



1. **Research** Circulation in Teacher **Education**
2. **Template for Local Action Plans (LAPs)**

The LAPs are connected to Intellectual Output 2, and are described as follows:

As a consequence of the mapping exercise (IO1) and the local transferability camps (E1-E6), all partner institutions have committed themselves to producing innovative research strategies for their teacher education in relation to project goals. Their main aim is to create a positive and more focused research ethos and culture in the institutions, with the ultimate effect of improving teaching and learning for school pupils. Research strategies will be discussed at the TNPM in September 2019 in Weingarten and in March 2020 in Linköping in order to exchange knowledge transnationally and thus improve the outputs' transferability potential and impact on IO3.

All partners will produce an innovative research strategy (aka LAP) for their research activities in teacher education (text and graphic), which could potentially have an impact on other education departments within the institution and beyond.

Main objectives of the LAP (based on Trondheim discussion)

1. Improve communication with stakeholders regarding research activities at your department or unit. This could include identifying specific research groups or communities within your department, e.g. research groups working on language learning or numeracy, of interest to the relevant schoolteachers or departments.
2. Establish regular events to share knowledge and listen to stakeholders. One issue that might be addressed specifically is the over-use of schools as data sources or venues for research projects. Better coordination of research and development activities, especially if student teachers are required to do R & D projects, could be helpful.
3. Provide research training opportunities for staff, including student teachers, in-service teachers, teacher educators, post-graduate researchers and school

leaders. This means training more in the sense of professional socialisation, rather than traditional methods courses. In other words, all participants should learn more about the who, what, why and how of research activity within and beyond their particular community.

4. Provide opportunities for meta-research into the relationship between practice, teaching and learning, and research at your institution/unit.
5. Increase the transparency of research governance structures, in particular, by opening up for discussion with potential 'influencers' in the research ecosystem. This should include school students and student teachers wherever possible, as well as local education authorities. By 'governance', we mean the structures and relationships that determine what kinds of research are performed, and how the results are used. It is important for the success of RECITE and possible follow up projects that we can demonstrate changes to these structures and relationships.

3. **Local Action Plan Report NTNU/ILU**
4. **Institution name: NTNU**
5. **Period covered by action plan: Nov 2019-Feb 2021**
6. **Brief description of department or section involved, including numbers of persons covered by the plan: ILU (Dept of Teacher Education): Approx 100. The plan was based around collaboration between ILU and the University schools: Charlottenlund lower and upper secondary schools and Huseby primary school.**
7. **Timeline of proposed actions: Nov 2019- Feb 2021**

Note 1: although this report is framed as an action plan, it describes the actions that have actually taken place over the past 16 months, and provides some evaluation of their results.

Note 2: Authors of the documents on which this report is based were Anne Berit Emstad Ingrid Stenøien and Lise Vikan Sandvik. Peter Gray translated and edited where necessary, so any mistakes are his responsibility.

8. **Description of each of the planned activities, including target audience if relevant, expected results and whether the activity is expected to change the direction or topics of research at your institution in any way.**

The majority of the activities described under the NTNU-LAP took place as part of USSiT, *University-School Cooperation in Trondheim*¹, which is a partnership for university schools between NTNU, Trondheim Municipality and Trøndelag County Municipality. The purpose is to promote collaboration between universities and university schools on research and development work, with the goal of a future-oriented school and teacher education with the best possible learning for pupils and students

The goals of the collaboration are:

- Strengthened teacher education
- Strengthened research and development work in the university schools
- Strengthened educational research
- Sharing the results of the collaboration, and strengthening other schools and teacher education institutions in the region.

There were two stages in the plan. The first stage was to identify topics from current research practice in Teacher Education, across a range of themes, as follows:

- Education and childhood

¹ <https://www.ntnu.no/universitetsskole>

- Arts and physical education^[L]_[SEP]
- Natural science and mathematics^[L]_[SEP]
- Culture and society^[L]_[SEP]
- Language and diversity^[L]_[SEP]
- Vocational and professional studies

The next stage was to create an **action plan**, with the aim of implementing a change in Research Culture and achieving systematic co-creation between actors. In this case, we see the actors as part of an ecosystem involving schools, the university teacher education department, other university departments providing subject specialisms, and the municipality/county education authorities as the school owners.

