Tampere University of Applied Sciences

Technology and Student Engagement in Online/Blended Degrees

(Case: Oulu University of Applied Sciences and Tampere University of Applied Sciences)

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Master's Thesis
November 2020
Master's Degree Programme
Educational Leadership

ABSTRACT

Tampere University of Applied Sciences
Master of Business Administration in Educational Leadership

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Technology and Student Engagement in Online/Blended Degrees
(Case: Oulu University of Applied Sciences and Tampere University of Applied Sciences)

Master's thesis 74 pages, of which appendices 2 pages
November 2020

As online courses and online/blended degrees are gaining popularity globally, the authors of this thesis chose the topic of looking into the development and implementation of online degrees in case universities. The purpose of the thesis was to gain insight into the success factors for online and blended degrees, with the focus of EdTech solutions and guiding students throughout the studies. The topic was chosen due to its globally current status, and interest for the authors at a personal level. Both authors had experience in studying in an online/blended degree program, as well as participating in online study modules.

The research objectives of the thesis were to compare and discuss the issues relating to successful online/blended degree education in example Universities of Applied Sciences in Finland and to identify common success themes in building and implementing online/blended degrees from the viewpoint of professionals inside the UAS.

The main research question was "What are some of the success factors when it comes to guiding students through their online/blended learning journey and choosing the supporting Ed-Tech Tools?" The studies in this thesis were conducted as basic qualitative research. By using semi-structured interviews, the authors were able to gain valid insight into the issues presented in the interviews. The results from the interviews presented the authors with common themes that were thematically analyzed. Among the main themes that rose were careful and well-timed planning phases, adequate resources for development, student involvement, active participation and choosing the right tools for online learning environments.

The conclusion of the research was that the popularity of online- and blended learning will keep on rising. When it comes to the future, universities' challenges lie in funding, having enough resources and competent staff at their disposal.

Keywords: online learning, blended learning, distance education, online degrees, blended degrees, virtual learning environment, Ed-Tech tools, online guidance

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ABBREVIATIONS AND TERMS

LMS	Learning Management System
OAMK	Oulu University of Applied Science
OCL	Online Collaborative Learning
TAMK	Tampere University of Applied Sciences
UAS	University of Applied Science
VLA	Virtual Learning Environment
VOO	Verkko-ohjaaja - Opas ohjaukseen sekä tieto- ja neuvontatyöhön verkossa

1 INTRODUCTION

Online courses and distance education in general are becoming more and more popular, with an increasing number of students deciding to follow programs delivered by this method, rather than participating in traditional studies. In this thesis we aim to look into some success factors for online and blended degrees, with the focus of EdTech solutions and guiding students throughout their studies.

This thesis will have a strong link to actual online/blended degrees implemented in Finnish Universities of Applied Sciences at the moment; by using case examples from Tampere and Oulu Universities of Applied Sciences we aim to provide a view into the actual everyday life in an online/blended degree.

As the popularity of these kinds of degrees keeps rising, especially with the current COVID-19 pandemic, the authors see this thesis as both timely and interesting.

Structure of the thesis and research plan

This thesis is titled Technology and Student Engagement in Online/Blended Degrees (Case: Oulu University of Applied Sciences and Tampere University of Applied Sciences)

The thesis consists of two parts;

1. theoretical part which introduces the reader to online- and blended learning, and presents theories linked to it, with the focus being on student's guidance and Ed-Tech tools
2. empirical research conducted as professional interviews.

The reasoning behind choosing this topic is its globally current status, and interest for us at a personal level. We both have experience in studying in an online/blended degree program, as well as participating in online study modules. We also have access to case Universities of Applied Sciences' (UAS)

expertise and know-how on these issues.

The topic of our thesis will be broad enough to be used as an example guide when planning on implementing blended/online degrees. We see that our paper could be useful for those that are interested in online/blended programs and wish to gain some insight on improving their existing degrees or implementing them for the first time.

Thesis objective, purpose and research questions

The research objectives of our thesis are

1. to discuss the issues relating to successful online/blended degree education in example Universities of Applied Sciences in Finland.
2. to identify common success themes in building and implementing online/blended degrees from the viewpoint of professionals inside the UAS. The focus of the research is on EdTech solutions and student guidance/counselling throughout the studies.

The purpose of the thesis is to provide insight into the current era of UAS degree education; why the change to online/blended education is blooming, and how the successful online/blended degree programs are developed.

Our research will be focusing around the theme of implementing online/blended degrees - why are they relevant today, and how to deliver them successfully. Supporting this theme, we ask what are the challenges UAS's and their staff face when delivering online/blended degrees, what is the role of instructor/teacher/program manager in online/blended degree programs and how can the students' motivation and study completion be ensured through the studies. We will also look into what are the most effective EdTech solutions to support different online learning environments.

The main research question is:

1. What are some of the success factors when it comes to guiding students through their online/blended learning journey and choosing the supporting Ed-Tech Tools?

2 INTRODUCTION TO ONLINE AND BLENDED-LEARNING CONCEPTS AND TERMINOLOGY

In this chapter we will present and discuss some of the theories linking to our research on online/blended learning. The theoretical framework presented here was chosen to support our points of interests as well provide a base for our research.

Introduction to theory of online and blended learning in a higher education context

Trends related to Information & Communication Technology (ICT) are affecting all areas of our daily lives - we communicate differently than before; we shop and work in a different manner thanks to technology. The popularity of technology also reached the field of education. High number of universities and universities of applied science offer some courses or even entire programs online, blended-learning or flexible, which helps them reach the more diverse group of prospective students.

During writing this thesis, however, new unexpected circumstances forced most of the universities worldwide to deliver courses online. COVID-19 unexpectedly changed the way class and courses delivery had to shift without much preparation.

In this chapter of our thesis we will present a theoretical background which is a base to understand how to effectively select and implement technology for online education. Understanding learning theories used for online education will also help us to support the psychological aspect of students to avoid drop offs which are more likely to happen when studying in a virtual learning environment (VLE) than with traditional face-to-face programs.

Changes in higher education leading towards online learning

Online and distance learning in higher education was first introduced in the mid-last century. However, only in the last few decades following the introduction of the Internet, online education has become more popular. (Harasim 2000.) Although traditional face-to-face education is undoubtedly the most popular way for learning and teaching degree programs, there are an increasing number of those delivered in online or blended learning.

Higher education is undertaking profound change which can be described as moving from passive teacher-centered approach to a transactional collaborative approach (Garrison & Vaughan 2008). There are a few reasons impacting current changes in online higher education.

Kirkwood and Price (2012, 13) are also listing three different type of changes:

> The first type of change concerns the nature of knowledge, teaching and learning process (epistemology, learning and pedagogy). Another type of change refers to the means by which the teaching and learning take place (face-to-face or technology mediated). The third type of change refers to the organizational structure of higher education.

Increasing innovations and changes in information and communication technology (ICT) is one of the main elements which support the shift in higher education. It allows new online approaches but requires more effort to effectively implement to teaching and learning. (Garrison & Vaughan 2008, 144.)

Other changes are taking place internally within the academic institutions. Institutions are constantly forced to focus more on cost-cutting as budgets are being decreased. Academic institutions are standing in front of a dilemma where the fundings are being cut but the quality needs to stay on the highest level. (Garrison & Vaughan, 2008 144-145.)

Another change in higher education is that traditional methods of teaching and learning are not always up to the best standards and the quality suffers. They might be better more effective ways to address changing knowledge and communication-based society. (Garrison & Vaughan 2008, 145.)

Another predicted change is that the courses will not anymore be offered by tens of thousands of local and national universities, but rather by a few hundred institutions operating on a global scale. (Olofsson & Lindberg 2012, 13.)

History and current state of online learning

The first distance learning programs started about 125 years ago. Those were correspondence programs in higher education delivered by postal services. The first distance learning courses were utilizing tapes, radio or television-based learning. It took a few decades before universities started to use technology as we know it in their online courses and programs. (Craig 2015.)

In 1981 the first fully online adult education course was implemented and began. A year later, a fully online program (executive education) started at Western Behavioral Sciences Institute (WBSI). In 1984 marks the first online undergraduate courses were introduced and the following year - graduate courses. 1986 was a year when the first online degree program started (Harasim, 2000, 43).

1989 is a game-changing year as the Internet was launched and the very first large-scale degree program started at the Open University in the UK (Harasim, 2000, 45). The same year in the USA, University of Phoenix introduced both Bachelor's and Master's degree online courses (Online Schools n.d.).

Currently, numerous universities worldwide offer various Bachelor and Master degrees programs courses either fully online or blended-learning. Students can choose to complete their studies as full-time or in more flexible arrangements as part-time studies.

TABLE 1: Degree programs available as per April 26, 2020 on StudyPortal.com (Walasiewicz A. & Ylitie H)

	Total	Traditional delivery (On-campus learning)	Online learning (fully online)	Blended-learning
Bachelor's Degree - Global **(Full time/Part-time)**	**87320** **7123**	**86051** **6033**	**2102** **1634**	**651** **246**
Bachelor's Degree - Europe **(Full time/Part-time)**	**23720** **4075**	**23403** **3532**	**273** **527**	**104** **41**
Master's Degree - Global **(Full time/Part-time)**	**65148** **19949**	**61561** **16146**	**4419** **4289**	**1699** **735**
Master's Degree - Europe **(Full time/Part-time)**	**25557** **12298**	**24980** **10468**	**635** **1782**	**279** **332**

Table 1 is presenting the current number as of April 2020 of available courses and compares numbers. Some courses might have been added to both categories in the StudyPortal and therefore some of the numbers do always add up. Although traditional delivery represents the highest number of available courses, there are many, especially part-time courses that are fully online or blended. Looking at part-time Bachelor degree courses in Europe, 86,6 % are delivered on-campus, nearly 13% -online and less than 0,5% - blended learning. When it comes to Master's degree full-time courses globally, 94% are on campus, 6% are online and 2,5% blended. If we compare it to Master part-time globally, traditional delivery will be 76%, 20% - fully online and 4% will be delivered in blended learning. Still, the majority of studies are delivered in the traditional way, on campus. It seems to show that part-time studies are more likely to be completed online than full-time.

Demographics of students change and are more diverse than it used to be. Students start with high school education later and due to a popular concept of long-life learning and job market changes, adult learners return to the universities as well (Madden 2019, 1). Fully or partly (blended learning) online courses and programs are becoming popular among a few different groups of students. First group are people based in remote locations where access to universities could be limited.

Second, is a group of adult professionals who are on their career path and either plan to change their career or aim to upgrade in a current role.

Third group of students are where most of the current students belong. It is the generation of Digital Natives also known as Net Generation and Millennials. As per Kukulska-Hulme and Jones (2012, 77) digital natives are people who know and are familiar with digital technology all their lives. They grew up with computers, mobile phones and the Internet. Those who were born before technology became such an integrated part of our lives are called digital immigrants. They had to learn it at the later stage of their lives rather than digital natives who were born with those technology highly integrated in their daily activities.

2.1 Definitions of terms in online and distance learning

As per Mohamed Ally there are several terms utilized for online learning, such as e-learning, Internet learning, distributed learning, networked learning, tele-learning, virtual learning, computer-assisted learning, Web-based learning, and distance learning (Ally 2004, 2). However, the most common terminology in the field of our research seems to be unquestionably - online learning. Ally (2004, 2) states that the meaning of all above mentioned terminology is that the student is based not in the same location as the teacher or instructor and technology is utilized for teaching and learning. The interaction with learner and teacher or learner and other learners happens using means of digital technologies.

