

ENRI-working paper 03/2015

Changing the Pedagogical Landscape

**New ways of teaching and learning and their implication for
higher education policy**

Norway

Vigdis Mathisen Olsvik
Kristine Lundhaug
in cooperation with Jens Uwe Korten

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Report: On the demand of the EU Commission Norway as one of eight countries was asked to report on the development of new ways of teaching and learning with a focus on the use of technology and its implications for higher education. Firstly, we give an overview of the higher education system of Norway, next we present the Norwegian Official Report “MOOCs for Norway” and its main recommendations , and then we introduce three intermediate agencies and their contribution in promoting technology in higher education. Finally, we close with a presentation of case studies of the University of Agder and the Telemark University College and their work within the field of new digital learning methods. Summing up, we conclude that Norway is fortunate in having an official report with policy recommendations for an open online higher education, which need to be followed up with financial resources. While some of the higher education institutions have much experience with distance education and have done some progress within the field of new digital learning methods, there still remains much to be done.

Key words: Open online education, MOOC, higher education policy, digitalisation

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PREFACE

In 2014, Norway Opening Universities with chairman of the board Jens Uwe Korten was asked to participate in the EU project "The Changing Pedagogical Landscape - new ways of teaching and learning and their implications for higher education policy", where Norway was one of eight European countries. The project was established on the demand of the EU Commission, and its main purpose was to advise on the future policy in this specific area.

In November, Jens Uwe Korten contacted Eastern Norway Research Institute and asked for assistance in the preparation of Norway's contribution to the report, and an agreement between Norway Opening Universities and the Eastern Norway Research Institute was signed. The assignment has consisted of collecting and processing documents from relevant actors in the field, including the Ministry of Education. In addition, we conducted case studies at the University of Agder and Telemark University College in terms of collecting documents and doing interviews with representatives of the management and the students. On this basis, a report in English was delivered to the contracting authorities, and it is now published as a working paper in the publication series of Eastern Norway Research Institute. The assignment has had a budget of a few months of work and has been conducted by researchers Vigdis M. Olsvik and Kristine Lundhaug in close cooperation with chairman of the board of Norway Opening Universities, Jens Uwe Korten.

Lillehammer, 20th of August 2015


Trude Hella Eide
Research director


Vigdis Mathisen Olsvik
Project leader

FOREWORD

The overall objective of the project "The Changing Pedagogical Landscape" was to examine to what extent government strategies and higher education regulatory, such as accreditation, funding, quality assurance, assessment and certification frameworks, support or hinder the emerging of new modes of learning. Our interest lay particularly in the increased use of technology in the teaching and learning processes.

When we were asked to contribute to this project with our Norwegian experiences, we had to reflect on the development within the field of new digital learning methods in higher education. Although Norway is a small country, the diversity of the use of technology in the teaching and learning processes in higher education is broad, and it has been changing substantially in the recent years.

Having access to higher education is perceived as an important value in the Norwegian society. Norway has a long history in promoting higher education to all parts of the country so that people in "every corner of the country" shall be able to contribute to the development of the modern Norway. Therefore, institutions who offer higher education at a distance have been receiving special support from the state from the very beginning of the wave of higher education in the middle of the 19th century.

Distance education has always been depending on new technology. In this perspective there has been a long tradition in using the newest available technology in higher education in Norway. Since this has been an outspoken official policy, the state involvement and support have been especially important for building technological infrastructures throughout the country. Furthermore, there has been a focus on establishing organisational networks like UNINETT, Norwegian Opening Universities (NUV) and others. Recent results of this strategy are the project eCampus and the Official Norwegian Report "MOOCs for Norway" (NOU 2014:5).

While distance higher education has always been using the newest available technology, this has not necessarily been the case for teaching and learning within higher education on campus in Norway. This situation is, however, changing rapidly, and there are several reasons for these relatively quick changes:

- the emerging of digital technology in everyday life
- the willingness to use the newest technology among Norwegians
- the long experience of using technology in the context of distance higher education
- the overall socioeconomic situation in the country
- the engagement of the Ministry of Education and Research together with other state institutions

It is challenging to give a good description of the use of technology in the teaching and learning processes in higher education in Norway, which overall is up to date, thorough and complete. This field is in a dynamic development, not only because of rapid technology changes, but also because of changes in the overall structure of higher education institutions. The landscape is changing because of an ongoing structural reform with the result that the number of universities and university colleges will be reduced and only about half of the present institutions will exist after the reform. This situation has been especially challenging, since almost everyone within the higher education institutions, in one way or another, is affected by this structural changes.

Nevertheless, we experienced great support when we carried out the case studies at the University of Agder and at the Telemark University Colleges. Many thanks to all who have contributed to the Norwegian part of the project "The Changing Pedagogical Landscape", to the Eastern Norway Research Institute and to the project owners Jeff Haywood from the University of Edinburgh and Piet Henderikx from the European Association of Distance Teaching Universities (EADTU).

Lillehammer, 20th of August 2015

Jens Uwe Korten
Chairman of the board of Norway Opening Universities

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1 NORWEGIAN HIGHER EDUCATION SYSTEM

The higher education landscape of Norway consists of eight universities, eight specialized university institutions (three private), 20 state-owned university colleges and 29 private higher education institutions with recognized study programs and eight higher education institutions under the auspices of other ministries (Defense, Police).

The landscape for higher education is about to be changed. A structure reform has been discussed by the Parliament in 2015 and as a consequence there will be fewer higher education institutions by 2016.

1.1 Organisation and Structure

1.1.1 Organisation

The Ministry of Education and Research is responsible for all educational institutions from kindergartens and cultural schools to the higher education sector and research.¹The Ministry's task is to formulate future-oriented and coordinated policies for the education sector. The aim is to ensure that Norway has a good, efficient education system, as well as productive and creative research communities.²

The responsibilities of the Ministry of Education and Research are:

- Kindergartens
- 13-year education and training system provided by primary and secondary schools
- Folk high schools and adults' rights to basic education
- Higher education and tertiary vocational training
- Student welfare and student grants
- Coordinating research policy
- Adult education, skills and lifelong learning

¹ <https://www.regjeringen.no/en/dep/kd/id586/>

² <https://www.regjeringen.no/en/dep/kd/areas-of-responsibilities/id611/>

The Ministry's mandate and social purpose can be summed up by their three strategic goals for the education sector:

- Education and training to enable personal development and active citizenship
- Skills that are needed today and in the future
- Research in order to achieve scientific progress, development and greater competitiveness

The Ministry of Education and Research is divided into several departments, and the Department of Higher Education has the overall responsibility for higher education, vocational education and training, training of researchers, research and other activities at universities and university colleges. This department has administrative, supervisory and the overall management responsibility for state universities, specialized institutions at university level, and state university colleges including national academies of the arts, as well as for the Norwegian Centre for International Cooperation in Higher Education and the Norwegian Agency for Quality Assurance in Education.

This department also has the responsibility for a number of grant schemes, including grants to accredited private university colleges, post-secondary vocational education and training institutions, student welfare organisations, and to several administrative bodies with national functions: the Norway Opening Universities, the Norwegian Biodiversity Information Centre, the common student administration service centre, the BIBSYS Library System, the CRISTIN- Current Research Information System in Norway, the Norwegian Artistic Research Fellowship Programme and the National Centre for Recruitment to Mathematics and Natural sciences.

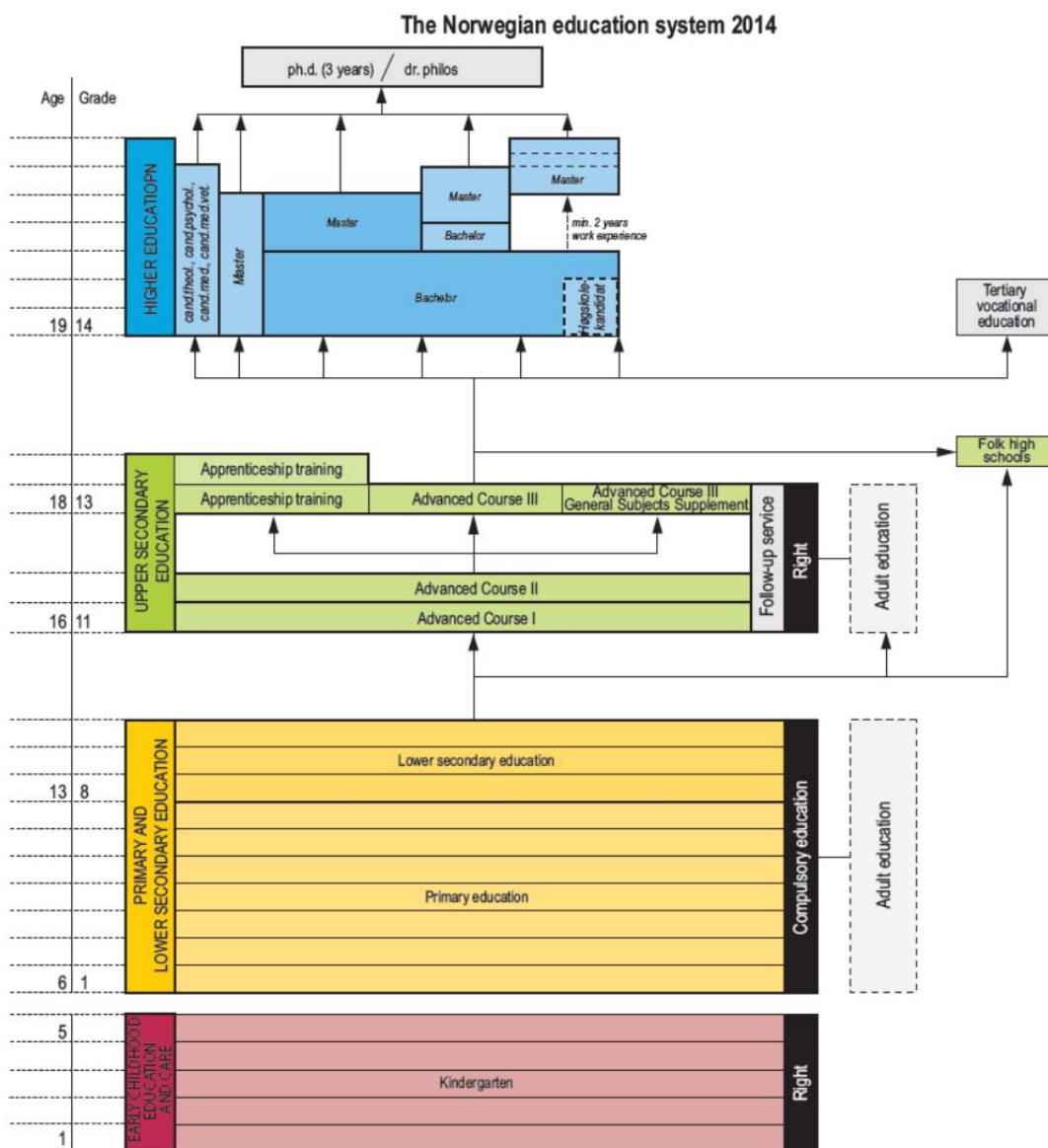
The following figure shows the structure of the Norwegian education systems where the higher education system is marked in blue. In addition, this department is responsible for administering the state's ownership of four wholly-owned limited companies: University Centre in Svalbard, Simula Research Laboratory, UNINETT³ and Norwegian Social Science Data Services.⁴

³ For detailed information about UNINETT see Section 3.3

⁴ <https://www.regjeringen.no/en/dep/kd/organisation/Departments/department-of-higher-education/id1550/>

1.2 Structure of the Norwegian Education System

The following figure shows the structure of the Norwegian education systems where the higher education system is marked in blue.⁵



1.2.1 Bachelor Studies

A bachelor's degree program is a three-year study program (180 credits / ECTS). Bachelor's degrees can extend by certain rules to master and doctoral degrees. Some bachelor programs have a fixed structure, but in others you can choose between different subjects having completed the first part of the study. In study programs where you can choose freely, you need to put together the study by guidelines issued by the educational institution to obtain bachelor's degree.

⁵ Facts about education in Norway 2014-key figures. Ssb.no

1.2.2 University College Candidate

There are some two-year programs of study at the bachelor level at university colleges that give the title university college candidate.

1.2.3 Year Programs / Supplementary Studies / Shorter Studies

There are also a number of one-year programs, supplementary studies and shorter studies at educational institutions. Many of them can be included in a bachelor's degree. In addition, some of them may be grounds for professional studies in the subject, for example in psychology.

1.2.4 Master Studies

A master's program is usually a two-year study (120 credits / ECTS). The program builds on specialization in the bachelor's degree and includes independent work. Some master studies are based on relevant experience-based work in addition to subject specialization in a bachelor's degree. Such studies are called experience-based and can be both two years (120 credits / ECTS) and one and a half years (90 credits / ECTS).

1.2.5 Doctoral Studies (Ph.D.).

This degree builds on a master degree or equivalent education and is the highest attainable academic degree in Norway. The program is based on independent research in cooperation with supervisors and other researchers and can be implemented within the framework of a research-training program.