Co-creation is a basic form of work in USSiT that will contribute to strengthening practice relevance and the teaching profession, but also to the development of practice- based educational research

Background

The strategy document for the R&D model in USSiT (2018) states that R&D shall contribute to the development of:

- New, practice-relevant and research-based knowledge about school and teacher education
- Practice-based research methods in school and teacher education
- Research-based teacher education
- Knowledge-based teaching and supervision practices in the school

Furthermore, the strategy emphasizes that the R&D model should generate R&D projects at all levels (micro, meso and macro) that collectively meet the goals for R&D in USSiT. At the same time, and in accordance with the principles of RECITE, the models must positively safeguard the interests of the various parties.

In the autumn of 2016, NTNU announced funding of NOK 1,000,000 to promote R&D collaboration between the university and the university schools, with the aim of supporting development in the University School collaboration in Trondheim. The funds were to go to co-created R&D projects, i.e. collaborative projects between researchers from the university and employees (teachers or other employees) from the university schools. These are intended to strengthen NTNU as a teacher education institution, and to develop practice-relevant knowledge for the schools. It was made clear that projects that had a clear development focus on teacher education, and that could be important for other university schools and partner schools, would be given priority. The process consisted of three phases: mapping, linking and application.

Milestones for Action Plan

Milestone A

- Information^[L]_[SEP]
- Mapping phase

Milestone B

- Coupling ideas and people
- Co-creation of projects^[L]_[SEP]
- Assessment of applications

Milestone C

- Start up^[L]_[SEP]
- Follow up^[L]_[SEP]
- Evaluation seminar: Dialogue on transferability potential and Intellectual impact

Results

The mapping phase resulted in 40 submitted ideas, and after the linking phase, 21 applications were received. Support was granted for 11 projects, while 14 projects are underway (see list on p.9-10). 45 employees at NTNU with connections to GLU or 5LU are involved in the projects to be realized, most of whom are employed at the Department of Teacher Education. These include 41 researchers who make up 16% of ILU permanent scientific staff. Several projects have a direct focus on teacher education. However, there are only a few projects involving vocational subjects and discipline-specific departments at NTNU.

The start-up phase

The information measures were designed with the aim of informing as many interested parties as possible at the University Schools and NTNU about the call and thus have the opportunity to participate.

The innovation leader participated in joint meetings at the primary and lower secondary school to inform them about the process. Information about the R&D funds was given on the start day at ILU and in meetings with the R & D project leader, the study leaders for the 5-year program and section leaders at ILU. Flyers were distributed at the schools, and at NTNU (both ILU and 5LU institutes. Information about the R&D funding was placed on the USSiT website. School owners were informed through the governing bodies. Finally, an E-mail with relevant information was sent to all relevant persons in the schools and at NTNU.

Despite the fact that information was provided through multiple channels, however, both orally and in writing, not all employees associated with teacher education

realized that it was possible to apply for funding, especially in departments outside the ILU. This could be addressed in future by more active collaboration between the leadership and these departments, and by alterations to the focus of calls for proposals. Even though the process was considered to be NTNU-controlled, there was acceptance for this since the announced funds came from NTNU.

Our assessment is that it was easier to get the information out to employees at ILU, than to other departments involved in teacher education (5LU) at NTNU. The intranet does not reach everyone, so one is dependent on study program managers, or department heads, forwarding information to all employees who are affiliated with 5LU. Those who did not receive the information report that the intranet is a good information channel, but direct e-mail is the best. When it comes to schools, it is easy to reach out with information.

Mapping phase

The aim of the mapping phase was, firstly, to initiate and motivate idea development processes both in the University Schools and at NTNU. Secondly, it was necessary to create an overview of the project ideas, in order to be able to facilitate connections between actors at the University Schools and NTNU in the next round and thus achieve cohesion.