The concepts which often were used together with online education are that this way of teaching and learning increases learner engagement, active learning and it's based on a learner-centered approach. However, the researches show that technology "supplement or replace prevalent didactic teaching practices (for example lectures)." (Kirkwood & Price 2012, 14.)

According to Kirkwood and Price (2012, 14), technology-enhanced learning means either/or:

- "Providing more teaching, often intended to compensate for reduced contact time or larger class size"
- "Curriculum and teaching approach has been redesigned to increase learner's opportunity to achieve greater 'self-direction' by exercising more control over their own learning activities".

As seen in the Figure 1, blended learning combines face-to-face and online learning experience (Garrison & Vaughan 2008, 5). As per Garrison and Vaughan:

> Blended learning is not an addition that simply builds another expensive educational layer. It represents a restructuring of class contact hours with the goal to enhance engagement and to extend access to Internet-based learning opportunities. Most important, blended learning is a fundamental redesign that transforms the structure of, and approach to, teaching and learning.

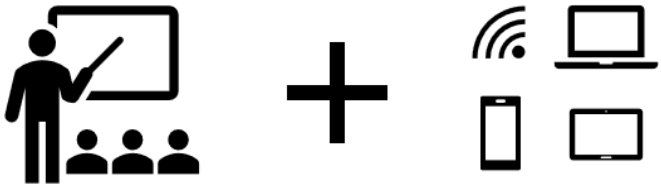

FIGURE 1*:* Blended-learning components

Garrison and Vaughan (2008) emphasis that courses delivered in a blended-learning method should be designed in a way to ensure student engagement. However, designing blended-learning courses gives flexibility and countless possibilities. It requires a different approach to the design of traditional face-to-

face classroom courses. Moreover, there is a need to reassess teaching and learning transactions as well as how students learn. (Garrison & Vaughan, 2008.)

The questions of how many hours should be spent in a face-to-face interaction in comparison with the online learning seems to be irrelevant. The most important in a thoughtful blended learning is that traditional lectures and online will enhance each other and create a new integrated learning experience.

Garrison and Vaughan (2008) distinguish the differences between learning activities in traditional courses and those delivered online.

> Blended learning is an approach to educational redesign that can enhance and extend learning and offer designs that efficiently manage large classes. It represents a distinct design methodology that transcends the conventional classroom paradigm. The portion of face-to-face and online learning activities may vary considerably, but blended learning is distinguishable by way of the integration of face-to-face and online learning that is multiplicative, not additive.

As per Madden (2019, 2) “blended learning shifts the role of the instructors from a transmitter of content to a facilitator of learning”. The role of instructor changes in the blended learning environment in comparison with the traditional face-to-face studies. In the correctly designed online program technology is supposed to enhance learning experience rather than only being a tool to deliver learning experience.

Definitions of online and blended degrees used in the thesis

The recommended definitions of online and blended degrees are given by eAmk (2018) as follows:

An online degree refers to a degree that is completed wholly online. Online degree studies can consist of live online meetings, interactive individual or group projects, and guided studying. Some of the online meetings might require student’s live presence, but other than that most of the studying can be individually scheduled by the student. Online studying isn’t tied to a certain space or time, apart from certain learning platforms decided by the teachers.

Blended degree refers to a degree that consists of different ways of studying. Blended degree can have both contact- and distance teaching at campus or in an online environment, and guided individual and group-based studying in both instances. Working online might happen in real time with set timeframes, or freely according to the student's own schedule. (eAMK 2018.)

2.2 Online and blended learning in learning theories

Although formalized learning is about 1000 years old, learning theories started to be introduced only in the 20th century. It all started with the field of educational psychology. (Harasim 2011.)

As stated by Ertmer and Newby (1993, 51) "learning theories provide instructional designers with verified instructional strategies and techniques for facilitating learning as well as a foundation for intelligent strategy selection". They are serving us as guidelines to the design, implementation, delivery and assessment of courses curriculum.

Behaviorism

The first of the learning theories was behaviorism, which as per Harasim (2011): "focuses on that which is observable: how people behave and especially how to change or elicit particular behaviours". This theory was "empirical, measurable and observable" (Harasim 2011).

According to Siemens (2005) Gredler stated (2001) that behaviorism is:
"comprised of several theories that make three assumptions about learning:

1. Observable behaviour is more important than understanding internal activities
2. Behaviour should be focused on simple elements: specific stimuli and responses
3. Learning is about behaviour change."

In this theory the learner is passive and just responds to the external environment. The learner starts off as a clear page (tabula rasa) and is shaped by the external reinforcement.

Instructional objectives are important in behaviorist learning theory. Writing learning objectives from a behaviorist perspective is focused on what changes in behaviour the learner can demonstrate. The goal for the learner is to master “a set of behaviours that are predictable and therefore reliable”. (McLeod 2003.)

Cognitivism

Another learning theory that can be seen as relevant for online and distance learning is cognitivism. The cognitivist approach began to interchange behaviorism in the 1960s as the dominant paradigm. In this approach, people are seen as rational beings that require active participation in order to learn, and whose actions are a consequence of thinking. Cognitivism uses the metaphor of the *mind as a computer*: information comes in, is processed, and this leads into certain outcomes. (Learning Theories 2020.)

One of the main hypotheses of cognitivism is that an existing knowledge structure needs to be present in order to compare and process new information for learning, and therein lies also the weakness of cognitivism. Whereas existing knowledge structures help to make learning more meaningful, a learner is at a disadvantage whenever these relevant schemas or prerequisite knowledge do not exist. (McLeod 2003.)

With this notion, McLeod (2003, 4-5) argues that it is imperative for instructional designers to thoroughly analyze and consider the appropriate tasks needed in order for learners to effectively and efficiently process the information received. Designers must consider the relevant learner characteristics that will promote or impede the cognitive processing of information.

In the instructional designing process that leans on cognitivism the learner is seen as the focus of the process. Cognitivist learning perspective facilitates

instructional design as it's based on an objective view of knowledge transfer. (McLeod 2003, 4-5.)

Social Constructivism

Social constructivism is one of the main online learning theories developed by Lev Vygotsky. This approach influences teaching especially in regard to the EdTech aspects of a learning environment. Technology is seen as more than just a tool for learning; it affects the engagement levels of students and assists with understanding and communication. Social constructivism approach values student interaction, collaboration, and is seen as student centered and further developing the occurring learning. (Rudd-Ross 2013.)

According to the theory of social constructivism, social worlds develop out of individuals' interactions with their culture and society. Matthew Lynch (2016) writes that in social constructivism, knowledge evolves through the process of social negotiation and evaluation of the viability of individual understanding. He also states that to be able to apply social constructivism theory in the educational setting, teachers must shift and reshape their perspectives by moving from being "people who teach" to being "facilitators of learning." (Lynch 2016.)

According to Lynch (2016) "a good constructivist teacher is one who questions students' answers, without regard to whether they are right or wrong, to make sure the student has a good grasp of the concept". Thus, students should be prepared to explain and reflect their answers, and be able to further elaborate on the choice of their wording etc.

Social constructivism teaches that all knowledge develops as a result of social interaction and language use, and is therefore a shared, rather than an individual, experience. Knowledge is additionally not a result of observing the world, it results from many social processes and interactions. (Lynch 2016.)

Lynch (2016) argues that the process of learning requires the learner to actively participate in creative activities and self-organization. In this process students

should come up with their own questions, craft their own theories, and then test them for viability. Lynch continues that students should also be challenged to solve problems with realistic and meaningful contexts as this enables the learner to explore and reflect on the collected data, giving learning a dynamic boost.

Summarizing, in Social Constructivism learning occurs not only through hearing or seeing, but through interpretation. Lynch (2016) concludes: “Interpretation is shaped by what’s already known and is further developed through discussion.”

Connectivism

The three learning theories discussed above, are used to guide teachers, instructional designers and educational practitioners in the designing of instructional environments. They were developed when technology wasn’t as present in our lives as it is now. (Siemens 2005.) Therefore, Siemens was convinced that there is a need for a new theory, which will be more relevant to the current times, where technology is an integrated part of our daily lives.

Connectivism is a learning theory relatively new and purely relevant to online learning environments and online learning and teaching. It emerged in the 2000s and its main theorists are Siemens and Downes.

The common understanding of learning in the three main learning theories is that learning happens inside a person. Also, social constructivism which emphasizes that learning is a social event, shows individual experience in learning. In comparison, connectivism focuses on the learning which occurs outside of people and within organizations. Information flow and knowledge management within corporate organizations have been addressed in connectivism theory. (Siemens 2005.)

As per Siemens (2005) the principles of connectivism are:

- “Learning and knowledge rests in diversity of opinions.
- Learning is a process of connecting specialized nodes or information sources.

- Learning may reside in non-human appliances.
- Capacity to know more is more critical than what is currently known
- Nurturing and maintaining connections is needed to facilitate continual learning.
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision" (Siemens, 2005).

In connectivism, a learner is equally important as a researcher and becomes a content generator. This theory emphasizes that learners should be presented with a feeling of 'chaos' which will trigger searching for answers, seek patterns and putting dots together in order to resolve the problem. (AlDahdouh, A., Osorio, A., Caires, S. 2015, 12.)

Downes, another guru of connectivism states that:
"At its heart, connectivism is the thesis that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks" (Downes, 2007).

In addition, Downes mentions that "in connectivism, there is no real concept of transferring knowledge, making knowledge, or building knowledge. Rather, the activities we undertake when we conduct practices in order to learn are more like growing or developing ourselves and our society in certain (connected) ways" (Downes, 2007).

Online Collaborative Learning

Linda Harasim (2012) developed online collaborative learning theory (OCL) based on behaviorist and constructivist approaches to learning, as they weren't comprehensive enough in the modern era of e-learning.

Harasim describes OCL in her book (2012, 90) *Learning Theory and Online Technologies*:

> OCL theory provides a model of learning in which students are encouraged and supported to work together to create knowledge: to invent, to explore ways to innovate, and, by so doing, to seek the conceptual knowledge needed to solve problems rather than recite what they think is the right answer. -- In the OCL theory, the teacher plays a key role not as a fellow-learner, but as the link to the knowledge community, or state of the art in that discipline. Learning is defined as conceptual change and is key to building knowledge.

Online Collaborative Learning (OCL) theory thus emphasizes the students' skills to collaboratively address and solve real-life issues and problems (Scholes 2012).

Harasim's OCL theory (2012) has three stages as the process of collaborative discourse:

- Idea Generating - brainstorming, expressing differing views
- Idea Organising - going through the ideas and evaluating them
- Intellectual Convergence - forming a shared understanding or synthesis

The role of the teacher is seen as critically important in OCL. Anthony Bates (2013) describes teacher's role as facilitators of the process, providing appropriate resources and activities that encourage the learning. In addition, teachers also serve as representatives of a knowledge community or subject domain, by ensuring that the core concepts, practices, standards and principles of the subject domain are fully integrated into the learning cycle. (Bates, 2013.)

In his article on Teaching in a Digital Age (2013), Bates explains that with online collaborative learning, the aim is not to replace the teacher, but to use the technology primarily to increase and improve communication between teacher

and learners, with a particular approach to the development of learning based on knowledge construction assisted and developed through social discourse.

