programme
Researcher recruitment	Number of doctoral fellowships funded by the programme
Interdisciplinary cooperation	Number interdisciplinary projects funded by the programme
Regional and national networks	Number of papers, lectures, etc. related to the programme, in regional and national networks
International networks	Number of papers, lectures, etc. related to the programme, in international networks
Improved coordination between teacher education and professional practice	Number of cooperative projects funded by the programme
Students participating in R&D activities	Number of projects with this profile, funded by the programme. Number of students in teaching programmes who participate in R&D activities as a documentable result of the programme
Professional and pedagogical relevance of teacher education	Number of projects with this profile, funded by the programme
Improved student teacher practice sessions	Number of projects with this profile, funded by the programme. Number of measures implemented as a documentable result of the programme.
Good routines for cooperation between teacher education and the pre-schools	Number of projects in the programme that reflect this, or other cooperative measures attributable to the programme

8. Programme board and administration

Programme board

At the request of the Ministry of Education and Research, the Research Council has expanded the programme board in connection with the pre-school initiative to include the following two persons:

- Eva Gulløv, Associate Professor, Danish School of Education
- Gunhild Hagesæther, Professor, Norwegian Teacher Academy

Programme administration/contact persons

Kari Tonhild Aune, Adviser (programme coordinator, board secretary, contact for professional/academic-related matters)

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