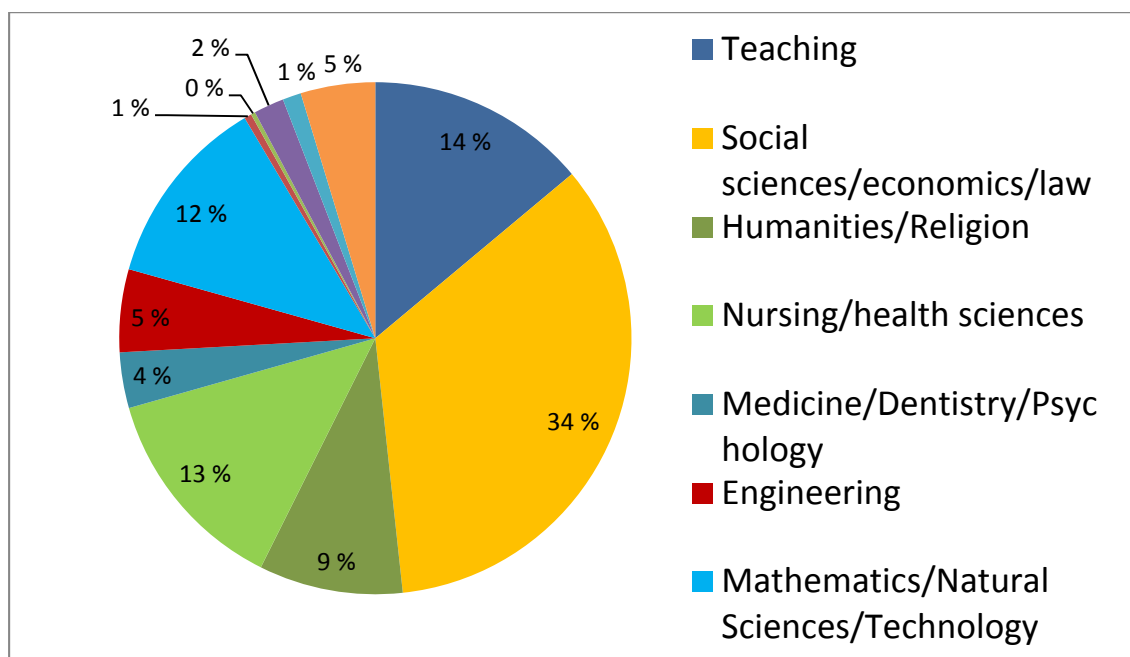
1.2.6 Professional Studies

Professional studies are characterized by fixed curricula for several years within a specific subject.

Three-year professional studies provide a bachelor's degree. Examples of such studies are nursing and social work education. Many university colleges have four-year teacher training. Candidates may be awarded the degree of Bachelor after three years if the education meets the requirements for the bachelor degree according to the university college regulation. Primary teacher competence is achieved only after four years. Five-year professional studies (integrated master's degrees) you find at universities within the following areas: pharmaceutical, information technology, engineering, law, odontology, teacher training and economics. Six-year professional studies provide their own degrees, such as medicine, veterinary, psychology and theology.⁶

⁶ <http://www.nokut.no/no/Fakta/Det-norske-utdanningssystemet/Om-norsk-utdanning/>

1.2.7 Students in Higher Education – by science (Autumn 2013)⁷



1.3 Recognition

1.3.1 Accreditation Degree Structure and Grading System⁸

In 2003 the Quality Reform was carried out in Norwegian Higher Education introducing a degree structure, grading system and quality assurance system in line with the Bologna *Process*. As of 2003 the degree structure consists of a three-year bachelor’s degree, a two-year master’s and a three-year doctorate degree (PhD).

The Norwegian Agency for Quality Assurance in Education (NOKUT) supervises and helps to develop the quality of higher education in Norway through evaluation, accreditation and recognition of quality systems, institutions and course provisions. NOKUT is the official Norwegian ENIC-NARIC Center.

1.3.2 Grading Scale

The grading scale conforms to the European Credit Transfer System (ECTS) rating scale with the letters A (best) to E for pass and F for failed.

⁷ Priorities and initiatives in higher education- Department of Higher Education PP.

⁸ <https://www.regjeringen.no/en/topics/education/higher-education/Degree-structure-and-grading-system/id491287/>

1.3.3 Quality Assurance Agency

The Quality Reform also meant the establishment of a quality assurance agency (NOKUT), and a centre for internationalisation (SIU). A system for institutional accreditation (voluntary for the private institutions) was also introduced, which had as a consequence that some university colleges launched efforts towards becoming universities.

1.3.4 Self-accreditation Rights

The differences between the types of higher education institutions are mainly related to their self-accreditation rights. For example, universities can without external accreditation offer study programs at all levels, while university colleges must apply for external accreditation by NOKUT for study programmes at Master's and Ph.D. level.

1.3.5 Private Institutions

There is a wide range of private higher education institutions without any self-accreditation rights. These institutions provide study programmes that are accredited by NOKUT.

1.4 Funding

1.4.1 Tuition

The majority of Norwegian universities and state university colleges are publicly funded and the Norwegian government considers access to higher education for all to be an important part of the Norwegian society. Norwegian state universities and university colleges do not charge tuition fees. This also applies to foreign students. Students pay a semester fee of NOK 300-600 each semester. In order to take an exam this fee will have to be paid in full. However, the fee also grants membership in the local student welfare organisation, which in turn entitles the student to several benefits. These benefits may include on campus health services, counselling, access to sports facilities and cultural activities. State universities and university colleges may have tuition fees for a few specialised programmes. Typically, these programs are at the Master's level.⁹

1.4.2 Norwegian State Educational Loan Fund

The Norwegian State Educational Loan Fund manages the various grants and loan schemes and¹⁰ was established in 1947 as an extension of a number of welfare schemes for students. The Norwegian State Educational Loan Fund is an administration agency under The Ministry of

⁹ <http://www.studyinnorway.no/Study-in-Norway/Tuition>

¹⁰ <http://www.nokut.no/no/Fakta/Det-norske-utdanningsystemet/Om-norsk-utdanning/>

Education and Research and is managed by a board, which is appointed by The Ministry of Education and Research.

The Norwegian State Educational Loan Fund has two main schemes: One for young students who take regular secondary education and one for higher education and other education, such as primary education for adults, vocational training etc. Students in higher education receive a fixed amount of aid disbursed as loans. For students who do not live with their parents, part of the loan is converted into a grant as education is completed.¹¹ Norwegian State Educational Loan Fund had approximately 982,000 customers as of 31.12.2013. About 409,500 students applied for support for the 2012-2013 education year.¹²

1.5 Goals for Universities and University Colleges¹³

1.5.1 Changes in the target structure for 2015

The Ministry of Education and Research has revised the target structure for universities and university colleges. The purpose of the audit was to clarify the government's objectives and priorities, cf. Government platform. The Ministry of Education and Research has also evaluated the opportunities for simplification. On this basis, the Ministry has adopted sector goals for 2015, and the Ministry expects that the sector goals should be long term and provide a stable framework within which that institutions can develop their own strategies and plans.

In addition to the sector goals, the Ministry sets national management parameters within the sector targets in areas where institutions should have special attention on profit development. The national control parameters are not solid for results that contribute to the achievement of goals, but signals result areas that will receive special attention in the management of the Ministry.

The Ministry of Education and Research has decided to continue the control parameters from 2014 for another year with some minor adjustments. This is added to a control parameter for monitoring the EU strategy. The Ministry aims to revise the control parameters from 2016.

The reason for the revision of the target structure occurs in two steps, the work of the future structure of the higher education sector and the review of funding to university colleges and universities that may involve adjustments to control parameters. The sector will be involved in the revised management parameters.

¹¹ <http://www.nokut.no/no/Fakta/Det-norske-utdanningsystemet/Om-norsk-utdanning/>

¹² <http://www.lanekassen.no/nb-NO/Toppmeny/Languages/About-the-Norwegian-State-Educational-Loan-Fund-/>

¹³ Ministry of Education and Research. Pp. 2-4 Briefing on budget proposal in 2015 for universities and colleges.

The main features of the revision of the target structure from 2012, where state universities and university colleges received delegated authority to set their own corporate goals within the sector targets, remains unchanged.

1.5.2 Target and Management Parameters for 2015

The Ministry of Education and Research have established four overall sectors for universities and university colleges. All the universities and university colleges that receive grants from The Ministry of Education and Research shall contribute to achieving these goals.

Sector target 1: High quality in education and research

Evaluations show that education and research in Norway maintain a good standard, but that they consist of several weak and fragmented educational and research community, but also some outstanding environments. The Government wants all educational and research institutions in Norway to maintain a high quality and that several Norwegian research and education assert itself internationally.

Sector target 2: Research and education for welfare, value creation and restructuring

The foundation for the future creation of wealth and prosperity lies in realizing the knowledge society. The Government has an ambition for Norway to be one of the most innovative countries in Europe. To achieve this the Norwegian society needs research, academic and artistic development, knowledge sharing and candidates that contribute to the necessary restructuring, innovation and value creation in the public and private sectors.

Sector target 3: Good access to education

The Government wants everyone to have access to and the opportunities to pursue higher education, regardless of gender, ethnicity, social and economic backgrounds and residency. The education should also facilitate access to the necessary manpower and expertise in all parts of the country. Lifelong learning is regarded as essential to facilitate the necessary restructuring and renewal for the individual, society and the workplace.

Sector target 4: Effective, diverse and solid higher education sector and research system

An efficient, diversified and solid higher education sector and research system should contribute to the best possible performance with regard to the first three goals. Universities and university colleges manage a significant proportion of funds of society, and the resources should be used efficiently and for the benefit of society. Institutions should develop profiles in line with their strength and uniqueness, which should contribute to a differentiated sector with high quality, meet the needs of society in various areas, and help assert the Norwegian society internationally. Institutions are expected to strengthen the educational and research community so they can be among the best in the world.

1.5.3 The Ministry and Supervision of Institutes

The ministry's assessment of the sector and the individual institution will be based on a comprehensive analysis of the annual report of the institution, including the institution's own corporate objectives and management parameters, a status report for the higher education sector and the overall performance reporting to the Database for Statistics on Higher Education.

Institutions shall within the national target structure and the Government expectations and priorities, establish its own corporate goals adapted to the institution's profile and develop their own strategies and plans for achieving their objectives.

1.5.4 The Norwegian Agency of Quality Assurance in Education (NOKUT)

NOKUT¹⁴ is a professional independent body under the Ministry of Education and Research. It was established as an independent quality assurance agency in 2003 by the introduction of the Quality Reform in higher education. NOKUT has two main tasks. The first is to be a quality assurance agency for higher education and vocational education, and the second is to be a centre for the recognition of foreign education.¹⁵

NOKUT shall ensure and promote quality in higher education and vocational training, so that the society trusts the quality of education at the educational institutions. This is done partly through supervising and stimulating the development of quality of education at Norwegian educational institutions, and partly through analysis and research to increase knowledge about matters of importance for the quality of studies. NOKUT Supervision has both control and development purposes. NOKUT is, as mentioned above, responsible for quality assurance of higher education and vocational school in Norway, but these programs are part of a more comprehensive education and build on basic and secondary education.

Children and young people have the right and obligation to complete primary schooling, and people without former primary education have the right to primary education. Anyone who has completed primary school has the right to upper secondary education and with admission one can proceed to a university or university college education.

In Norway there are a total of 53 accredited (approved) higher educational institutions (as of spring 2013) and of these there are eight universities, nine university colleges, 36 colleges, and two art university colleges. In addition, there are 22 non-accredited university colleges that have approved educational provision for lower degrees. Overall responsibility for the accreditation lies

¹⁴ <http://www.nokut.no/no/Fakta/NOKUTs-publikasjoner/Andre-publikasjoner/Foredrag-og-artikler/NOKUT-og-kvalitet-i-IKT-stottet-hoyere-utdanning>

¹⁵ http://www.nokut.no/Documents/NOKUT/Artikkelbibliotek/Kunnskapsbasen/Foredrag%20og%20artikler/2013/Skodvin_Ole_Jacob_NOKUT_og_kvalitet_i_IKT_st%C3%B8ttet_h%C3%B8yere_utdanning_ulike_forstaelser_av_kvalitet_2013.pdf

with The Ministry of Education and Research and is regulated by the law relating to Universities and university Colleges and including NOKUT regulations.

1.5.5 The Norwegian Association of Higher Education Institutions (UHR)

The Norwegian Association of Higher Education Institutions (UHR) is the most important cooperative body for Norwegian universities and university colleges, whose purpose is to develop Norway as a knowledge-based nation of high international standard. UHR aims to be a central supplier of terms to the Parliament and Government and an important education and research policy player. The UHR was founded in 2000 following the merger of the Norwegian Council of Universities and the Norwegian Council of University Colleges.¹⁶

The UHR shall promote the coordination and division of work within the university and university college sector and in relation to other national players. The UHR shall create meeting places between the university and university college sector in Norway and national authorities and national and international research and education communities. The cooperation in the Norwegian Association of Higher Education Institutions does not interfere with the institutions' area of authority which is established by laws and regulations. Decisions made by the UHR's controlling bodies and committees do, therefore, not bind, the member institutions. Decisions aimed at the member institutions are normally in the form of recommendations.¹⁷

The UHR's Strategy 2015-2019¹⁸

The UHR has a broad and solid foundation in the sector, and its Council of Representatives has overall responsibility. The UHR's Board is the executive body and provides necessary support to the Council of Representatives. In the vast majority of cases, the Board bases its decisions on case studies and recommendations from the organisation's various councils and committees. This ensures closeness and communication within and between subjects and subject areas, and between levels in the organisation. The wide contact network enables the UHR to draw on academic and administrative expertise from the whole sector and is a prerequisite for the organisation's legitimacy both inwardly and outwardly.

In its regulations, the UHR's Council of Representatives sets out its main tasks as follows:

- Contribute to the develop and promote higher education, research and academic and artistic development work and its dissemination
- To promote coordination and division of work within the higher education sector and in relation to other national players

¹⁶ http://www.uhr.no/om_uhr/about_uhr_1

¹⁷ http://www.uhr.no/om_uhr/about_uhr_1/regulations

¹⁸ http://www.uhr.no/ressurser/uhrs_vedtekter_og_strategi/

- To create meeting places between the higher education sector and national authorities and national and international research and the education community.