According to Bates, the main strengths of this model are that when applied appropriately, OCL can lead to deep, academic learning, or transformative learning, and it can also directly support the development of a range of high level intellectual skills, such as critical thinking, analytical thinking, synthesis, and evaluation, which are all key requirements for learners in a digital age. Bates states that there are some limitations to OCL, as it does not scale easily, requiring highly knowledgeable and skilled instructors, and a limited number of learners; and it’s mostly suitable for the fields of humanities and education, less so in the technical fields.

3 GUIDANCE AND STUDY COUNSELLING IN ONLINE- AND BLENDED DEGREES

In this chapter the focus will be on discussing the guidance and study counselling processes in online/blended degrees, with some examples provided from Finnish HEI's. As the theoretical basis of this chapter, the authors have utilized an online publishing called *Verkko-ohjaaja - Opas ohjaukseen sekä tieto ja neuvontatyöhön verkossa*; informally translated as Online Study Counselling - A Guide to Study Counselling in the Web.

This guide was part of an EU funded project initiative in Oulu University of Applied Sciences called "Verkko-ohjaaja – verkko- ja etäohjauspalvelut opintojen tukena" which took place during years 2015-2017. The guide was prepared by gathering information through workshops, group assignments and seminars attended by a core group that was also trained in the project, and thus has no official authors, as the text was produced through the core group's efforts. One of the authors of this thesis was a part of this core group.

The published guide is available online in Finnish, but its contents are translated and referred to in the following subchapters. The authors will use the abbreviation VOO (shortening for *Verkko-ohjaaja - Opas ohjaukseen sekä tieto- ja neuvontatyöhön verkossa*) in the text as referral to this publication.

In this main chapter, the focus will be on looking for answers to why guidance is a crucial part of successful online learning, how it differs from normal counselling, and what are the major factors to be considered when providing these services in an online environment.

Digitalization in higher education institutions

The age of digitalization has brought both opportunities and challenges for higher education institutions. It could be said that many of today's students both live and study inside an online network community. This is especially true for those that are conducting their studies in online/blended degrees, where the majority of the

studying is done in virtual environments. Digitalization is not only changing the way of teaching and learning; it also has a profound effect on the kind of support the students require during their studies.

With the current rise in demand of online and blended studies, the need for student support is also moving towards the web. The HEI's need to be prepared to meet the expectations and needs of a new generation that is used to taking care of almost everything online. This can pose difficulties for institutions not yet fully committed to the digital leap, as it's often dubbed in Finland. The pressure to move traditional student support services online has been stressful to many, but most universities have already started to shift their student support services to the web.

Depending on the case, there are Finnish HEI's that are already quite far with the digitalization of their student support processes, whereas others are still very much in the planning phase. Nevertheless, the need for guidance and study counselling and other support services in an online environment is real, and something all universities will have to tackle sooner than later.

3.1 Discussing guidance and study counselling in online/blended groups

The general idea behind any kind of study guidance/counselling work is to provide a student with support and means to be an active and successful participant in their current endeavor, starting from when they enter the school all the way to their graduation.

According to VOO (2017, 11) the processes of study counselling can be roughly divided into three categories:

1. *Supporting Learning and Studying* - the focus is on managing the general study process (for example completing courses, graduating in time).
2. *Supporting Personal Growth and Wellbeing* - taking a student's psycho-social wellbeing and their current life situation into consideration; the student is seen and treated as an individual.
3. *Supporting Career Planning and Professional Growth* - supporting the student's progress from a novice into a professional, with the aim of recognizing one's strengths and knowhow.

When it comes to online study counselling and support, the basic theory is the same which is utilized in contact studies. However, there are some factors that require more attention in online/blended degrees for the programs to be successful. The guidance process's core theme is supporting and motivating the student as an individual, but also as a valued and active member of the degree/study group.

The importance of peer influence on motivating, grouping and committing oneself to the studies cannot be stressed enough in online/blended degrees. At the beginning of studies, students arrive to the group with little or no knowledge of each other. They are a group of strangers who are joined together by a common goal - to study, learn and finally graduate as professionals. Coming into an online/blended degree program with a multitude of different backgrounds and experiences, it's not always easy to find one's place in a group - the support of

tutor teachers, student tutors and peers is required for this to be successful.

Depending on the case, the grouping process of students can be easy and light, or require well-planned effort to be successful. Nevertheless, successful grouping plays a key role in the completion of studies and development of professional knowhow. A well-functioning group consists of students that know each other, have a sense of equality and can communicate easily. They are able to support and uplift each other, and provide assistance through peer-guidance to those who need it - psychosocial support among online/blended students can be a dealbreaker to many when it comes to completing difficult courses or overcoming emotional problems relating to learning, reflecting to “sharing the load”.

Once the studies have begun and students get more familiar with each other, the grouping continues often without much effort, e.g. through social media. It’s important for those together in charge of tutoring (teachers, study counsellors or peers) to be attentive though, as sometimes students can become passive and “fall off the wagon”. Taking care of the whole group and making note of individuals is needed to ensure that the group stays cohesive and works well together. Once a group is functioning well together, their learning and building knowledge diversifies and deepens. (VOO 2017, 22.)

Guidance processes in different phases of the studies

Guidance needs to be available for all students throughout their educational journey - from the application period until graduation and moving to working life (in many cases, these two are something that can overlap and a student may require support in the process). In most Finnish HEIs, the student drafts a personal study plan in the beginning of the studies, and the plan is then revised and changed if a need arises. The personal study plan is a tool for both the student and the study counsellor, and it can be adapted according to the student’s situation. If the student faces challenges during the studies, for example the studies don’t progress as they should, it’s easier for the study counsellor to pick up where things have been left off and take action to help the student forward.

Many of the Finnish HEI's have adopted a holistic approach in organizing their student support services, both online- and face-to-face. In this approach, the whole broad spectrum of student's life is seen as meaningful in order to achieve success in studies, as seen in figure 2.

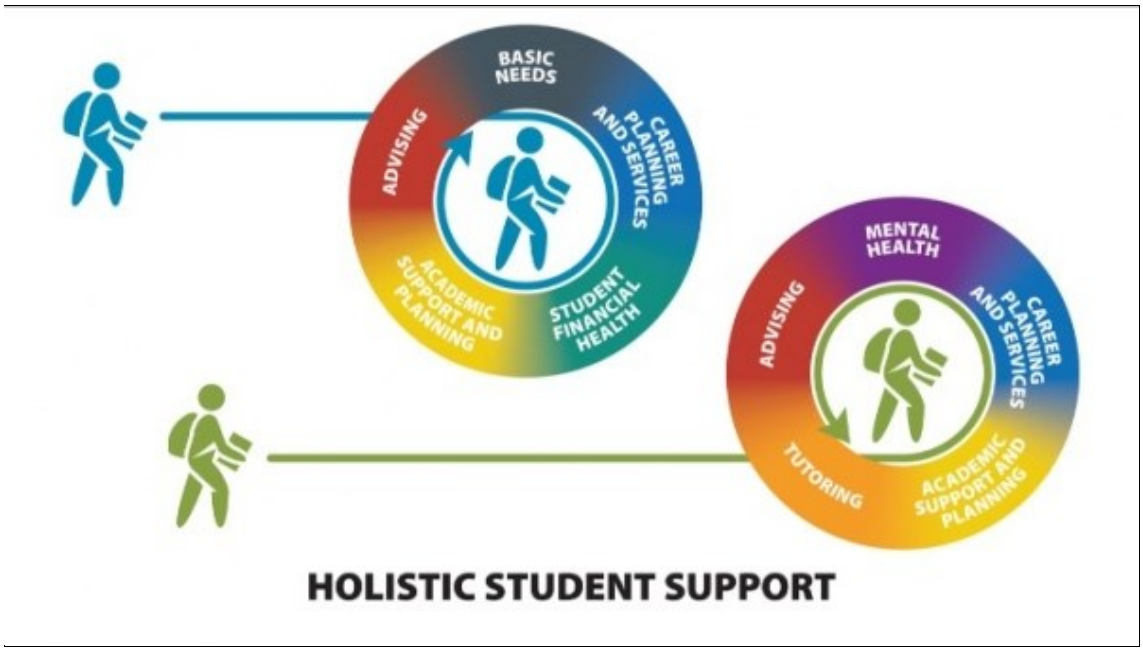

FIGURE 2: Holistic Student Support (Achieving the Dream, 2020.)

A holistic approach to supporting students requires that HEIs become student-centered; this is done by integrating all available support services into an experience that is easily available and navigable, but also personal for everyone. It's also important to note that the roles and ways of communicating between the person doing the study guiding and guided students aren't by all means static during the encounters. During the guidance process, many different phases can be gone through; in addition to guiding, there might also be a need to instruct and inform. These parts of the guidance consist of giving the student professional, factual and timely information relating to their case. The aim is always to provide the student with tools and means to overcome their current issue/problem.

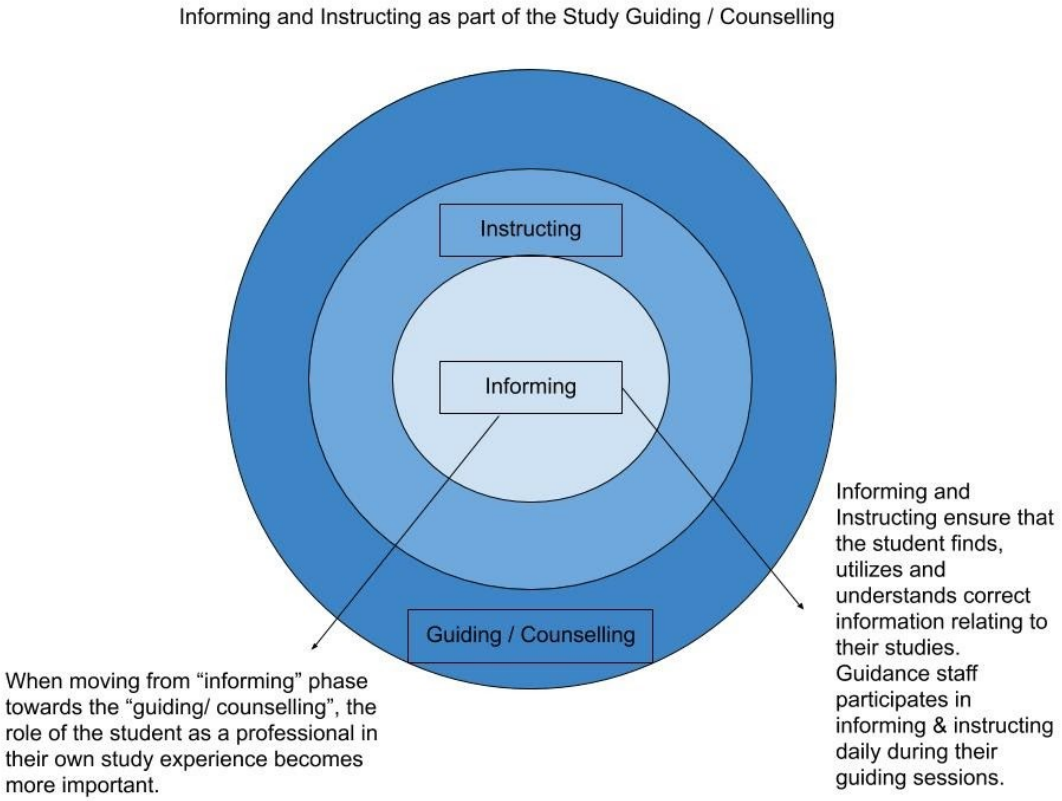

FIGURE 3: Informing and Instructing as a part of Study Guiding/Counselling. (VOO 2017, modified)

When considering online/blended degree students, the guiding and counselling process doesn’t much differ here from the contact groups. It could be argued that the informing and instructing parts of the above cycle are even more important for those who aren’t daily present at the institutions. Receiving prompt and accurate information is vital for online/blended degree students, as they often need to plan their studies and monitor their progress more independently than those who study within the university’s premises.

