



Nudging for inclusive student experience in higher education

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2020 Laurea



Laurea University of Applied Sciences

Nudging for inclusive student experience in higher education

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Master's Degree Programme in Hos-
pitality Management/Service Design
Master's Thesis
January 2020

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Year	2020	Pages	106
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The purpose of this study is to recognize and improve the service experience of new international, degree pursuing bachelor and master students at the case higher education institution located in the capital region in Finland. The goal of the study is to map the experiences of the international students and to understand what kind of challenges they encounter, especially when starting their studies. The study suggests a service solution concept to support the new international students' inclusion into the higher education institution community and the wider society in order to improve their study experience, and consequently boost the international graduates' employment in Finland.

The research questions answered in the study are 1) What kind of challenges do international students encounter, especially when starting their studies at the higher education institution? 2) What knowledge and skills would they benefit from in order to succeed in their studies? and 3) What kind of new service solution could respond to the students' needs, thus improving their experience, help them succeed in their studies and increase their social inclusion and sense of belonging in the higher education community?

The study builds on previous research on social inclusion in higher education, value co-creation on service platforms and nudging human behavior. The layers of social inclusion in higher education reach from ideological and cultural values via national cultures and institutional strategies and practices of interaction to individual's experiences, capabilities and intercultural sensitivity. The study is conducted by using service design process and methodology. The research phase methods include a survey, interviews and mobile ethnography that map the international students' experiences. Other methods include a customer journey map, co-creative workshops, a concept, a prototype, a value proposition canvas and testing.

One of the main outputs from the study is the international students' journey revealing the student experience with nine main phases with pain points and gaps that present the potential for service development. Important knowledge and skills for new international students include knowledge on the learning environment including the academic culture of the higher education institution, one's ability to control and predict the studies' workload and thus create a feasible study plan to follow, ability to form connections to other students for peer support, managing intercultural team work and developing personal resilience. All of these contribute to success in both academic and social dimensions of inclusion. The solution concept developed in this study creates a platform of co-creation where both staff and students interact and are nudged to support the social inclusion of the new international students.

The main conclusion of this study is that nudging behavior on a co-creation platform would offer a feasible way to support social inclusion in the higher education institution. Facilitating and nudging the encounters of diverse campus populations may eventually produce life-changing values for the individual and lead to societal change toward inclusion.

Keywords: service design, co-creation, social inclusion, international students, higher education

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Opiskelijakokemuksen tuuppaaminen osallisuuteen korkeakoulutuksessa.

Vuosi 2020

Sivuja

106

Tämän tutkimuksen tarkoituksena on kartoittaa ja parantaa uusien kansainvälisten perustutkinto-opiskelijoiden palvelukokemusta suomalaisessa pääkaupunkiseudulla sijaitsevassa korkeakoulussa. Tavoitteena on tunnistaa kansainvälisten opiskelijoiden kokemuksia ja ymmärtää heidän kohtaamiaan haasteita erityisesti opintojensa alussa. Tutkimuksessa kehitetään palveluratkaisu, joka tukee uusien kansainvälisten opiskelijoiden tuleamista osaksi korkeakoulu yhteisöä ja suomalaista yhteiskuntaa, ja joka siten edistää heidän mahdollisuuksiaan työllistymistään Suomeen valmistumisen jälkeen.

Opinnäytetyön tutkimuskysymykset ovat 1) Mitä haasteita kansainväliset opiskelijat kohtaavat erityisesti korkeakouluopintojensa alussa? 2) Mitkä tiedot ja taidot edistäisivät opiskelijoiden opintomenestystä? ja 3) Minkälainen palveluratkaisu vastaisi opiskelijoiden tarpeisiin parantaen heidän kokemustaan, edistäen heidän opintomenestystään ja lisäten heidän osallisuuttaan korkeakoulu yhteisössä?

Tutkimus rakentuu aiempaan tutkimukseen osallisuuden kokemuksesta korkeakoulutuksessa, arvонуontiin yhteiskehittämisen alustoilla ja käyttäytymisen tuuppaamiseen. Sosiaalisen osallisuuden tasot korkeakoulutuksessa ulottuvat ideologiasta ja kulttuurisista arvoista kansallisten kulttuurien, korkeakoulujen strategioiden ja käytäntöjen kautta yksilön kokemuksiin, kykyihin ja kulttuurienväliseen herkkyyteen. Tutkimus on toteutettu käyttäen palvelumuotoilun prosessia ja menetelmiä. Tutkimusvaiheen menetelmiin kuuluvat kysely, haastattelut ja etnografinen luotaintutkimus, joilla kartoitettiin kansainvälisten opiskelijoiden kokemuksia. Muita käytettyjä menetelmiä ovat mm. asiakaspolku, yhteiskehittämisen työpajat, konsepti, prototyyppi, arvонуontitaulu ja testaus.

Yksi tutkimuksen päätuoksista on kansainvälisen opiskelijan asiakaspolku, joka paljastaa opiskelijakokemuksen yhdeksän vaihetta kipupisteineen ja palvelupuutteineen kehittämistyön ideoimiseksi. Opiskelijoiden opintomenestystä edistäviä taitoja ja tietoja ovat tutkimuksen mukaan oppimisympäristön ymmärrys ml. korkeakoulun akateeminen kulttuuri, kyky hallita opintojen työmäärää ja siten suunnitella toteutettavissa oleva henkilökohtainen opintosuunnitelma, kyky luoda yhteyksiä muihin opiskelijoihin, monikulttuurisen ryhmätyöskentelyn taidot ja henkilökohtaisen kestokyvyn rakentaminen. Kaikki edellä mainitut tiedot ja taidot edistävät uusien kansainvälisten opiskelijoiden akateemista ja sosiaalista osallisuutta yhteisössä.

Pääasiallinen johtopäätös tutkimuksesta on, että käyttäytymisen tuuppaaminen yhteiskehittämisen alustalla tarjoaa korkeakoululle toteutettavissa olevan tavan tukea osallisuutta. Fasilitoimalla ja tuuppaamalla eritaustaisten ihmisten kohtaamisia kampuksella voi lopulta johtaa niin yksilöiden elämää muokkaavien tavoitteiden saavuttamiseen kuin yhteiskunnankin tasa-arvoistumiseen.

Asiasanat: palvelumuotoilu, yhteiskehittäminen, sosiaalinen osallisuus, kansainväliset opiskelijat, korkeakoulutus

Table of contents

1	Introduction	7
1.1	The case: Developing international students' experience in a Finnish higher education institution.....	8
1.2	Purpose, goal and research questions.....	10
2	Internationalization of Finnish higher education	11
2.1	International students to boost Finnish economy	11
2.2	Social inclusion as a goal in higher education	13
3	Dimensions of social inclusion in higher education.....	15
3.1	Definitions of social inclusion.....	15
3.2	Need for inclusive academic cultures and practises.....	18
3.3	Individual's inclusion process.....	20
3.4	The inclusion of the international students at the case HEI	22
4	Design thinking and service design process.....	23
4.1	Service design co-creates value	24
4.2	From design thinking to doing	26
4.3	Service design principles	26
4.4	Double diamond design process	28
5	Nudging for inclusion with co-creation	29
5.1	Nudges use biases to direct behaviour	30
5.2	Nudging for social inclusion in higher education	31
5.3	Values created by nudging	33
6	Service design methods and tools in different phases of the development case	34
6.1	Discovery phase maps user experiences	34
6.1.1	The triangulation, relevance, visualization and protection of data	35
6.1.2	Survey on fee-labile students' experiences	36
6.1.3	In-depth interviews with students	37
6.1.4	Mobile ethnography with new students	38
6.2	Definition phase creates user insights.....	40
6.2.1	Customer journey map with key insights	40
6.2.2	Visualizing experiences with a storyboard.....	41
6.3	Development phase creates solution ideas.....	41
6.3.1	Co-creative workshops with ideation.....	41
6.3.2	Directing the scope with idea portfolio and stakeholder map	43
6.4	Delivery phase validates and impacts	44
6.4.1	Concepting and prototyping.....	44
6.4.2	Validating the service proposition	45

7	Outputs from the different phases of the development case	46
7.1	Discovering the international students' experience at the case HEI	46
7.1.1	Tuition fee-liable students' survey	46
7.1.2	Interviews with international students.....	51
7.1.3	Revelations by mobile ethnography.....	53
7.2	Defining international students' challenges.....	54
7.2.1	Journey map on the international students' challenges	55
7.2.2	Storyboarding the onboarding experience.....	58
7.3	Developing feasible solution ideas to support social inclusion	59
7.3.1	Workshop for a better flow of studies.....	59
7.3.2	Developing solution ideas with case HEI staff.....	61
7.3.3	Developing the onboarding experience	62
7.3.4	Redefining the scope: The onboarding phase and its stakeholders	63
7.3.5	Ideating for inclusive onboarding experience.....	65
7.4	Delivering a concept and testing the prototype.....	68
7.4.1	Concepting a co-creation platform Pathfinder	68
7.4.2	Prototype of the new service solution	69
7.4.3	Validating the concept and testing the prototype	74
8	Results.....	77
9	Conclusion and discussion.....	80
9.1	Evaluation of the study and suggestions for further studies	80
9.2	Implications of the research results	82
	References.....	86
	Figures	90
	Tables.....	91
	Appendices.....	92

1 Introduction

The higher education institution of this case study, located in the capital region of Finland, is one of the most international universities, ranking within the top 50 in the world by the internationality of its student and staff population, learning environment, research and knowledge transfer (Times Higher Education 2019). Nevertheless, the results of the recent (2018-19) student wellbeing survey at the institution show that though international students do well in their studies, they feel lower levels of inclusion compared to their local peers. The topics of international students' inclusion and employability have received considerable attention in recent years in Finland (e.g. Minedu 2018, Ministry of Education and Culture 2019a, Villa et al 2016, Shumilova et al 2012) and within OEACD countries (e.g. Gaebel & Zhang 2018). Finland is seen as a lucrative job market but is it wasting the potential of its international graduates as roughly only 45% of them are employed in Finland after graduation? The role of the higher education institutions in student success and employability should be in enabling smooth studies with relevant content and skills for all students, also for the international students on a tight schedule. (Villa et al 2016, 2, TEK 30.9.2016.) Challenges with inclusion and employability are generally agreed to be linked with international students' lack of local language skills, lack of relevant work experience and poor connections to employers, as well as the possible unwelcoming attitudes of the peer students and employers (e.g. Shumilova et al 2012, Puttonen 2018, Back 2019).

2017 introduced the tuition fees for degree pursuing students of non-EU/EEA citizenship in Finland, thus creating a new customer segment for the Finnish higher education institutions and launching them in the global competition for the best fee-paying international applicants (Ministry of Education and Culture 2019a). When presenting the first results of this study at the case institution (Programme Forum event for programme leaders and planning officers 29.3.2019), knowledge on the experience of these international students needed obvious improvement. The audience commented on the international students being loud in demanding special treatment, whereas all students are and should be given the same help and services. The educational leaders questioned the need for changes in their programmes for only a couple of students. Yet, the improvement of services and smooth possibilities to complete studies concern all students, as well the institution. With this study I aim at showing what is the experience of the international students and - higher education being part of societal change - why should we care.

To complement previous studies on the topic of international student's inclusion in Finland (Puttonen 2018, Villa et al 2016, Lähteenoja 2010), in this study, the focus is on the viewpoint of the international students, rather than of the higher education institutions or the wider society. This means that the sense-making of the phenomena and developing the solutions for the issue is done closely working with the customers of the Finnish higher education

institution in question. This way of working ensures that the values materialized in the service processes of the solution do not lose focus but are those of the actual users. I use service design and its methodology to explain how value can be co-created in nudged interactions between the service provider (the higher education institution) and the users (international students and the institution's staff), once a platform for co-creation is established and encounters are facilitated by the service provider (Grönroos 2017). I link the idea of nudged behaviour facilitated on a co-creation platform with Tinto's (1975) theory of social inclusion: The inclusion of a student in higher education has both an academic and a social dimension, which both produce certain values for the users.

In this study, rather than looking into the problems of inclusion of Finland's international graduates in their job-hunting phase - a phase when the lack of inclusion often becomes tangible - I concentrate on the onboarding phase of the international students' studies at the case study higher education institution. This brings the focus from hazy employer attitudes to the services provided by the higher education institution, thus presenting an interesting case for service development within the case higher education institution. I aim at discovering, what kind of a new service a higher education institution could facilitate, in order to support the new international students' success right at the beginning of their studies, while empowering their inclusion into the campus community and the wider society in Finland. Consequently, a successful service like this would boost the international graduates' employment in Finland. This study also aims at showing how service design can be used in a higher education institution to develop insights of new customer segments and how a new service concept can be co-created with those customers and other stakeholders.

1.1 The case: Developing international students' experience in a Finnish higher education institution

The development case of this study takes place in a higher education institution (HEI) located in the capital region of Finland. The case higher education institution was founded in a merger of three HEIs in 2010 and is now organized in schools operating in multiple fields. The HEI has a mission to promote research as well as scientific and artistic education, and to provide research-based higher education. It promotes life-long learning, interacts with, and impacts society locally and internationally. It contributes to Finland's success by making a positive impact on Finnish "economy, technology, art, design, internationalization and competitiveness, as well as promotes the welfare of humankind and the environment through high-quality research and education". The higher education institution endorses itself as a community of game changers: "We educate game changers to solve grand challenges and create wellbeing in society. This requires disciplinary excellence combining creativity, collaboration and entrepreneurship." (HEI webpages 26.10.2019.)

The total number of active degree students in September 2019 was about 17 600 of which 16% were international students (foreign nationals). In 2018, altogether 1 218 students completed a bachelor's degree, 1 628 a master's degree, and 263 a doctorate. The share of new international students is humble at the bachelor's level, but 25% at the master's level and 30% at the doctoral level, and the growth of the share of international students has been growing gradually (figure 1 below). (HEI webpages 26.10.2019, HEI statistics 26.10.2019 & 3.1.2020.)

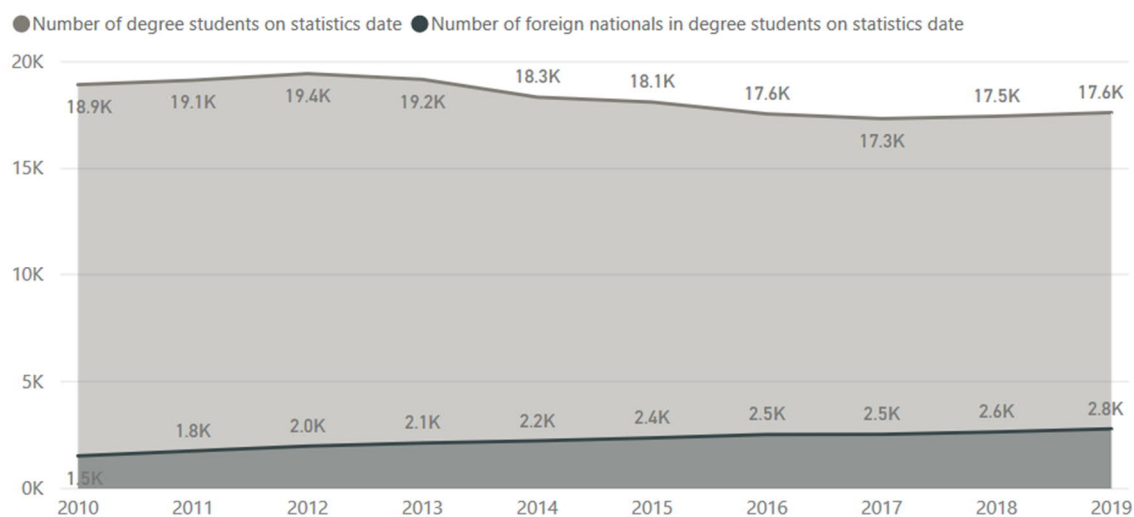


Figure 1. The number of international students in the higher education institution is gradually growing (HEI statistics 26.10.2019).