Within the framework of these tasks, the UHR has set the following goals for the period 2015-2019:

- To be a strong professional and political driving force in the interaction between higher education institutions, authorities and other social actors, through setting the agenda in important knowledge policy issues
- Work to ensure high-quality education and research, with the development of several Norwegian disciplines at international level
- Helping to develop the Norwegian higher education landscape, with academic freedom and institutional autonomy as core values
- To provide effective services to member institutions, with emphasis on good common solutions

2 RECENT DEVELOPMENTS IN THE USE OF TECHNOLOGY IN HIGHER EDUCATION

2.1 Introduction

In general, the aim of the ICT policy of the Norwegian Government is to improve the efficiency and quality of technology-based public services and to widen access to these services. Widened access to education is especially a driving force to enhance the use of technology-based learning resources and tools in higher education institutions. In Norway, modern technology infrastructure is in place in most educational establishments and digital technology is widely used.

Since the 1990s, the education authorities on all levels have supported efforts in order to stimulate the use of ICT in teaching and learning. An overriding political objective is to make education accessible for all citizens irrespective of geography or social and economic situation. Norway has chosen not to create an open university. Instead, the government policy promotes the development of flexible provisions of higher education in the existing university colleges and universities. Thus national project organisations have been established to foster the development of flexible modes of education through funding projects and generating and sharing knowledge.

From 2012, the Ministry of Education and Research has initiated and financed a five-year program to provide intercampus infrastructure, the eCampus program, which is coordinated by UNINETT. UNINETT is a company owned by the Ministry of Education and Research created to develop and operate the national research and education network and supply all necessary services connected to these. The aim of the program is to develop and run standardized ICT platforms, provide ICT tools and facilitate easy access to digital learning resources and cost efficient services for higher education and research and opportunities of delivering online courses at the Internet. The platforms also provide open access to national and international lectures and research.

During 2013, the first MOOC-like modes of online courses appeared in Norway, and the Ministry of Education and Research initiated a project to develop a MOOC- based program aimed at teachers' professional development. Realizing that the MOOC format might be a new and powerful agent of change in higher education the Ministry of Education and Research saw the

need to provide the Norwegian authorities and the educational institutions with a knowledge base and recommendations on how to relate to the development of MOOC.

2.2 The Norwegian Official Report: MOOCs for Norway New Digital Learning Methods in Higher Education ¹⁹

In 2013, the Norwegian Government appointed a commission to consider the opportunities and challenges resulting from the development of MOOCs. The Commission was asked to map the development, gather knowledge and give recommendations as to how Norwegian authorities and institutions should relate to the development and use the opportunities offered by the technological development.

The Commission considers that the development of MOOCs creates both opportunities and challenges. One opportunity is to make high-quality education easily available for an increasing number of groups in the population. In addition, MOOCs could be a policy instrument for Norwegian institutions for international image building and collaboration. One challenge is that Norwegian institutions would encounter increased competition for students from international institutions and among the Norwegian education institutions themselves. If Norwegian institutions are to stand out in the increased competition, they must have the innovative ability and capacity to utilise the opportunities provided by MOOCs. The Commission believes that MOOCs should lead to changes in how the institutions organise their education, thus contributing to increased quality and relevance in their offers.

It is the opinion of the Commission that the digitalisation of higher education in Norway has not progressed quickly enough, and that the institutions' ability to deliver has been too weak. Furthermore, the commission feels that if the responsibility is placed solely on the institutions, the development will not proceed quickly enough. Consequently, the national authorities must facilitate an increased digitization of higher education by supporting the institutions' work in developing MOOCs.

2.2.1 The Commission's Definition of MOOCs

The Commission states that Massive Open Online Courses (MOOCs) differs from traditional university studies in several ways. Firstly, by their open access, since the only prerequisite for participation is access to the Internet. Secondly, MOOCs are characterised by scalability; since the courses are organised in such a way that they can easily be scaled in line with the number of participants. Furthermore, the courses are likely to use brief video teaching sequences, quizzes, variants of peer review and machine-graded multiple-choice exams. The courses may also utilize user-generated learning and the course participants may be able to network amongst themselves, by using various digital services for sharing and interaction.

¹⁹ <https://www.regjeringen.no/en/dokumenter/nou-2014-5/id762916/>

The Commission has chosen to base their definition of MOOCs on the following characteristics:

- offers that are web-based
- offers that are scalable as regards the number of participants
- offers that are open

The mandate tasked the Commission with considering MOOCs and similar offers, and by “similar provisions”, the Commission means courses which have evolved from MOOCs and that share the characteristics of the original courses. In order to include “similar provisions” in their definition of MOOCs, the Commission applied the following clarifications of the three characteristics mentioned above:

- The Commission has chosen to include courses with varying degrees of transparency. This means that the Commission will include courses both with and without course fees, qualification requirements for participation and use of open learning resources.
- The Commission operates with a wide course concept. This means that the Commission includes continuing and further education, as well as credit-awarding degree programs lasting several years with the characteristics mentioned above.

The Commission is of the opinion that MOOCs should be seen as part of a development which ultimately relates to the educational opportunities brought about by new technology. The Commission feels that technology has the potential to change educational practice and ensure better and more effective learning. How MOOCs may contribute to increasing the quality of higher education is, in the Commission’s opinion, a very important aspect of the development of MOOCs.

The scalability of offers makes it possible to gather a great number of students in digital networks. This creates new premises for web-based learning. An integrated use of different types of technology, such as video formats, social media and new learning platforms, provides new prerequisites for use of digital media in education.

MOOCs are increasingly being applied as part of campus education. This shows that technology facilitates other ways of organizing educational progress and the contents there of, making it possible to combine the best from campus education with new types of web-based courses (blended learning). The evolution of MOOCs is, therefore, also a question of how MOOCs can be combined with other learning activities.

The MOOC Commission recommends that a national initiative should take place over a five-year period and is proposing several specific measures. The measures, which are proposed funded by the national authorities through special initiatives, will amount to annual investments of NOK 130–380 million.

2.2.2 Recommendations to the National Authorities

National initiative with budgetary consequences

The national initiative consists of six recommendations directed at the authorities:

- 1 The Commission recommends that preparations be made to give Norwegian institutions access to one or more MOOC platforms adapted to Norwegian and Sámi languages, as well as to the profile of Norwegian institutions.

The Commission further recommends that Norwegian MOOCs be promoted through a national portal, and that Norway take the initiative for a Nordic partnership aimed at a joint effort to promote Nordic MOOCs internationally.

- 2 The Commission recommends that preparations should be made to allow the institutions to use a central support function in the development of MOOCs. A primary objective for this support function is to assist in the development of relevant educational and technological skills at higher education institutions. The consideration for universal design should be safeguarded in the choice of platform.

Total amount: NOK 40 million.

- 3 The Commission recommends systematic emphasis on research-based knowledge development regarding the use of technology in higher education.

Total amount: NOK 15 million.

The Commission further recommends that experience and knowledge from quality work in flexible and web-based education be applied in the development of MOOCs, and that the institutions will base their development of MOOCs on the principles of universal design. Furthermore, the Commission recommends that the institutions test new forms of educational assessment and exams in MOOCs, and that the questions regarding the handling of personal data information in MOOCs be included in the review of digital assessment and exams. It is also necessary to strengthen the digital skills of employees in the higher education sector. The scope must, however, be mapped in more detail. The Commission recommends that funds be allocated to bolster digital skills. Furthermore, the institutions should develop the employees' expertise in the use of technology in teaching and take responsibility for developing the students' digital skills.

- 4 The Commission recommends establishing a community for research-based knowledge development, development work and knowledge sharing related to learning analytics.

Total amount: NOK 15 million

- 5 The Commission recommends granting public funds for a major public initiative relating to expertise development using MOOCs, which will require collaboration between the authorities and the social partners. The distribution of funds can be done in different ways and must be considered in more detail by the public authorities.

Total amount: NOK 50–300 million.

The Commission further recommends that cooperation between universities, university colleges and working life be used as an incentive in the funding system for higher education, and that the educational institutions and social partners strengthen their cooperation relating to continuing and further education. MOOCs should be used as an instrument in this work.

- 6 The Commission recommends that preparations be made to allow more pupils in Primary and Secondary Education and Training to take accelerated education as MOOCs.

Total amount: NOK 10 million.

The Commission further recommends trial admissions to credit-earning MOOCs for applicants who do not satisfy traditional requirements for admission to higher education, and that preparations are made to allow more pupils in primary and secondary school to take accelerated education as MOOCs.

Recommendations within the current budget framework

In addition, the Commission recommends a number of national initiatives supporting the main initiatives mentioned above, which may be funded within the current financial framework:

- 1 *Brand building*

The Commission recommends uniting and promoting Norwegian MOOCs through a dedicated national portal. The Commission also recommends that Norway initiate a Nordic cooperation with the objective of a joint initiative to promote Nordic MOOCs internationally.

- 2 *Open digital learning resources*

The Commission recommends establishing an overview of available open digital learning resources for higher education.

Furthermore, the Commission is of the opinion that Norwegian authorities should work actively, both domestically and internationally, to promote the principle of open digital learning resources and open access in higher education.

The Commission further recommends that questions relating to copyright and licensing be considered more closely in order to make it easier to develop open MOOC solutions. In developing MOOCs, the educational institutions should clarify appropriate agreements for the students and employees' rights to their own material. The institutions should also stimulate production of open digital learning resources, and that all learning resources are marked with terms of use.

3 *Admission*

The Commission is of the opinion that Norwegian MOOCs shall be free of charge, in principle. The Commission further recommends that Norwegian MOOCs that the Ministry evaluate the Student Fees Regulation in order to clarify the institutions' leeway as regards payment for the MOOCs.

The Commission recommends trials with admission to MOOCs with credits for applicants who do not fulfil applicable requirements for admission to higher education.

In addition, the Commission further recommends that preparations be made to allow more pupils in primary and secondary schools to take accelerated education as MOOCs.

4 *Crediting*

MOOCs with exams and credits, both from Norwegian and foreign institutions, can be included in the current degree system. Consequently, the Commission does not see the need for changing the Norwegian regulations for accreditation and recognition of subjects.

The Commission further recommends a national review of how the institutions' practice of accrediting can be improved. The institutions must facilitate a more streamlined practice of accrediting subjects across Norwegian institutions. The Commission believes that the institutions must develop good schemes for Accreditation of Prior Experiential Learning for people who have completed MOOCs.

The MOOC Commission recommends having the Ministry-appointed commission tasked with inquiring into skills outside the formal education system also assess skills developed through MOOCs without exams and credits.

Recommendations regarding further studies

In this recommendation, the Commission has assessed how the MOOC development affects a number of areas within higher education. In the following areas, the Commission sees a need for more detailed study and consideration than the Commission has been able to provide:

5 *Quality*

The Commission believes that there is a need for stronger incentives for increased quality in teaching, as well as for more innovative forms of learning. The Commission, therefore, recommends a review of the general range of policy instruments and incentive schemes for the education area at the individual, institution and national level.

The Commission believes that it is necessary to strengthen the digital skills of employees in the higher education sector. However, the scope of this must be mapped in more detail. The Commission recommends that funds be granted to strengthen digital skills.

6 *Infrastructure and rights*

The Commission recommends that questions regarding the handling of personal information in MOOCs be included in the review regarding digital assessments and exams.

The Commission recommends that the questions relating to copyrights and licensing be considered more closely in order to make it easier to develop open MOOCs.

7 *Recognition*

The Commission recommends a national review of how to improve the institutions' practice as regards recognizing subjects.

As mentioned under "crediting", the MOOC Commission recommends having the Ministry-appointed commission tasked with assessing skills outside the formal education system also assess skills developed through MOOCs without exams and credits.

Also mentioned under "crediting", MOOCs with exams and credits, both from Norwegian and foreign institutions, may be included in the current degree system. Consequently, the Commission does not see a need for changes to the Norwegian regulations for accreditation and recognition of subjects.

8 *Funding*

The Commission recommends that the Ministry evaluate the regulations for student fees in order to clarify the institutions' leeway as regards payment for MOOCs.

As mentioned earlier, The Commission believes that Norwegian MOOCs should be free and recommends that the Ministry evaluate the Student Fees Regulation in order to clarify the institutions' leeway as regards payment for the MOOCs.

The Commission recommends examining whether educational support should be granted to participants in MOOCs and other web-based programmes with a flexible student work load and duration.

The Commission recommends examining whether educational support should be granted to students taking MOOCs and other web-based courses, both inside and outside the EU/EEA.

The Commission recommends that financial consequences relating to foreign students be included in the reviews of changes to the educational support scheme proposed by the Commission.

Recommendations to the Funding Committee

A committee has been appointed to review and evaluate the funding scheme for higher education. The MOOC Commission has made two recommendations to this committee:

The Commission recommends that incentives and policy instruments supporting cooperation, division of labour and specialization between the institutions are considered by the committee that will review and evaluate the funding system for the Norwegian higher education sector.

The Commission recommends that cooperation between universities and university colleges and working life be used as an incentive in the funding system for higher education.

2.3 Consultations and further plans

The Ministry of Education and Research initiated a broad consultation of the MOOC report and asked consultative bodies to comment on all the proposals and to submit these by October 20th, 2014. The consultations from the five most relevant intermediate organisations are all positive with regard to the recommendations made by the MOOC Commission and are referring to their own work in the field and offering their partnerships.²⁰

Ten years ago, a Quality Reform was implemented in higher education in Norway. Although, the reform has led to several positive changes, there are also several indications that the quality of education has not improved as much as expected. A number of academic evaluations show that

²⁰ <https://www.regjeringen.no/nb/dokumenter/Horing---NOU-20145-MOOC-til-Norge-Nye-digitale-laringsformer-i-hoyere-utdanning/id764818/>

there are still challenges when it comes to the quality of Norwegian higher education. This has also been underlined by Norwegian Agency for Quality Assurance in Education (NOKUT).