Thus, when discussing guidance and study counselling in Finnish HEI setting, it’s common to not distinguish the blurred lines between guiding/counselling and informing & instructing. They are seen as a package deal for students. (VOO 2017, 12-14.)

Taking guidance and study counselling online

Online guidance or study counselling basically means taking the process described in the previous chapter to web-based platforms. Communication devices such as computers, tablets, smartphones with their apps are utilized in many ways. Online guidance/study counselling isn't limited by time or space, as it can happen in real time (synchronized) or be recorded/available upon request (asynchronized). Depending on the case, online counselling can be either communicative (where parties can discuss together freely) or one-way (e.g. information is available for the student individually). (VOO 2017, 14.)

Guidance in blended degrees offers even more room for flexibility - there's usually a possibility for face-to-face guidance sessions during students on campus-days (e.g. orientation week or contact days). These should always be utilized, as some issues relating to studies can be easier or more effective to cover when students are physically present. Combining both online- and on-site guidance in blended degrees can be referred to as hybrid or blended guidance, which can be a very effective and seamless way to provide support services for students.

There are several ways to arranging online guidance, in VOO (2017, 17) it is divided into three categories:

1. Individual level (i.e. private conversations between the student and the guide)
2. Group level (i.e. peer to peer discussions)
3. Community- and organizational level (official guidelines that provide the framework for institution's ways of working)

3.2 Guidance challenges in online/blended groups

Whether talking about completing an online study module or studying in a blended degree program, it's clear that the student will face challenges during their educational voyage. As mentioned before, students who undertake these kinds of studies need to be more independent and aware of the process than perhaps those who attend regular daily studies on campus. As the students are responsible for their own learning processes, they must learn to acknowledge the need for additional guidance/study support when it arises and know how and where to seek assistance.

Without further commenting on what kind of online pedagogies should be used within online/blended degrees, it should be pointed out that even though the studies would be well planned pedagogy-wise, the student must still independently (or together with their study group) plan the study schedule and decide on how to progress with the given assignments. In degree studies, this process often covers several courses to be completed in the same time frame, so time- and effort management skills are needed; there might be online lectures to attend, recorded lectures to watch, reading material to be gone through on online learning platforms, preparing for exams or doing group work online. Considering all this, it's clear that studying in online/blended groups requires a different kind of skill set than that of an on-campus student.

Good group work skills and the ability to use digital learning tools efficiently are essential to the success of an online/blended degree program. Most common problems relating to the online/blended degree studies consist of having insufficient Ed-Tech skills, receiving unclear study instructions and the general lack of information. Often the last problem culminates to universities offering too much information, and not clarifying what is required of the students and in what timeframe. Many students aren't willing to search for the information themselves and rather wait to be served with it - this doesn't work well in online/blended studies, where the student must be a self-guided and active participant.

One of the biggest success factors of online/blended degrees is in the level of commitment felt by the students towards their studies. For example, many HEI

lectures and lessons aren't compulsory to attend, so students can naturally feel the temptation to skip them. This goes for voluntary tasks and assignments as well - students will often choose to do the bare minimum expected of them, if they do not feel that the subject of study is interesting or that they need the extra practice. However, all of the above might lead to the student missing out on important information, which will cause uncertainty and diminish the student's ability to complete the course/study module.

In Finland, students in online/blended degrees naturally come from varying backgrounds, but the majority of the students are adults, with families and work affecting their study lives. Due to these factors, it's important to have guidance/study counselling services easily available and reachable when the student notices a need for them - studying as an adult requires often juggling competing factors in one's life. Online study counselling services providing solutions to different kinds of problematic situations are vital to the students in online/blended degrees. (VOO 2017, 19-20.)

The guidance process begins when the student enters the degree program. During the application period there's often need for counselling as well, if the applicant is unsure of certain issues relating to applying or the degree in question. The guidance at this preliminary stage of studies is often done by the admission service's staff or depending on the case, sometimes study counsellors. Once the admission phase is complete, the students move to the degree program and start familiarizing themselves with the studies and study group. As higher education degrees take several years to complete, it's important for the students to be able to commit themselves to their individual learning processes. Most Finnish HEI's take this issue seriously and arrange carefully planned intensive orientation days/weeks for the beginning online/blended degree groups. During these orientation days a basis for individual study experience is born - the students get to know not only each other, but the common rules, premises, staff and ways of working in the university. At the beginning of the studies, it's important to ensure and enforce the student's ability to study independently; they must be able to plan & strategize their studies and set goals, analyze the given assignments and learn to manage their time. The ability to self-observe and monitor student's actions and performance in the studies are something to be taken into consideration

when studies progress, as these skills have an effect on the overall motivation of the student. Students must be able to reflect both on their individual performance and the group's performance against the set goals, and if needed, alter their views and actions to a more beneficial direction. (VOO 2017, 25.)

As the studies progress, the students usually enter a peaceful phase where they know what is expected of them and are able to handle those challenges; equipped with the educational tools that are available to them. For most, the studies might be smooth sailing, but others may struggle, giving away to the possibility of dropping out of courses, neglecting assignments and worst-case scenario - resigning from their studies. Especially in online/blended degrees, the student's active presence in the studies/group is usually a sign that studies are going well - if the student seems to grow distant from the peer group, study counselling staff should be ready to intervene and offer support. During this mid-phase of studies students often need encouragement and help with their time management, and online guidance services should be prepared to answer these issues.

When the end of the studies is approaching, students may require study counselling regarding their final thesis, or perhaps with their future careers. Managing to complete the thesis isn't always easy, especially in online/blended degrees where the peer support might be diminishing at this point, due to the different graduation schedules and life situations of students. What began as a cohesive group of students could now be a horde of vagrants, each concerned with their individual problems. By providing a steady line of study support throughout the education, even extending over graduation, HEIs can improve and promote the wellbeing of the students, thus increasing the number of graduates and creating happy alumni.

Finnish HEIs are bound by the equality law (30.12.2014/1325 6§), which guarantees that all students are treated equally despite their individual characteristics and different backgrounds. In addition to offering support to those in need, the universities must also make sure all their study material is accessible for different kinds of learners, and that special attention and circumstances are provided to those who need them (e.g. extra time in exams).

To summarize, offering study counselling/guidance services online greatly enhances the achievability and accessibility of a student's support network. When there is a variety of guidance services and ways of communicating to choose from, the threshold to take initiative and make contact diminishes, as students don’t have to worry about the distance to the campus, opening hours etc. Today, it’s technically possible to provide almost all student services online. It should also be noted that the interaction between the student and the counselling person doesn’t always have to be time consuming and strictly structured; sometimes mere reassurance that they are on the right track is enough to help the student to proceed with their studies. (VOO 2017, 28-29.)

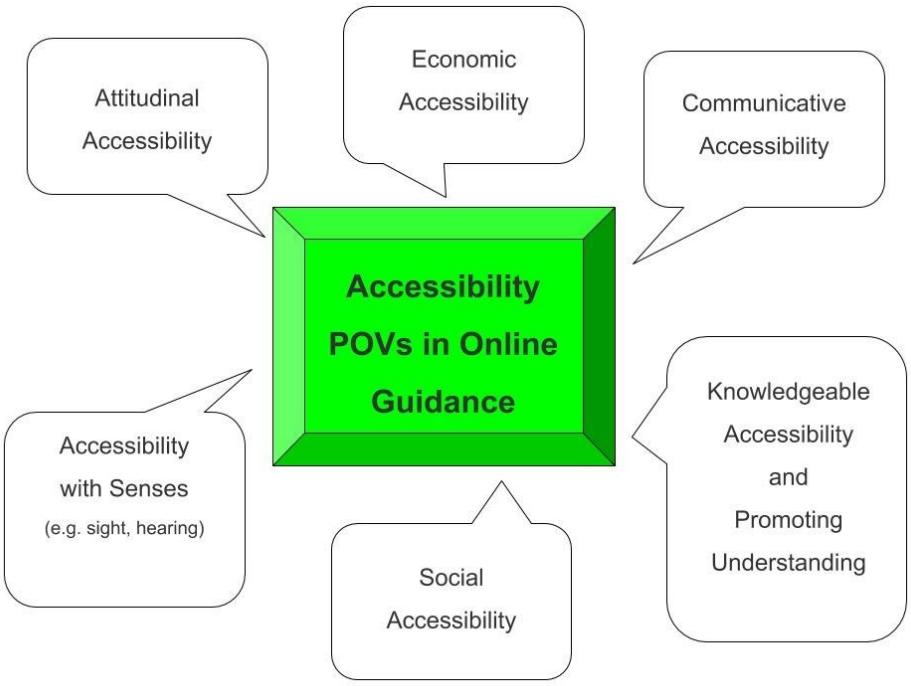

FIGURE 4: Accessibility Point-of-Views in Online Guidance. (VOO 2017)

Being present, available and playing by the ethics in online guidance

Providing study counselling online requires the same effort and investment as its face-to-face counterpart. The focus of the guidance should always be on the individual student, making sure the event's atmosphere is kept focused and comfortable throughout the session. Communication is the key to all successful online guidance encounters. Dealing with group sessions requires different kinds of skills from the counsellor than meeting the student privately. It's important that the staff members involved with tutoring and study guidance are familiar with the ed-tech tools they have at their disposal, as well as their verbal- and nonverbal communication in an online environment.

When conducting study counselling online, it's important to remember to use and combine different channels of communication to make up for the lack of non-verbal signals. In addition to text and picture, it's advisable to add visuality to the interaction, e.g. in the form of video, emojis or images. With these aids, it's easier to get a well-rounded estimate of the student's state of mind and their current situation. (VOO 2017, 43.)

Taking steps towards successful online study guidance

Though the principles behind study counselling face-to-face and online are the same, the latter does require some special attention. As mentioned before, online study guidance needs commitment from both the counsellor and the student - being prepared in advance, planning what issues to cover and setting common ground & schedule are all important parts of a successful experience, especially if the student is participating in the session for the first time.

Some of the important steps to take into consideration when planning an online guidance session are mentioned in VOO (2017, 43-51);

1. The study guidance session online needs to be prepared and planned

carefully. The student should receive instructions on how to attend, and what to take into consideration in the online session before the event.

- The place chosen for the session needs to be peaceful and technical devices work.
- The focus of the guidance session needs to be determined beforehand. The student can prepare questions/issues they want to go through before the session takes place.
- There should always be a back-up plan in case technical difficulties arise. It is also a good practice to agree upon common rules regarding cancellations of guidance sessions.