In 2019, 327 degree students were tuition fee-liable (nationals of non-EU/EEA), of whom 261 students are paying tuition-fees, thus having no exemption based on a permanent residency in Finland. Therefore, the tuition fee-liable students constitute less than 2 % of the whole student population. The most common nationalities of bachelor's and master's level students are presented in the map below (see figure 2), and altogether the students represent over 100 nationalities. The tuition fees are 12 000 € per year in the bachelor's degree and 15 000 € per year in the master's degree. To evaluate the significance of the tuition fees for the institution's business model, the needed financial information, such as the revenue from the tuition fees or the cost of a degree, were not available for this study. The HEI also hosts yearly more than 900 international exchange students. The HEI has become increasingly international by its faculty and staff as almost 30% of the staff are international. The percentage varies by personnel group: e.g. more than 50% of research staff are international, compared to only 5% of the support staff. At the end of 2018, employment contracts at the HEI totalled over 4200. (HEI webpages 26.10.2019, HEI statistics 26.10.2019 & 3.1.2020.)

Biggest nationality groups in international degree students



Figure 2. The most common nationalities of international students by their share of all bachelor's and master's level degree students in 2019 (case HEI statistics 20.9.2019).

The HEI's Equality plan 2019-2021 considers diversity important for the development of the HEI and lists as a measure that the HEI "will continue to offer and develop such services and material for international students and employees that help their integration into Finnish society and university life". It also states that the HEI commits to offering materials and training that include information on diversity. (HEI webpages 26.10.2019.)

1.2 Purpose, goal and research questions

The purpose of this study is to recognize and improve the service experience of new international, degree pursuing bachelor and master students at the higher education institution in case. The study is conducted by using service design process and methodology, customer journey map being one. In order to understand the new international students' experience, the development case concentrates on the beginning phase of their study journey. The goal of the study is to map the experiences of the students and to understand what kind of challenges they encounter, especially when starting their studies. The study suggests a service concept to support the new international students' inclusion into the higher education institution community and the wider society in order to improve their study experience, and consequently boost the international graduates' employment in Finland.

The research questions are:

Mapping the experiences of the students: What kind of challenges do international, degree pursuing bachelor and master students encounter, especially when starting their studies at the higher education institution?

What type of knowledge and skills would the new international students benefit from in order to succeed in their studies and at the start their new life in Finland?

What kind of new service solution could respond to the students' needs, thus improving their experience, help them succeed in their studies and increase their social inclusion and sense of belonging in the higher education community?

2 Internationalization of Finnish higher education

The number of foreign students in higher education programmes globally has risen in the last decades from 2 million in 1998 to 5,3 million in 2017. Studying in the OECD area, there were 3,7 million international or foreign students in 2017, which represent a 6% raise from the year before. In 2017, in Finland 7,1% of all higher education students were international (non-Finnish by nationality), which is above OECD average. (Ministry of Education and Culture 2019a, 20, OECD 2019, 231.) According to OECD (2019, 240) definition, "international students are those who left their country of origin and moved to another country for the purpose of study". Foreign students, on the other hand, are "those who are not citizens of the country in which they are enrolled and where the data are collected. Although they are counted as internationally mobile, they may be long-term residents or even be born in the "host" country" (OECD 2019, 240). This means that an "international student" may be studying in another country for a full degree or completing exchange studies or another shorter mobility period, but graduating in e.g. their home country. In this study, the term "international student" is used for international degree-pursuing bachelor and master level students.

2.1 International students to boost Finnish economy

International education as a concept in Finnish education started from the schools in the 1960's as an ethical theme with an intent to teach students about the equal value of people, human rights and different cultures. It aimed at showing young people individual's responsibilities and rights in a society and caring for the underprivileged. (Räsänen in Räsänen & San 2005, 32.) In the past few years, the international students in Finland have been a topic, however, for their potential to boost the national economy. Yet, there are worries, that that potential is not being fulfilled as only 45 % (in 2014) of the international students had been employed in Finland after graduation and the percentage seemed to be going down. (Villa et al 2016, 2.) Statistics from 2016 that investigate the employment of international students and graduates show development (see figure 3), which is similar to the situation in other EU/EAA countries and according to which Finland loses at least 25-30% of its international graduates while the situation of many remains unknown. 62 % of the Finnish nationality graduates are fully employed while only 30-32 % of the international graduates have secured full employment one year after graduating from a Finnish higher education institution. (Garam 2018b.)

Employment situation of Finnish higher education graduates one year after graduation in 2015

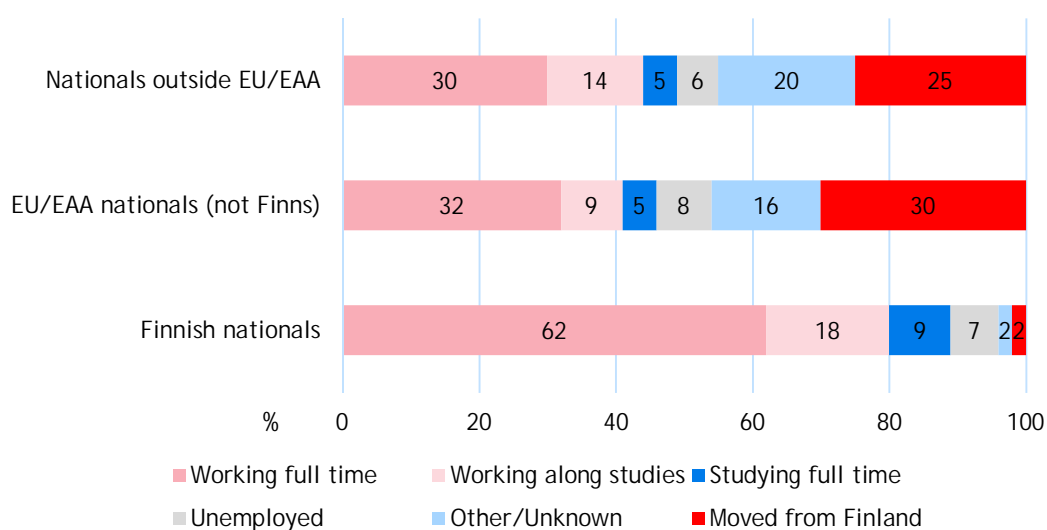


Figure 3. The employment situation of higher education graduates in Finland one year after graduation (2016) by nationality group (Garam 2018b).

The attention has been directed to the reasons, why the graduates do not stay in Finland. The issues around immigration and inclusion of the international students in Finland are described in a recent report by Finnish Ministry of Education and Culture (2019). The report follows the situation after the instalment of the tuition fees in 2017 for non-EU/EEA nationals in Finnish higher education institutions (HEIs). Taking the issue seriously, in March 2019 the ministry founded a working group with the Ministry of interior to “improve the conditions for the entry and stay of international students and to intensify their integration, to make proposals for closer cross-administrative cooperation and to increase other networking and information flows—”. The ministries initiative is based on the anticipated labor needs arising from the ageing of the Finnish population as well as already experienced problems in the immigration permit processes. The vision 2030 of the Finnish higher education and research is that Finland will be a country of the highest-level skilled labor. (Ministry of Education and Culture 2019a, 9-10.)

Before tuition fees, Finland was able to compete in the global higher education markets with free education. After the instalment of the tuition fees in Finnish higher education in 2017 for non-EU/EEA nationals, the fear was a collapse in the numbers of international applicants to universities and universities of applied sciences, leaving Finland without the desired and skilled internationals. However, the numbers in international applicants did not drop dramatically and have since risen back to the levels before tuition fees (Minedu 2018, 4.) Statistics on the employment situation of the international graduates who had started their studies in Finland after 2017 is not yet available.

The report cites the Forum of future skills 2019 (cited in Ministry of Education and Culture (2019, 10), according to which, in Finland there is a yearly need for skilled labor of 60 000 persons. In 2018 the international students completed in Finland over 4 900 degrees, which makes them a potential population to be employed in Finland. According to the Ministry of education and culture (2019, 10, 15) the facts affecting their future employment in Finland are the quality of the learning, studying and research environment, quality of the support services e.g. in student wellbeing, safety and inclusiveness of the learning environment and the wider society, infrastructure and pedagogical quality in teaching, cost of studies and living and their funding opportunities, reputation and attractiveness of the education offered in English, attractiveness of the higher education institutions and their location and the potential career prospects. According to the International Student Barometer 2017 survey, 78 % of the responding students considered the employment opportunities as an important factor in choosing the country of their studies. About 50 % of the respondents planned to stay in Finland after graduation. (Garam 2018a.) The question remains: in case roughly 45 % of the international graduates do get employment in Finland (Villa et al 2016, 2), and roughly 50 % of them wish to do so (Garam 2018a.), are these the same people and how do we make the other half wish to stay in Finland – and get employed here. But is the economic viewpoint of employability too narrow? Could international education in Finland be made into a success story for the whole society if considerations of intercultural competences, dialogue between diverse people and social inclusion were better considered for the international higher education students and graduates?

2.2 Social inclusion as a goal in higher education

Inclusion or the lack of it in local academia can be seen having a major effect in the experience of the international students. It also has a societal impact. (Back 2019.) According to a study (Gaebel & Zhang 2018) on European higher education institutions, social inclusion and equity are considered important goals and values in policy documents in the institutions of the EHEA (European Higher Education Area). Inclusion often refers to equal access to education and learning opportunities, as well as aiming at the student population reflecting that of the wider society. The measures suggested for social engagement are for example encouraging student initiatives on social engagement, social inclusion being part of the strategy, social inclusion being considered in the teaching practises such as diverse classrooms, it being built in the study programmes, credits being earned through participation in civic activities on engagement, and offering special courses on social engagement. However, the study shows that of the 288 European higher education institutions that answered the survey, most are taking action toward the inclusive measures only “to some extent, in parts of the organization”. (Gaebel & Zhang 2018, 48-49.)

In Finland, the inclusion of the international students into the academia and the wider society has been under discussion. The biggest challenges for the International students, according to a recent report (Minedu 2018), are the difficulties to integrate into the higher education institution and the lack of networks and connections to possible employers. For more graduates to find employment in Finland after graduation, the higher education institutions are urged to pay attention to holistic integration and cooperation with working life during the whole journey of the student from recruitment to job hunting. The report is vocal about offering better career and study planning support for especially tuition fee-labile students, for whom the education in Finland is a huge financial investment. (Ministry of Education and Culture (2019, 34.)

The interim report after the instalment of the tuition fees in Finland (Minedu 2018, 35, 39) suggests that the higher education institutions are willing to develop their support services from welcoming activities to more holistic approaches in social inclusion and engagement. However, the interim report survey shows that 33 out of 37 Finnish higher education institutions have not established specialised services for their new customer segment, the fee-labile students, even when 20 HEIs report that the services are not adequate for the fee-labile students' needs. Interestingly, according to the report, the Finnish HEIs consider it most important to offer equal services to all international students, but that services should be of such quality that "no extra services would be needed" for the fee-labile students. However, the special needs compared to local (Finnish) students, were recognized by the HEIs. The fee-labile students are recognized needing extra help in career advice, finding internships, job-hunting, creating networks, immigration issues, health services in English and housing services. According to the fee-labile students who answered the survey, there is a lack of emotional support from the academic staff, no proper feedback after courses, not enough actions preventing bullying and racism, inadequate services of study psychologists and career services. (Minedu 2018, 35-36.) The poor services to support inclusion of the international students and graduates may have something to do with the mindset which Räsänen (in Räsänen & San 2005, 18) describe as "we have had enough to do managing our own citizens and fighting for independence". However, Finland seems to have woken up to the realization that to be able to keep the international talent, we need to rethink the concept of multicultural Finnishness and reconsider the policies toward immigrants, minorities and our place in the world. (Räsänen in Räsänen & San 2005, 18.)

3 Dimensions of social inclusion in higher education

According to Puttonen's (2018, 47) master's thesis, where Finnish HEI's staff, international students and student union representatives were interviewed, the biggest challenges with the international students in Finland are to do with the lack of local language skills, insufficient inclusion in the local community and difficulties in finding employment in Finland. This study concentrates on the issues around the challenges met by the international students in the case higher education institution and the lack of social inclusion in their new learning environment.

3.1 Definitions of social inclusion

The terms integration and inclusion in the context of higher education are often used interchangeably (see for example Tienda 2013). Tienda (2013) connects the terms with diversity, which can refer to cultural, socio-economic, political, racial and religious differences between people (on campus). Borrowing from the context of special needs education, the terminology and approach has shifted from integration, focusing on access to higher education, to inclusion in the 1990's, when it became viewed more broadly as a process where students are viewed as individuals with individual needs (Vieslie 2003). In this study, I am using the term inclusion rather than integration, as I believe it makes the host culture or organization also an active party in the process. Integration seems to refer to a one-dimensional process, where the new person tries to fit in to a social environment while the host culture remains unaffected. In design thinking, looking at a phenomenon from all "users" perspective is such a central principle, that one-way activity does not suffice to capture the complexity of the issue, nor to develop a solution for the design challenge in question. Davidson & Ferdman (2002, 81) define inclusion (in a workplace) as a process happening on two levels: the individual and the organizational. It has long been recognized by psychology that for human wellbeing it is necessary to be a part of a social whole. Inclusion may mean for an individual the feelings of being valued, accepted or recognized but when it comes to actively including others, it is easy to make a mistake, as people experience the intentions of others so differently. Trying to treat others, the way you would like to be treated might appear as imposing your own values and ways of doing on the other person. Instead, the best way of action, according to Davidson & Ferdman (2002, 81, 84) is to recognize the needs of the newcomer and for the organization to support diversity and inclusion in its structures and ways of working, such as investing in cross-cultural communication skills. Tienda (2013, 467) sees social inclusion in higher education as a step toward welcoming diversity in wider societal context. They are calling for organizational strategies and practises that encourage meaningful social and academic connections between and with students who have different experiences, opinions, and behaviours.

Puttonen (2018, 38-44) describes the inclusion process of an international student based on both Tinto's (1975, 2006) and Lähteenoja's (2010) work, who both originally talk of an integration process, translated for the purpose of this study as inclusion process. Tinto (1975) analyses in his classic (Lähteenoja 2010, 47) theory, that the inclusion of a student in higher education has both academic and social dimensions: The academic inclusion of a student depends on 1) the commitment shown by the academic staff toward the student and 2) on how well the studies correspond to the student's developmental and intellectual goals. The social dimension of inclusion is affected by the student's level of connectedness with the peer-group of students on 1) participation in free time such as campus activities and 2) engagement during studying activities. Both dimensions have an effect on whether the student decides to continue with their studies. A sufficient level of inclusion needs to be achieved on both dimensions for a student not to make a decision to drop out. For example, persons feeling well engaged in campus activities (dimension of social inclusion) might suffer from too much social life activities which in turn starts affecting their grades, in which case the academic inclusion fails (Tinto 1975, 117). The value (reward) in academic inclusion are the grades and intellectual development (learning new skills) and the values (rewards) that a student gets from the dimension of social inclusion are social engagement and networks. (Tinto 1975.)

Gidley et al (2010) continues the concept of inclusion within higher education by showing how the concepts of social inclusion as access, quality as success and participation are all dependent on the ideology behind the discourse. They propose that equal access is just the first step in social inclusion and that participation and success can be understood to mirror the degrees of social inclusion. They observe how global competitiveness, fundamental to neoliberal economics, has infiltrated into the higher education sector. In their view, access, participation and success can be seen to follow ideologies from neoliberalism, social justice and human potential, respectively. According to Gidley et al (2010), the concept of quality in higher education has been hijacked by neoliberalism and elite institutions but it is the ideology of human potential that offers the most embracing perception on social inclusion. A policy of higher education that concentrates in building human potential, goes beyond enabling access to higher education: The narrowest understanding of social inclusion belongs to the neoliberal notion of social inclusion as access. A broader concept of social inclusion by the social justice idea describes it as participation or engagement; and the widest interpretation of them all encompasses the human potential of social inclusion as success through empowerment (figure 4). Thus, from the perspective of human potential and globalism ideologies, quality in higher education would mean more than global competitiveness or higher levels of access.