Several analyses, including the official report by the the Stjernø Committee (2008), show that the resources to research and higher education are spread too thin. Norway has too many small institutions that offer the same courses. This causes too many institutions to compete with each other rather than to cooperate. Therefore, the Minister of Education and Research has presented several suggestions to facilitate high-quality education and research. First, there will be a white paper on the structure of the higher education sector presented by the spring of 2015, and, second, a review of funding in higher education is in progress. Since Norway is presently in the middle of a reform work of both the financing and the structure of higher education a follow-up of the recommendations made by the MOOC Committee will hardly be implemented before 2016.

3 INTERMEDIATE AGENCY DEVELOPMENTS IN PROMOTING TECHNOLOGY IN HIGHER EDUCATION

3.1 Norway Opening Universities

Norway Opening Universities (NOU)²¹ is established and supported by the Norwegian government and the Ministry of Education and Research to promote the development and use of technology for ICT supported learning and flexible education. NOU is a national political initiative for Norwegian universities and university colleges by opening the access to higher education, opening institutions of higher education to a better understanding of the needs of society and opening universities and university colleges to more flexible modes of teaching and learning by stimulating the creative and competent use of ICT.

The main tasks of NOU are project funding, generating and sharing knowledge in the field of lifelong, flexible and ICT-supported learning. Furthermore, NOU is doing analysis, surveys, evaluations and publishing reports, for example the ICT Monitor, passing on free of charge information about courses and lifelong learning opportunities on the web, being a policy advisor for the Ministry, arranging seminars and conferences and cooperating with other similar organisations.

3.1.1 ICT in Higher Education

NOU promotes the development of ICT-supported higher education by supporting projects that develops ICT-based education. NOU is conducting a national survey called *Digital Condition* for the use of ICT in higher education and is establishing expert groups that develop and disseminate knowledge in their respective areas, for instance working with the pedagogical use of ICT, the quality in ICT-supported education and the cooperation between working life and higher education.

²¹ <http://norgesuniversitetet.no/om/mandat>
<http://norgesuniversitetet.no/om/norgesuniversitetets-strategi-2012-2016>
<http://norgesuniversitetet.no/om/skrift/12011-digital-tilstand-i-hoyere-utdanning-2011>

3.1.2 Project Funding

NOU announces annually project grants within the following areas: the development and use of technology for learning and flexible education offered in higher education and educational cooperation between higher education and working life with learning technology.

3.1.3 Cooperation between Working Life and Higher Education

NOU works to strengthen cooperation between higher education and working life and has a separate expert group working strategically in the field. One of the criteria of the NOU for the allocation of project grants is collaboration between working life and higher education. This expert group works for the development of good models where labour will be drawn into the planning and implementation of higher education to a greater extent.

3.1.4 Expert Groups

Several expert groups have been established by Norway Opening Universities. A team of experts is in this context a group of professionals or resource persons who within a given period works with mapping, development and dissemination of knowledge within a limited area or theme. In 2014, NOU had two such expert groups working in the following areas:

An expert group for digital assessment and examination

In 2013, Norway Opening Universities and The Norwegian Association of Higher Education Institutions created a new group of experts who is focusing on digital assessment and examination. Digital assessment is requested from students, and the institutions are actively working on solutions to various forms of digital examination. There is a need for a national coordination and an overview and a comprehensive review of the technological, educational, organizational and legal challenges related to the implementation of digital assessments and exams. The expert group collaborates with eCampus and their national project on digital examination.

An expert group for quality of ICT-supported education

In 2011, Norway Opening Universities established an expert group for quality in ICT supported education. The expert group works to increase knowledge in their field and to contribute to the development and dissemination of such knowledge. The expert group also looks at the possibilities for developing criteria for quality in ICT- supported higher education. The results of the work of the expert group are published, and key target groups are Norwegian universities and university colleges.

Some earlier experts groups established by the Norway Opening Universities were an expert group for cooperation between higher education and working life, an expert group for educational use of ICT and an expert group on digital portfolios.

3.1.5 ICT Monitor

The ICT Monitor is a national survey on the use of ICT in the Norwegian higher education system. The survey documents the use of ICT for teaching as well as for studies. It further documents the facilitation for ICT use among educational institutions, as well as the organizational and individual conditions that may influence the use of technology for teaching and study related activities. The survey was conducted for the first time in 2008 and is repeated every three year. The last survey was administered in 2014, and some of the results show that:

- Digital tools and media are used with some variations and are more prevalent among students and teachers compared to 2011, but much of the use of ICT is in traditional instruction.
- Almost all students use a form of learning management system (LMS), but its potential to promote interaction and student active learning methods is not optimally exploited.
- Many students in study-related types of activities use social networks regularly, but there is little use of it by the academic staff. The use of social networks has increased since 2008 and is mainly initiated by the students themselves.
- A majority of students use mobile technology and the prevalence of smartphones and tablets is growing. This opens up for new ways of thinking about accessibility and flexibility, not to mention new.
- Few academic staff and students produce academic material for online sharing, and there is considerable potential for further use.
- The students express that digital tools and media are important tools in their studies as it makes it easier for them to collaborate with others. The majority of students expect more flexibility in relation to when and where they will be working with their studies and in relation to their contact with and feedback from the academic staff.
- Norway Opening Universities is a member of the following internationally oriented organisations: International Council for Open and Distance Education (ICDE), European Distance Education Network (EDEN), Research and Education Network (REN).

3.2 Flexible Education Norway

Flexible education Norway (FuN)²² is a national membership organisation for institutions offering flexible education in the form of online studies, online studies combined with gatherings and other flexible adaptations. The organisation was founded in 1968 and has since played an active role in the development of flexible education in Norway.

FuN's objectives are to spread knowledge about online education, to heighten its professional and pedagogical standards and to strengthen the position of online education within the Norwegian educational system. The organisation aims to develop online teaching methods and to support research and development of methods and techniques in the field of flexible education.

According to their annual report of 2013, their stated goal is that Flexible Education Norway shall be the driving force to develop flexible education with an emphasis on its pedagogy, its quality and its reputation. Their objectives for their members are that they shall perceive Flexible Education Norway as an active partner and advocate for developing flexible education. They also want to contribute to the academic debate and to promote development and innovation in their field. Their objectives for the society are that Flexible Education Norway shall contribute to its members the best framework conditions possible through information, documentation and as a participant in the public debate.

Flexible Education Norway organizes 40 Norwegian providers of flexible education; including independent distance education institutions, public universities and university colleges, private institutions and training centres for business and industry. Together their members provide an extensive range of subjects, courses and study programs from primary level to the university level in addition to customized courses for professionals. Their members offer flexible education at different levels; either exclusively online, partly on campus or related to the students' work place. It can be in the form of flexible start-ups and all self-paced courses, or classes with a common start date and meetings (online or on campus). FuN's members comply with strict rules for quality in flexible education. Quality assurance of their courses is initiated by the organisation in close co-operation with the online education institutions.

Many curricula are a partnership between private and public institutions, such as between NKS Distance Education and Lillehammer University College. Their work methods differ from schools where students meet in classrooms and laboratories to universities where students meet for lectures and colloquia, but the content is the same, and the examinations are also the same.

²² http://issuu.com/fleksibel_utdanning_norge/docs/fun_rapport_utviklingsmidler_2013
http://issuu.com/fleksibel_utdanning_norge/docs/ntnu_rapport
http://issuu.com/fleksibel_utdanning_norge/docs/utdanningshistorier

The organisation aims to promote co-operation among its members in matters and initiatives of common interest. FuN organizes conferences, discussions, seminars, workshops and field trips for its members and partners.

Flexible Education Norway is a collaboration and liaison body in matters relating to flexible education for the Ministry and the Norwegian Agency for Lifelong Learning (VOX), which belongs to the Norwegian Ministry of Education and Research, and they share the responsibility of assessing applications for governmental funding for educational development projects.

Flexible Education Norway is a driving force for developing online pedagogy and identifying user-friendly technology that can stimulate the learning process for the individual. Their cooperation with institutions in Scandinavia, Europe and worldwide provides useful experience and new knowledge.

3.3 UNINETT eCampus

UNINETT²³ is a Norwegian state-owned corporation, which develops and operates the national research network in Norway. This involves the delivery of computer networks and network services to universities and colleges. The Ministry of Education and Research owns UNINETT. UNINETT eCampus is a national program, coordinated by UNINETT, which shall enable institutions in higher education to better solve their task given them by society. State universities and colleges are their primary target groups.

Based on the strategy document of eCampus (2013-2016) the vision of eCampus is the following:

"Students and employees in Norwegian higher education shall be offered access to a set of ICT services and infrastructure that permits modern education, research and communication at an international level."

eCampus will build the infrastructure with a common architecture that accommodates different organisational forms, forms of learning and collaboration solutions. UNINETT is in the project phase (2012 - 2016) overseeing the technical development, while the institutions have the professional and educational responsibilities. Local eCampus initiatives at colleges and universities are important partners. Close cooperation with Norway Opening Universities is important for the integrity of the work of flexible education.

The higher education sector faces major challenges and opportunities related to the quality of education, multi-campus institutions, more interaction and flexible education. The need for cooperation both internationally, within the sector and with the business community and the

²³ https://openwiki.uninett.no/_media/ecampusnorge:ecampus-kd-200912-v3-3.pdf

<http://www.ecampus.no/wp-uploads/2011/07/eCampus-strategi-v10.pdf>

<https://www.ecampus.no/wp-uploads/2014/03/notat-%C3%A5rsmelding-ecampus-2013-rev.pdf>

society in general means that there is a need for good ICT solutions. Increasing use of flexible education and interaction across disciplines, campuses and institutions triggers the need for changes in work methods and solutions. Good practices must be in place to contribute to the quality of education, either in terms of availability of education, division of labour between several campuses or in research-based teaching. Teaching and learning must be adapted to meet the increasing influx of students and the needs of new student groups.

To meet the students' expectations, working life requirements and the needs of society for quality in education require robust academic environments with high competence. The relevance of professional education must be strengthened through collaboration with a working life that is changing. Research funding will increasingly require that communities work together to assert themselves in international competition arenas. The established national structure in higher education requires on this background academic concentration at every institution and division of labour and cooperation between educational institutions.

Digitization of learning and teaching happens at every college and university and require interaction between staff, students, support staff and national actors like eCampus and Norway Opening Universities. Digitization makes eCampus grow and must be taken into account in new ways. ICT can support the academic culture of sharing, as when lectures are made openly available both for students taking exams and the public in general.

A lack of demand of ICT by those who run education is a challenge. Having a role as change agent is important for eCampus, and the dialogue with local actors of change should be emphasized. Education management, flexibilisation of education, multi-campus cooperation and internationalization are examples of processes of change that eCampus affects with its work. Work on quality of education also requires best practices for using ICT in learning.

STRATEGIC GOALS

According to its strategy document, eCampus shall:

- Make simple and good ICT solutions that support learning available at a large scale. eCampus will promote user-driven innovation through good examples and provide the opportunity to make teaching available on the Internet on a national scale.
- Contribute to developing digital competence in communities and leadership and to promote good practices for ICT use in education and research. ICT architecture must be accompanied by digital competence at all levels of organizations.
- Contribute to make general ICT in education. eCampus shall promote the use of digital tools and put them into context in interaction with educational and organizational processes.
- Take clear national actions that contribute to the quality and interaction of the use of ICT. National solutions must interact with local ICT support.

The strategy document states that eCampus has three main areas:

- Architecture for flexible learning and teaching
- Video infrastructure
- Tools of cooperation and interaction

Standardisation, national services and competence are important instruments in all these areas. For video infrastructure and tools of cooperation, eCampus is working with good practices both locally and across campuses, and one such tool are national services. For example, eCampus contributes to simplified use of research data in education. National services will be made available for experimentation through pilots targeting smaller communities and production services.

For all areas, the building of capacity will happen through meetings and active use of workgroups using tools of cooperation from eCampus. Common specifications are drawn up in working groups and are the basis for purchase and deployment. Standardization based on common specifications opens for cost effectiveness, exchange of experiences and easier deployments. It should be easy to adopt services.

Tools of cooperation and video infrastructure should cover specific needs. In addition, there is a need to prepare architecture for flexible learning, which includes cloud services, mobility and digital examination. More areas may be added during the program period. The structural changes resulting from the framework of qualifications also imply a changed use of ICT. ECampus will contribute to better quality and practical solutions. Analysis of good practices occurs through experiences, networking and documentation. Digital competence is built locally. Developing good practice therefore occurs locally in cooperation with each institution.

4 FIRST CASE STUDY NORWAY: UNIVERISTY OF AGDER

4.1 Introduction

The University of Agder (UiA) is situated in the southern part of Norway and is located on two campuses at Kristiansand and Grimstad. The University is Norway's fourth largest university and comprises app. 11 000 students and app. 1100 faculty and staff members. Officially established in 2007 its history goes back to 1839, when the first teacher training institution in the region was established. In 1994, six regional colleges merged into Agder University College which thirteen years later became the University of Agder.