The mapping process involved employees at schools and universities in mapping ideas and needs. The coordinators at the university schools then sent summaries of the school's ideas to the innovation leader. At NTNU, employees sent their ideas directly to the innovation manager. The innovation manager then prepared an overview of the proposals received.

The mapping process resulted in 16 proposals from NTNU (ILU and ILS), 8 from Charlottenlund lower secondary school, 5 from Charlottenlund upper secondary

Huseby primary school received support from NTNU in this phase, because the school had not participated in the first round of R&D funding applications and lacked experience with this type of process. This support meant that at an early stage, interested and relevant academic sections from ILU and NTNU were connected with the school. For example, employees from the pedagogy section of ILU were involved in project ideas related to the school's distinctive features such as being a reception school, its sign language department and multilingualism. All teachers were involved during this phase.

Charlottenlund lower secondary school has established systematic processes for how they can work with mapping ideas, and the whole school was involved in the mapping phase. Charlottenlund upper secondary school was involved in SKUV (*Skolebasert kompetanseutvikling i vurdering* = School-based competence development in assessment) and had already collaborated with ILU in connection with the planning of SKUV projects. We see that clarifying expectations is a challenge. In the schools there

was uncertainty about whether to find partners for their projects, and whether NTNU would "appear" when the ideas were to be presented. The schools also emphasized the importance of micro-projects.

The surveys of ideas and needs provided a good basis for identifying potentially valuable projects. In addition, it also gives a good indication of development needs both in the University Schools and in teacher education. Surveys from NTNU show that there is a need for an arena for testing and implementing their research ideas in close collaboration with the field of practice, but schools have different processes for mapping ideas. The management at all the schools reported that the biggest challenge was dealing with uncertainty about how to develop truly co-created projects.

Coupling phase

The goal for the connection, or 'coupling' phase was to facilitate the realization of as many project applications as possible, and to involve as many teachers from the University Schools and employees from NTNU as possible. The challenge was to make the project ideas mutually known to interested and relevant partners at the University Schools and NTNU so that cooperation could get started.

Activities related to the connection phase: included preparation of Open Days, for which an e-mail with information and an overview of projects was sent out. Open days were organized differently at the three university schools. Some suggestions received good feedback and questions, while some project proposers found it a little difficult to deal with people who came and went. However, there were several who found project partners at Open Days. One school it was mentioned that it had also been interesting for the schools to participate in each other's open days. The innovation leader worked to connect employees at NTNU with employees from the schools both before and after the open day. Direct contact was made with employees at ILU based on mapped research interests, and a corresponding round with the schools to identify any interest in NTNU projects that still lacked a partner.

The schools were responsible for organizing the presentations, and solved the task in different ways:

Charlottenlund LS: Gallery walk (in separate rooms) for both teachers and NTNU staff.

Charlottenlund US: Groupings of proposals in allocated rooms.

Huseby primary: Joint presentation of the school's proposal, then gallery walk in one room for presentation of NTNU's proposal.

Afterwards, overviews were made of which projects had partners. An email was then sent out noting that the innovation leader was available to help establish contact between schools and university after the open day.

Both school staff and the relatively few NTNU employees who participated in the open day had different experiences with the open day. Most came to present their own ideas, but many of these did not participate in the session where the school presented their ideas.

The attendance from NTNU at Open Day was less than some of the schools hoped for. This applies in particular to employees in departments other than ILU - the exceptions were ISL (Institute for Language and Literature) and the School Laboratory. At Huseby, NTNU was involved in everything that had been identified in the mapping phase, and thus became better acquainted with both the ideas and the school.

In general, resource persons such as the innovation leader, the schools' coordinators, department / section leaders and research group leaders at NTNU were able to put potential partners in contact with each other. We see that some ideas were transformed into new ideas on the basis of open day meetings - and many found their partners here. In other words, there is a need for a meeting place, an arena where ideas and experiences from the field of practice and academia can meet and be brokered.

The application and processing phase

Co-creation of projects proceeded through collaboration between the schools and NNTNU on project applications. Proposals were considered by the deputy and innovation leaders at ILU and the leader of the University School project. It was decided not to provide support for conferences, on the grounds that the required funding could provide support for several smaller projects. Proposals for recommendations were submitted to the Coordination Committee before being presented to the project groups for teaching and research (the P-groups).for discussion, after which a final recommendation was made and adopted by the steering group leader (dean of the SU faculty).