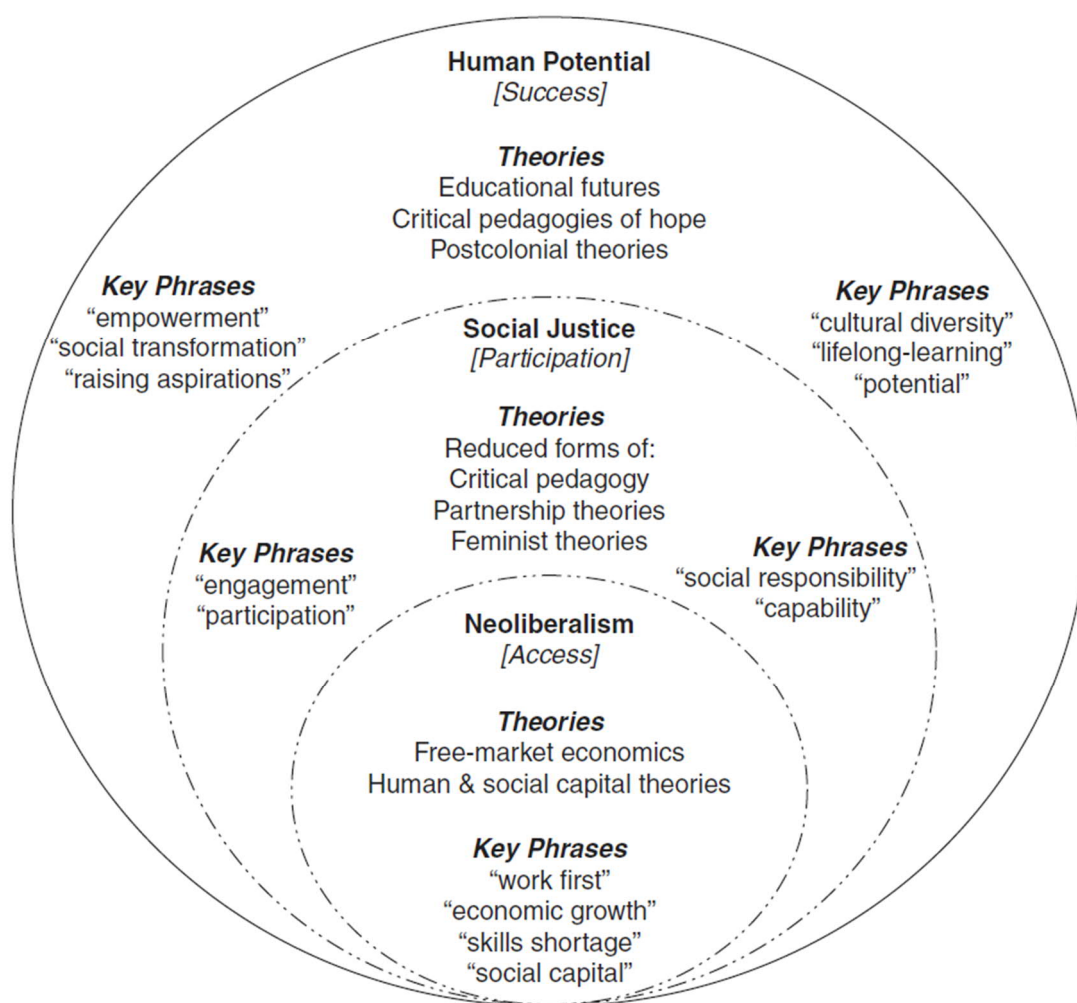


Figure 4. The ideologies underlying social inclusion theory and policy (Gidley et al 2010).

It is easy to see, how the social inclusion of international graduates has been seen in the Finnish discourse: These individuals have been seen as means for economic growth as part of a national agenda; as Gidley et al (2010) write, "in this theory the disadvantaged will eventually be included in global wealth distribution through what is called the trickledown effect". However, according to Gidley et al (2010) there is often no evidence of the quality of education accessible to these students and this approach may eventually lead to excelling of few students on the expense of many. Despite good intentions, the ideology of social justice and social responsibility may also disguise economic intentions concerned mostly with availability of skilled labour to contribute to economic growth. (Gidley et al 2010.) Also, Tienda (2010, 467) questions whether institutions of higher education are motivated by the diversification of their student body for the reason of building pedagogies to follow and with an effort to benefit from the diversity in the classrooms and the campus: Having a diverse campus alone does not lead to inclusion of minority students nor transform society for equity.

The widest interpretation of social inclusion is recognized as human potential ideology which aims at maximising the potential of each human being through empowerment; thus supporting broader cultural transformation (Gidley et al 2010). This view understands people having wider needs and interests beyond a role in national economics and supports individual students' success, not merely access, in higher education. "A crucial difference between these theories and much of neoliberal theory is that there is no one ideal – for example European, or Anglo-American – model of human development. Rather the notion of cultural and individual diversity is embraced whereby individuals are socially included, not so that they 'fit in' or 'are assimilated into' some pre-existing Western centric society or factory model of education, but rather that they bring with them the richness of their individual difference – be it gender, culture, age or ability." (Gidley et al 2010, 137).

What is noticeable, is that a huge potential for innovation – may it be for individuals' self-transcendence or national economies – seems to remain unused. Räsänen & San (2005, 7) argue that cultural diversity (in the Finnish context) is a reality which is why intercultural encounters should be seen as an imperative foundation for new learning and creativity. There is growing indication that diversity promotes innovation, problem solving, and new ways of thinking in companies, but there is less suggestion presenting how diversity nurtures inclusion on campus, despite expectations that it does so (Tienda 2010, 467).

3.2 Need for inclusive academic cultures and practises

For every student, starting studies in a higher education institution is a new experience, demanding new ways of thinking, learning and communicating. For many, it is also the first time they move out on their own, and in the case of international students, move abroad. This means they are starting their studies without their usual support networks. The students will need to adapt fast to a new culture with its teaching as well as learning styles and having intercultural expertise may help them succeed in such a setting. Nevertheless, many universities fail to notice the struggles of the individual minority students, expecting them to perform well, and to know and understand the underlying educational values and practises of the new (Western) host academia. The implications of this are that in case of problems, it is the students that are expected to adjust. However, the students might not be aware of the academic skills and behaviours that are expected of them. In this setting, it would be important for both teachers and the students to become more aware of their own culture and its communication and learning styles etc. as well as learn about other cultures' interpretations and understandings. (McLean & Ransom 2005.) The pedagogies that consider the student engagement and inclusion and the attitudes and values of the faculty teaching in the classrooms are essential for supporting the new students' learning experience and study success (Tinto 2017, 260.)

Read et al (2003, 227-228) have studied the experiences of “non-traditional” higher education students who are not young, white, middle class and male. They conclude that such students prefer to choose their education institution where there are also other “non-traditional” students, to easier achieve the sense of belonging in the academia. However, it is often the culture in the academia of even a relatively diverse institution or a society that is still very “traditional”, that oftentimes is not helping such students feel engaged. Reid et al (2003) demand for policy initiatives that address the experiences of the “non-traditional” students while they are in the academia, to focus attention on developing the cultural dimensions of teaching and learning.

Challenging academic conventions and sharing “insider” knowledge of the prevailing practices of the academia, is essential when teaching in a culturally inclusive classroom. Often teachers are used to “pure” teaching but neglect the “added value” of explicitly explaining this culturally dependent knowledge, while supporting students in their learning and assisting them to increase their awareness of the academic requirements and skills needed to succeed in their studies. Inclusive teaching is about respecting, observing and understanding the students as individuals. The learning environment of any higher education institution, not to mention a hiring company, is already global, if not on campus, at least virtually, which is why it is necessary to prepare all students and teachers for intercultural encounters. (McLean & Ransom 2005.) What is more, Walton & Cohen (2011, 1447-48) find in their study that even small interventions to promote social belonging of minority students in academia can lessen inequalities and promote health. Students who feel socially included, may engage in more social connections on campus, which facilitate their inclusion even further while also benefiting their wellbeing, study success and health. (Walton & Cohen 2011, 1447-48.)

Tinto (2017) looks into how the student’s institution may form the student’s motivation to success in their studies. First of all, it is important to understand that the value creation process for the service providing institution differs from that of the student: The institution is interested in growing the percentage of the students who graduate while the student is concerned with completing a degree, irrespective of the institution in which it is earned. Tinto argues that motivation is shaped by the student’s experiences in the academia. To shape those experiences, the institutions have to be aware of the student’s personal goals, self-efficacy (belief in one’s ability to succeed), sense of belonging (inclusion) and perceived relevance of the curriculum. Self-confidence of especially a student from “non-typical” background can suffer as a result of negative stereotypes held by others in the studying environment. That is why it is essential to support the sense of belonging, especially during the beginning of the academic studies. A sense of belonging is molded by the campus atmosphere as much as by individual encounters with other students, administrative staff, academics and other teachers on campus. (Tinto 2017, 254-256).

What the administration can do, according to Tinto (2017, 261-2), is to plan and implement their actions inclusively to support the interests and goals of all students, starting with the orientation. In addition, the administration can focus on promoting activities that reassure the sense of belonging in the form of "shared academic and social experiences". In teaching, this can be achieved by enforcing diversity in social groups and supporting cooperative pedagogies. What comes to the student's expectations and perceived relevance of the curriculum, Tinto (2017, 263) points out that it is not always the question of irrelevant content as much as a question of explicit enough explanations of their relevance.

3.3 From individual's inclusion process to societal view

Räsänen & San (2005, 7) describe how understanding cultural diversity may help develop a society of equality. For individuals, intercultural or global skills can be seen as important transversal competences needed when working in multi and intercultural teams and societies. Education provides a scene, where the individual learnings of the members of a campus community potentially have an overarching impact on societal change. (Räsänen & San 2005, 7, 10.) Fruitful, intercultural learning situations can be facilitated in education: they require real interest, mutual respect, and honest exchange of ideas and understandings. This means that the learning situations are based on certain conditions and carefully considered values such as global ethics, social justice, democracy and human rights. As ethical guidelines for successful intercultural learning situations Räsänen lists individual's willingness and motivation for cooperation, treating others as subjects and as goals instead of means to something, commitment to equity as well as to mutual learning and dialogue. (Räsänen in Räsänen & San 2005, 21-23.)

Successful learning contexts teach the participants about each other's' values, beliefs, norms and attitudes - but also about one's own underlying culture. In this way, international learning situations can serve as tools for profound transformative process in which the participants gain new competences and sensitivity, allow dialogue and adaptation between cultures. And individual may develop an intercultural mindset consisting of "awareness of operating in intercultural contexts, including cultural self-awareness, sufficient knowledge of cultural phenomena", -- and use of "cultural generalisations without enforcing stereotypes as well as maintaining positive attitudes towards cultural differences". (Pelkonen in Räsänen & San 2005, 71-73.)

In Bennett's (2004) model, also cited in Pelkonen in Räsänen & San (2005, 74), intercultural sensitivity and mindset are achieved by several stages of experiencing difference, starting from ethnocentric stages of denial, defence and minimization to ethnorelative stages of acceptance, adaptation and integration (inclusion). In the highest level of intercultural sensitivity, an individual is able to constantly move between different worldviews, apply contextual

assessment, and fine-tune one's actions to the cultural environment. Achieving this stage requires personally encountering cultural differences. As follows, it is nearly impossible to teach intercultural sensitivity and competences - the only way is to try facilitate it. An important question arises: how to enable this mindset to those who are not interested nor motivated by it? (Pelkonen in Räsänen & San 2005, 74-77, 84-85.)

To sum up, the layers of social inclusion in higher education reach from ideological and cultural values via national cultures and institutional strategies and practices of interaction - such as pedagogies - to individual's experiences, capabilities and intercultural sensitivity. The following picture (figure 5 below) synthetizes the layers of social inclusion and their implications, recognized from the previously presented academic literature in and around an individual student's experience.

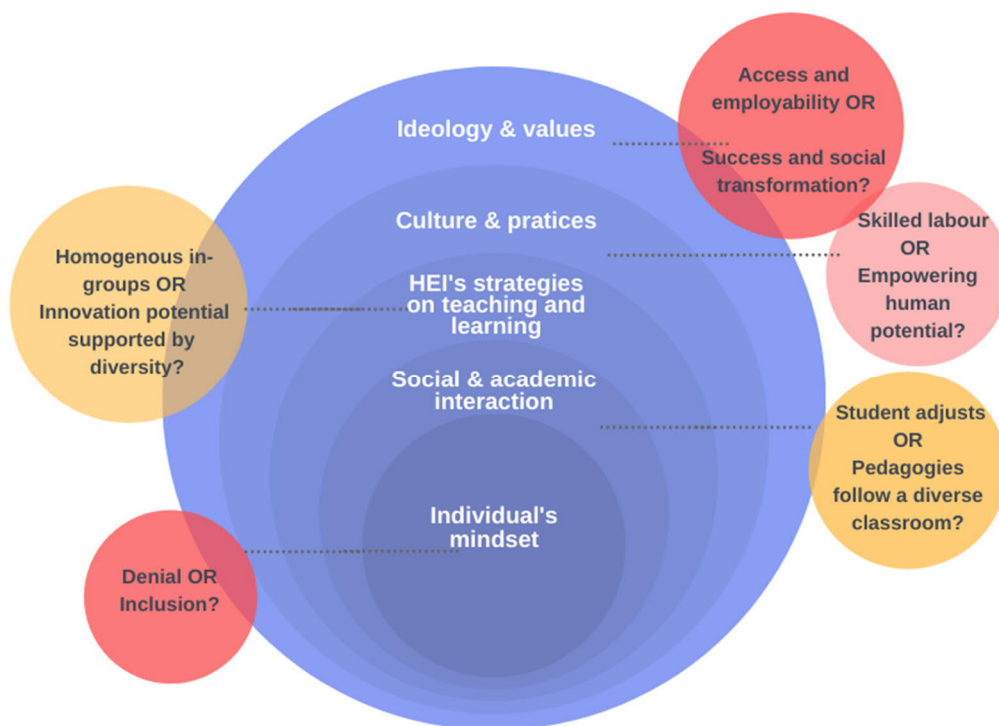


Figure 5. Layers of social inclusion in higher education.

3.4 The inclusion of the international students at the case HEI

The experiences of the international students of the case HEI are collected in this study by using various service design methods but some research on the topic has been also done previously, mostly based on the wellbeing survey conducted in 2018-19. Back (2019), has analyzed the connections between international students' inclusion and language skills and its practices at the case higher education institution. Back (2019, 7) concludes that it is no wonder they have issues in becoming socially engaged in the HEI community and their study environments if they have difficulties in understanding the ongoing discourse or the lingua franca used by most the local students, Finnish. Back analyses, among other sources, the results of a wellbeing survey sent by the HEI to all full-time degree students (about 11 000 at the end of 2018) in 2018 (n=1343 students) and in 2019 (n=1627 students). The results of the study show that the international students feel lower levels of inclusion compared to their local peers. What is interesting is that the international students complete more credits and with a better grade point average than local Finnish students. According to Back (2019, 14) this shows that international students are "especially valuable members to both the HEI community and to the Finnish society at large: these students are motivated and perform well" (figure 6).

