

# Distance Education in the Teacher Education in Greenland

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**Abstract**—The teacher education, Institute for Learning, formerly known as Ilinniartissuaq, has been offering correspondence education for two decades. But didactical possibilities from digital solutions has yet to be explored and taken advantage of. From fall 2017 a fresh start has been launched utilizing a hybrid educational format. Distance education is expected to show more potential in the Greenlandic educational system in the future. As assistant professor at Institute for Learning I will be following the process through research which is introduced in the following as work in progress.

**Index Terms**—distance education, greenland educational system, hybrid educational format, teacher education

## I. NEED FOR RESEARCH ON DISTANCE EDUCATION IN GREENLAND

Greenland is in need of more school teachers with relevant education and competencies. An estimate from the Greenlandic minister of education from 2018 says that Greenland in ten years will be lacking 300 teachers, which is 30 % of the total sum of teachers [1]. The solutions to the lack of educated teachers are hiring teachers from foreign countries, mainly from Denmark, or employing personal without formal teacher education. Both solutions provide pupils with teachers lacking pivotal competencies in either the Greenlandic language or in didactic and pedagogical thinking and planning.

In the coalition agreement from 2018 between governing parties it is a wish that distance education will become a more exploited tool in the qualification of teachers in Greenland:

*...the coalition parties will constantly be working towards expanding the decentral teacher education always to be an alternative possibility. [2] (Own translation from danish)*

Research is needed to follow the political ambitions, to install solid and elaborate distance education practice at Institute for Learning.

In 2015 I finished a joint ph.d. from University of Greenland and Aarhus University in Denmark [3]. The subject for my research was and still is distance teaching in the school in Greenland. Subsequently I have been

appointed assistant professor at the institute, providing research on ways to utilize distance teaching in schools. My research is primarily about school children and solutions and behaviors with school teachers involved in teaching pupils at distance [4].

The scope of the research project presented in the following lies within the boundaries of teacher education and online teacher professional development. Adult education will be a new and sought after field of research at Institute for Learning and this project will be the entrance to the field.

## II. FORMER PRACTICE AND EXPERIENCE

Providing access to education is a challenge in Greenland. With a very small population (56.000) and huge distances only a few cities provide possibilities, the capital of Nuuk with a university being the main hub for education. Most Greenlanders have to leave family, work and their home area for longer periods of time to engage in education. Cultural and social ties can be serious impediments for this endeavor. Vulnerability coming from family ties and local devotion has to be taken into account in the educational system. For these reasons distance education seems an obvious solution in the Greenlandic educational system.

Teacher education as distance education has been an integral part of Institute for Learning since the nineties ("The Decentral Teacher Education"). The extent of admission to the decentral teacher education has been around 20 students every second year. Taking the teachers education as decentral student has been combined with part time job as teacher.

According to Ane Fleischer, teacher at Institute for Learning who has been the coordinator of the program, some students expected the decentral education to be an easier way to get exams. But Fleischer's experience is that the opposite has been true. The combination of job as teacher and taking education creates periods of pressure demanding discipline and high degree of self-reliance. This has caused some students to quit the education or to move to Nuuk and finish as ordinary students. Fleischer refers to the students who succeeded as the hard core, and experience that they have been coveted by school leaders after graduation. They are considered to be robust and experienced. Besides they already have a connection to the labor market and easily find employment.

The experience from producing teachers through distance education is that it is possible in Greenland, and that the results are worth pursuing.

The education was established in the nineties to remedy teacher shortages in Greenland. According to Ane Fleischer, the decentral education has not changed over the years. Email has replaced mail correspondence, but it has not resulted in structural or didactical changes.

### III. A NEW SOLUTION FOR TEACHER EDUCATION IN GREENLAND

A revision of the possibility for taking teacher education as distance education has since 2017 been in the design-phase and at the same time put in practice at Institute for Learning. Structure and curriculum are being developed, and simultaneously teaching personal are preparing for the task. It is sort of a “paving the road as you drive” situation. With this new solution distance students and students at the institute in Nuuk will be attending same classes, they will be sharing teachers, lessons and activities, and be collaboration using IT throughout their education.

The combination of distance education students (decentral students) and ordinary students following same classes and same curriculum is known as hybrid classes [5]. Hybrid formats means, that some students are joining as traditional students at campus, and others are joining as distance learning students from rural areas, but they all belong to the same class and follow the same curricula. The research connected to the project will search for knowledge about the impact of learning both with decentral and ordinary student, coming from designing the learning environment as a hybrid format.

Hybrid formats will incorporate synchronous as well as asynchronous educational activities. Decentral students with standard internet connection at home will be able to participate in lectures, presentations and group work in class as these activities take place. Asynchronous activities will provide for students with low bandwidth or with a busy every day to participate through uploaded material and staggered communication with teachers and fellow students.