UiA is a state institution whose aim is to provide higher education, conduct research and development work, disseminate information about the university's activity as well as its methods and results and contribute to the development of society in general and southern Norway in particular. One of three strategic objectives of the University of Agder is "to provide attractive and reputable academic programs and learning environments", and it is an objective that by 2015 "all faculties and teacher education programs will have begun to utilize IT-supported teaching, supervision and assessment ", and that "all faculties and teacher education programs' will offer flexible and Internet-based teaching".²⁴

UiA offers 14 Ph.D. specialisations, 33 master's programs and 44 bachelor's programs. Shorter studies as well as lifelong learning courses are also available. Today, the university is organised in six faculties and one teacher education unit: Faculty of Engineering and Science, Faculty of Fine Arts, Faculty of Health and Sports Sciences, Faculty of Humanities and Education, Faculty of Social Sciences and the School of Business and Law and a Teacher Education Unit.

Internationalisation is an important aspect in all strategic planning and development at the University of Agder. In addition to general research collaboration, the university cooperates with more than 180 partner institutions through student, faculty and staff exchange. Each year UiA welcomes about 250 students from abroad and sends 350 students to universities all over the world. Students from 40 countries are represented in the student body. The language of instruction of most programs is Norwegian, but UiA also offers programs in English. One of the strategic objectives is to provide attractive and reputable academic programs and learning

²⁴ A journey into the future. Strategy Plan for the University of Agder 2010- 2015

environments, and it is an objective that by 2015 all faculties will offer master degree study programs in English, all bachelor and master degree programs will offer part of their teaching or course literature in English, and that the percentage of exchange students and foreign students among full-time degree-seeking students at UiA will have risen to 15 percent.²⁵

The University of Agder has fulfilled the requirements of the Bologna Process by adopting the Bologna degree structure, implementing the European Credit Transfer and Accumulation System (ECTS) and by using a comprehensive quality assurance system. UiA was the first higher education institution in Norway to receive both the ECTS and Diploma Supplement Labels from the European Commission. The ECTS Label is awarded to European universities and university colleges which organize their student exchange in accordance with a set of quality assured Requirements and present their complete course catalog in English.²⁶ The Diploma Supplement label is earned by institutions that issue a Diploma Supplement (DS) to all graduates based on a set of formal requirements and a set model developed by the European Commission, The Council of Europe and the UNESCO / CEPRES.

UiA increasingly recruits professors internationally and has signed the "European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers" referred to as the Charter and Code. This is a set of recommendations which is intended to direct the institution's focus towards researchers' working conditions in general and researcher mobility in particular. In 2013, the university was awarded the HR Excellence in Research logo by the European Commission for its proposal for systematic work with researcher mobility.

The following information is partly based on interviews with the vice rector of UiA and the leader of The Pedagogical Development Centre (PULS) and partly on documents supplied by the university, and there may, therefore, be some overlapping of the information. At the end, we present some of the experiences made by four students two of them studying on campus and two studying more or less online.

4.2 Focus on teaching and learning in mainstream degree education (on campus)

The University of Agder has an intention to mainly remain a campus university, but to provide blended learning to all students. The element of digitization in education, according to the informants, is varying. A great emphasis has been put on digital exams. Last autumn, 7500 students took an exam digitally, and this sums up to just below 40 percent of the exams. The use of ICT has so far particularly affected the digital exams. According to the informants all staff is involved with digitization, but to use it actively takes time. A great part of the submission of assignments should at present be digital, but when it comes to examinations, it remains only partly so. In this regard, the employees experience increasing pressure, and by putting a stronger

²⁵ Ibid.

²⁶ www.uia.no/en/studies

impact on digital examination, it also has an influence on other types of digitization. The degree of digitization appears visually in the annual educational and research reports as well as on the website uia.no/beta. There has also been established a project with six fellows who work with research related to ICT and learning. The project will start a series of seminars to present related research work to the rest of the staff.

UiA started early on a digital journey that has continued, but the scope has been narrowing gradually. It started in 2007 with the project called Learning Arena 2020 (LA 2020) that run for some years, and where UiA, according to one of the informants, "let a hundred flowers bloom". Then they started the project called The Digital University (DDU) four years ago with considerable funding. The DDU project has gradually become more narrowed and supervised. A great number of projects have received funding, and they vary from supporting flipped classroom projects in art pedagogy to the making of instructional films in nursing or math. DDU announced last year that financial means were available to digitize courses that were campus based. Financial funding was given to 13 major projects, where an important objective was to gain experience with digitization. The transfer value of ongoing projects is becoming more and more central to the IT policy of the DDU. According to the informants it has been a long digital journey so far.

Further support for educational innovation is given by The Pedagogical Development Centre (PULS) which is a separate entity under the University Board. It started courses in university teaching in 2001, and 277 employees have so far taken the courses. PULS is not organized as a part of the pedagogical community, which gives them greater legitimacy among the staff: They are also located next to the IT Department and the Media Center. In addition, PULS holds a low threshold service where employees can come for assistance on how to use simple digital tools. The Centre has a separate budget and serves the entire institution and does not charge for their services. They hold their own courses, and they present their services at meetings and in faculty organized settings. At first, PULS was only giving a course in university teaching, but the content has gradually shifted more towards the knowledge and use of digital aids. The Centre is gaining strength and more respect, since the employees see for themselves that their work is useful and important. PULS would very much like to see that the state authorities make the courses in university teaching mandatory and that an introduction to the use of digital tools is included.

The informants highlighted three examples of innovative pedagogy at the University of Agder. The teaching of mathematics has used flipped learning with very good results, and the math teachers have been leading the way. They have produced short films and introduced them into their classes. They book the studio, and as long as this is linked to teaching, the use of the studio and the professionals there are for free. In the education of Spanish the teachers have also produced videos, especially after they took the course at PULS and got a grant from Norway Opening Universities. Their teaching is partly based on campus, but the videos are freely available. The third example relates to the Department of ICT, where the teachers have worked to create e-learning paths for the students.

The informants said that they knew little about "learning analytics", and that they do not use it at UiA. But they concluded that they have enough institutional capacity to meet future challenges in this area, if they really want to do so. It is more a question of commitment and prioritization, and the management and board at the University of Agder support this initiative. Regarding MOOC, the Department of ICT created a MOOC in a study called multi-media and e-learning that uses the platform Canvas. This was started more as an experiment and did not provide any credits, but, according to them, financing MOOCs remains an open question. The informants expressed some skepticism towards MOOCs and said that they may just as well create an OOC rather than a MOOC. They hoped, however, that there might be more MOOCs, but they also stressed that it is a demanding maneuver to create one.

Regarding the question about incentives which will promote new forms of teaching, the informants called for more funding to digitize their teaching. In addition, funds were used for an upgrade of The Pedagogical Development Centre (PULS). The centre has two projects funded by Norway Opening Universities, and both a funding by the state and a will to lead the way mean a great deal to the universities in this regard. Beyond this, the informants wished there was more control from the government regarding regulations for appointments of university employees, in the way of demanding a course in university teaching and in new forms of learning by all employees. This would provide an even stronger signal from the government regarding the promotion of new forms of teaching.

4.3 Focus on open and flexible education

According to the informants, they have not come as far as they could have wished in this area, but they have some ideas and plans that are strategically anchored.

UiA has a district friendly nursing education which is a three-year bachelor's degree, and which is an alternative to the campus-based nursing education. In addition, the university also have an on-line international master in development management, and they have a school library program, which is a four-year bachelor's degree with regular gatherings and otherwise online teaching. Furthermore, UiA will in the future offer several online courses, like the so-called workplace based nursery education, workplace based preschool teacher education and an international welding engineer course (IWE) with four gatherings on campus Grimstad, and online courses in physics and math full- or part-time. Also, the university is participating in the "Competence for quality program in teacher training", and the course in math is a pure online study.²⁷ But since UiA has already fulfilled their targets regarding the number of students on campus, they do not need to attract online students. They, however, offer open and flexible education primarily as a part of their social responsibility. They, primarily, wish to focus on teaching on campus, where they will intensify their efforts in providing blended learning.

²⁷ <http://www.uia.no>

The University of Agder uses a platform called Kaltura Media Space, where much material is available. They also use educational resources that others have produced, such as linda.com containing instructional videos particularly in technical subjects. You Tube is also widely used. The teachers of mathematics both produce and use this type of resources. Moreover, the university has a strategy that open access of master thesis should be available to all. They also have a plan for education management and this year program management is in focus. In this regard they run a pilot education management unit over four days, where new forms of education are one of the topics.

The University of Agder is presently working on upgrading their strategy on international education. The international office is responsible for the students, but they also want this to be more strongly grounded in the entire institution. The study of international management is a bottom-up initiative of the social science community. In addition, they have development studies, both one year programs, a bachelor program and two master programs, one of which is development management which is entirely run on line together with two gatherings, one in Norway and one in Sri Lanka.

Otherwise, the university has high ambitions regarding new forms of education, which is one of the main objectives in their strategy plan. Regarding the question whether an increased focus on new teaching forms will increase the recruitment of students, they said that the introduction of digital exams already has had an effect on the students' interest for the institution. Both digital exams and other services for students electronically are very much appreciated by them. Therefore, UiA wants more focus on this in the future. When it comes to costs, they claim that digital exams cost a lot especially in the beginning, but their motivation is not to lower the costs, but rather to increase the quality and the availability of their teaching. They do not experience much resistance regarding new forms of teaching within the organisation as such, but that there will always be some staff that resist new technology. Among the student organisations and the unions there has been no resistance, but rather a general inertia of the system.

According to the website of University of Agder, the main task of the Educational Development Centre (PULS) is to promote university education and research and to support the use and development of new technologies in teaching. To be able to develop and maintain their high quality of education the centre offers annual courses for the employees. These courses aim to develop, supplement and adjust the expertise among the employees. The participants acquire new knowledge and skills in relation to planning, implementation and evaluation of teaching and guidance of students. The study also includes the use of digital tools in teaching and how to facilitate a flexible teaching. The centre gives priority to new employees as part of their main tasks in the coming years. Some examples of projects at PULS are 1) the use of tablets, which explores how tablets as an observation platform can help raise the quality of the education of teaching students, 2) blended supervision in higher education that explores the juxtaposition of synchronous/asynchronous and digital/analog guidance of written work, and 3) technology supported guidance in alpine sports that explores how instruction and supervision of students in

the training of ski/snowboard can be improved by using digitized observational material, as well as to provide students with immediate supervising guidance in their exercise and training, and 4) developing digital books/e-books for use in efforts to develop study strategies and skills in writing academic texts. The centre also offers courses in the use of blogs as an educational tool, screen recording, online surveys, studio production of lectures, and the use of Fronter.

According to the website of University of Agder, the Digital University (DDU) is an initiative in order to promote the digitization of education. It is a program consisting of several projects that intend to increase the quality and efficiency in teaching, administration and research. Through this program the university seeks to create joint activities and solutions across faculties and to modernise their teaching and their services, as today's young digital natives expect it. The program started in 2012 with an allocation of 10 million NOK and continued in 2013 with another 8 million NOK and with 4 million NOK in 2014. The main focus has been digital examination, training of the employees in digital methods, renewal of the website, renewal of the teaching programs, improving self-service solutions to the students and a strengthened infrastructure. In 2012 and 2013, the Digital University was run by a program board with representatives from each faculty and some administrative units together with representatives of the students and staff. Since 2014, it has been replaced by a council with the deans representing the faculties and, thereby, linking the DDU more closely to the line organization. PULS and the IT Center act as secretariat for the DDU.

In 2009, the earlier mentioned Learning Arena 2020 (LA 2020) started as a three-year project with "a strategic and long-term commitment to the use of information technology within teaching, research dissemination and administrative systems".²⁸ The main goals concerning teaching were described as "exploiting IT to create new learning contexts, using IT to streamline the working of students and staff and exploiting IT to accommodate students' specific requirements with regard to the use of ICT in and around the teaching." The project spent a total of 9 million NOK in the period of 2009-12. The evaluation of LA2020 states that the efforts helped to create a venue for employees with interest, expertise and professional commitment in trying out digital media and tools. The university allocated very early a significant amount of money to the project which helped to create a foundation of experience regarding the use of ICT in higher education. This was a valuable experience at a time when national surveys showed that higher education in Norway had a large potential for improvement with regard to the development of new educational approaches and teaching methods. Nevertheless the evaluation says that mainly enthusiasts accounted for most of the development in this area, but that this was a necessary starting point for further development. The projects had, however, opportunities for more dissemination both at UiA and nationally, and this should be given priority. The evaluation recommended an increased focus on the development of new teaching methods in terms of digitization of teaching material in lectures, exercises, curriculum, development of simulation

²⁸ Eriksen, O. & T. Bøe LA2020 Evalueringsrapport, Høgskolen i Østfold og Høgskolen i Telemark, juni 2012

tools, greater use of web conferences and further work with digital assessment, as well as to clarify how projects could be used in a systematic dissemination of the experiences both within and outside the university.

According to the status report from March 2014, the main areas of priority so far have been digital examination, renewing of the website, collaboration platforms, competence development among teaching staff and the renewal of teaching methods.²⁹ Funds for other priority areas have also been granted. For the period of 2012-2014, 16, 6 million NOK of a total of 22 million NOK was distributed to 67 single projects. Two of the major projects were about increasing the number of digital exams and enhancing the competence skills among the employees. In addition, funds were allocated to IT for upgrading the TV studio and the equipment for recording and streaming of lectures, in addition to online courses, digital curriculum, new website, as well as MOOC assessment procedures on courses on campus.

In the major project concerning digital exams, several exams using students' own equipment, both on multiple-choice tests and traditional plain text examinations, and digital exams in large halls were conducted. All these goals were achieved, and much experience around planning and execution of the exams were gained. A newly developed module for school exams was piloted with UNIWISSE and funded by UNINETT which saw the transfer value to the rest of the university sector. UNINETT confirmed that University of Agder should continue to work with UNIWISSE and Fronter to implement digital exams the next few years. Even if there have been many challenges, the solutions, premises, procedures and use of student equipment now start to fall into place.