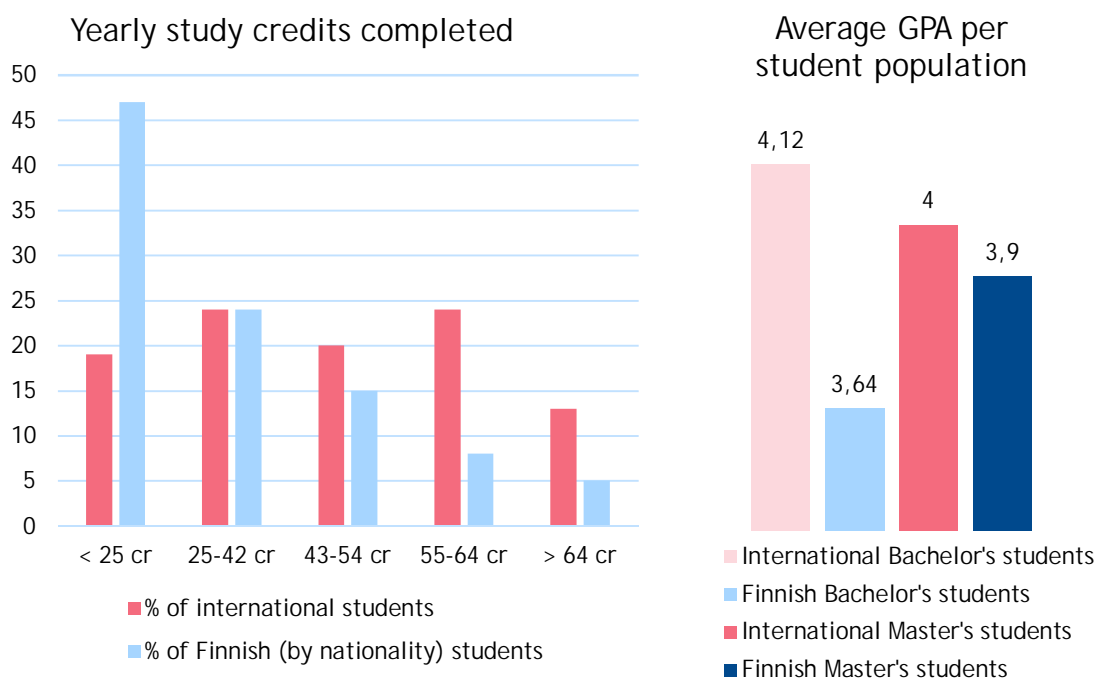


Figure 6. The academic success of international and local students in 2018 (GPA=Grade Point Average on a scale of 1-5, 5 being the highest grade) (On the left, adapted from Back 2019, 14; on the right HEI statistics 2019).

When referring to Tinto's (1975) two dimensions of inclusion, one might argue that the international students seem well included academically. But what about the social dimension of inclusion? The results from the student wellbeing survey at the case HEI show that the international students suffer from lower levels of peer support and relatedness than local Finnish students, and experience higher levels of self-criticism and burnout (Back 2019, 15). Sadly,

this result was visible during the research phase of this study as well: One of the students invited for an interview cancelled the meeting due to burnout.

Back (2019) analyses that the international students at the case HEI have a need for stronger social engagement. They experience lower levels of relatedness and (peer) support than the local students. There is also a big pressure to succeed well in studies, which can be seen in good study success but also in higher levels of self-criticism and burnout compared to Finnish students. Thus, the wellbeing of the international students in the HEI community is observably lower than average. According to a psychologist working in the case HEI, interviewed by Back, the most important reason for this is the lack of peer support from fellow students. The lack of peer support is visible in low engagement in “working on school projects with others in a constructive fashion or having helpful conversations with peers”. Back (2019, 26) concludes that for the significant societal and individual impact, it is crucial to find solutions for the social exclusion of the international students and their wellbeing.

No doubt, the matter of inclusion of the international students is a complex one. My hypothesis in this study is, that in order to improve the experience of the international students at the case HEI, developing services that help them with both academic and social dimensions of inclusion, is the key. The academic inclusion requires the student to be able to learn new skills effectively, to succeed in their studies. For social inclusion to take place, it requires the students to connect with local students in studies or leisure time and to understand the learning environment (facilities and academic culture). When all the pieces of the puzzle meet, the core values in studying, learning and succeeding in studies may be achieved. In addition to that, the study experience may lead to another desired goal of investing in a degree in Finland; employment and the value of self-actualization and betterment of life conditions (see later pp., Bain & company 2018). Providing for successful, intercultural learning experiences for all members of the HEI community, it is possible to grow the intercultural sensitivity of individuals’ mindsets while supporting inclusive behaviours as well as to contribute to a bigger societal transformation towards new, more diverse Finnishness.

4 Design thinking and service design process

Service design is a rather young discipline, stemming from the industrial design of the 1920’s (Polaine et al 2013, 18), introduced in 1990’s to respond to the growing service economy, and new, complex social, ecological and economic challenges. It aims at innovation with a holistic approach. Service design makes sure that services are useful, usable and desirable for the customer, as well as efficient and effective for the service provider to deliver. In short, good design is desirable, viable and feasible. It is always connected to the business strategies of

the service provider and looks into the future of possible new services, in constant co-creation with the users. (Mager in Miettinen & Koivisto 2009, 32-35, 38.)

4.1 Service design co-creates value

Services can be defined as “interactions between people who cooperate to produce a commonly recognized value” (Manzini in Miettinen & Koivisto 2009, 45). In service industry, the organizations essentially sell value. However, the organizations that often work in silos inherited from the industrial legacy and making sense to the service provider, end up selling just that – value experienced in bits. This is where service design is needed. (Polaine et al 2013, 22.)

Grönroos (2017) uses the concept of value-in-use which covers the whole interaction process between the service provider and the customer or user. The service provider creates offerings that have the potential of creating value for the user in their consumption and value-creating process. According to Grönroos (2017, 125) the user not only defines value of a service, but may also be the value creator. This makes the service provider rather a facilitator in the process of customer or user value creation and allows the potential value to develop into value-in-use during the use or consumption of a service or a product. In a process like this, value does not exist before the user uses the service. However, the roles of the users might be reversed in the process: E.g. when a service provider receives actionable feedback from their customers, the creator of value is the customer. (Grönroos 2017, 128.)

From the times of industrial consumer culture, our world has changed profoundly. The offerings have evolved from commodities to products and from services to experiences. No more is it enough that value of the product is in its functionality or that a service manages to hold on to their customers, but the value of an offering is in the way it caters to human emotions, how it delivers experiences to its users. In this context, the user is no longer a passive consumer, but an active participator, or even a co-creator. The next step is in creating design-based innovations of active engagement, created by the participants – both employees and customers – themselves. (Pink 2008, 49-50, 66-67, Brown 2009, 184.) In case the service provider and the customer use a platform of co-creation during direct interactions, the actors’ processes fuse into one co-creative and dialogical process, in which the service provider and the customer can create value together while targeting a shared goal. Consequently, by using resources in a process where the user uses their abilities to incorporate the obtained resources with already existing resources, the user creates value for themselves – and possibly for the service providing organization – or the wider society. In this process, the user aims at achieving advantage. (Grönroos 2017, 125-128.)

Bain & company (2018) have developed a new pyramid reflecting the post-consumerism era needs of our time (figure 7). Their claim is that for companies, perceived value is harder to measure than price and cost of a product and that is why they often focus on the wrong things in trying to improve their offering. Perceived value may be, for example, the emotion and meaning an experience produces for the user (Brown 2009, 128). They recognized 30 elements of value, in four categories: On the base of the pyramid, there are the functional values of the product, the next level shows emotional values, third level the life-changing values for an individual and on the top there is the value of making societal change. In order for a company to tap into existing gaps in the market or to improve their product, they should try to satisfy as many needs and climb as high as possible with their offerings. (Bain & company 2018.)

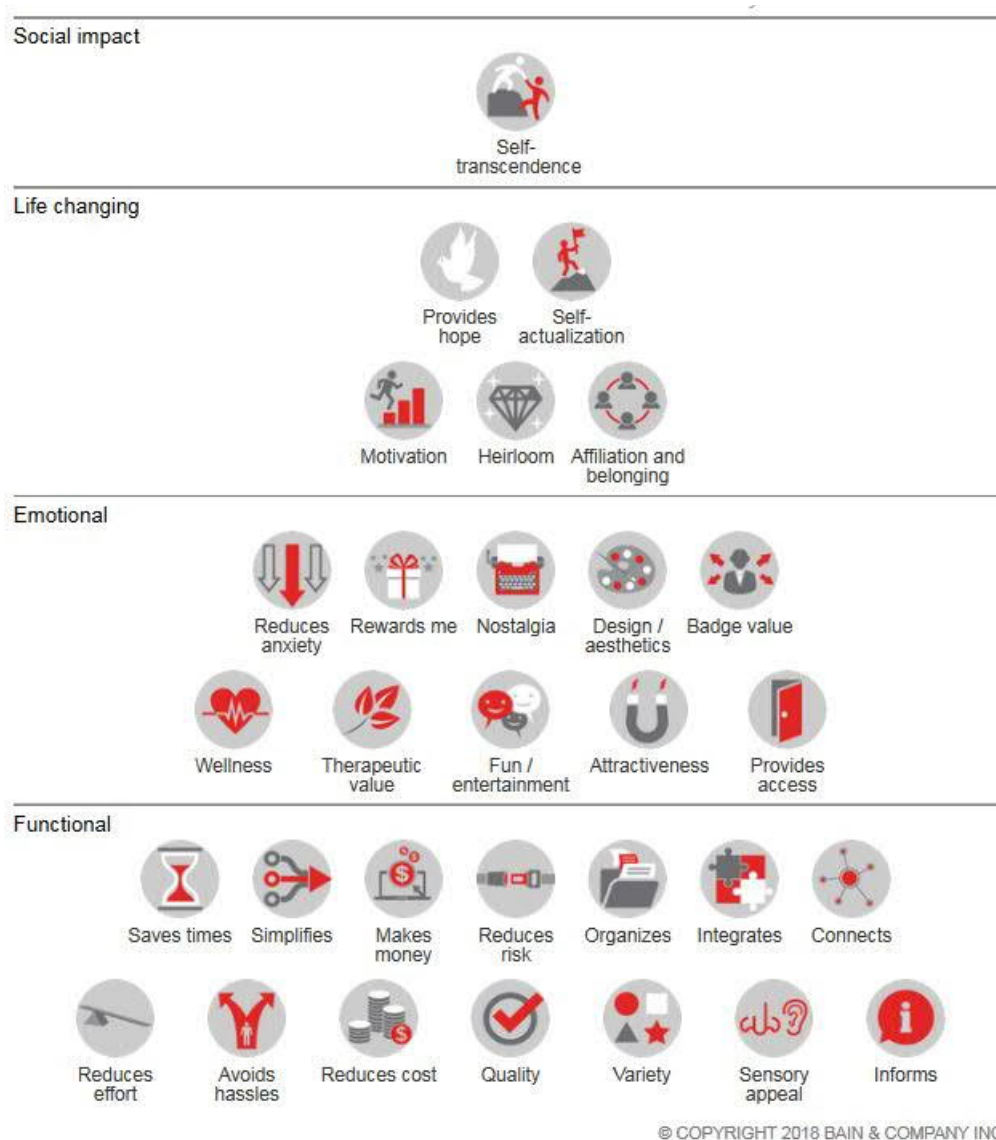


Figure 7. Elements of value (Bain & company 2018.)

4.2 From design thinking to doing

The mind-set of service design is design thinking (Rebelo 2015). Brown (2009, 7) defines design thinking as a way of describing the principles that can be used by different people to solve various, real-life problems. Design thinking utilizes intuition, emotions and inspiration as well as rational and analytical thinking by combining them into a new way of seeing the world. Design thinking is inherently a human-centred approach to problem solving. This means that it benefits from us humans being both rational and intuitive but that it also puts human experience in the centre of the solution-development (Brown 2009, 4). In product and service development, design thinking brings in the user experience, which ideally results in better products and services that are both desirable and functional (Miettinen 2014, 176).

Design thinking supports processes, which are exploratory: the end results of them might be unexpected. What is important is that the results are desirable, viable and feasible. The new concepts, innovations and ideas are best co-created by teams of experts with diverse expertise and backgrounds. (Brown 2009, 16-18, 41.) In innovation, design thinking offers a different approach compared to other approaches by not pre-defining the result or solution for the process. Thus, it also accepts the possibility of not achieving a viable solution. Design thinking strives for innovation and novelty and does not settle for listing or analyzing the already existing knowledge, ideas and solutions. It actively promotes a creative process where new ideas are being crafted in cooperation with relevant stakeholders. As an approach to innovation, design thinking is a mindset, but also a craft that requires hands-on doing and continuous practice. (Salmi 2018).

Design thinking and service design are concerned with the same priorities, putting humans in the centre of thinking and doing of an innovation process. The terminology and emphasis have evolved over the years from design doing (industrial designers working on objects) to design thinking (Brown (2009, 7), the CEO of the design and innovation company IDEO introducing design thinking as survival strategy for any modern company) and back to design doing (Stickdorn et al (2018a, xvi) emphasizing the methods and tools and the fact that design is about doing). However, as Stickdorn et al (2009, xvi) put it, it does not matter how the approach is called, as long as you apply it. In their lecture, Stickdorn (2019) talks of service design simply as a software for the people who apply service design process and methodology.

4.3 Service design principles

According to Stickdorn (2019), the most important goal of service design is to make real change. The motivation for change is created by a positive spirit that is being realized in the service design principles: holistic view, interdisciplinary teams, co-creation, visualization of ideas, and disruptive thinking (Mager in Miettinen & Koivisto 2009, 39.) Making real change

ties back to aiming at developing services that cater to the needs on the top of the value pyramid (Bain & company 2018) of changing it for the individual and the society. To be able to do this, a service designer needs to put the humans in the centre of all doing by truly connecting and empathizing with the people they are designing for and with (Brown 2009, 49.) (see figure 8).

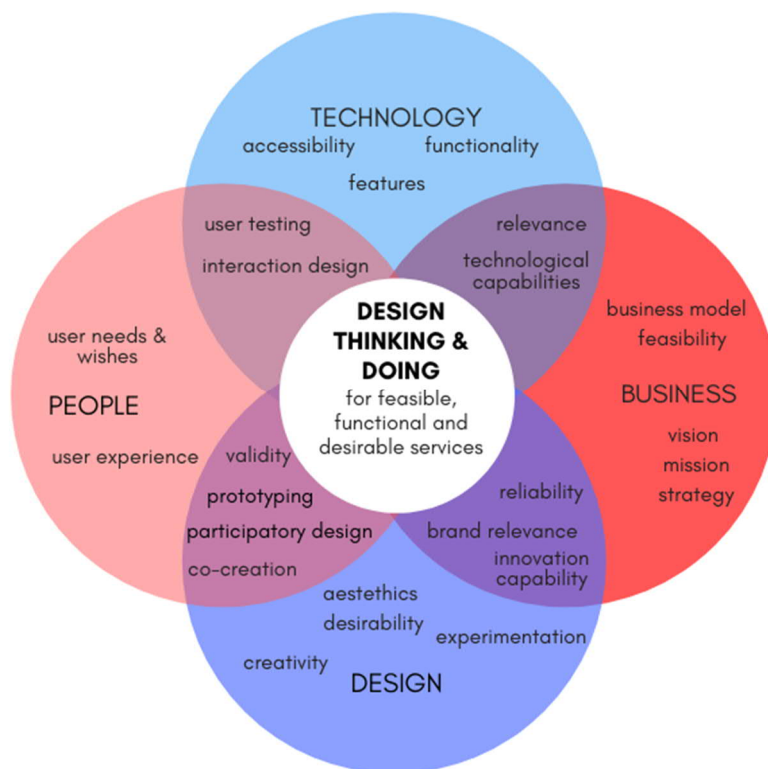


Figure 8. Design thinking and doing for feasible, functional and desirable services.

The power of service design in service development is based on focusing on solving the right problem and thus improving the services or products and even developing new business opportunities. A service design process bases on understanding the needs and wishes of the users instead of rushing straight for a solution. Prototyping and testing at an early stage are part of the process: they reveal problems in the solution fast and on the cheap. The process makes sure that innovation is not based on opinions or assumptions but real user research and testing. (Stickdorn et al 2018a, 14-15.) Understanding the real user requires the designer to empathize with their experience regarding the design challenge or product. Doing it successfully means that the designer will be able to articulate their needs, even when they are latent. (Brown 2009, 40-41, 55.) Kouprie & Sleeswijk Visser (2009) describe empathy in service design as a process involving taking contact, researching the context and environments of the user, making a connection with them and making sense of their experiences combined with their own experiences.