2. Online Guidance requires multitasking skills - the ability to write, listen, discuss and read at the same time will come in handy. This can be challenging for both the study counsellor and the student but will improve with practice.
3. Open and friendly atmosphere is important, the counsellor needs to lead by example.
4. When using videoconferencing, body language and the volume & speed of speaking are important to take note of. Taking turns while discussing and indicating clearly when you have had your say is also important regarding the smoothness of the experience - especially when conducting group counselling sessions.
5. Communicating while counselling is mandatory. Making sure there's mutual understanding is important; counselors need to readily check themselves against making assumptions and prejudices and ask if they have understood something correctly.
6. Everything that is done and agreed upon online should be visible for the student/s - e.g. by making notes or communicating the actions otherwise. This will help build trust and promote the feeling of involvement in the process, as sometimes student motivation can be difficult to maintain, especially in group study counselling sessions.
7. At the end of the session, the counsellor should recap the topics and summarize the session's outcome briefly, to make sure a mutual understanding has been reached. Remembering to offer words of support and thanking the participant(s) is also important, ending things on a positive note. Also, a friendly reminder/note of future sessions (if applicable) is in place, before ending the guidance.

Ethics in online study counselling

The basic ethical framework in online study counselling is the same as in normal face-to-face, on campus-counselling. In Finnish HEIs the counselling processes are guided by national ethical guidelines formed by SOPO (Suomen opinto-ohjaajat, i.e. Finnish Study Counsellors Ltd.) and ERYICA's (European Youth Information and Counselling Agency) ethical guidelines for online services. (VOO 2017, 56.)

The basis for all action is promoting the wellbeing and equality of the guided student whilst respecting their independence and choices. The information provided in the counselling must be accurate, timely and multifaceted. The student must also be aware of the level of confidentiality in the discussions. As study counsellors are working under obligation of confidentiality, in most cases everything discussed stays between the student and the counsellor and only in severe cases (possibility of crime or child protection) can the confidentiality be broken - this is governed by law in Finland.

In conclusion, it could be said that the most important tools in online counselling and study guidance are the counsellor's own persona and professional expertise. It's important that the person responsible for the guiding processes takes care of their own well-being at work, as working with a multitude of students online can be very taxing at times. Setting your own personal limits for work and free time are needed, as it's often easy and tempting to become "too available" for students. Recognizing your own strengths and weaknesses as a professional, and that it's not necessary to know everything about all the things is also worth noting, as there are always optional services available for students to use online (e.g. regarding health care or information services). (VOO 2017, 56-57.)

4 TECHNOLOGY-ENHANCED LEARNING IN HIGHER EDUCATION. TOOLS AND PLATFORMS USED

4.1 Introduction to educational technology

Technology has been utilized in both online degree programs as well as traditional face-to-face courses for a few decades now. However, the choice of most effective technology to support teaching and learning in online courses proves to be more challenging due to the format of delivery.

Among technologies used in higher education since the mid of 1950s we can list as per G. R. Morrison and G.J. Anglin: “innovations range from lantern slide projectors, 16 mm films, programmed instructions, video recordings, main frame computers, personal computers, hypertext, the Internet, netbooks, and m-learning to a variety of Internet-based social media” (2012, 38).

As per A. Schroeder, S. Minocha and C. Schneider, implementation of a degree program to be delivered online requires a very new approach to teaching and learning. It is not sufficient to simply decide to start a program which was previously delivered face-to-face and run it online or blended-learning method. Teaching online requires a new teaching approach and should not be just a digitalization of traditional classroom. (Schroeder et al. 2010.)

The first e-learning was based mostly on a behavioural learning theory as its main characteristics were clear instructions leading to achieving learning objectives. Current technologies in online learning allow other learning theories such as cognitivism, constructivism and connectivism.

While initially e-learning was mainly based on simple online information transfer, currently thanks to web 2.0, the student can undertake a much more active role in the learning process using modern technology. This can happen by including into teaching and learning both remote learning platforms (e.g. forums, wikis) as well as social media, such as Facebook. Although the use of social networks in academics and especially in online higher education, it still raises a number of concerns among lecturers. The successful implementation technology in the online education requires rethinking of current strategies in designing learning

content but also requires change in attitudes as well as providing specific knowledge and developing skills for lecturers and program managers.

Web 2.0

As per Garrison and Vaughan *"technology is the integrating platform that seamlessly connects the real and virtual educational worlds".*(2008) The choice of technologies used to enhance student learning experience should, therefore, be carefully selected at the moment of designing specific course.

FIGURE 5: Typology of Web 2.0 learning technologies (M. Brower 2015, 2)

Matt Bower identified 212 technologies suitable to be used in education. This led to identifying 37 Web 2.0 technologies and classifying them in the form of 14 groups (clusters). They all serve communication, creation and sharing of content through students and their teachers, and these include (Figure 5):

- Video tools
- Audio tools
- Multimodal production tools
- Digital storytelling tools
- Website creation tools
- Knowledge organization and sharing

- Data analysis tools
- Timeline tools
- 3D modelling tools
- Assessment tools
- Social networking systems
- Synchronous collaboration tools
- Text based tools
- Image based tools

There is a great number of Web 2.0 technologies which can support online education, but they still need to be better incorporated in the learning design (Bower 2015). In this chapter some of the most common tools and platforms which belong to those clusters will be listed and briefly explained.

Interactions in online education

Well-designed courses should include all types of student interactions. It can be achieved with the help of Web 2.0. Technologies.

TABLE 2: Media and student interaction (A.W. Bates 2019)

		Media interaction characteristics		
		Inherent	*Designed*	*Learner-generated*
Types of student interaction	*Learner-materials*	• adaptive learning • xMOOCs • simulations • computer-marked assignments	• textbooks • LMSs • podcasts	• TV broadcasts • novels • podcasts • YouTube videos
	Learner-teacher	• face-to-face seminars	• online discussion forums (OCL) • face-to-face lectures • e-portfolios	• e-mail • e-portfolios
	Learner-learners	• cMOOCs • virtual worlds	• group work	• social media • wikis

The first type of interaction is learner-material also known as learner-content interaction. Learner-materials is the interaction of student and study materials, whether these are printed/hardcopy materials or digital resources and it doesn't involve involvement of other parties, i.e. fellow students (Bates 2019). M.G. Moore, the professor who defined types of interactions, emphasizes that without this interaction "there cannot be education, since it is the process of intellectually interacting with content that results in changes in the learner's understanding, the learner's perspective, or the cognitive structures of the learner's mind" (Moore 1989).

Learner-teacher is the interaction which happens mostly during webinars, either face-to-face, or in online education - through online discussion forums, online lectures or even email communication (Table 2). As per Bates (2019):

> Student-teacher interaction is often needed though in order to develop many of the higher order learning outcomes, such as analysis, synthesis, and critical thinking. This is particularly important for developing academic learning, where students are challenged to question ideas, and to acquire deep understanding. This often requires dialogue and conversation, either one-on-one between instructor and students, or between an instructor and a group of students.

The third type of interaction is student-student or learner-learner. In online education this way of interaction could be achieved by adding asynchronous online discussion forums within the learning management system (Bates 2019). Also, all types of group work involves this type of interaction and should be a part of each course. Social media as well as wikis are learner generated content and are also a part of learner-learner interaction (Table 2).

4.2 21st century technology tools and platforms for education

Students at the academic institution are taught in the very similar way that pupils in the first years of school education are being lectured. This educational model is instructivist, pedagogical and didactic and the relationship between learner and teacher is comparable to teacher-pupil or parent-child. The teacher is giving directions to the student and tells them what they need to do. The current model, on one hand enforces an organized approach, on the other - requires independence and taking responsibility for their own learning by students. (Kiernan & Mary 2014.) In online and distance learning courses the role of a teacher changes and the student is responsible more for his own learning. Selecting effective technology tools is an important part of planning and designing online and blended programs and courses.

Official learning platform

Learning Management System (LMS) is a web or cloud-based platform for online as well as traditional education. However, it will be utilized more actively in online and blended courses than regular face-to-face. The virtual learning environment (VLE) is performed in help of technology platforms also known as LMS. In online and blended programs LMS stores all online resources available for students for all of the courses they are assigned to. In other words, content for all course resources can be found in this virtual learning environment. This is an official university platform which enables teachers to share their materials and communicate with students. (Bach & Shirley et al. 2006.)

Moodle is currently the main provider of VLE in the world with over 60% of all higher education institutions using their platform (Moodle). Moodle platform (short for English Modular Object Oriented Distance Learning Environment) can be used for teaching both distance learning courses as well as traditional courses. This tool supports remote teaching and can be used as a supplement to traditional classes, but also for conducting online lessons. This style of teaching based on e-learning tools is part of the social constructivism, according to which the student is an entity actively participating in the process of acquiring knowledge and having an impact on its formation. The teacher takes a role of mentor, as well as the motivator and stimulus person for the discussion. The platform enables conducting discussions, contacting the lecturer, uploading files (sending and assessing homework), but also managing classes etc. From the perspective of the course creator, moodle is a simple and intuitive tool, operating in modular mode. In turn, students appreciate the platform that they can reach for the content they need at any time from various devices. (Bach & Shirley, et al. 2006.)

Working collaboratively online

Besides the main learning management system (LMS) used officially by the university, teachers and students are using a number of other external technology tools to support learning and collaboration. Collaborative working on group projects requires working on the documents together, sharing files and exchanging information and ideas. Therefore, it is necessary to choose an effective tool to support collaborative learning.

It is worth taking advantage of the opportunities offered by Google, specifically the tool called Drive. You can post, create and share files in a special text editor, spreadsheet or presentation tool. One of the advantages of this tool is the possibility of simultaneous and collision-free work of many people, where changes made by each person are seen in real time by all people using the file.

Another free of charge platform for multiple purposes is MS Teams. It allows users to store and share files, work on the same document at the same time from users' private devices. It also has a feature to chat as well as perform audio or video calls.

In the times of COVID-19 pandemic Zoom became an important tool used for real-live classroom delivery. It was long before used in online and blended programs to either deliver content or informal group communication.

Informal communication and social media

Social media also plays an important role in supporting online education. Those informal platforms allow, among others, to create groups and for students to discuss and post materials. Schroeder et al. (2010) highlights an important function of social media in collaboration:

> Social software applications enable users to interact, communicate, and collaborate with each other, thereby creating highly dynamic environments with ever-changing content, structures, and relationships.

The interaction and communication which happen with the use of social media can positively influence teaching and learning as well as build student motivation and engagement.

Facebook - social network site

With nearly 2.5 billion active users (add source), Facebook has become an undeniable major player in the Social Media arena. Not only individuals have accounts and social media presence. It is difficult to function in today's world for companies, start-ups, governmental organizations as well as educational institutions.

In traditional face-to-face degree programs, the communication between students and university (faculty or lecturers) is taking place on a daily basis at the campus. The institution communicates with students by various means, consciously or unconsciously. Besides the most obvious communications means such as email, website, intranet, bulletin boards. (Scott et al. 2010.) Universities convey certain messages to their students by the building, classroom and of course their lecturers and other staff.

It should be remembered that the fact of using new technologies in the education programs does not result in the innovativeness of the classes conducted. Even with the use of technologies the classes might be very similar to the traditional ones. The introduction of technical didactic innovations to school should be followed by changes in the teaching methodology. Only the skillful coupling of these two spheres, namely tuning education to the environment undergoing dynamic transformations, will bring the desired results, in the form of an increase in the level of teaching effectiveness and better adaptation to the conditions of today's world.