The Educational Development Centre (PULS) has the primary responsibility for education in terms of IT supported teaching, and it carried out 38 courses in 2013 with a number of employees ranging between 4 and 40 participants. The centre has also arranged courses for academic units and faculties. In addition, they are in charge of consultations to both staff and students. At the centre, they have provided among others the following courses: courses in distance learning, courses on the use of digital equipment in auditoriums, courses on creating blogs and using these as educational tools, using Camtasia for online lectures, and the preparation and implementation of experimental MOOC- courses.

Projects for teaching include online courses in mathematics and physics which were developed and adopted in 2013. The courses are offered both full-time over one semester and part-time over two semesters. The first full-time students completed the exams with very good results in the spring of 2013. In physics all the candidates also completed their exams with good grades. The Department of Information Systems has developed a project on learning at one's own pace which has aroused interest and which was implemented fully in the spring of 2014. Automatic corrections of exams were tested successfully, although the preparations were demanding. The

²⁹ Status for DDU mars 2014, 19.3.2014

teaching of Spanish has been carried out online, and the teachers of other languages are also interested in the digitization in language teaching.

Summing up briefly, the status report encourages more digitization projects. Although the enthusiasts still dominate the scene, interest in digital solutions have spread noticeably in recent years. Some courses are run only online, but for most part the digital contribution to campus-based teaching is the most important. Several of the projects have been noticed nationally and have been presented at conferences. The project concerning digital exams using students' own computers have met increased interest from other institutions. They have also taken an interest in establishing a project similar to DDU to be able to coordinate investment in digitization with the support from management. At University of Agder the infrastructure in the classrooms and the possibilities to create video and multimedia have increased, so that the university today is in a much better position to develop an open and flexible education than a couple of years ago.

4.4 Focus on to international education

The UiA offers international education to students both with opportunities to take part of their education in mainstream education abroad and by continuing their education abroad after completing their studies in Norway. The ECTS- Label and the Diploma Supplement Label as issued by the EU Education Council certify that UiA meets the EU requirements on free movement of students in line with the Bologna Declaration (1999). The visible requirements are a complete study catalog in English and especially good facilitation of students.³⁰

The Action Plan for internationalisation 2014-2015 states that an international perspective should be integrated in all activities at the University of Agder. The content is organized under five key areas and outlines the status, objectives and measures, as regards the two main areas regarding staff and students.³¹ Here it is firstly established that UiA is part of an international academic environment which means that it should facilitate for staff mobility, and secondly that the university will develop study programs with teaching and curriculum in English. Some of the measures recommended are that the university should create a language service for the staff, should increase the share of staff with international experience and/or background, should establish a new unified and upgraded system for reception and integration of foreign staff and increase the proportion of staff mobility.

When it comes to the students, one of the goals is that all faculties should offer master programs in English and that all bachelor and master programs have parts of their teaching and curriculum in English. The University of Agder now offers 12 master programs, three half year programs and one study of 30 ECTS ("European integration") with instruction in English. UiA can accept 35 students funded by the quota program and it has entered into partnership for the exchange of

³⁰ <http://www.uia.no>

³¹ Action Plan for Internationalisation, 2014- 2015, University of Agder

students with over 200 educational institutions. Emphasis should be on an even closer cooperation with international partners, to be able to facilitate mobility for both students and staff. Some measures mentioned are 1) appointing a group to investigate the establishment of a summer school and 2) that the faculties and of Teacher Education Unit should develop "study packs" of 30 ECTS that will automatically give credits both at UiA and the partner institution. Finally, the university should facilitate the use of international lecturers by the aid of modern technology, and the development of study programs with multiple classes in English.

According to the informants, the teaching of master programs is mostly in English. All faculties have a number of subjects in English, but if there are only Norwegian students, the teaching takes place in Norwegian. There is a need to train staff and students to feel confident about teaching in English. When it comes to accreditation of education, they use NOKUT and follow their regulations. They have had a number of students from Eastern Europe, China, India and Africa as quota students. Internationalisation of education is one of the main goals in the strategic plan. The barriers they encounter in international education are especially related to each individual country's own regulations. They have tried to establish a joint master program with Finland, and they have also investigated several such joint programs, but it has been difficult to succeed. Cooperation with a university in Nebraska was, however, successful and involved a mutual recognition of the education program. The staff at the university has received support for its EU applications in education, particularly within the SOCRATES program. They have for instance a project called "Creative Europe" that is all about theater, IT and social media in interaction with youngsters. One suggestion for more internationalisation is that the university should have a well functioning apparatus to language learning, to copyediting and to similar use of English.

4.5 Focus on institutional policy: vision, strategies and frameworks

The Strategy Plan for the University of Agder 2010-2015 shows that the three main strategic objectives of the university are 1) to provide attractive and reputable academic programs and learning environments 2) to have reputable research communities in every faculty 3) to practice social involvement in collaboration with society and employment.³² Related to the first objective we find that by 2015 "all faculties and teacher education programs will utilise IT supported teaching, supervision and assessment, and all faculties and teacher education will offer open and flexible teaching". According to the strategic plan for The Digital University, which was updated in March 2014, its aim is to contribute so that the UiA evolves into a modern and efficient university, where digital solutions are a natural part of most processes. For the teachers digital tools will help to create "blended learning", that is a mixture of various media including video, audio and pictures be used in addition to traditional lectures. For the administration and the support functions digitization means better services to students and staff, more efficiency, better quality and more transparent procedures. The DDU program is rooted in the university's strategy, where innovative use of ICT is one of four main elements, and where it states that UiA

³²[http:// www.uia.no](http://www.uia.no)

should increasingly be adopting new technology in teaching and supervision. The goal for 2015 is that all faculties and teacher training classes should have adopted ICT supported teaching, supervision and evaluation, and that all faculties and teacher education programs have flexible and online courses.

When it comes to teaching, the strategic plan shows the following specific proposals regarding the master programs: the integration of digital tools in on- campus based teaching, timesaving use of digital tools for the staff, use of digital media in supervision and use of digital tools in teaching practice. In addition, the plan recommends a focus on the following project areas: 1) announcement of project funds to learning for students at their own pace and online courses for preparatory courses for engineers, and 2) support for projects that focus on the use of computers in everyday academic life and to develop digital resources in blended learning.

DDU has had a board with representatives from each faculty and some from the administration. Most likely, the selection at the start was made among employees with a commitment and knowledge of digital solutions, but they soon realized that such an organization is not suitable for directing the use of key assets over time. Therefore, part of the funds allocated to DDU will be transferred to the line organization in consultation with a joint council for digital services. The council shall allocate assets according to the strategic guidelines. Having a central body with a focus on the digital efforts will have clear advantages. A representative council on the side of the line organisation will be required to ensure the broad foundation combined with impact penetration. Therefore, a council called the DDU Council shall be included in the efforts to develop an overall strategy for the digital development of UiA and to contribute to its implementation. PULS, the ITcenter and the library are seen as important promoters in the continuing digital initiative at university of Agder.

4.6 Focus on the relationship between the institution and state policy concerning new forms of teaching and education

According to the informants, there is no basic difference between online students and campus students, since both receive support from the Student Loan Fund. There are no payment studies at the University of Agder, and the university will keep the same quality in the teaching of online students and regular campus students. The university has had a certain influence nationally in the development of digital examination, since their leader in this area also has been the leader of the national initiative. The IT department has had a national influence within UNINETT and within university teaching PULS has had a leading role.

When it comes to government incentives with regard to new forms of learning, the informants said that they benefitted greatly from the services of Norway Opening Universities. Instead of barriers to be removed by the Ministry of Education, the Ministry should, according to the informants, set higher requirements for teaching competence. UiA has a mandatory course for all

new employees, which also includes an introduction to blended learning and new digital tools. Clearer guidelines in this area from the ministry would have helped. Otherwise, they believe that the authorities should follow up on the report of the use of MOOCs. Economic incentives in this field would be very helpful, and so will an evaluation on different platform and on the concept of free availability. While emphasizing that it is important that an institution like Norway Opening Universities exists, there are still too few funds available for the development of new forms of teaching. The reality of Norwegian universities is, however, very different from that of the universities on the continent as regards both infrastructure and opportunities.

The University of Agder is involved in a national as well as an international cooperation in the field. They are also engaged in new forms of teaching in developing countries under the auspices of NORAD. Likewise, they were also involved in a partnership with a university in Nebraska, which was very successful. The UiA has contacts with both E- campus and UNINETT regarding software and with Norway Opening Universities when it comes to funding. The informants see it as very positive that national institutions are increasingly engaged in this field. Regarding their development of digital exams, they underline that to be the first in this field is very costly. If the Ministry of Education had carried the cost of this development, it would have been very helpful. The support and the development of regulations and requirements relating to basic digital competence among the teachers, is what they ask for from the national authorities.

4.7 Focus on students

Interviews with one bachelor and one master student on campus

According to the master student who had completed a four-year teacher education, the students learned about the importance of varied teaching, whereas they themselves had been exposed to mainly traditional teaching. "We learn about the importance of varied teaching, but have not had much of it," he said. In many of the theoretical subjects the teaching was largely carried out in a traditional manner. The bachelor student was studying information systems, which consisted mostly of practical training in all types of applications from games to calculators. They used a program that was open source, so that everyone in the class could see what the others were doing. However, the theoretical subjects were all very traditional blackboard teaching. The basis for all teaching is Fronter, which all students are required to use, since all information and all submission of assignments happen here. The students had barely heard of flipped classroom, and had not seen anything of it. However, they were aware that the university had begun using digital examination, but they themselves had not yet experienced it.

Both students were satisfied with the teaching they received, they, however, added that "everything can be better." They wished that the teachers were more confident in the use of digital tools, since the greatest rewards by using digital tools was variation in teaching. Having access to the lectures again and again is an advantage for those who are sick, and for those who will take the class at part time. Also many students find it more motivating to work with math on

a computer, there is a potential here that can make teaching math more interesting according to them.

Regarding any complaints the IT student said that the teachers often said we will use this book, and the rest you can find online. The problem is that there is too much out there, and this is a particular challenge during the first semester. This may easily turn an IT study into a self study one of the students said. But according to him, the teachers have gradually become better, they listen to the students, and they are now rearranging the whole IT study. Both students believed the university had a good policy concerning free software, since they could access many programs via VPN. It was a good solution that was not limited to Norway, but also available abroad.

The technical problems which may arise, obstruct teaching, as the teachers become stressed, and much time is wasted. In the IT program the teachers are naturally open to new digital teaching tools. In the teacher education program the teachers were also open, although some of them found it difficult to learn new digital teaching methods. In other words, there was a great variety of digital skills among teachers.

The IT study is now reorganised according to the recommendations of the students, and the students have demanded more online courses with the aim to differentiate the instruction for those who work fast. The master student especially thought it had been good with some digital tools in the teaching of math. Both students talked about the midterm evaluation of the students and questioned its intent, since they felt that it resulted in nothing. The IT student mentioned specifically a course given by a professor at an American university that was entirely online with weekly assignments. This was one of the best courses he had taken and with good results. The master student also believed that the American model with weekly assignments would be good, because it forces you to learn, and they were unanimous in their positive assessment of such courses.

Interviews with a master and a bachelor student attending online courses

The first student was attending a three-year bachelor program in decentralized nursing. She lives a two hour drive from campus and has a family with four children, and without this decentralized study she would not have been able to study nursing.

The second student was taking a master degree in development management and lives in Oslo, has a full time job and three children. She participates in a fully online program, where both students and teachers are spread around the world. The program consists of two gatherings, the first in Norway and the other in Sri Lanka. The students come from, besides Norway, Ghana and Uganda in terms of quota students, in addition to a number of other foreign students.

The master student was especially satisfied with the implementation of new forms of digital teaching, since it, otherwise, would not have been possible for her to participate in this study. It is

a highly interactive program, and the students are involved in discussing and working in groups. She thought that the study was comparable to the job she has within the field of development, and as such it was very close to what was her reality. She did not feel she was left to herself and she liked to work and study in this way. For young people, however, who have not studied before, it could be a difficult form of study. The teachers were available by email, Skype or mobile phones. They had both a teacher and a tutor, and the contact with the tutor on Facebook or Messenger was especially important. The students were her friends, although she had not met all of them physically.

The bachelor student was also satisfied with her study program, because she could otherwise not have studied nursing. She missed, however, that there was more online activities, and she also missed the interactive contact with students and teachers. They were mainly sitting passively and watching the lectures on a screen, while the regular nursing students were in the audience. The decentralized students had no opportunities to participate directly in the lectures. They, therefore, became spectators sitting on the outside of the activities. It requires a lot of patience and efforts to simply sit and watch at the regular times of the lectures since they are not taped, she said.

The master student felt she was part of a group of students, since they had their own group on Facebook, and also a group of Fronter. The bachelor student only met her fellow students on campus, when they sometimes had lectures together. There was, however, no online contact between them, except when they had assignments together on campus.

The bachelor student wanted more online study, but she said that in a way the lack of online activities also reflected her future work within the healthcare services. The master student said that her complaint did not apply to the pedagogy as such, but to the students that did not put enough work in the joint assignments. She also conceded that the teachers could certainly have had more digital competence, and that they could have used other and more advanced digital methods in their teaching.

The bachelor student was satisfied with the academic competence of the teachers in general, but she missed a place where they could post a question, but, on the other hand, they got good feedback on their assignments. "We have had teachers for three years who have not seen us. We have seen them, but they have not seen us" she said. The master student said that all of her fellow students had a picture of the other students at Fronter, and that they had a teacher in Tokyo, who they only had seen on Skype.