Over the years, service design has evolved into lending approaches, tools and methods from different disciplines such as social sciences (narratology, ethnography), business (marketing, design strategy, management), design (design thinking, product design, user experience) and technology (human computer interaction, agile development) (see appendix 1) (Oblo design 2019). What defines the principles and methods of design thinking and service design doing is that they are all human-centered, mostly co-creative, novelty-driven and aiming at empathizing with the user. Different methodologies may be used in different phases of the design process but some are best suited for certain phases of it. Moving between phases in a process can also be fluid. (Salmi 2018.)

4.4 Double diamond design process

Design processes developed and followed in service design are many, but most of them cover the following phases: inspiration, ideation and implementation (Brown 2008, 88-89). Stickdorn & Schneider (2010, 124-127) observe at least four phases in all design processes: research, creation, reflection and implementation. What seems to be common with most of the processes is that they are not linear, but use an iterative approach where going back to previous phases is common in case it is seen necessary for the service development challenge. (Stickdorn & Schneider (2010, 127.)

A design process guides the innovation through a divergent process of creating ideas and choices and organizing them into meaningful patterns and insights of the data. After that the process takes a convergent turn of selecting the strongest ideas and making choices that lead to a viable prototype, and eventually a desirable and feasible product. Both phases, analysis and synthesis, are equally important as one does not lead to success without the other, which is why they are both used continuously throughout the design process. (Brown 2009, 67-70, 82.)

For this development project, I selected the classic service design process by the British Design Council, the double diamond (Design council 2019). It consists of four phases: In the discovery phase the goal is to collect data and to understand the service context and the users. The definition phase is about making sense of the data collected by creating insights of the users' behaviour, as well as visualizing the analysis produced based on the research data of the discovery phase. Co-creation with relevant stakeholders is done mostly in the development phase and prototyping in the delivery phase, when the solution ideas are being measured and tested. The aim is to evaluate, how usable, desirable and profitable the new service would be and how it would fit the business realities of the service provider. (Miettinen in Miettinen & Koivisto 2009, 13-14.)

The double diamond describes the process of this study's development task best although some of the phases intertwined. For example, in this study, there was a clear iteration round during the definition phase where a need for more research was discovered. The opportunity in the middle of the two diamonds was not as clear as there were many opportunities found during the process and the selecting of one took time and thought. There was also more validate & impact moments in the design process of this study, than the model would assume: Especially after the definition phase, the customer journey map was both validated and used within the organization for impact. The methods used in each phase of this study are presented in the figure 9.

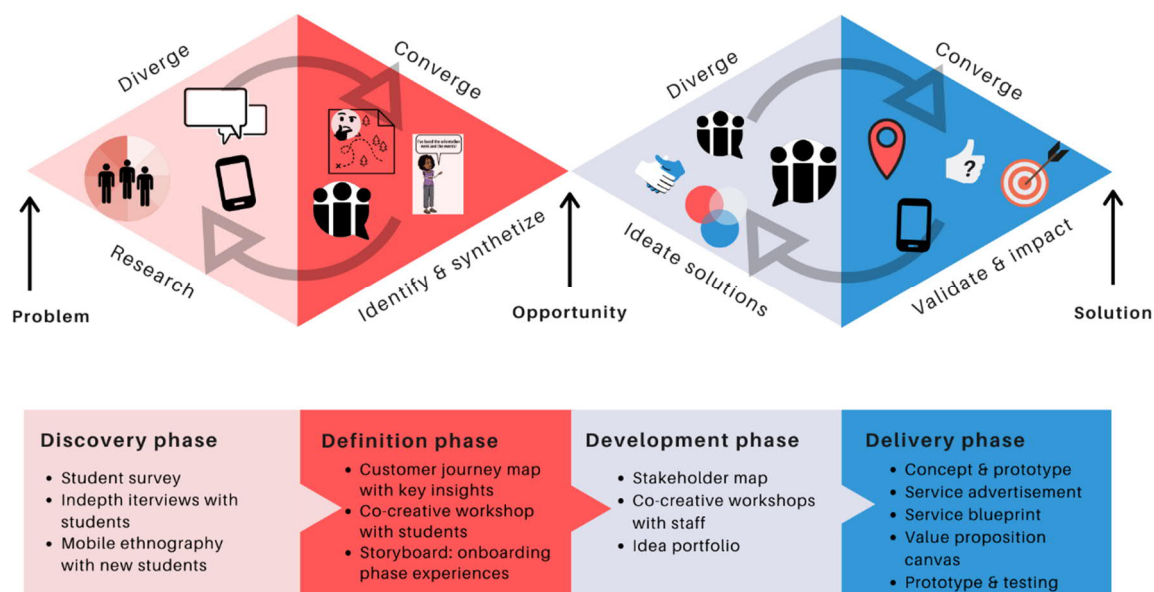


Figure 9. Double diamond design process and the methods used in each phase of this study.

5 Nudging for inclusion with co-creation

Behavioural economics has introduced nudging into the discussion on guiding human decision-making and behaviour in general. Nudges, individual option moments in the choice architecture, aim at changing people's behaviour in a predictable way, "without forbidding any options or significantly changing people's economic incentives". Choice architecture is the setting or context in which a user makes decisions. As neutral design does not exist, seemingly small elements in a design of a product or a service can have significant impact on people's behaviour. When incentives and nudges are deployed effectively, they can improve the lives of individuals as well as contribute to solving major societal problems. (Thaler & Sunstein 2008, 3-6, 8.)

5.1 Nudges use biases to direct behaviour

According to Thaler & Sunstein (2008, 5), several well-established studies in social sciences have questioned the ability of human beings in making rational decisions. Basically, humans make decisions in two ways, made famous by Kahneman & Tversky (2000): with their automatic system (system 1) which is fast, unconscious and effortless but sometimes also with their reflective system (system 2), which is deliberate, self-conscious and slow. For fast thinking, human brain uses shortcuts, called heuristics that easily produce systematic biases that lead to errors in deliberation. As humans face millions of small decisions to take daily, it's important for a designer to understand the processes that take place during decision-making. Effective nudging uses the most common biases to direct behaviour into a desired direction. (Thaler & Sunstein 2008, 19-23, 85). To name a few, some of the common biases and cognitive heuristics are: availability, which describes the human tendency to assume that, information that is most readily available, such as vivid data, is more typical than less available information, framing, which explains how the context in which a choice is being presented in, easily directs the choice unnoticed (Bazerman & Moore 2009, 61, 64-64); groupthink, which strives people for consensus at the cost of presenting alternative courses of action; loss aversion, which describes the human tendency to experience losses more acutely than gains of the same amount, making people more riskaverse than rational, and status quo bias, referring to the preference for the status quo when there is no pressure to change it. (Lovallo & Sibony 2019.)

According to a recent study on nudge research publications by Hummel & Maedche (2019), some of the most effective nudges are default settings that reinforce the status quo (median effect is 50%), simplification i.e. intuitive, navigable solutions (25% median effect), social reference i.e. making certain behavior seem a norm by showing the choices of people like the user (20 % median effect), feedback on behavior (20% median effect), warnings/graphics e.g. signs of an ending offer (7% median effect) and reminders to reinforce a decision (8% median effect). When designing nudges, it is important to consider some basic principles: Thaler & Sunstein (2008, 83-102) recommend paying attention to the default settings that show the recommended course of action openly, prepare for users to make errors thus helping them with for example warnings and reminders, teaching the user by giving feedback, simplifying complexity with transparency by structuring the choice architecture for example with filters or colors and directing people's attention to prices and incentives. Obviously, nudging can be used just to maximize profit while forgetting about the users' welfare. That is why it is also vital that the nudges are monitored, transparent and can be defended in public. They should be planned so that they reduce fraud and exploitation, endorse healthy competition, limit interest-group supremacy, and help those in need while imposing minimal costs to others. (Thaler & Sunstein 2008, 242-249.)

Nudging has also received criticism: For a nudge to be easily avoidable, the nudgee needs to know they are being nudged and they need to have the capacity to resist the nudge. Also, the needs and wishes within a population may vary significantly, thus it is almost impossible to say, whether the nudge really serves the welfare of all population. There are heuristics-triggering, heuristics-blocking and informing nudges, of which the informing might be the most “neutral”. Nudges can also be differentiated according to the nature of their interventional aims: The first ones are pro-self nudges, which aim at directing people’s behaviour in private welfare-promotion. The second group of nudges are pro-social nudges, which aim at guiding people’s behaviour to promote public goods. (Barton & Grüne-Yanoff 2015.)

5.2 Nudging for social inclusion in higher education

When it comes to inclusion of diverse student populations in higher education or inclusion in the wider society in general, Tienda (2010, 471) argues, it is not feasible to assume that the duality of our neurological operational system would as such support inclusion. Our evolutionary biology is unable to adapt fast enough to the changing realities of multicultural realities of modern societies. Instead, this development should be actively enabled and activated with higher education strategies, pedagogies and activities. (Tienda 2010, 471.) It is apparent that common heuristics and biases mostly support the formation of in-groups and socializing with others similar to themselves. In this context, finding ways to nudge higher education communities toward more inclusive behaviours seems more than necessary.

Facilitating the campus community toward inclusion requires the higher education institution to provide the community a place that enforces diverse encounters. A platform of co-creation contains a choice architecture where users interact with each other and the service provider (the HEI), and where the users can be nudged to a desired behaviour. Grönroos (2017) presents two, usually separate spheres of value creation (figure 10 below): In the customer sphere, the customer creates value independently of the service provider and the provider cannot directly impact the value process, which might take place for example with peers on social media. The sphere of the service provider is where the organization typically is the value creator. However, in a context where the two spheres meet, there may exist a space of co-creation, where the provider may get an opening to participate in the customer’s value creation process as a facilitator or co-creator. (Grönroos 2017, 130-131.)

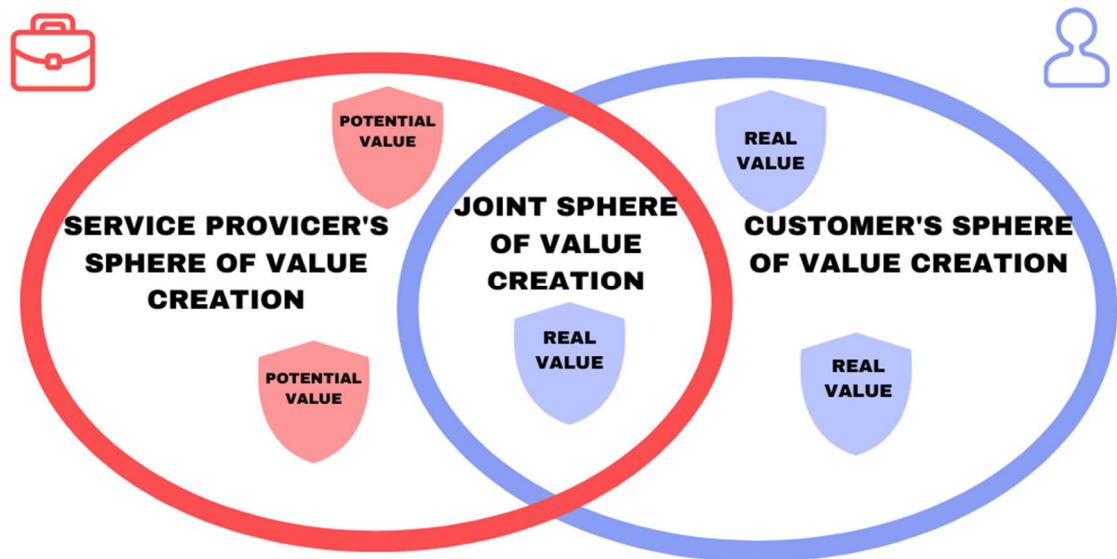


Figure 10. The spheres of value creation (after Grönroos 2017).

Building on Tinto's (1975) theory on social inclusion, that describes two dimensions of social inclusion, the academic and the social, the two concepts may be brought together (figure 11 below) in a way that allows a sphere or a dimension of co-creation to be formed between the spheres of service provider and the users, and the dimensions of academic and social inclusion to meet. In this study that intersection is the location where a service solution will be created together with different stakeholders while learning from the user experience. The aim is to conceptualize a service solution that would nudge the campus community for inclusive behavior thus facilitating the sense of belonging of the new international students.

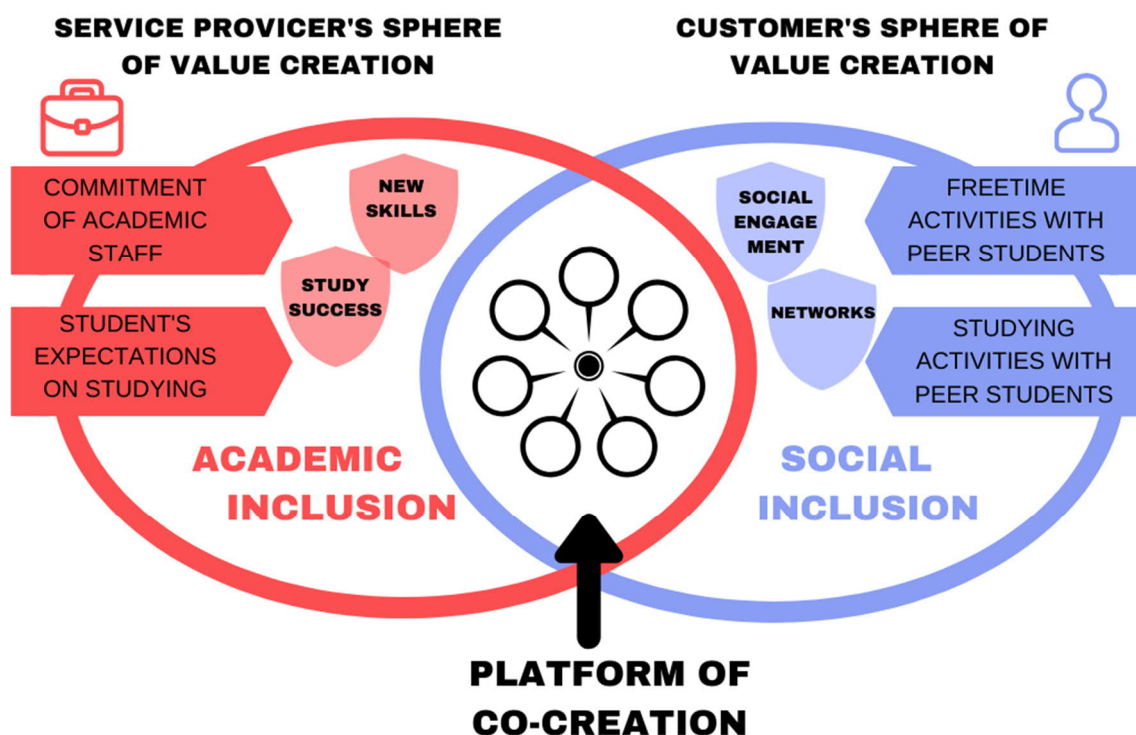


Figure 11. The two dimensions of academic and social inclusion merge with the service provider's and the user's spheres of value creation to form a platform of co-creation.