Studying and taking education continues to be embraced by digital technology. The hybrid solution meets and supposedly supports how IT competencies become core among all students and among schoolteachers. Incorporating decentral students into classes and activities at Institute for Learning might result in competencies for all students, as communication and collaboration across distance through IT will be part of ordinary students experience throughout their education.

Research on distance teaching at university level [6] as well as secondary/ high school level [7] suggests that taking part in online discussions raise the quality of communication promoting more reflection and deeper understanding among students. Utilizing the distance between learners and teacher, and between learners, for creating a better teacher education seems to be a possibility [8].

Propelled by the development in digital technology the field of distance education has changed profoundly over the years. When correspondence with mail was the technology supporting distance education the solution was primarily concerned with the provision of access to education for individual students. Transforming to e-learning distance education is incorporating elements of collaboration into its core [8] (p. 3). Distance education is changing to become communities of inquiry located in cyberspace. This structural change supports pivotal learning goals with the teacher education in Greenland. At Institute for Learning one assignment is to educate teachers to

*...independently initiate and take care of a reasoned and reflective teaching practice in cooperation with colleagues, students, parents and other professionals throughout the school system.* [9] (p. 5)

The hybrid format integrating ordinary students at campus and decentral students located in other cities or in the outskirts of Greenland has the potential to provide structures supporting these learning goals.

### IV. QUALIFICATIONS AMONG STAFF

The new structure combining decentral and ordinary students was put to work august. Digital competencies with the staff derive from a decade of informal training through use of email and internet in the ordinary teacher education,<sup>1</sup> among other things the use of a simple platform, ATTAT, specially designed for the low bandwidth and high cost of internet in Greenland. Teachers responsible for distance education at Institute for Learning can be expected to have some experience and skill for integrating decentral students into their classes, and to come up with qualified technical solutions.

Since 2016 the head of department has made an effort to integrate iPads into the didactics of the staff. iPads can be a powerful teaching and learning tool [10]. The teacher education is obliged to adapt to this technology, since every pupil and teacher in Greenland will be given an iPad in the near future, as a result of a major joint grant from companies and the local administration. The process with the iPads at Institute for Learning has been supported by experts, and gradually use of iPads and didactical habits including IT are diffused in the organization [11]. The introduction and didactically working with the iPads is combined with use of online applications, platforms and resources. This is an important part of this endeavor, as the Greenlandic educational system also is devoted to a joint task of implementing a new online platform across the sector.

As researcher on distance teaching at Institute for Learning I have been involved in developing curriculum and structure. On demand from august 2018 I have taken part in relevant upskilling of personal. August 2018 I

<sup>1</sup> No directions or preparations were given beforehand. Resources with the personal come from a determined effort as well as from informal experience and practice.

planned three workshops for teachers who have decentral students in their classes. Most teachers attended the first workshop, which turned into sharing of experience and discussion about possibilities and needs. The following two workshops were cancelled because of lack of time or interest. This gives an indication that some propagation of digital competencies has taken place among staff. The first meeting also gave clear evidence of how there is need for discussion, creative solutions and further experience.

Prerequisites and competencies with the teaching staff at the Institute for Learning is a main focus for the research project. Inspired by action research, experience and didactic creativity within the organization is considered essential for the solutions and the kind of teacher education which will be the result of the new structure.

## V. EDUCATIONAL DESIGN AND RESEARCH QUESTIONS

The preliminary structure for the new teacher education as distance education continues the combination of seminars in Nuuk of up to several weeks, and periods of study from home, outside of Nuuk. Primary deviation from the former decentral teacher education is that the study periods from home are not intended to unfold as self-study. The connection to classes, lectures and lessons at the institute in Nuuk are maintained. Study groups are made for all students, and the education is expected to work through study groups. Contrary to the former distance education, contact and communication is not exclusively between teacher and student. The structure is aiming to support learning communities and communities of inquiry across the student population.

This has potential for providing a more including educational experience, dealing with student retention, especially among distance students. International research has found drop-out rates to be a little higher with distance students [12], and considering the sometimes strong commitment to family and locality among Greenlanders there is reason to be aware of retention and take steps to confront this challenge.

One of the basic elements in teacher education is periods of internship. Back in class students studying from outside of Nuuk will be able to provide the learning communities with experiences from the cultural multiplicity of Greenland and give valuable insight into cultural conditions for teaching in small towns and settlements outside of Nuuk. This has the potential of introducing and inspire and prepare students in Nuuk to take job and teach in the rest of the country.

These are preliminary considerations and possible results from the hybrid format. The aim with the research project is to provide solid knowledge on the workings of this new structure and curriculum for taking teacher education as distance education in Greenland.

Research questions for the project are:

- What type of didactic and organizational solutions come from engaging educators from ordinary teacher education in distance education activities?

- What are the roles and functions allotted decentral students and ordinary students in teacher education, when they are joining the same classes and following the same structure and curriculum?
- How are competencies and professional development in teacher education shaped by decentral students and ordinary students sharing classes and following the same structure and curriculum?