The bachelor student wanted, as mentioned earlier, more online activities, and that the teachers used the interactive capabilities that existed. The master student underlined that her study had worked well online, and she had no suggestions for any changes and could happily recommend the study to others.

5 SECOND CASE STUDY NORWAY: TELEMAR UNIVERSITY COLLEGE

5.1 Introduction

Telemark University College (TUC) is a state university college and has approximately 6900 students and is the fourth largest of the 24 state university colleges. TUC is a not for profit organisation based in the South-eastern part of Norway. TUC has campuses in Bø, Notodden, Porsgrunn, Rauland and Drammen and offers a broad range of academic opportunities at bachelor, master and Ph.D. level. The three pillars of the TUC activities are education, research and dissemination of information. TUC's main ambition is to be granted full university accreditation before 2016. This will add to the width of academic and research opportunities in Telemark. The primary task of the University College is to carry out its social responsibilities, which are education, research, communication and close interaction with TUCs surroundings.

TUC has 650 faculty and staff members and 160 study programs and consists of eight different faculties and administrative departments:

- Faculty of Arts and Sciences (AF)
- Faculty of Art, Folk Culture and Teacher Education (EFL)
- Faculty of Health and Social Studies (HS)
- Faculty of Technology (TF)
- Central Administration Services (FA)
- Library
- Operations Office
- IT-services

Telemark University College has a large network of international partner institutions around the world.³³ TUC encourages students to study abroad and offer an exchange period to all students who would like it. The exchange period will be accepted as part of the TUC degree. The option of exchange is in principle open to all international programs students studying at TUC, but issues relating to immigration or financing may make it

³³ <http://www.hit.no/eng/HiT/Student/Student-Exchanges/Exchanges-from-TUC>

more difficult than for Norwegian students. Telemark University College also welcomes each year many exchange students from different countries in programs taught in English.

The following information is partly based on interviews with the Deputy Vice Chancellor (DVC), Dean of Faculty of Art, Folk Culture and Teacher Education (EFL), Head of International Office, Project leader of e@HiT, Pedagogical leader of e-learning at faculty level, Associate Professor/ Program Director MA Art & Design Education and partly on documents supplied by Telemark University College. There may, therefore, be some overlapping of the information. At the end, we present some of the experiences made by five students, two of them studying on campus and three studying online.

5.2 Focus on teaching and learning in mainstream degree education (on campus)

Telemark University College wants to be at the forefront in the field of flexible online courses, e-learning and use of new technology. ICT offers new opportunities for learning. e@HiT project is a 3-year project (started in the fall of 2013) that will work to achieve increased and more relevant use of ICT in teaching, learning and assessment. The project has the equivalent of 2,5 full time positions with technical and practical-pedagogical competence and works in both academic and administrative positions in the organization. The project shall increase the use of ICT in teaching, learning and assessment both on campus and online (e-learning). It also offers pedagogical and technological competence-building and establishes support functions, maintains and develops existing online/flexible programs and increases the number of online courses.

According to the informants, TUC is relatively traditional on campus teaching, and many teachers do as they have always done. Although, if one compares TUC with other university colleges, TUC has been experimenting more, when it comes to pedagogy and technology. The reason why TUC began experimenting with pedagogy and technology was because they wanted to expand their study portfolio and reach new student groups.

During the last two years, teachers have combined technology with pedagogy to better on campus teaching and increasingly more teachers at TUC have begun with flipped classroom. This has gained synergies to campus teaching, especially at technological subjects at the master level. According to the informants, the master degree in Engineering and Technology (starts in the fall of 2015) is now organized the same way on campus as online. Everyone gets flipped resources located as asynchronous resources.

The General Teacher Education has more online students than on campus students. The informants inform that they have regular on campus education in Porsgrunn and some on campus students at Notodden. The on campus students at Notodden follow what is called

hybrid teaching, meaning that they follow what the online students are following, called a synchronous form. To teach hybrid requires a broad competence of the teacher.

The informants say that students are seeking and demanding more from digital forms of learning than the staff. The teachers, who are teaching online, must master digital tools, while teachers who are teaching on campus can refrain from doing so. This leads to considerable differences in the teaching staff with regard to digital competence.

According to the informants, on campus and online teaching affect each other. The informants emphasize that online teaching and on campus teaching have the same content and the same goals, but only the modes of learning are different. There are only didactic arguments for why and how to use digital tools. TUC conducted a pilot study last year on digital exams. The aim of the project is, first, to develop routines and to test systems to make exams fully digital, and, second, to enable students to take their exams digitally including their oral exams. This project was a joint project with the University of Agder³⁴. Both students and teachers were pleasantly surprised with the use of digital exams. TUC's plan was to gradually increase the number of digital exams, but since they got such a positive feedback from both students and teachers, they will speed up their work with digital exams.

e@HiT has courses in the educational use of various digital tools. Resource persons at e@HiT travel to various campuses and engage the staff that has been at the forefront of the use of various digital tools. TUC is building up resources which will help all staff to find the information they need through web sides, wiki for e-learnings and blogs, which apply both to online and on campus teaching³⁵.

The biggest challenge for implementation within new forms of learning on campus is, according to the informants, the staff, time and competence. One informant says that there is a willingness amongst the staff to learn about it, but it takes time. There has been a healthy skepticism too; it is not technology for technology's sake. However, those who master the technology in general are more positive to the use of digital tools. TUC has arranged so-called "competence days" that are open to both online teachers and on campus teachers, only held by staff members. They also have "crash course" days that take places in webinars to make it easier to get all the staff to participate and where resource persons share their experiences across faculties and campuses. On "crash course" days the staff can "shop" among various courses. TUC only use their own employees' experiences with flipped classroom, pedagogical use of blogs, the use of wiki, new evaluation forms, training

³⁴ <http://www.hit.no/eng/HiT/E-learning/E-learning-at-TUC/Digital-exams>

³⁵ <http://www.hit.no/eng/HiT/E-learning>

films and a collection of completely hands-on pedagogy experiences. According to the informants, these courses are very popular, and TUC will continue arranging them.

When it comes to the question about research on new forms of learning and teaching, the informants say that it is on the agenda. They have created a group that will work specifically on that and have decided that there will be a research fellow responsible for e-learning. One informant says that they have a tremendous amount of empirical data, but little research.

Regarding the question about incentives that will promote new forms of teaching, the informants emphasize that the requirements must apply to pedagogical competence, and not only requirements to digital competence.

5.3 Focus on open and flexible education

As mentioned earlier, Telemark University College wants to be at the forefront in the field of flexible online courses, e-learning and the use of new technology. This year TUC has approximately 1500 online students, and they are expecting about 2000 online students next year. The informants emphasise that the aim is that TUC will deliver equally as good education online as on campus, and to do so the teachers need a solid increase in their competence rising and to understand the possibilities of new technology.

Telemark University College has a strong commitment to increase the use of online courses, and to use e-learning and ICT to support their regular programs. TUC's strategy is to increase the use of ICT in teaching and to build pedagogical and technological competence in the organization through courses and training. There are several exciting development projects going on in the field of e-learning. Telemark University College has received economic support from Norway Opening Universities for a number of projects, for example to develop new study programs. TUC is working on different projects, for example in the field of digital exams.

Through e@HiT calls for project funds are announced for employees who want to develop new ICT-based study programs or want to try out new technology in teaching and assessment. TUC has a long and extensive experience in offering online courses, e-learning and pedagogical use of ICT. The university college have invested in rooms, technology and knowledge related to these topics. In part, this is due to the geographical distances between the campuses and the fact that synchronized online courses is already offered.

The use of ICT tools on campus has increased. This development has primarily been driven by the faculty staff and resource persons and the IT service has been involved in this effort. IT has taken over the responsibility for key tasks such as operating rooms used for e-learning and they are increasingly involved in support services. The challenge with this

binary solution between faculty and IT are many, and the need for a holistic service is distinct. Their efforts the recent years have revealed a need to assess and clarify among other tasks, staffing, skills needed, responsibilities and role distributions. As a result of a discussion in the management team a mandate for a study group to consider and recommend new organization of the University College's commitment to e-learning was developed.

Telemark University College has a number of programs taught on campus, as well as many online courses. Digital tools are a prerequisite for the study of online courses. For on-campus programs digital tools are also a natural part of the teaching. Studying online, however, offers flexibility. Asynchronized studies offer study possibilities that are not determined by geography or time, while synchronized studies offer lectures in real time.

TUC offers different ways of organization of the distance learning programs, and makes a distinction between asynchronized and synchronized online teaching. Some courses are based mainly around asynchronized teaching and self-study. An asynchronized course means that you can decide to a large extent when you would like to study. Learning resources such as sound files, documents and recorded lectures are available in Fronter and the media server, and you can access them at your own pace. Teaching a synchronized course means that it happens in real-time. At the Faculty of Art, Folk Culture and Teacher Education many courses use synchronized teaching and supervision. By using new technology, like OmniJoin, Adobe Connect etc., the teaching can be done in real-time for both sound and picture. This offers flexibility and close relations between students and teachers, even though they may be physically far away from each other. The technological solutions make close dialogue, discussion and cooperation between students themselves and between students and their teachers possible. But this way of teaching is less flexible with regard to time, because students have to log on at fixed times each week. However, this way of teaching makes it easier for the students to have a better continuity and progress in their studies. This form of teaching is especially important to the Teacher Education programs and in other programs where dialogue and cooperation with other students are essential.

According to the informants, there is more cooperation among the employees, who work with digital and online studies, compared to those, who do not, and there are several reasons for it. One of the main reasons is that online teaching requires a dialogue with other teachers who teach online.

But online teaching is extremely vulnerable, when technology fails. The video conferencing system has previously been very stable, but it was upgraded to be cloud-based, and TUC experienced problems with the deliverability to online students. TUC has struggled with this, but it is now stable and up and running.

According to the informants there has not been a tradition to open all videos to the public, but it is open for all students who are in a study program. The teacher can decide which students and how long they can have access to the videos. At TUC, teachers can choose whether it should be open to all students or not. This is also related to the rights and what kind of agreements that must be in place. There is a wish for transparency, but what is most important is that students get the best resources. The aim is, however, that there should be more openness.

On behalf of the Faculty of Art, Folk Culture and Teacher Education (EFL) at TUC, the Nordic Institute for Studies in Innovation, Research and Education (NIFU) has conducted a follow-up research project related to the introduction of online education for the General Teacher Education (programs 1-7 and 5-10). The aim has been to consider how online General Teacher Education works when it comes to relevance, quality and professional installation both theoretic and organizationally.

The main conclusion is that online General Teacher Education offered at TUC is functioning well. This education reaches out to a student segment which other flexible/online General Teacher Education fail to reach. The students are adults, and women dominate, and the students come from all over the country. Both cities and rural areas are represented. The students perform as well or better than on campus students at TUC and dropout rates are low. According to the online students they would not be able to take an education if it was not offered online. The online General Teacher Education at TUC is in other words decisive for the recruitment of the students. A well-functioning technological infrastructure enables weekly online lessons in real time at fixed times and days throughout the academic year.

5.4 Focus on international education

Higher education institutions in Norway today are expected to offer opportunities for students and staff to take part in international exchange programs. It is also expected that universities and university colleges are active in different international networks. TUC has identified internationalization as an important and integrated aspect of their study programs.

Bachelor and master degree students will, as far as practically possible, be offered the opportunity to spend 3 to 12 months (usually one or two semesters) as an exchange student at an international partner university as part of their regular TUC degree programs. This principle also applies to international degree seeking students at TUC. For some programs it may be difficult to incorporate a full semester abroad. TUC, however, belongs to several international Nordic and European networks offering intensive programs and opportunities to go abroad for a shorter period of time (often 7 to 10 days). Also some

students may do part of their practical training abroad, often for a period shorter than 3 months.

The academic staff is encouraged to engage in international networking, and the TUC International Committee offers funding for such activities. Universities and university colleges are encouraged to join forces to establish joint degrees, joint modules or double degrees and thus gradually be able to offer more extensive academic opportunities than one single institution could possibly do. TUC is at the moment involved in the development of two international joint degrees. They are confident that international cooperation will improve the quality and the extent of academic programs and give students and staff the opportunity to experience international work and cooperation under foreign cultural and environmental conditions.

There are many international students enrolled at TUC, as well as many Norwegian students with a different cultural background. TUC hopes that this diversity will contribute towards an exciting and fruitful learning environment on all their campuses. While globalization is the big challenge of our time, internationalization is one of the important tools to handle this challenge. TUC wants to work continuously to expand the international relations to improve the international dimension in the academic programs, and to encourage all the students to do part of their degree as an exchange student abroad, or alternatively, to get engaged in international work - for instance by participating during International Day on campus, to become a student mentor for international students or to partake in other internationally oriented activities while studying at TUC.

TUC's International Committee (IU) is appointed by the Rector and has an advisory role to the Board and TUC's leadership in matters regarding international cooperation. Internationalization is regarded as a strategically important area, and the role of the IU is to promote all aspects of internationalization at TUC. IU meets 3-4 times per semester according to a fixed schedule for each academic year.

The Vice Rector for Research, who is also in charge of international collaboration, serves as IU's chair person. IU's other members are appointed among the members of the faculty and the students. Administrative contact persons have the right to attend IU's meetings with the right to speak, but not to make proposals or vote.