5.3 Values created by nudging

Social inclusion that could be nudged with a platform of co-creation should create meaningful values for the students and for the organization. To describe the inclusion process concretely, I apply the process explained by Puttonen (2018, 38-44) by turning it into four properties that a socially well-engaged student ideally has achieved:

1. Knowledge of the learning environment: The student knows the learning environment well (finds locations, has organized housing and grocery shopping, has local hobbies, attends campus events, if familiar with campus services, knows how to deal with officials e.g. immigration issues)
2. Knowledge on the academic culture: The student understands and can apply the higher education institution's/study programme's studying practices (such as teaching methods, basis for evaluation, organizing of teaching, managing their studies independently, understands the local academic culture etc)
3. Peer support: The student meets regularly with other students and is supported by them (e.g. student tutoring, circle of friends, hobbies)

4. Connections to wider society: The student has good possibilities for employment, including part-time/summer break employment during studies (sufficient language skills, knowledge on working life habits, contacts to employers)

The first two properties of a well-engaged student “knowledge of the learning environment” and “knowledge of the academic culture” relate mostly to Tinto’s (1975) academic inclusion, or the commitment of the organization (Davidson & Ferdman 2002). The values achieved by an individual from this type of inclusion are good grades, passed courses and learnt skills. “Peer support” and “connections to wider society” seem to relate mostly to the dimension of social inclusion (Tinto 1975), where the values the student gets are social engagement and networks.

Being employed during studies and especially after graduation is a major goal for most students studying in higher education (see survey results of this study, chapter 7.1). My claim is that, in the case of international students studying in Finland, new skills as a value gained from academic inclusion and networks gained as a value in the sphere of social inclusion, lead to employment, and that both dimensions are needed. Thus, we may assume that getting employed plays a significant role in how successful the study experience feels when looking back to it after graduation. If the experience and the investment in it do not lead to employment, can the higher education be experienced as a success?

6 Service design methods and tools in different phases of the development case

In this chapter I describe the service design methods and tools used in this study, according to the phases of the design process applied. The research phase methods include a survey, interviews and mobile ethnography that map the international students’ experiences. Other methods include a customer journey map with key insights, co-creative workshops, a concept, a prototype, a value proposition canvas and testing. Each method or tool applied in this study is being described based on literature on the methodology, whereas the outcomes of each of them are described in the chapter 7 as outputs from the different phases of the development case.

6.1 Discovery phase maps user experiences

During the discovery phase several research methods were applied in order to validate the user experience data. Most of the customer experience data in this study is primary, meaning it was produced during this study. In this thesis, the first-order concepts i.e. raw data from the student survey, student interviews and research made with mobile ethnography are not

attached in order to protect the privacy of the students. The second-order data such as the interpretation and analysis, are presented in the chapter 7.

6.1.1 The triangulation, relevance, visualization and protection of data

To assure the validity and richness of the data of the research, several different data collection and analysis methods were used (Stickdorn et al 2018a, 108-109). The data was triangulated by using customer survey, in-depth interviews with users, by doing mobile ethnography with new customers and by using co-creative workshops. The scope, timing and the participants in each method varied to give a wider understanding of the issues related to the research questions. Furthermore, the survey results and the first workshop were used to direct the scope of the research to the most important issues for the customers, that is, international degree students at the case HEI. The data was analysed and presented to the stakeholders by using a customer journey map and a storyboard which revealed gaps in the services for students, which further helped define the case for the service innovation.

To minimize the researcher's biases affecting the results (Stickdorn et al 2018a, 108-110), especially when the researcher in this case is working as a specialist in the student services of the case organisation, the survey results were partially interpreted, and the interviews were partially conducted by another person also working at the case HEI. Another way to diminish the researcher's bias was to use mobile ethnography as one of the research methods as it gave the subjects of the research a direct voice, which is recorded in the raw data. In the workshop with students the team member who had previously done part of the interviews and the survey interpretation, was acting in a role of a workshop participant to grow the customer insight within the organization during the whole design process.

According to Brown (2009, 43-44), design research relies on quality of the data, not the quantity. By using research methods that reveal the habits and latent needs of the users, it is possible to see beyond the most common ways to use the product or the service and learn unexpected behavioural patterns of the users, instead of simply confirming the existing uses of it. For innovation, Brown (2009, 44) urges designers to "head for the edges", to look into the margins and the extremes, the unlikely users and their behaviours. In this study, I am studying a minority of the student body, as well as using mostly qualitative, "small but deep" data. I suggest that the case of the international degree-pursuing students also reflects the challenges met by all students but appear most strikingly with this minority. The innovation potential in this design challenge is looked for in the extremes.

Knapp et al (2016, 158) explain how small but right data is crucial for innovation development and how this insight has been used at Google. For understanding the most important patterns in qualitative data on the actual users, surprisingly little data is actually needed. Knapp et al (2016, 160) describe a mathematical model on usability tests (Nielsen, J. 1993): roughly 85 %

of the problems can be detected with just five user tests. With five users, it is also more likely that a designer developing a solution, is able to dig deep enough to understand why something works or does not work. These insights are vital in developing successful solutions but extremely difficult to get out from a big, quantitative data. (Knapp et al 2016, 162.)

Visualization of data, experience and knowledge is used in this study to explain a phenomenon, to synthesize insights, to emphasize details and to make the readers empathize with the students' experiences. Visualizing the research findings (Stickdorn et al 2018a, 111) gives structure to the research data such as a timeline for the student experiences in the case of customer journey map and shows, like the storyboard, the existing gaps in the services. Visualization can also have a bigger impact within the organization: The issues encountered by the students in the case HEI were known to the service providing stakeholders but the visualisations made the customer experiences understandable from the point of view of the students which in turn, clearly helped the academic and student service staff to see the "bigger picture" and to empathize with the students' experiences. Therefore, the customer journey map of the international degree students is used as another method, a boundary object (Stickdorn et al 2018a, 43) which enables a common language to discuss the known but complex issues within the organization.

The raw data of this study, such as the interview results, is saved in the case HEI's network file, where the access is limited. The survey results are saved also in the Webropol survey tool, where three personnel members have the right to access the results. The mobile ethnography tool ExperienceFellow has deleted the data after the research has ended in September 2019. The students who were asked to document their experiences in the ExperienceFellow app were sent a description on how their personal data is being handled in the research (appendix 2).

6.1.2 Survey on fee-labile students' experiences

Surveys are widely used at the case HEI to collect feedback from staff, students and other stakeholders. This research also began with a survey to tuition fee-labile students, a fairly new customer group (since autumn 2017) and there was a need to look into their experiences. What was done differently to most survey studies at the case HEI, is that there was a group interview conducted with four tuition fee-labile students prior to finalizing the survey questions. The survey was selected as a research method in order to get a wide, preliminary understanding of the tuition fee-labile international students' experience on their studies in the case HEI and to further define the scope of the design project.

In social research, a survey can be used in collecting factual data on the research subjects but also information on their values, opinions and experiences. Surveys are often used when

data is being collected from a larger group of people or the study is longitudinal or comparative. Most social research surveys are anonymous. The sample of a survey depends on the research question. When a sample size is relatively small or the analysis compares distinctive smaller groups, it is important to consider that the individuals answering the survey are not recognizable from the analysed results. (Matthews & Ross 2010, 203-205.) In this study, the survey was anonymous but as there were only few answers from students of some of the study programmes, it was not possible to present the analysed results by school or programme without jeopardising the participants anonymity.

A survey can include both a structured way of collecting data, such as multiple-choice questions, as well as an unstructured data such as answers to open questions. Typically, all the research participants answer the same questions. Especially in the case of the structured survey, it is vital to consider the design of the survey questions as it predetermines how the answers can be processed. (Matthews & Ross 2010, 201-207.) The data asked in this survey contained facts about the students, descriptions of their experiences, their knowledge about services, their opinions on the services, their attitudes and values on eg. the case HEI, and some background information such as their school. The different types of answers included quantity (eg. number of students), category (eg. number of students per school = field of study), position on a scale (eg. satisfaction) and open data (description in own words). (Matthews & Ross 2010, 206-207.) The survey was tested with a few students before it was launched after some corrections to the whole population of tuition fee-labile students listed "attending" in December 2018.

Limitations of a survey are that it usually gives the researcher no deeper understanding of the "whys" of the answers of the people such as their feelings. Open question answers may give better in-depth knowledge but analysing them in a big data set takes time. In this study, the word-mining tool of the survey platform Webropol was used in the analysis thus making the open answers the most usable and interesting source of information for the purpose of this study. The outcomes of the survey are analysed in the chapter 7.

6.1.3 In-depth interviews with students

As an important part of the research phase, in-depth, one-to-one semi-structured interviews (Stickdorn et al 2018a, 122) were held in February-March 2019. In contrast to usual expert interviews where the experts often present the service organisation (for example Puttonen 2018 and Ministry of Culture and Education 2019), in this case, the interviews were held with the experience experts who in this case are the international degree students.

The goals of the interviews were to a) produce data for building a customer journey map, including the relevant customer journey phases in the students' experience and to recognize

patterns in the students' experiences b) empathize with the customers c) produce insights to identify new opportunities for a service solution.

For finding the participants, I used my colleague's help. He had been working with the issues of international degree pursuing students, who are liable to tuition fees. The students had reported being under a lot of stress as they face the possibility of having to pay thousands of euros for an extra semester, in case they do not keep up with the timetable of their degree programme. As the problems are most visible with such students, I concentrated on interviewing these students. This also benefitted the case higher education institution, as at the time, there was no studies that concentrate on the issues faced by the tuition fee-labile students. An invitation to participate for interviews was sent to all tuition fee-labile students and the interviews were done with 5 master's students from different fields of study, two students studying their first year and the rest on their second year.

The interviews used a semi-structured way to collect data: a preliminary customer journey map was used as a field guide (see appendix 3) to ensure questions of all the phases of the journey would be asked (Portigal 2013, 39-42). As the interviews continued the field guide was refined by the answers of the participants and the growing understanding of the topic. A field guide gives the interviewer the flexibility to adapt to the answers of the participant but keeps the questions directed to the theme and answering the research questions (Portigal 2013, 39-40). In order to let the participants describe their experiences freely, the questions were formulated to be open-ended (Knapp et al 2016, 172).

The questions were framed around "What kind of difficulties (if any) did you experience in applying to the HEI, in moving to Finland? Please describe them." etc phases on the customer journey. The participants were also encouraged to report about phases that were not mentioned by the interviewer so that all phases and themes of importance could be covered. The interviews took 1-1,5 hours each and they were executed at the case HEI campus, to make it easy for the participants to access. A transcript of the interview was written down during the interview and documentation was refined the latest the next day. No recordings were made to make sure the participants felt comfortable discussing even delicate matters and to ensure the anonymity of the research results in furthering the development task. (Portigal 2013, 44-49.)

6.1.4 Mobile ethnography with new students

After having further narrowed down (see the chapter 6.3.2) the case to concentrate on the beginning phases of the international students' journey, the method of mobile ethnography was applied to further understand the experience of the students at the beginning of their studies. The motivation to use the method was to attract the students to participate in the

research in a fun and accessible way as well as to collect unbiased data during the service experience at the time that the participants actually were about to and start their studies. The method provides a deeper understanding on how the students navigate through the service journey. It aims at capturing everyday moments and social dynamics in the users real context. (Stickdorn et al 2018b, 46-49.)

To execute the method, an online diary platform Experience Fellow (www.experiencefellow.com) was used. It offers the researcher a view to the experiences that the participants can upload to it in a mobile ethnography app, free-cost for the participants. As the new international students coming to Finland are faced with a new life situation and a new cultural and learning environment, they might have many issues they are puzzled with and thus might feel difficulties expressing their experience. That is why this particular app was chosen as it also allows the participants to upload images and videos to express their experiences.

During the mobile ethnography research, I interacted with the participants via push notifications in the app approximately three times per week. The mobile ethnography research phase took five weeks in August-September 2019. According to Stickdorn et al (2018a, 50-51), this type of methods allows the researcher to bridge possible cultural gaps between the researcher and the participants and to get even intimate insights into their thinking without being physically present. The method also allows the participants to report their experiences in the environment where they are doing them naturally. It also produces unbiased data created by the users themselves.

The participants were selected among the new students with their previous degree from a country other than Finland. Both master's and bachelor's level students were invited to take part. An incentive of two t-shirts with the case HEI's logo was provided by the HEI for those participants who report at least 7 experiences during the study. Eventually 17 students informed about their willingness to participate. They were sent the information on how to join (appendix 4) as well as a legal notice of the handling of their personal data (appendix 2). The participants were asked to use the Experience Fellow app as their online diary to describe and evaluate their experiences as new students. They were guided to document any experiences with the case HEI, to describe them and the emotions they caused, to consider the helpfulness and availability of information they got and to report anything else relevant to them.

6.2 Definition phase creates user insights

Developing user insights from the raw data and formulating them further into visualized presentations of the user experience is one of the most important phases in the study. The visualizations attract attention to the user experience and help the different stakeholders empathize with the students' experiences and thus better participate in the design process as co-creators. In the case HEI, especially the customer journey map proved to be very effective as a tool for creating organizational impact.

6.2.1 Customer journey map with key insights

To collect the analysis from the research data and to visualize the insights for different stakeholders to view the findings of the research were compiled into a customer journey map (Stickdorn et al 2018a, 44-53) with key insights (Stickdorn et al 2018b, 13). A customer journey map is a visual representation of the touchpoints (points of service interactions) that the customer or user takes during an entire service process. When the journey is well understood by the service providing organization, it is possible to improve the service process and create innovations within and around it. The goal is to improve the service experience of the customer. The touchpoints are typically presented on a timeline that covers events before, during and after the actual service interaction. (Rosenbaum 2016, 2.)

Based on the patterns found in the survey results and the interviews with the students, key insights were created for each customer journey map phase. The key insights were formulated to describe the actor (student), their activity or situation in each phase, their goal or aim in each situation and the restriction they face in doing the action in question. The key insights contained direct, anonymous quotes with concrete examples from the raw data. The insights showed some gaps in the research such as why the students who have 30 credits electives in their degrees, do not feel like they can freely choose their elective courses. To understand the problem, I collected more details from the interviewees by email to discover the reasons behind the experience.

A customer journey map can be used to visually present and collect user stories, to understand how current services are working, to reveal the customers' pain points and to see where and how the services need to be improved. Customer journey maps can be scalable and present a higher-level scale or depict even very detailed level interactions. Their quality is based on the quality of the research data behind them. However, they can only show one typical service path for one customer type or persona at a time. In this study, the international degree students were used as one "persona", thus only one journey map was created. To avoid the journey map being assumption-based, it was validated by a following workshop done with international students. (Stickdorn et al 2018a, 44-45, 50.)

6.2.2 Visualizing experiences with a storyboard

Visual objects are commonly used in co-creative workshops to frame the design challenge. The types of visual objects may be for example process charts, scenario maps, descriptions and pictures of events. (Smeds & Irrmann 2013.) As service design methods often use creative, visual, actionable and concretizing tools (Miettinen 2014, 11), visualization becomes especially handy when developing immaterial products such as service processes. Visualizations of processes may show the phases of a process, its actors, and spaces. (Miettinen 2014, 35-37).

To summarize and illustrate the new students' experiences, a storyboard with the key discoveries was made to be used in the co-creative workshop for staff. The storyboard tells the user story from the perspective of the new students in the phases of before entering to Finland and starting their studies at the case HEI. The idea of a storyboard is to tell a story by illustrating the context of the event. It also allows the reader to quickly develop empathy toward the user. (Stickdorn et al 2018a, 46.) The storyboard was done with an online tool StoryboardThat (www.storyboardthat.com).

6.3 Development phase creates solution ideas

Facilitating co-creative workshops especially during the development phase gave me the chance to invite different stakeholders to participate in the creative practises applied in this study. The case institution is rather new to some of the practises related to co-creation, especially in the services sector, and introducing new methodologies within the organization succeeded in making a small change within the organizational culture. For example, most of the workshops invited participants who had never met before but who had a certain viewpoint or knowledge that could help develop solutions to the selected challenge. Co-creative workshops aimed at using the wide knowledge-base within the organization.

6.3.1 Co-creative workshops with ideation

Co-creation (or co-design) uses different methodologies depending on the design challenge in question. Co-creative working often uses constructing by hand, visualization and facilitation as tools to make the participants interact with each other. (Smeds & Irrmann 2013.) The focus is on using materials and tools that frame the discussion but do not limit creativity (Stickdorn & Schneider 2010, 198). In co-creative workshops the participants create new insights that are formed in the social interaction of the participants as they build on each other's ideas (Brown 2009, 76-78). According to Smeds & Irrmann (2013) the methods used influence the practices, the concepts and the way of thinking of the participants. Co-creative methods also have the advantage of bringing the power of developing a service or a product to their users.