5 METHODOLOGY

The studies in this thesis can be seen as a basic qualitative research on the mechanisms of establishing success factors in online- and blended education.

The aim of the study was to identify some focal success factors in building and implementing online/blended degrees from the viewpoint of professionals inside the UAS. The main focus areas of the study were EdTech solutions and student guidance/counselling throughout the studies.

The purpose of the research was to give insight into the current era of UAS degree education; why the popularity of online/blended education is rising, and how successful online/blended degree programs are made.

The main research questions were *what are the success factors in planning and implementing online/blended degrees; and what were the processes of guiding students in online/blended learning and choosing Ed-Tech Tools?*

Methodological approach

Our research focused around the theme of implementing online/blended degrees - why are they relevant today, and how to implement them successfully. Supporting this theme, we asked what are the challenges Universities of Applied Sciences and their staff face when delivering online/blended degrees, what is the role of instructor/teacher/program manager in online/blended degree programs and how can the students' motivation and study completion be ensured through the studies. We also investigated what are the most popular EdTech solutions to support different online learning environments.

To explore these questions, we needed a flexible approach and settled on semi-structured qualitative interviews. As such, we wanted the questions to reflect on the chosen theoretical framework of the thesis and provide us with a simple way of finding common themes in the replies. Questions were kept simple and easy to understand, but with room to add details if necessary. This way we had control

over the interview's questions but were able to ask for further information when the need arose. By using semi-structured interviews, we were able to gain valid insight into the issues presented in the interviews, and procure reliable answers.

Data collection

For this research interviews were the most suitable method to gather information to explore individual experiences and options on the research topic.

The research data was collected by interviews conducted with carefully selected university staff involved in the development and management of online/blended-learning courses at their universities. All interviews were done remotely between July and October 2020.

Participants were selected based on their experience in the management of online/blended-learning degree programs and courses. They are all academic employees at Finnish Universities of Applied Science. Two of the interviewee work at the Oulu University of Applied Sciences (OAMK) as Team Manager, Department of Information Technology (BBA) and Director, School of Business. The interviewees from Tampere University of Applied Science (TAMK) are Program Co-Director, MBA Educational Leadership and Programme Director, Master in Educational Leadership (MBA). The interviews are presented anonymously.

The form of all interviews was semi-structured and each interview took between 30 minutes and 75 minutes. All interviewees answered a set of previously prepared questions. The interviews with two participants from TAMK were conducted through video-conferencing tool Zoom and were recorded through that tool. The interviews with OAMK participants were held in MS Teams and recorded there.

TABLE 3: Interviewee list

Participant	Institution	Online/blended-learning program name
1	Oulu University of Applied Sciences (OAMK)	Business Information Systems (BIS)
2	Oulu University of Applied Sciences (OAMK)	Business Economics (BE)
3	Tampere University of Applied Science (TAMK)	Master's of Educational Leadership (MEL)
4	Tampere University of Applied Science (TAMK)	Master's of Educational Leadership (MEL)

Methods of analysis

The interviews were transcribed and thematically analyzed based on the questions' categories - introduction, student support, technology in online courses, challenges and future. Each common theme that emerged was examined and analyzed to gain common instances to be presented in the research results.

Due to the small number of interviewees, quantitative methods were not considered for this thesis. We wanted to highlight the professional's opinions, agreeing that they had the most insight when it came to the topic of the research.

6 RESULTS AND FINDINGS OF THE INTERVIEWS

In this chapter we will go through the interview questions and present answers, with the aim of analyzing the findings.

The goal was, as per the research questions, to determine what some of the common factors were when it came to guiding students through their online/blended learning journey and choosing the supporting Ed-Tech Tools.

6.1 Overview and development of the online/blended degree programs at interviewees' institution/department

In the first chapter of the interviews, we asked the interviewees to answer some general questions regarding the current status of online/blended degrees at their universities. This was done in order to provide background information to the research and to set a general starting point for our approach to more detailed questions.

Two of the interviewees (participant 1 and 2) work at the Oulu University of Applied Sciences (OAMK), in the departments of Business and Information Technology.

Participant 1 describes the current situation of Oulu UAS as follows:

In Business Economics, there are two competences inside the Bachelor-level degree that are offered as blended studies; the competences of *Financial Administration* and of *Managerial Work and HR*. The bachelor-level blended degree groups have contact teaching days on campus (one day per week/two weeks) but being present is not mandatory. Teachers record their lectures and share them online for the group. Some course exams are available only on campus. Bachelor level education has been offered as blended studies for about 5 years, with the group size of 35-40 students per starting group.

OAMK's School of Business has also a Master's degrees that is completable

online. The MBA has two options in competences; *Business Development* and *Service Business Development*. Master level groups do not have mandatory contact teaching, everything is available and doable online. Master level education has been planned to be completed online from the beginning of the degree (about 10 years). The average intake is 35 students per starting group, maximum size being 40. The language of education is Finnish in both BBA and MBA degrees.

Participant 2 tells that the first time a Degree in Business Information Systems in OAMK was offered as a blended degree program was in 2010. The program has been annually/bi-annually offered as a blended degree ever since 2015. The lectures are done online, and there is no contact teaching in the degree apart from the new group's starting week (1-3 days on campus). Presence is not mandatory though preferred.

The student intake in the BIS degree is 40-55 persons per starting group. The language of education is Finnish, with the exception of 2nd year, which is taught in English. Materials and lessons might still be in Finnish, if there are no English speaking students in the group (i.e. exchange students).

Participant 3 and 4 described for us the existing degree courses delivered online or as blended learning. At their institution, Tampere University of Applied Science, one degree program is a fully distance program. It's delivered in English and the first students started their studies in September 2017. Master's of Educational Leadership (MEL) is a blended-learning program with online courses within the School of Services. The blended-learning part is when students meet face-to-face three times during the program for an intensive week. Besides MEL, interviewees mentioned that currently all of the courses at TAMK are online courses due to Covid-19 pandemic:

> *A number of regular programs are delivered online because of the pandemic, but not by design or by pedagogy. They're an emergency response to the pandemic situation. In fact, MEL is the only degree program that was always designed from the very beginning to be online and distance-learning.*
>
> Participant 4

The completion rate of MEL is very high.

> *Alumni and students all together to just over 100 all together with one or two dropouts. I guess we're pretty well almost exactly 100 alum either alumni or current students working their way through.*
>
> Participant 4

Development and planning of online/blended degrees in case universities of applied sciences

The development and planning phases of online/blended programs have both similarities and differences when compared with regular degree programs.

Even though the curriculum of the OAMK degrees was the same in both BE and BIS despite the degrees implementation, the interviewees both recognized that there are different details to be taken into account in this stage.

> *The planning phase of the studies differs, as the schedule of the studies is not the same. Planning begins earlier and is more precise and detail orientated, due to the blended group's stricter timetable. Online studies require the teachers to do more work in advance, so that the schedule of the studies will hold. Teachers are responsible for the individual courses and their timetables/execution.*
>
> Participant 1

> *For the blended group, there is less contact teaching and the emphasis of the teaching can differ. There are also less assignments, especially group ones, and the students need to prioritize their learning more independently.*
>
> Participant 2

Technology is mentioned as one of the elements to consider in the planning phase.

> *The big difference in comparison with traditional courses is, already in the planning phase, understanding different technological solutions and how they can also influence the pedagogy. So, what are the things you can actually do online that you can't do face to face or other way around. So that was one thing.*
>
> Participant 3

Both participants from MEL talking of the development phase mention the ideas of authentic learning and collectivism. They looked at the development of the online courses in a new way, rather than copying what already is presented in the same face-to-face courses.

> *The program was built on ideas of authentic learning of collectivism. We actually looked at the best practice for online learning and we took from that in building this new program.*
>
> Participant 4

Another important thing mentioned was that MEL was designed and built to be collaborative. This will involve learner-learner interaction in group work as well as activities in the forums with both other students and lecturers (student-teacher interaction) (Moore 1989).

> *We wanted MEL to be collaborative. So everything we have planned we tried to plan collaboratively as well. And we have also noticed that to a certain extent it's easier to have collaborative activities online than even in face-to-face.*
>
> Participant 3

6.2 Student support in online- and blended environments

In this section of the interview, we focused on the student-side of the online- and blended education. We wanted to get a view on how the different degrees handle issues relating to student support, motivation, study completion and student's role in the online- and blended groups.

Student support channels during studies

All interviewees agreed that the main supporting parties were divided between members of the staff, and students themselves.

With interviewees 1 and 2, the focus was on the blended group's tutor teacher(s), as well as Student Services, who provide support in administrative issues and study counselling.

> *The main support comes from tutor teachers of the group. The degree's competencies also have their own responsible teachers who are available for instruction/support in study related issues, the same goes for individual course teachers. Student Services provides help in administrative issues.*
>
> Participant 1

> *There are two tutor teachers per blended study group that provide support. The head of the degree program is also available for students in study related issues, if needed. The main student support channels are provided by Student Services and Campus Study Counsellors.*
>
> Participant 2

Interviewees 3 and 4 also mention teacher involvement in their answers:

> *They also have a teacher tutor, who should at least at sometimes stay in contact with them. We have these meetings or intensive weeks where we get the whole group together where we give them the information that they might need as a group and where they also have a chance to ask questions from me and as a program director and their group's tutor teacher as well. These are special moments, three times in a program where they get a lot of support and we are all together.*
>
> Participant 3

> *...some hours as resources are given to a member of staff, -- to offer support to students who are struggling.*
>
> Participant 4

In their answers, interviewees 3 and 4 highlight student's own support, i.e. peer support first.

> *The students are supported so that they have study groups. They get support from each other. Where they use for example WhatsApp groups or other systems to stay connected to each other.*
>
> Participant 3

> *The other big area of support, we hope we developed within the groups themselves and the success of that is variable.*
>
> Participant 4

As mentioned in the answers above, peer support is particularly important in online groups, and wasn't mentioned in the interviews with participants 1 and 2 from blended degrees. However, they talked about student tutoring;

> *There are no student tutors available especially for blended/online groups, though this would be seen as beneficial. Student tutoring isn't the UAS's responsibility though, it is organized and led by the Student Union.*
>
> Participant 1

> *At the moment there are no online student tutors for blended groups, also no peer mentoring, even though this would be seen as beneficial. Could be implemented in the future somehow.*
>
> Participant 2

Other support channels mentioned in the interviews (participants 3 and 4) were thesis supervisor and - supervisor groups for students in the graduation process, IT Helpdesk, study counsellor and a LinkedIn group for students and alumni.

The need to bring more support services online was distinguished in all the discussions with the interviewees, especially now that the pandemic is taking place in Finland.

> *The people start to understand the challenges of distance students because now most of our 10,000 become distance students.*
>
> Participant 4

As discussed in the theoretical part for *student guidance in an online environment*, several Finnish HEI's have already started the process of moving their student services online. With the current situation of COVID-19, those universities with already functional online services are a step ahead in this area, with everybody scrambling to catch up. As participant 4 points out in the quote

above, in a situation like this action must be taken swiftly, so that no student is left behind.