The responsibilities of IU include giving advice on issues and matters launched in order to implement the goals in TUC's Strategic Plan, to voice their opinion regarding plans and financial matters relevant to internationalization and otherwise to promote the international perspectives in TUC's education and research. Furthermore, IU should contribute to the building of international networks within education as well as research in order to give TUC's students and faculty the opportunity to take part in international exchange and other academic activities with international partners. IU also gives advice on

the allocation of means allotted by the Board to promote internationalization, as well as advice on other administrative matters with relevance to internationalization.

TUC has several master degrees, which are taught in English. In addition, an online master degree is offered at the Faculty of Technology.

TUC's "Strategic Plan 2010-2015" states that internationalization in various forms should be an important part of the academic activity at TUC, and that TUC should have an international educational cooperation that contributes to increase the quality of education. According to the informants, the most recent international collaboration projects with external funding, (often through The Norwegian Centre for International Cooperation in Education (SIU)) have components of e-learning as a part of the project. Here are some examples of different projects:

- The Russian project by the Faculty of Arts and Sciences (funded by the Ministry of Foreign Affairs and SIU)

This project will use e-learning more deliberately in developing curricula and educational seminars. Representatives from TUC will hold an educational seminar in Moscow in March 2015 where they will use e-learning as an instrument of teaching, for example, "screencast-o-matic" to record lectures in advance with the intent to create an "inverted classroom". Alternatively, use "Kahoot" for interactive polling. Furthermore, they try to create joint courses that adopt technical tools for exchange between universities and university colleges. In addition, they have developed a concept that they call 'Learning Lab', a classroom with technical equipment at the Russian State University of Tourism and Services in Moscow that can be used for direct Skype contact with a Norwegian ski centre for supervision, which is also a way to promote Norway as a tourist destination.

- Two projects in India funded through the Indo-Norwegian Cooperation Programme in Higher Education and Research (INCP)

For several years TUC has had projects in India. They have had exchange students and several of the teachers have been visiting either in Panchgani, which is a village in the mountains south of India or the Pune University. The Faculty of Arts and Sciences also has a longstanding partnership with the Pune University and has currently four Ph.D. students from Pune through the quota program. In 2014, two projects at TUC were awarded funds through INCP. Both these projects and the collaborations with the University of Pune require that TUC create a platform for effective communication between the two institutions. Staff engaged in e-learning from TUC was, therefore, recently in Pune to examine how to improve the possibilities of e-learning between Pune University and TUC.

Regarding the question about arrangements and incentives with regard to new modes of teaching and learning which would support international education, the informants say

that it is important that contracting authorities (SIU, Ministry of Foreign Affairs, Norad , European Commission and so forth) are opening up funding where online teaching has a main focus, and that Norway Opening Universities (NOU) are encouraging international cooperation in “pure” e-learning projects.

TUC is continuing their focus on e-learning and the integration of e-learning in their study programs. By increasing the focus on online courses at their partner institutions, TUC must raise the quality of their own study programs by providing more individual topics, by using contributions from lecturers/experts from other institutions, and by providing their own online courses to partner institutions abroad.

According to the informants, Pune University wanted to build asynchronous learning resources (MOOC). Pune University is located in Maharashtra, which has 110 million inhabitants and has a great need for education. The informants think that it is essential that TUC use their experience with e-learning and online teaching in their cooperation with Pune University and aim to build a network during 2015.

TUC has sent an application for Erasmus+ where the main focus is on e-learning, and on developing digital textbooks and new teaching methods. Expected results are the following:

- An E-learning textbook in European Aquatic Ecology including a collection of key lectures (videos) in aquatic ecology and demonstration films about different aquatic environments and fieldwork in aquatic ecology.
- Master courses shared by e-learning, environmental risk assessment and risk management, sustainable water resource management and aquatic bio indicators.
- Joint curricula, digital lectures and study material, video demonstrations of sampling methods. The courses will be offered twice.
- Joint field course in aquatic ecology, intensive course with curricula, course material, field course program from Spain and Scandinavia. Field course reports and video films.
- Advanced Practical Course for Ph.Ds or Early Career scientists. (Course description with time schedule and scientific content including sampling procedures, sample treatment and methods for analyses, lists of necessary laboratory and field equipment, reference lists for taxonomic identification etc.). The course will be offered in July 2015 and July 2016.
- Better knowledge of methods and tools for digital learning at the three partners both teachers and students.
- Learn from the other partner’s new teaching methods.
- Better language skills of students and teachers.
- Open some of the material to Spanish speaking population outside Europe.

- Increased communication and cooperation with businesses in the regions and a better adaptation of study program to the needs of water companies.

Other International Projects:

- WaSo Africa/Asia funded by The Norwegian Programme for Capacity Development in Higher Education and Research for Development (NORHED). Use of e-learning by guiding the students, and to develop online based courses that TUC can give to the eight partner institutions in the south (4 in Africa and 4 in Asia).
- Joint degrees ("Alpine Ecology" and "Cultural Leadership" with the University of Borås and the University of Copenhagen). The use of e-learning by guiding the students, and to develop online based courses that TUC can give to the three partner institutions.

The informants express that it would be helpful to apply for funding on international projects that have lower degrees of mobility, particularly for projects that involve a high degree of e-learning. Furthermore, it would also be appreciated if universities and university colleges would get funding for shorter stays abroad. As of today, Norwegian universities and university colleges only get financial "remuneration" for student exchange lasting more than three months.

5.5 Focus on institutional policy: vision, strategies and frameworks

TUC has developed a strategic institutional plan for online/blended courses, which is a part of the e@HiT project, and a necessary and important part of it is that both old and new employees can teach courses online. The employees get this knowledge through training courses, where TUC mainly uses their own experts, but also bring in external experts. There are training courses online in addition to supervision and seminars available to all teachers.

TUC also builds up "expertise packages" for teachers, students, and new employees so that everyone can get a common platform. TUC tries to flip their own courses, and according to the informants it is important that both students and staff have the resources to study on their own before they get any follow up guidance. The informants emphasize that it is important to have a good support system. The resources developed for online teaching will also be used on campus.

TUC is working towards a more transformed form of learning, where both digital and didactic resources are used. According to the informants, TUC is not quite there yet, but is getting there, since transformed learning systems is the future. Transformed forms of learning are becoming more widespread and in the future the differences between online and on campus education will be less visible than today. The informants also pointed out a

number of challenges related to hybrid teaching. One challenge is that campus students will be few and form a small social environment. At campus Notodden the on campus students are taking classes with online students. On campus students and online students often have different expectations which can be challenging in a teaching situation. This is especially a challenge in hybrid classes, and TUC has introduced measures to campus students at Notodden. These measures are, for instance conversations, additional academic supervision and clearer information to new students. In the future TUC will introduce more measures that are not necessarily directed towards on campus students, but whose focus is to develop TUCs teaching as a whole which will benefit all students.

The informants reflected over the fact that the students are a mixed group. What, for example, is a good learning platform for the 19-20 year old? They may be challenged by more experienced online students. Perhaps the classic form of learning is best for them? There is also a disparity with regards to the number of students, but also with regards to expectations and age.

According to the informants, the online students at Notodden delivered consistently better than or as good as on campus students, when they used external sensors.

TUC's future perspective is that they are developing a strong academic environment. The aim is that one campus can serve another campus and also online, so that TUC creates a larger academic environment. According to the informants, there are no real barriers to work towards flexible education, but any barriers are more related to capacity.

According to the informants insight and a common understanding throughout the organization are the keys to success for flexible education. TUC has had many motivations rounds, but during the last two or three years, there has been a change. Earlier we got questions like "why should we do it?" one informant said. Now, almost everyone wants to learn it, and the students are motivated too, which give the teachers an inner motivation to improve their online teaching.

The informants say that online teaching is now being recognized in official educational policy. When TUC started with Teacher Educations online, it was not recognized. There was also scepticism from the ministry, TUC were asked if the online courses were good enough and whether online education was a good learning method. Then it suddenly turned around and TUC was invited to speak about their online courses. Within two years, the same people who were sceptical, became more interested and wanted to know and learn more. TUC has been asked both by other universities and university colleges, as well as ministries to share their experiences with flexible education.

The procedures for quality assurance are the same for online as for on campus studies. They have their own evaluation forms and questions related to online and on campus

teaching. TUC has some challenges when it comes to quality assurance of different practical placements but is currently working on a solution on this challenge.

5.6 Focus on students

Interviews with three students attending online courses

Two are bachelor students, one is attending the General Teacher Education level 1-7, the second is attending the General Teacher Education level 5-10. The third student is attending the master degree in Art and Design.

All the online students have families and live elsewhere and would not have taken a higher education, if it wasn't possible to pursue it over the Internet. The students are very satisfied with the online teaching and the implementation of the program.

The master student says that there are weekly lectures and group assignments, and that they were divided into groups, which was positive since it has contributed to a unity among the online students. Group assignments can be challenging when it comes to find a time that fits everyone in the group. There have also been some gatherings on Campus Notodden, on one of the first gatherings they received training in the use of the online education networks.

The bachelor students are attending the General Teacher Education, and they also have weekly lectures and are taking exams online. They have also been divided into groups, and work together online. One informant said that although they rarely met their fellow students physically, they felt a close relationship to them, but the informants said they felt lonely sometimes.

The informants told that some of the subjects were blended learning, and that it worked well for the online students. They thought it was worse for the on campus students who attended the lectures, since the teacher had to sit very quietly in front of the camera and not use much body language. Body language does not work, when it comes to online teaching. The informants did not recommend the teachers to use extended body language in online teaching, since teaching online is, according to one of the informants, an art form.

The informants say that if there are many students who attend the lectures online and if you wonder about something, you have to write your questions on a chat. Then the online students are dependent on the teacher following the chat continuously, otherwise the questions will be out of their context. Some teachers handle this fine, others are new and need to get used to it. The teachers need to be available through e-mail, and to respond quickly, since the online students cannot raise their hands to ask questions after the lecture

is over. They claim that the threshold for contact with the teacher is higher than if they had been on campus students.

According to the informants, there is a difference in terms of the suitability of some subjects taught online. Some subjects are easier to follow online than other subjects. Norwegian is, for instance, easier to learn online than mathematics. Many experience challenges with mathematics in General Teacher Education and it is also challenging that the teacher is located another place. There is a challenge to get the supervision you need with regard to specific assignments and may be a challenge. Theoretical subjects are easier to learn online than practical subjects, and TUC does therefore not offer specialization in gymnastics online.

All the informants had previously been on campus students, and they experienced that the quality of online education was as good as on campus education. The difference is that online students have to be more independent and well organized.

Our informants had the following recommendations to the TUC and to those who teach online. Teachers must check out the chat and answer questions quickly, otherwise, the questions will soon be out of context. They recommend TUC to promote online education in a better way, since there are many who live in rural areas and who do not know that it is possible to take higher education online. The informants believed that online education is the future, mainly since the students do not have to travel or move from their families.

Interviews with two bachelor students on campus

Both students are attending bachelor degree in nursing full time over three years.

The informants were satisfied with the teaching and implementation of their study program. According to them it varies how good the teachers are. They say it is important that those who teach also understand how it works in the practice field. Some of the teachers have not been in the practice field for a long time, and the students notice that.

Studying nursing involves a lot of individual work as well as group work. Most of the teachers use PowerPoint and some follow them slavishly. The informants feel that they could easily read them themselves, since the teacher also posts them on Fronter after the lecture is done.

According to the informants, there are sometimes discussions on Fronter, but it depends on the subject and how active the teachers are. Sometimes the teachers post films of the lectures together with other films on Fronter. The informants appreciate that the teacher posts different videos online, especially if the subject is difficult, and it is good to have the subject explained in various ways by using flipped classroom on Fronter. The quality of the videos differs and the students recommend that the teachers get more training in editing

videos. Some teachers use Kahoots in their lectures, and the students may test their knowledge of subject matter, and they are also more active in class.

The informants could not have taken the nursing education online, since there is so much practice in the nursing education and even much of the theory is practice. They express concern with regard to some of the teachers who do not master digital learning methods. In some of the subjects there are part-time students on campus resulting in specific challenges. The biggest challenge is the average age of the part-time students on campus, since much of the time in the lectures goes into to facilitate the part-time student which is negative for the full-time on campus students. Overall the informants recommend that the teachers get more training in the use of digital learning tools and they want more variation in the way the lectures are carried out and in the use of PowerPoint.

6 USEFUL INTERNET ADDRESSES

- Norwegian Ministry of Education and Research web site: www.regjeringen.no/kd
- Main site for incoming students: www.studyinnorway.no
- Norwegian Universities and Colleges Admission Service : www.samordnaopptak.no
- The State Educational Loan Fund: www.lanekassen.no
- The Norwegian Agency for Quality Assurance in Education: www.nokut.no
- Norway Opening Universities <http://norgesuniversitetet.no>
- Flexibel education Norway: <http://fleksibelutdanning.no/om-fun/english/>
- UNINETT AS <https://www.uninett.no/en>
- The Norwegian Association of Higher Education Institutions (UHR):
<https://www.uninett.no/en>

Changing the Pedagogical Landscape

New ways of teaching and learning and their implication for higher education policy

On the demand of the EU Commission Norway as one of eight countries was asked to report on the development of new ways of teaching and learning with a focus on the increased use of technology and its implications for higher education. Firstly, we give an overview of the higher education system of

Norway, next we present the Norwegian Official Report "MOOCs for Norway" and its main recommendations, and thirdly, we introduce three intermediate agencies and their contributions in promoting technology in higher education. Finally, we close with a presentation of case studies of the University of Agder and the Telemark University College and their work within the field of new digital learning methods. Summing up, we conclude that Norway is fortunate in having an official report with policy recommendations for an open and online higher education, which need to be followed up with financial resources. While some of the higher education institutions have much experience with distance education and have done some progress within the field of new digital learning methods, there still remains much to be done.

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