They also pave way for future development work with the same users within an organization and even ease organizational change. (Stickdorn & Schneider 2010, 199).

During this project, two full-scale co-creative workshops were organized. One mainly done with students as participants and another with mainly staff as participants. In addition to the comprehensive workshops, three mini-workshops with both academic and student service staff were organized during the project, between the main workshops. The two longer workshops included a short warm-up session to get the participants in the right mood for ideation. To help design facilitated, co-creative workshops, I developed a template to follow (figure 12). The template may be used to design and plan any workshop, but it is mostly directed for co-creative ideation with a timeframe of 1,5-2,5 hours. The script of a workshop resembles a compressed design process which is why I use here the phases of the double diamond design process to illustrate the different phases taking place in the workshops I run.

Aim of the workshop: Theme of the workshop: How might we... Time frame (1,5-2,5 hours): Stakeholders & participants: Who should be there?		Practicalities: Book room & refreshments for X people Invitation with sign-up Material needed, facilities, nro of facilitators, script for the workshop (ppt)	
1. Warmup with participant introductions or nametags to create a safe space and prepare for ideation: can be for letting out frustrations ("create a Lego statue of failed communications") or failing together (Three minds or Color chain) Mode: together as a group, active movement 15 min	2. Workshop timetable & code of conduct Defined breaks No laptops & phones Give all ideas & participants space "Crazy" but concrete ideas Doing – not talking, Post-it or lose it Build on each other's ideas Common ownership of ideas Mode: Sitting down 10 min	3. Present background information such as customer insights to participants OR Start with producing ideas on the challenges to solve Mode: individually, sitting down Discovery phase (30 min)	4. Co-create the HMW question(s) or present them ready made depending on the time available and the insights presented/co-created. Then divide group into teams. Mode: together as a group, active & standing or sitting down Definition phase (15-30 min)
4. Ideate concrete challenges/solutions/etc to answer the HMW question per team. Provide a canvas if needed in the method. Include voting/choosing in the end. Choose method: Use method libraries, books and method card decks. Mode: in teams, active & standing Development phase (45-60 min)	5. Teams present their results (filled canvas, concept, prototype etc) to whole group. Iteration methods: Others comment e.g. brainwriting/ allow stealing ideas to improve own concept Mode: sitting down + active Delivery phase (5-10 min per team)	6. Synthesis and documentation Documentation during presentations: Write down the idea(s) & discussion/take video + document all ideas from workshop for further use Synthesize for further use e.g. in one concept 1-5 hours	7. Visualisation of results for impact and further use For whom and what purpose? Create a narrative: Include customer insights, HMW questions, solution ideas/concept, frame with "why should we care" bigger picture 5-15 hours

Figure 12. A template for designing facilitated, co-creation workshops.

The co-creative student workshop was organized on the basis of the customer journey map with its key insights in mid-March -19. The goals of the student workshop were to a) validate the customer journey map b) to select the pain points that affect the student's success in their studies the most c) to ideate solutions for the two selected pain points.

The participants were one staff member (working for international student services) and five students, mostly the same students who participated in the interviews. In the workshop, the customer journey map of the international degree students, was used as boundary object (Stickdorn et al 2018a, 43) with which the problems were communicated in a visual and comprehensive way to the participants. The workshop included the participants defining clear "How might we" questions to solve. The purpose of the "How might we" questions is to guide

the participants in thinking for the solutions based on research and knowledge and to concentrate on particular challenges, instead of trying to fix everything at the same time (Stickdorn et al 2018a, 179).

The ideation in the student workshop was conducted by using the method of "10 plus 10". The group of six was divided in two and the participants first wrote or drew down in 10 minutes as many solution ideas as they could on their own and after that explained them to their team. Both teams then selected the most interesting idea per team and continued developing variations of the most interesting idea. After each member explained their ideas shortly to their team, who then explained the most interesting ideas to the whole group. The idea was to make the participants not think too much but work under pressure to produce more quantity and then, in the second phase, more quality in the ideas. In the second phase, the participants were encouraged to change the channel, scale, the actors, the purpose, the timing, technology, material, direction, location or substitute, combine, adapt, magnify, put to other use, eliminate or rearrange their ideas.

The participants of the three mini workshops were mostly academic teaching staff (including programme leaders and vice deans) and students services staff (including programme planning officers) of the study programmes. As time was short in the mini-workshops (10-30 minutes), the aims were to a) present the results by looking at the survey results and b) going through the customer journey map with the pain points encountered by the international degree students and c) collecting solution ideas. During the presentation of the customer journey map, solution ideas were collected from the participants by asking them to write down the phase their solution was aimed at. What was interesting, was that when collecting ideas on sticky notes, more ideas were produced than when the ideas were asked to be written down in Presemo online participation tool (<https://presemo.fi>). Presemo tool gave the participants a possibility to observe each other's solution ideas but it possibly also made them think their ideas would not be better than the ideas of the other participants.

The second full-scale workshop was conducted in October 2019 and mostly staff members invited. The participants were selected from different functions and roles in the case HEI to share their expertise to solve the students' - and possible also their own - user challenges. The goals were to explain the challenges the international students meet in the beginning phases of their study journey and to co-create solutions for them.

6.3.2 Directing the scope with idea portfolio and stakeholder map

The idea portfolio lets the designer to focus the doing according to selected criteria in the project (More than metrics 2019). In this study, the ideas were weighted 1) by their impact on customer experience, 2) by their feasibility, that is the organization's capacity to develop the

idea, and 3) by their desirability to users. In this study, the idea portfolio was used to focus the study, not so much single ideas.

A stakeholder map was used mainly to select relevant participants for a co-creative workshop. Stakeholder maps can be categorized under the umbrella of system maps that aim at visualizing systems from a certain point of view. In this study, the “user persona” of an international student was integrated into the focus of the stakeholder map to present the viewpoint of the international student and to discover the most important stakeholders to a new international student’s onboarding experience. A stakeholder map can also be presented as a part of a customer journey showing the different relationships between players of the journey phases. Other system maps include value network maps and ecosystem maps. With system maps it is possible to synthesize research data and to recognize whom to turn to for expert views or more user experience data. A system map can for example show values exchange between stakeholders, the means of information exchange being used, the power hierarchies applied in different interactions, and the data gaps in the research etc. A stakeholder map visualizes the prioritization of different stakeholders to a user persona by their importance or interest. (Stickdorn et al 2018b, 77-80.)

6.4 Delivery phase validates and impacts

In this study, aiming for impact has taken place during the whole design process, however, presenting the outcomes of the process as concrete service solutions has concentrated on the delivery phase. Visualisation of those outcomes is an important aspect of both testing and impacting which is why, among others, concept building with a service advertisement and low-fidelity prototyping with interactive click-model testing have been applied as methods. Validating the service proposition is also vital, as the new service being developed must correspond to the users’ needs and wants but also be feasible for the service provider to deliver.

6.4.1 Concepting and prototyping

Service advertisement is a tool that helps direct the focus back to the core values that the service aims at creating. It also allows the researcher to test the desirability and perceived value of the new service solution. A service advertisement should cover both the aspects of what problem does the new service solve (factual persuasion) but also why it is desirable and more lucrative than its competitors (emotional persuasion). The ad needs to be targeted for a certain audience, for example a stakeholder, its purpose has to be considered - is it to test the concept or some parts of the new service and in which context - and its narrative should be concise. It’s important to iterate on the service advertisement after initial test rounds, which is why it’s best to test with people who are not familiar with the new service concept

beforehand. A service ad can be presented in a form of a poster or even acted out like a TV commercial. (Stickdorn et al 2018b, 190-193.)

Prototyping and testing makes it possible to collect ideas and feedback on the service solution. The objective in prototyping is not to produce an end product but the prototype can be built from simple, everyday material. (Brown 2008, 87.) Salmi (2018) explains how hand-made prototypes may result in unexpected findings and realizations because they make it easier for people to make use of their intuition and their subconscious world in the creative process. Miettinen (2014, 177) also regards experimentation and prototyping necessary when the goal is to combine intuition and analytical knowledge in a development process.

In practice, prototyping a service may be a simulation of the experience of the service process. In simulation, usually a crude service process is being played out so that it can be tested in real life. The prototype may be redesigned continuously. (Stickdorn & Schneider 2010, 192.) In this study an interactive click model was created as a low-fidelity prototype by using a desktop and mobile application called Marvel App (<https://marvelapp.com>). The idea of an interactive click model is to let the users experience the service solution on their own, thus presenting the researcher an opportunity to how and where to improve the prototype. The use of the service can be filmed or the researcher may ask the user to explain their user experience. (Stickdorn et al 2018b, 185-187.)

6.4.2 Validating the service proposition

With a value proposition canvas, it's possible to list the customer's biggest jobs-to-be-done (steps and goals), their pains when trying to complete their jobs-to-be-done and the gains they note when getting their jobs done. This analysis allows the researcher to visualize the customer profile but also the value created with the new service offering. It breaks down the most important components of the new service by showing how the gains are created for the customers. The value proposition can be further iterated based on the insights collected from customer experience research or testing. The value proposition canvas makes sure that the values desired by the customers are present in the service concept thus ensuring that the final product corresponds to the market needs. (Strategyzer 2019.)

A service blueprint can be viewed as an added layer to a customer journey map as it also presents the service provider's side of the story in different phases of the service path. A service blueprint shows a frontstage where customer and service provider interactions (touch points) are presented and a backstage where different relations between the service providing units and support systems are described. There is a line of visibility between the customer interactions with the service provider and the backstage processes, and a line of internal interactions can be drawn between the backstage actions and the support processes serving those actions. Thus, the backstage activities are invisible to the customer but important to consider

when evaluating the feasibility of a new service as the customer actions stimulate service provider actions and vice versa. A service blueprint can also cover the physical evidences, such as an application, produced during the customer journey. The level of detail in the blueprints may vary depending on what is the purpose of it. A service blueprint can be used for example to detect “moments of truth” which are key experiences that change the users’ impression on a service or a product. (Stickdorn et al 2018a, 54-57.)

7 Outputs from the different phases of the development case

Applying the service design methods and tools described in the previous chapter have produced multiple, concrete outputs in all of the phases of the design process. These outputs are being described in this chapter, phase by phase.

7.1 Discovering the international students’ experience at the case HEI

Based on the survey results and five master’s level student interviews conducted during Feb-Mar 2019 I have built a customer journey map describing the repeating challenges faced by the students. During the research phase, a student wellbeing survey was on-going at the case HEI (Back 2019). The findings of this study were later compared and found out to be reflecting the findings of the wellbeing survey which has a much bigger, numerical survey data behind. Some open comments of the survey are almost identical to the experiences raised in the interviews, suggesting that the same issues concern more than just the international students interviewed in this study.

7.1.1 Tuition fee-liable students’ survey

Student survey questions were formulated after a short group interview with four fee-liable master’s students. The interview helped to direct the questions to look at issues from the students’ point of view instead that of the teachers’ or the student services’ premises. The survey was the first direct feedback collected on the experience of tuition fee liable students in the case HEI, done Dec 18 - Jan 19. It was sent to 349 tuition fee-liable students, excluding students exempted from the fee on the basis of their residence permit status. Students were asked to evaluate their expectations and experiences in 27 multiple-choice questions and three open questions (see appendix 5) while mapping their path from orientation to graduation and beyond. 118 students from all of the case HEI’s schools responded (response rate 34%) with over 200 open comments.

In student services, the personnel most often encounter the most critical customers with most problems and the survey results helped in understanding that the general experience of the students was not that negative after all (see figure 13). However, at question 16 (figure

14), there is already an interesting observation to be made: 7% of the respondents say they have not used student services. This is interesting as it is not actually possible to be enrolled without having used the student services. A question arises whether the students feel that the student services are not catering to their needs.

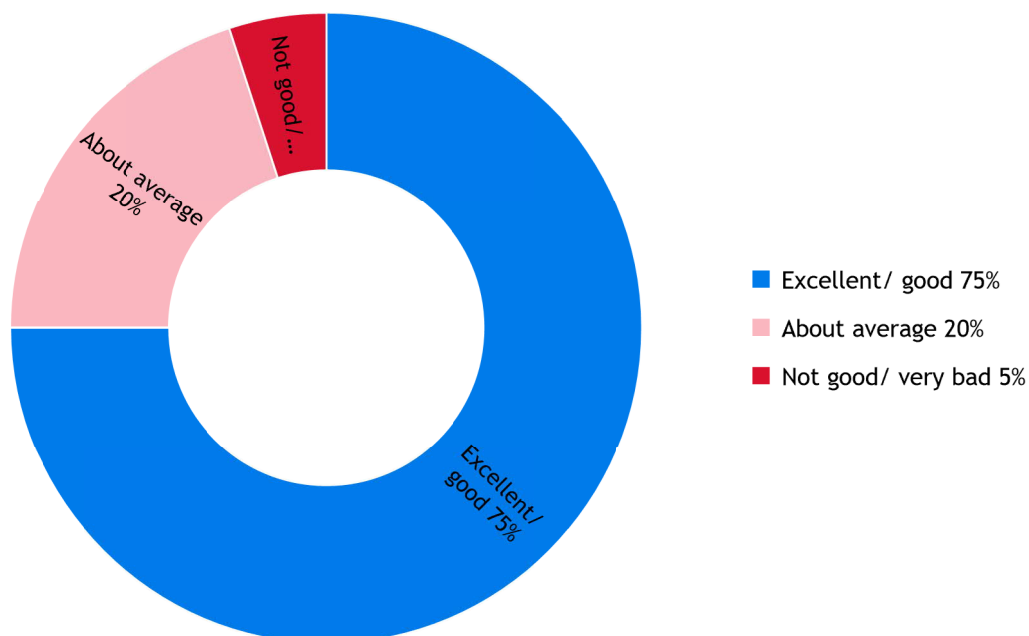


Figure 13. Answers to question 15 How would you rate your overall experience of the HEI (N=118)?

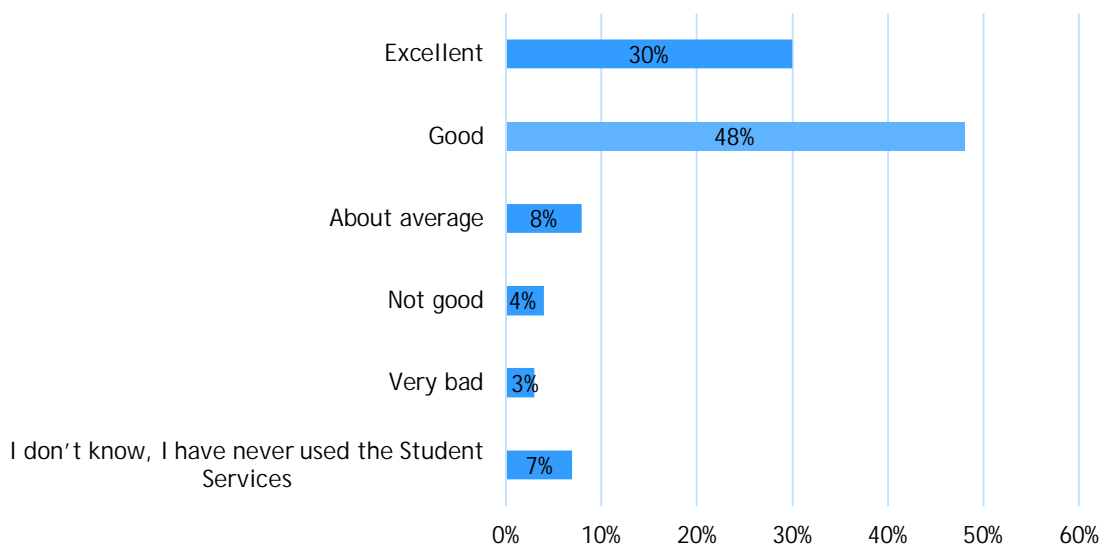


Figure 14. Answers (N=117) to question 16. How would you rate the student services (providing help with administrative and study-related issues) at the HEI?