## VI. RESEARCH DESIGN

The research will be qualitative and build on data from case studies. The course of learning and development with chosen decentral students will be followed and analyzed. These case studies will comprise relations between decentral students and ordinary students, and differences in their training for a comparative study.

One pivotal aspect of establishing structure and practice are reactions and solutions from staff. Cases will follow how educators develop practice, and how they develop and choose professional solutions for the decentral students.

The design will take from action research. As opposed to some action research traditions [13], [14] the research questions and the process with this project will be kept in the hands of the researchers. Participatory, democratizing or critical aspects are placed in the background to give priority to more open and independent answers and results. This consideration and priority stems from the aim of the research project, which is to generate knowledge on the hybrid educational format in a Greenlandic context. Empowerment among teachers or among students is only relevant if it supports solutions or provide experience with the hybrid format. Participatory aspects are not of primary interest for their value related to empowerment and democratization, but for their relation to the hybrid format. This decision concerning the research design makes it possible to embrace and follow as part of the research project solutions coming from and actions taken by teachers involved in teaching decentral students.

## VII. RESEARCH PROCESS

The research project is dimensioned to run over the full length of the teacher education which is four years, adding a period following the first experiences from the candidates as working teachers in the schools after graduation. In meeting responsibilities, possibilities and every day practice at schools the education the candidates have been through will unfold and show its impact.

I will continue working with teacher education at the institute, as educator and as researcher. This gives access to continuously data collection in close connection to the experiences from teachers and students.

July 2018 research questions, methods and theoretical anchoring was decided. As mentioned the new structure for taking teacher education as distance education has already been put into practice and has been running since

fall 2017. The research will follow up on the process and closely follow the process onwards.

The period from september 2018 until spring 2020 will primarily engage in data collection. The project will follow activities and the development with select students as case studies. If possible students taking the education at a distance will be visited and observed in their local surroundings and study setup. In the spring semester, students will participate in evaluation and design workshops/seminars, where they through an educational design process applying video-sketching, graphic facilitation and/or digital storytelling contribute with thoughts on how current activities motivate or demotivate them, about what works or not, and about how other activities could be supportive. Evaluation workshops and seminars will include staff from Institute for Learning.

Following the students' examination period summer 2020 the project will commence preliminary reporting. As part of the action research setup the results will be utilized in the development of the decentral teacher education as well as the ordinary teacher education. The results are much needed, and designed as action research they will be implemented right away.

Shortly after the first students taking the teacher education as distance students have graduated and have been employed as teachers the data collection will stop. A final report will be written for further dissemination through articles in journals and newspapers, conference participation and policy consulting.

#### VIII. COLLABORATION WITH PARTNERS

At Institute for Learning a coordinating consultant has been employed since September 2018. The consultant will be coordinating the new decentral teacher education and as part of this try to destill relevant solutions and practice. I have established a collaboration with the consultant to assure and secure thorough data collecting.

The research project will establish contact between Institute for Learning at Ilisimatusarfik, University of Greenland, and Department of Education, Learning and Philosophy, Aalborg University in Denmark. Following my ph.d. on distance teaching in the school in Greenland and appointment as researcher at Institute for Learning, research on distance teaching at Institute for Learning has a focus on distance teaching with school children. The institute needs support for research on distance teaching as adult education. Rikke Ørngreen from Department of Education, Learning and Philosophy, Aalborg University will contribute perspectives on distance teaching in adult education and vocational education, and with her knowledge on hybrid educational formats.

The relationship draws on already established collaborations. Birgitte Holm Sørensen from Department of Education, Learning and Philosophy, Aalborg University, has since 2016 been associate professor at Institute for Learning, Ilisimatusarfik. Sørensen and I have worked together on research on distance teaching in the school in Greenland and have been collaborating on the development of new curriculum and structure for the teacher education in Greenland.

The research lies in line with the research group at Aalborg University in Denmark. It will aid in the scaling of practical usable knowledge on how distance education in hybrid formats can be carried out in the Arctic and will contribute to the domain specific theory of the field. Existing PhD students already employed in Denmark will benefit from the collaboration on the research project.

#### IX. FURTHER STEPS

Funding will be necessary to provide a fullscale research project collaborating on following the evolvement of the decentral teacher education at Institute for Learning over several years. Funding is needed primarily for travel expenses which is a considerable cost with research in Greenland. If funding is not found, the project will be scaled down and take samples over the years, and data collecting will rest upon communication and reaching students using internet connection.

Experimenting with distance education at the teacher college in Greenland is already happening. The research interest in distance education utilizing hybrid classroom is very present. The collaboration between Institute for Learning at University of Greenland and Aalborg University in Denmark is promising and the research project seems solid. Preliminary results will be presented december 2018.

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Summer 2011 he moved to Greenland to work as a teacher at the teachers college in Nuuk. 2015 Øgaard got his ph.d. degree on distance teaching in the school in Greenland. Øgaard is teaching and doing research at Institute for Learning in Nuuk.