Due to time pressure at both the University schools and NTNU, the application period was extended. Time pressure might explain why not all projects have the character of being equally co-created. Projects where the parties found each other quickly involved greater degree of co-creation. This especially applies to projects that based on ideas from the schools. The schools point out that a greater degree of participation from schools in the NTNU-initiated projects could have generated learning for all parties.

What was decisive for the allocation of support was that the applications clearly showed that the project was feasible, that the design, method and data collection were well thought out, and that the budget was realistic, so that the benefits were in proportion to the requested funding. In addition, an attempt was made to cover all university schools and as many departments and subject sections at NTNU as possible in the range of accepted proposals. The projects all have a clear focus on the development of both teacher education and school. Three projects were launched

even though they were not allocated funds, which can perhaps be explained by the fact that most NTNU staff participated

in their own research time, out of self-interest.

Overview of projects

- Implementation of water competence in professional renewal
- Multilingualism and Intercultural education
- SKUV (systematic clinical examination and assessment) in teacher education
- Mathematics and communication in thinking classrooms
- Together for inclusive special education: How can future-oriented technologies be used to create interest in TIP among upper secondary school students?
- The good conversation - development of a professionally and socially productive conversation culture in a multilingual classroom
- RE-searchers as a methodology for in-depth learning
- Text creation in several modalities.
- A development project for teachers for sign language participation in special educational practice in a school characterized by diversity and inclusion of students.
- Classroom management in mock-up rooms; organization and facilitation with a view to establishing an inclusive learning environment
- Short stories as an introduction to interdisciplinary topics in subject renewal.
- Professional renewal 2020: Public health and life skills in physical education at the lower secondary level
- Your microhistory, a didactic development project for university school and teacher education
- Experiences and perspectives on the transition from lower secondary school to upper secondary school

Conclusion

The announcement of R&D funds and the related process has resulted in 14 new R&D projects in the university schools. Taken together, these projects will be able to contribute to achieving the following objectives:

- New, practice-relevant and research-based knowledge about school and teacher education
- Practice-based research methods in school and teacher education
- Research-based teacher education
- Knowledge-based teaching and supervision practices in the school

Impact of the Local Action Plan on the university schools and NTNU

The process has led to 45 researchers and very many teachers from the University Schools being more closely involved in collaboration. 16% of the scientific staff at ILU were involved, although the disciplinary institutes were under-represented. Achieving systematic co-creation between actors from different organizations is a major challenge that requires careful coordination. The 14 projects in the University Schools have all been co-created to a greater or lesser degree. The process is now resulting in larger meso projects. Whereas in the first round the process generated exclusively micro-projects, we have now come up with five more comprehensive meso projects.

Co-creation is a basic form of work in USSiT that will contribute not only to strengthening practice relevance and the teaching profession, but also to the development of practice-based educational research. All the projects have goals for strengthened teacher education, and two of the projects are planned as preliminary projects for larger externally funded applications. The schools emphasize the importance of micro-projects, which preserve and build up an R&D culture in the schools. The R&D model in USSiT and the results we have achieved in this round meet the goals of both the Teacher Education Strategy 2025 and Decentralized Competence Development.

A major challenge regarding research circulation in Teacher Education is how to establish and maintain productive learning relations between the partners. The challenges are that the schools want projects that are based on their needs, but it is challenging to find school-based projects that embrace all school types and researchers who are interested in overarching topics. This has been partly addressed by organizing the department (ILU) into sections, which deal with these overarching topics. In this regard, some of the sections have organised “Celebration Days” where the research or other achievements of the section are highlighted, in person or more recently, online.

A further output of the collaboration in USSiT is a book proposal, *Co-created knowledge development in school: Where practice and research meet*. This book will contribute new knowledge about how collaboration between school and university, school staff and researchers can contribute to useful practice-based research, professional development and school development

Action Plan Change of Research Culture

Achieving systematic co-creation between actors.