Monitoring study completion and student motivation

Study completion is managed on UAS level in both educational institutions, as it's a metric that determines the amount of financing the university receives from the Finnish Government. However, it's monitored also due to other factors, for example to catch those who are in danger of falling behind.

> *Especially at this time the teachers are encouraged to keep careful eye on the progress of their tutor groups and the completion percentages of their courses.*
>
> Participant 1

> *Tutor teachers monitor the progress of the blended groups annually through key figures/statistics provided by the student register system. It is recognised that this should be done more often, e.g. after the first autumn semester to catch those students who are lacking credits.*
>
> Participant 2

All interviewees replied that student motivation isn't measured as an independent factor, even though feedback is collected from courses and studies in general (on UAS level).

> *Motivation isn't measured on it's own but students are asked to leave feedback on the courses they complete. The process is going to improve in the future with a new feedback tool being implemented in the student register. In the Master's program students evaluate their learning process (also motivation) more effectively by completing self-reflecting in the beginning and in the end of courses.*
>
> Participant 1

> *At the moment student motivation is not measured in any way, even though it would be important.*
>
> Participant 2

And motivation, we collect TAMK level feedback every year. And then we have course specific feedback. We try to collect feedback to understand student motivation.

Participant 3

When it comes to student motivation – no, not really. I mean apart from students' activity, the contributions to courses and how active they are in courses. But there's no formal metrics that we look at, either at the program level or the university level.

Participant 4

Measuring student's motivation as such would most likely be beneficial for the universities, but the questions of how, when and by whom might be problematic. Teachers are already running on low resources, so to find the right time, place and tool for motivation measurement could be challenging. The most beneficial way of collecting feedback data could be to link it with a functioning student register (program that entails all student information, e.g. grades).

Depending on the university, different student registration systems are in use - some of them could be programmed for this use, some not. It should also be noted that there is no nationwide student system in use, although some universities use the same programs.

Student's role and responsibility in online/blended degree studies

The interviewees all agreed that a common characteristic of an online/blended degree student is the ability to study independently, collaborate with others and be an active participant in their own learning process. As emphasized in chapter **Guidance Challenges in Online/Blended Groups**, a student seeking to take part in online courses must take responsibility for their progress, manage their time and be self-motivated.

The main difference is in the amount of individual work and responsibility for one's time management. This requires more effort from the student.

Participant 1

> *Their motivation is often higher and they are more self-guided in their studies.*
>
> Participant 2

> *... they have to be more self-driven and self-managed and the role is also to collaborate.*
>
> Participant 3

Participant 4 brought forward the term of heutagogy in the reply to this question, reflecting that students working in an online environment can be more "self-determining learners, who decide what it is they want to learn". Heutagogy comes from the Greek word for "self" and it was defined by Stewart Hase and Chris Kenyon in 2000 as the study of self-determined learning.

The main thought is that the responsibility to learn is the student's, and the teachers' task is to establish learning objectives and guide students along the path. (Hase & Kenyon, 2000.)

It was also noted that the online/blended group can consist of a more diverse student spectrum;

> *In general, the structure of the blended degree student group isn't as homogenous as the traditional group's. The age range of the students is greater, and their current life situations differ, making the student structure more heterogeneous. Students could be acquiring completely new education, or updating their existing knowledge/degree. The tutor teacher must be able to take the different factors into account while guiding the blended group.*
>
> Participant 2

Each student brings with them a different set of skills, backgrounds and interests when they start their studies. With online- and blended groups, these differences can be both a richness and a challenge. It was mentioned in the interviews that students must be flexible during their learning journey, this goes for teachers as well - when dealing with a very heterogeneous group of students, there are several issues that might arise during the courses.

> *… to help each other, not just focus on their own learning, but also the learning of the others and helping others succeed is also rolling our program. I think the role is to be active also giving feedback, since we don't meet students we sometimes we don't know how they are doing so they*

have to be active also giving feedback and asking for help themselves much more.

Participant 3

Teacher is an important resource, but not the only resource so that's a change in the roles and responsibilities of people. The other thing that's important is that as a network that each student also has a certain responsibility and contribution not only to their own learning, but also to the learning and understanding of others.

Participant 4

As mentioned in chapter Guidance Challenges in Online/Blended Groups, collaboration and open communication can be seen as key factors to a successful online- and blended learning experience. By building up cohesive student groups and promoting active peer support, the universities can benefit from increased involvement and in-built motivation from the students' side.

6.3 Technology in online/distance courses

In the following part of this chapter, the findings on the main tools used at the online/blended degree course will be presented and discussed. The responses given by the interviewees support and link to our theoretical research both on learning theories (chapter 2) and technology-enhanced learning (chapter 4).

Tools and technologies used to teach

We asked the question about virtual environments. It seems that most of the universities support and recommend the same tools for online education. The most popular at both universities are Zoom for video-conferencing, Microsoft Teams (at OAMK mostly) and Moodle. These are official, university chosen Web 2.0 technologies which are formally supported by university and its IT department.

The main programs (Microsoft Teams, Zoom, Moodle) are determined by the university.

Participant 1

OAMK uses mainly Microsoft Teams and Zoom in organizing its online studies.

Participant 2

The interviewees mentioned the functionalities within Moodle which are helpful and help increase engagement. This Learning Management System (LMS) is used in both online and traditional courses where students. Its main role is to provide students with access to the online manuals. Chats and forums are supporting MEL's active learning approach.

Moodle has this kind of discussion forums and chat.

Participant 3

Other tools used to enhance online classroom experience that were mentioned during the interviews are Flipgrid, Flinga, Padlet, blogs, Cloud Services and KitHub.

The tools used can differ from subject to subject, e.g. Cloud Services, KitHub.

Participant 2

For collaboration we use Flipgrid, Flinga and Padlet.

Participant 3

Besides tools and platforms recommended by the institution, teachers and students can make their own selection too if there is a benefit for them to use it.

...the teachers and students can choose according to their interests from a variety of programs available.

Participant 1

Participant 2 gives us input of the university working closely with business to decide which tools will be needed by students in their future employment.

> *The chosen EdTech tools come straight from working life. The students need to learn to use the same tools during their studies that they will need after graduation. So the choice is made partially by the school (paid licenses and bought programs), partially by the future employers. The tools and methods of teaching should complement the goals of the learning process as a whole.*
>
> Participant 2

When it comes to social media, they are also utilized by some of the teachers and students. However, they are voluntary tools, not obligatory.

> *We use Facebook and LinkedIn for collaboration, particularly with MEL for the alumni. Some teachers use Twitter and Instagram, but not for teaching. I don't think we use social media for learning purposes that much.*
>
> Participant 3

Participant 4 emphasizes an important point that technology selected for learning should be chosen carefully and give pedagogical benefit.

> *I don't like using social media very much to work with students and communicate with students. I'm not a big fan of just using technology for the sake of using a new technology I've really got to be convinced of the pedagogical benefit of that technology.*
>
> Participant 4

Challenges in the use of technology in online programs

Interviewees helped us create an extensive list of challenges which teachers have to overcome in delivering their online courses. Some of them are related to technology and their functionalities as such. Others are related to the new role of the teacher and obstacles they face.

Overwhelming amount and rapidly changing Web 2.0 technologies used during degree programs are considered the main challenges. As mentioned above, there are several different tools and platforms selected either by institution, teachers or students. To take the best possible advantage of those technologies, both teachers as well as students should be fluent users of the programs or tools.

Therefore, a training on how to use the tools is required, but not always supported or organized by the institution.

> *Keeping up with changing software and programs is the key challenge. Teachers need encouragement and support in trying new technologies, as it can be very stressful to keep up with the development of EdTech tools. The quality of the teaching and unity of the virtual platforms should also be ensured.*
>
> Participant 1

> *There is a challenge to learn new tools. It always takes time to learn it. And practice to find out where to use it and what is the best way to use it. I think it's also so easy just to use the old ones and not benefiting from all the variety of different options that might really make the learning experience much better.*
>
> Participant 3

The fact that universities are using a variety of different tools can be a challenge for both teachers and students. This might create an issue of too many different tools with their own unique interface and logins.

> *The other challenge is having different tools. Also for students challenging as they might have a Zoom lecture with one teacher, Teams lecture with another one. So swapping between the tools, maybe an additional challenge. Finding the right links, making sure they people find them in.*
>
> Participant 3

The availability and accessibility of some online tools is yet another challenge. This might be either due to financial constraints or students' location and its regulations or even access to the internet.

> *The biggest challenge is students lacking the sufficient hardware and software during studies. There aren't enough licenses for the software and they might not work remotely, requiring the student to be present on campus. (Especially challenging now during CoVid.) There's a big gap between school's and industry's standards. Some programs are very costly yet they should be part of the course.*
>
> Participant 2

> *Not all of the tools are available everywhere, like China having its own systems. And sometimes licenses cost money and we have to decide which systems the university invests in and actually wants to use.*
>
> Participant 3

As per the theoretical framework for this thesis, the role of the teacher has changed in online and distance education. It requires a different approach and time to connect with the students.

> *Teacher's traditional role has changed, requiring distribution of knowledge rather than being the "source" of it.*
>
> Participant 1

> *I think the biggest challenge is connecting with your students. I still think education is about relations. So being a good educator is about relationships. And the biggest challenge is being able to form and maintain appropriate professional relationships with your students through the medium of the screen or camera and being able to work with people and build trust. I think it's very easy just to deliver content. The biggest challenge is how to develop and maintain appropriate relationships through technology.*
>
> Participant 4

Another main challenge mentioned by out interviews is teacher's active involvement in online courses. It requires skills and fluency in using online tools, i.e. videoconferencing tools for group activities.

> *Group online teaching requires a lot of brain capacity - to try to look at the screen, try to look at the content, try to focus on the interactions of all students. When you are in a traditional classroom, even though you wouldn't look at each individual you get the feeling from their body language how the group is following. In the online environments the group dynamics is different or requires more practice.*
>
> Participant 3

Bates (2019) supports the words of our interviewee by mentioning that:

> Some technologies, such as online discussion forums, enable or encourage such dialogue or discourse between students and instructors at a distance. The main limitation of student-teacher interaction is that it can be time-demanding for the teacher, and therefore does not scale easily.

Our participants clearly proved that teaching online indeed are more challenging for interactions and require more time to learn it and to support their students. Forums as one of the main ways for teachers to provide feedback are challenging too. It is time-consuming to write effective feedback.

> *(Being active on forums) is time consuming. There is no doubt and it can be stressful.*
>
> Participant 4

> *Challenge is also when it comes to feedback, which in online courses is a lot about reading and writing. And that's in itself, might not always be the best way to give feedback and it takes a lot of time.*
>
> Participant 3

Participant 4 provides some input on the teacher's importance in a high quality of online courses.

> *There's this myth that online or distance or remote courses are somehow easier and quicker for a teacher. That we just throw out PowerPoints and some PDFs on our platform, but actually to do it well is much more time consuming. You're never really not working. Because students may email you or post 24/7. It's very easy to do poor quality online learning. You just simply say - my slides are there, my PDFs are there. You don't respond to forums and you leave emails a week or just ignore them all together. But that's just poor quality. That is not a best practice.*
>
> Participant 4

The list of challenges in the online and blended degree programs continues with security concerns. This is in regard to the use of some of the tools, especially social media platforms. Concerns about General Data Protection Regulation (GDPR) were mentioned by two of the participants.

> *I, personally, I've moved away from using third party platforms because of GDPR and data security and data surveillance.*
>
> Participant 4

> *Also, sometimes, I or the students wonder about the data security during, for example, video recording.*
>
> Participant 3

Opportunities with online programs and technology use

The biggest opportunity with online programs is that it can be delivered regardless of the time and location. Distance programs also make education more

accessible to all students globally. Students do not have to resign from their daily jobs and can still get a new degree or learn new skills.

> *Studies aren't tied to a time and a place, there's more flexibility in fitting studies in your everyday-life.*
>
> Participant 1

> *Being able to work with people all over the world from different cultures, different backgrounds, wherever they're from. Time and space no longer becomes a barrier to education, so it doesn't matter what time zone you're in and we can still have a relationship of learning and education going on. It also enables people who otherwise might not have had access to education to have access.*
>
> Participant 4

Technology use during online programs will have its positive impact in the future professional career of students.

> *With the IT sector, it's mandatory to be able to use technology during studies. There's no way to avoid it as it's built in the professional field.*
>
> Participant 2

Other opportunities involve the use of technologies as such.

> *It's also easier to cover large and complex topics online, when the contents can be explained and divided into easily understandable sections, e.g. with the help of videos, reading material, etc. The learning platforms can also be modified so that it helps keep tabs on student's progress on the course, for example giving feedback on quizzes or by showing the percentage of completed assignments. This can help with the individual motivation of students.*
>
> Participant 1

> *The opportunities are that learning can become much more effective if we actually use these technology tools properly. Even more effective than in a best possible face to face meeting. I think many people see the potential now and I do think there is no way back; we will not return to how it was before covid-19.*
>
> Participant 3

6.4 Challenges and the future of online and blended degree programs

In this final section of the interview, we asked about the challenges of creating degrees focused in online/blended learning and tried to scope out the future of this type of education through the interviewees' expertise.

Challenges in the process of creating online/ blended degrees

The question of teacher resources has resonated throughout the interview. Both participants 1 and 2 raise this issue above all else. In this instance by resources they are referring to the amount of work hours a teacher gets per assigned course. If there are not enough resources available for the teacher for planning and implementing online courses (let alone degrees), the probability of that the quality of the course etc. is not going to be up to par is high. Participant 1 also mentions the need for an attitude shift - some of the teachers are stuck to their ways, but in the future, there is no question that the challenge from moving from traditional teaching environments to online has to be faced.

> *The main challenge is the lack of resources. There's not enough time or there's a lack of expertise in planning and implementing online studies/degrees. Also the attitude requires change – it's always easier to stay with the old way of doing things than start developing new. In the future these challenges will have to be faced, as more and more studies are required to be available for completion online.*
>
> Participant 1

Participant 2 notes that in the future, the campus area's size restrictions might come into play. The classrooms are of limited size and sometimes the group sizes may swell up in unpredictable ways. With the current CoVID situation, safety considerations must be taken into account - it's not possible to cram many students into a small confined space.

> *The current challenge is the funding of the studies - blended/online groups vs. traditional contact groups. With teaching it's always a question of resources; challenges with software licenses, teacher's time consumption and student resignation/graduation quota. In the future the*

> *focus should be more heavily on online teaching as the campus has no physical room for all the students.*
>
> Participant 2

There was a challenge of how to organize the content of specific online courses. The planning phase of courses which are part of the program is important to design good structure for the courses and include engaging learning activities.

> *The biggest challenge was pedagogical. It was about trying to structure the materials and learning activities in a meaningful way, keeping in mind of the diverse context people have. Also knowing that they are working full time.*
>
> Participant 3

Also, since the delivery method is different planning in advance seems to be essential and teachers cannot be as flexible with their agenda and choice of topics as with a traditional face-to-face class.

> *And planning in advance is a challenge. In the face to face class with students I can change my agenda and I use different topics instead. But in online courses, you can't do it so easily. You can't make ad hoc changes. It takes more time to prepare the input if you think of preparing a video.*
>
> Participant 3

Future of online and blended programs

All of the interviews saw the future of online and blended degree programs as bright and optimistic. The popularity of lifelong learning is one of the key factors, as is the anything-anywhere-anytime mentality of online education. Even though in general the change is slow to happen in large institutions such as Finnish HEI's, the pressure from outer factors cannot be ignored.

Participant 1 expects that with the constant development of new technologies, even more study fields will be embracing online learning and studies, and continues;

> *Both online and contact teaching will have their place in the future. People and large educational institutions are slow to change (resistance to change), but sometimes outer forces can speed development, e.g. the ongoing CoVid epidemic.*
>
> Participant 1

Participant 2 is thinking along the same lines, saying;

> *The shift to lifelong learning and the complexity of today's working & personal life both promote the success of online/blended learning. The thought is that "anyone can study anything anywhere", which is already kind of true when you look at Youtube and MOOCs available online. With online studies, there's also the possibility of importing education both nationally and globally.*

Also participants 3 and 4 mention the changes Covid-19 pandemic will bring to education.

> *I think that there will be increasing use of technologies and the pandemic has both amplified and accelerated that happening, in both good and bad ways. For some people their experience has been very negative because they didn't have the training and resources. And so it's reinforced to them that online learning doesn't work because that was their experience of the pandemic. And for others, it has been working fine.*
>
> *Depending what your experience has been over these last six or seven months can really shape what you think going forward. I really don't think we're gonna go back to 2019 in terms of the use of educational technology and education. I really think there will be changes as a result of Covid-19 and the shift to online.*
>
> *The children following online education in the peak of pandemics, they are not all going to go back to face to face teaching with no changes. I think we're living through an important stage, not just at the whole cultural level, but in the education level and there might be shifts.*
>
> Participant 4

As referred to in the previous part of the interview as heutagogy, participant 2 continues;

> *On the IT sector the teacher's role is changing from traditional to distributor of knowledge; searching for proper information from different sources and sharing it with the students. Student's own motivation and activity is highlighted.*

It has been established that in online learning, students carry a bigger part of the burden to learn than in a traditional classroom. They are required to be agents of their own learning, to be able to form networks with peers, to communicate and collaborate.

Participant 2 also expects to see the rise of competence-based learning, predicting it to be even more relevant in the upcoming education. This is particularly probable in fields that require hands-on knowledge from the students, e.g. technological- and IT sector.

Participant 3 believes that online and blended-learning programs are more flexible than traditional degree programs and they allow individual learning. These are collaborative learning that still requires individual support. Student's motivation, therefore, is extremely important in the study activity and completion.

7 MAIN FINDINGS AND CONCLUSIONS

In this final chapter, we will present our main findings and conclusions, correlating them with our theoretical framework.

In our thesis we aimed to answer the research question: What are some of the success factors when it comes to guiding students through their online/blended learning journey and choosing the supporting Ed-Tech Tools?

Considering current challenges higher education institutions are facing as well as the opportunities provided by the technology and overall globalization and internationalization, it is likely that more universities will develop courses online. Moreover, the pandemic will shape the future of education and it is very likely that there will be a shift toward designing and delivering more programs online or as blended.

For building successful online/blended education, there are several key factors to take into consideration. Starting with the planning phase, the structure of the degree program and courses to be offered must be cohesive and well thought out to suit an online environment. As stated in the interviews, it's a resource consuming process, which requires both detailed touch and input from several professionals. In this stage, the lack of know-how ranging from pedagogical to ED-technologies can be critical factors for failure.

If an university is planning an all-online degree program it's clear that this has to be the focus point of all planning - the right pedagogical approach, the curriculum, courses, chosen ed-tech and student support tools must be in place to build the foundation for success.

With the current situation of COVID-19 pandemic, all universities have had to move from traditional classroom lessons to online environments and it has proven to be difficult - some content just doesn't translate well to online courses, or there's a lack of knowledge on how to transform traditional courses to be cohesive

in an online environment. For example, just providing students with recorded lectures doesn’t guarantee a successful online learning experience.

With blended learning, the basis of the planning process is the same, while they have the advantage of meeting students face-to-face. Still majority of the learning experience takes place online, so the success factors mentioned above still stand for blended learning as well.

When it comes to student presence and guidance in online learning, the conclusion is easy to make; a student's own role plays a critical part in the success of online studies. Keeping a student motivated and committed to the studies is partly the university’s responsibility, partly the student’s own - i.e. there are factors that can be affected with providing the right support when the student needs it, but when dealing with adults it has to be recognized that they do have their own personal lives, opinions and situations that always have an effect on their learning journey.

The university’s role is to provide students with a supported educational journey that leads them into achieving their goal, a degree. Offering services such as study counselling, tutoring and administrative support can make all the difference for students who find themselves struggling somewhere along the way. Having the right educational technology at their disposal helps with this as well. Most of the universities have reliable and simple global programs such as Microsoft family products for their students to use, and during the start of their learning journey students are familiarized with these main tools. It has been noted that using too many Ed-tech tools can be confusing for the students, so the need to use them must arise from the curriculum, not just for the sake of new technology.

The future challenges of online/blended education seem to have to do with the university’s funding, the resources allocated to the teachers, resistance to change and lack of competence in e-learning environments. These are all complex issues that can hinder the progress of the development of online/blended education. However, all are issues that can be addressed with time and by careful allocation of resources. One could even predict that with the current COVID-19 pandemic,

the Finnish government would end up endorsing the shift to online studies/degrees more thoroughly on a national level.

Which brings us to the future scenes of online/blended education. As mentioned above and in the interviews, outer forces can have a profound effect on the educational sector but as such, large institutions can be slow to alter their ways and the general climate in them is resistant to change.

Even though the rise of online education is evident, there is and will always be a niche for both blended and traditional education. With online degrees and courses, the benefits can outweigh the disadvantages; institutions are able to cater to larger crowds of students, promote multi field studies, collaborate with each other and diminish costs from real estates (on-campus studies).

The trend of lifelong learning is not going away, and online- and blended education is an easy way to cater to many people, who are facing complex life situations but still wish to study. Also, more and more teachers are interested in learning more about online pedagogies and educational technologies, so the future is definitely leaning towards online solutions in learning. Educational institutions need to make sure they are able to put resources into this; taking into account that both their staff and students will need support with their online learning journey, should it be successful.

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APPENDICES

Appendix 1. Interview questions

GENERAL

1) Please describe what is the current status in your institution/department regarding online/blended degrees
- What degrees are available as online/blended?
- How long have they been offered?
- What is the avg. group size and the language of education?

2) Please describe the development/planning phase of these degrees - for example, what are the differences in designing course curriculum for online/blended-learning- and traditional courses?

STUDENT ROLE AND SUPPORT

3) How are students supported during studies? Please describe/list the support channels.
4) Is study completion managed and student motivation measured somehow?
5) Do students have different roles/responsibilities during online/blended studies when compared with traditional degrees?

TECHNOLOGY-ENHANCED LEARNING

6) What kind of Virtual Learning Environments and EdTech tools are currently used in the online/blended degree programs at your university?
7) How were these chosen?
8) What is the most challenging regarding the use of technology in online courses?
9) What are the biggest advantages of using technology in the courses?

CHALLENGES

10) In your opinion, what are the biggest challenges regarding the process of creating online/ blended degrees in the Universities of Applied Sciences today? - How could these challenges be overcome?

FUTURE

11) Why do you think online/blended degrees are relevant today? Do you see this changing in the future?