The answers to question 18 (see figure 15) show that not all students are familiar with the services being provided for them. The services are also experienced (and possibly delivered)

very differently: Nearly a third of the responded students (28%) had either never had academic tutoring at the HEI or thought it 'not good' or 'very bad', while 54% rated academic tutoring either 'excellent' or 'very good'. Many issues are extended by lack of satisfactory communication or unresponsive services: over 40% of the respondents say the communication about key issues is lacking, while many open comments complain about not receiving the right info to manage with studies, not getting quick enough answers to study-related problems or not having enough openings to discuss problems with the right staff members.

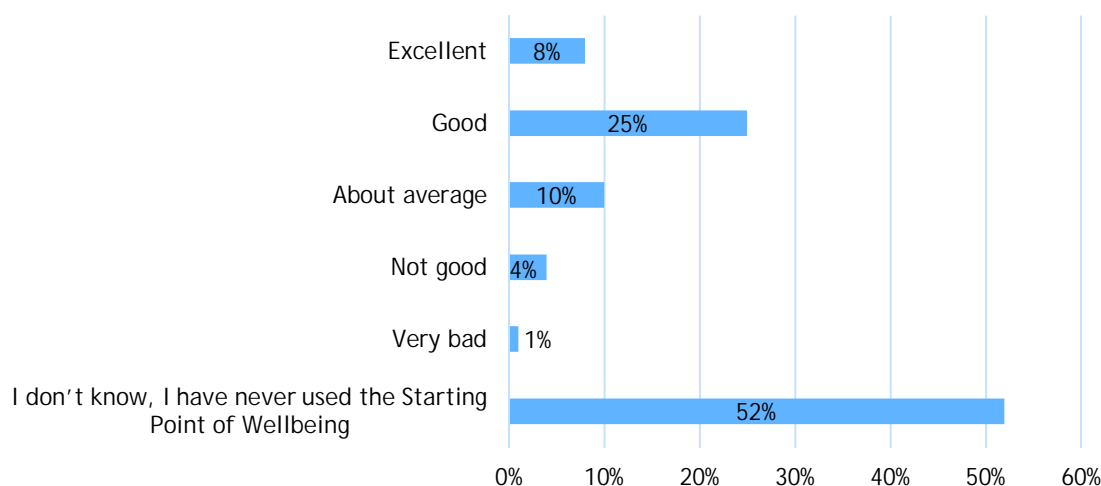


Figure 15. Answers (N=118) to question 18. How would you rate the Starting Point of Wellbeing (providing low-barrier support, guidance and tools for your personal wellbeing) at the HEI?

The most interesting insights came from the open questions, the answers of which were organized by themes with the survey tool Webpropol's text mining instrument (see figure 16). The respondents for example reported on needing more responsive services, that is, better opening hours, user-friendly service platforms and faster replies to emails, as well as, student services to contact them proactively. The same expectations can be seen projected to the teachers: It seems the services are there for the students when they have questions, but that they do not tend to reach for the students to actively offer help and guidance.

"Considering the pressure to graduate faster, students need excellent guidance to create a good study plan from the beginning, right now you have to make a lot of research about options for courses and that takes a lot of time and energy, the information is dispersed in many platforms (prints around school, --, myCourses, emails, facebook and chat groups) and getting used to all of this takes time, personally I got used to it until the second year."

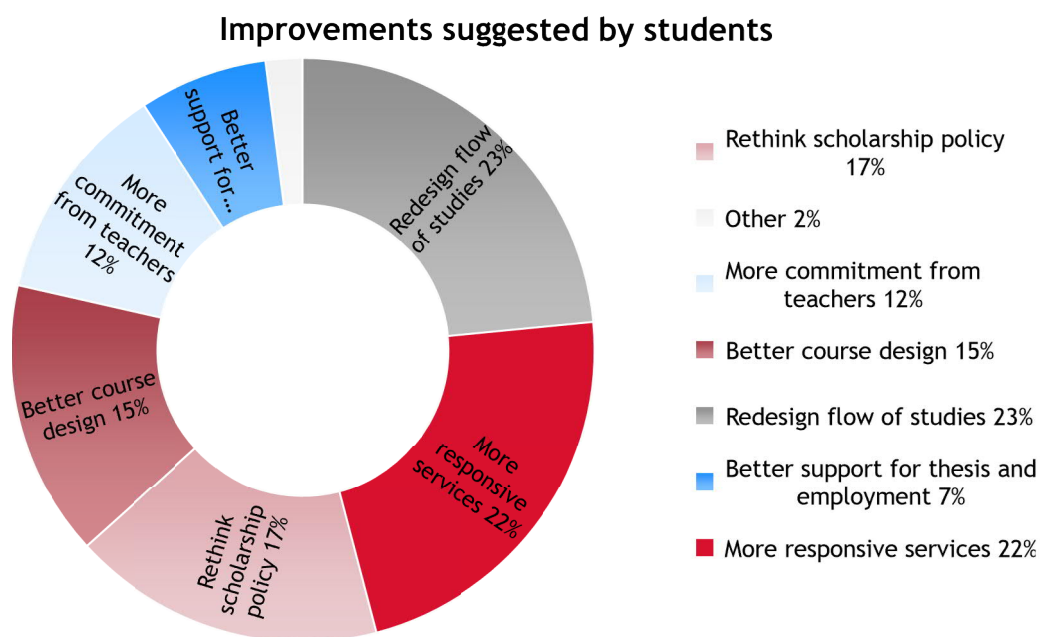


Figure 16. Themes found in the answers (N=69) to the open question 28. What kind of changes or actions in teaching, supervision or services in your school, programme, or in the HEI would help you to improve your experience at the HEI?

The respondents' desire to stay in Finland (see figure 17) after graduation, directed the scope of this research. With the survey results it became obvious, that a great part (36 % of the respondents) of the international student population wish to find a job in Finland after graduation and actually only 6 % would like to work abroad from Finland. The initial group interview for the survey showed that many of the students are "Finland fans" who strive to learn the language and fully integrate into Finland and hope to start a life in Finland even after finishing their studies. This insight led to the research question: What type of information and skills would the new international students benefit from in order to succeed in their studies in the case HEI and start their new life in Finland?

"How you could help me achieve them [my goals] is by giving me more time to finally be able to work on my skills, map my interests to my main programme and pursue core interest areas to build a career on and completely enjoy my studies. I had planned on finding a job and pursuing my studies further."

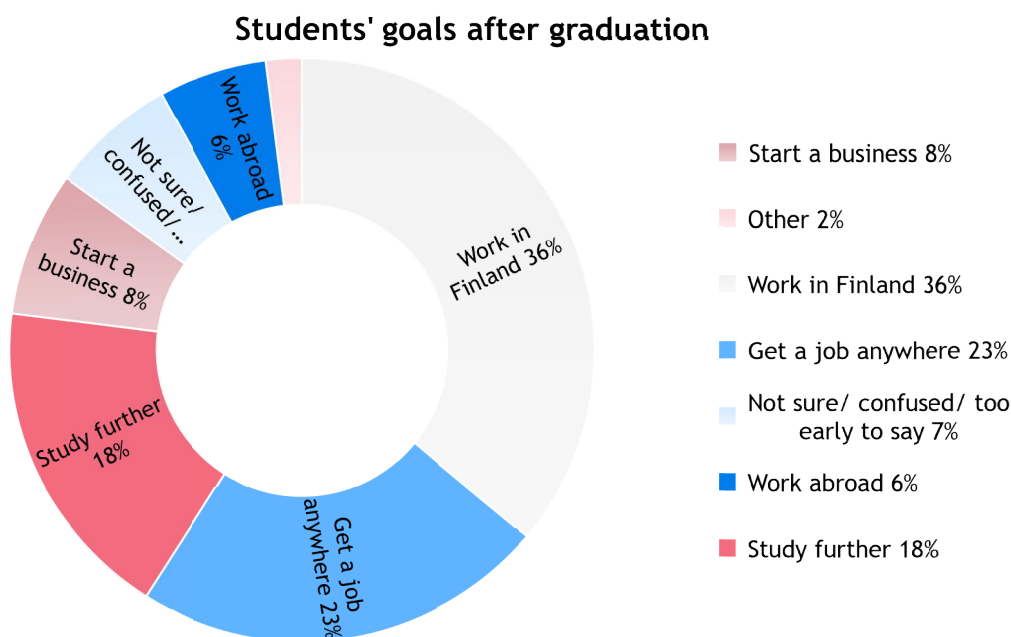


Figure 17. Answers (N=78) to open question 29. What are your future goals after graduation?

The open question on fee-labile students' experiences also gives many clues on where to look in order to improve the student services (see figure 18). Disproportionate workloads and tight schedules were seen to undermine the students' ability to learn deeply or benefit from the opportunities, such as interdisciplinary studies, that made the case HEI attractive in the first place. A significant proportion (18%) of the respondents felt that their situation is unfair compared to other students not liable to tuition fees, who have more time to complete their degrees and freedom to put off some courses for the following year. According to the HEI's statistics of 2019 only 26,1% of the degrees are completed in time: bachelor's studies taking in average 3,25 year, the target being 3, and taking 2,87 year in average for master's, the target being 2 years. (HEI statistics 3.1.2020.)

26% of the respondents felt that the pressure to graduate affects badly their wellbeing as they face the possibility of having to pay thousands of euros in case they need to take an extra semester or two. Segregating effect of the tuition fees united with exhaustive pressure to graduate on time, stimulate feelings of unfairness, inequality, stress, isolation and insecurity that weaken the students' wellbeing at the case HEI, in some cases with strong impact on study success and personal abilities to function as part of the the case HEI community. This all reflects on international students having difficulties in integrating in the case HEI or Finland (7%) and worrying about the financial situation of their future (26 % of respondents). This poses the question, how well are the study flows and workload of courses and study programmes planned for the students who need to graduate in time because of personal financial pressure, as they are still a minority of the student population.

“I understand the reasoning behind the fee payment and the scholarship scheme. However, in some ways, I feel that this somehow creates a discrepancy between non-fee-paying students and fee-paying students in receiving the education. Even with the scholarship, we have the pressure to graduate in time, and this pressure somehow affects our educational experience and personal growth.”

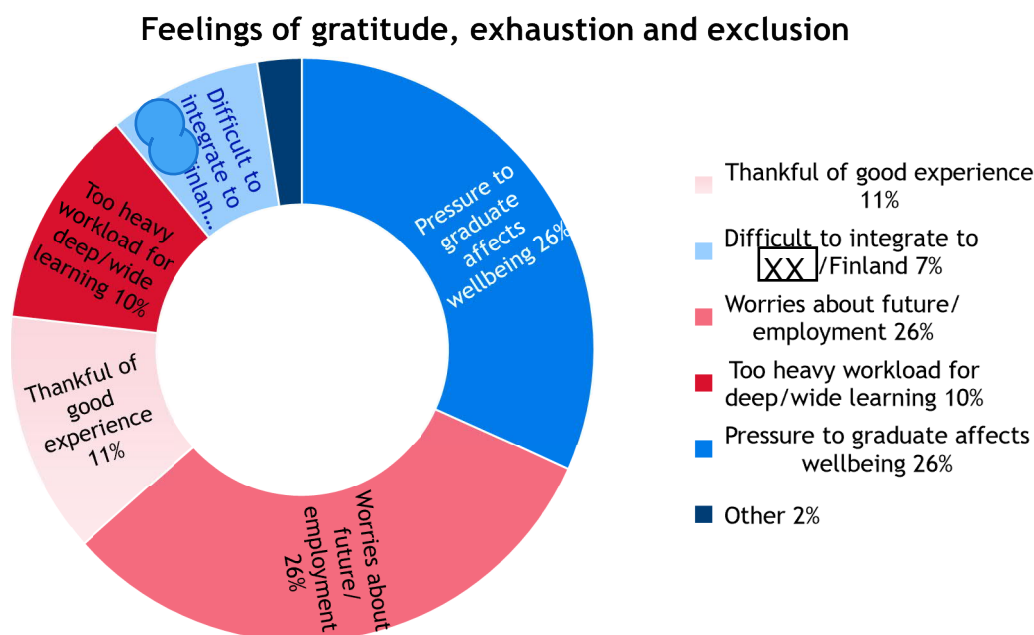


Figure 18. Answers (N=70) to open question 30. Anything else you would like to say about your experience as a fee-paying student?

One of the key rewards for tuition fee-liable students is the lasting value of their education, which becomes visible mostly after graduation when transitioning to a professional career. Whereas many Finns might think of education as everyone's right, the international students seem to think of it more as an investment that is expected to produce good returns in the near future. Subsequently, the expectations focus on acquiring sought-after, transferable professional skills learnt during studies and well-functioning career services supporting employability. These findings are also reflected in the recent iGraduate's International Student Barometer (ISB) conducted in the case HEI in 2017.

7.1.2 Interviews with international students

Student in-depth, semi-structured interviews were held in February-March 2019. One-to-one interviews were selected as a research method for me to be able to deeper understand possibly difficult and emotional obstacles on the students' path.

After each interview, the findings were collected in a framework resembling a customer journey map (see table 1).

Table 1. Summary of the interview results.

Repeating challenges for the students in different phases/themes	
Prospective student: choosing the HEI	<ul style="list-style-type: none"> No particular challenges - functioning admission process Reasons for selecting XX: Reputation of XX, waiver on tuition fees, good descriptions of courses, wide variety of courses available for all
Before the entry in Finland	<ul style="list-style-type: none"> No info on Finnish language self-study when is it suggested I book housing starting from no info on academic culture in the HEI/Finland
First days: Orientation and starting studies	<ul style="list-style-type: none"> full study schedule with organizing your life in the beginning is stressful: you have to get the HSL travel card, Finnish ID, furniture etc for flat, find relevant info on many different websites, understand the scholarship terms hard to use the freedom with low understanding of the system of periods etc no emails to support finding relevant info tutors don't know enough to help whole programme staff from learning services to professors not being introduced
Studying on courses and teacher support	<ul style="list-style-type: none"> workload on first semester is too high compared to other things going on periods are too short (1,5 months) -> workload gets too intensive workload is the biggest problem - no time to focus on interesting topics, no deep learning on courses, overlapping labs, recommended schedule is too intense, no control over the workload, no time to study Finnish nor get to know people more cooperation between teachers needed in building the programme and its topics pressure to complete enough credits to maintain scholarship, otherwise could have taken more relevant/interesting courses and not just collect credits essential courses are supposed to be self-taught, no support from teacher, individual learning style is new to me
Support services and their communication during studies	<ul style="list-style-type: none"> more email from student services on current issues needed Learning Services are not know, whom to approach for help if the academic tutor is the only one I know? Finnish language studies: courses should last for the whole semester not to add to workload pressure and to support learning Culture: I would appreciate more proactive approach from the thesis supervisor and student services
Integration with other students	<ul style="list-style-type: none"> on courses, int students almost never mix with local students who've studied together since bachelor's Finnish language would help in integration Social activities are too much about alcohol. Easier first semester would help with the integration as well - more time to meet people.
Wellbeing during studies, workload, extension of study right	<ul style="list-style-type: none"> First year: no free time to socialize at all If I knew about the extension possibility early enough, I could have controlled my workload and wellbeing better 3 years study time would be optimal does not want to be treated "special" because of the waiver/fee-paying student status although it would give the teachers better understanding of my situation Halal, vegetarian, vegan or cultural food at least from one café would be nice. Estimates of workload help a lot, but professors also need to react to feedback for things to improve.

Feedback on programme	<ul style="list-style-type: none"> • you cannot give feedback on the flow and contents of the complete programme (just single courses) • Talking about jobs already at the HOPS stage is important - for choice of minor subjects, for example there has not been enough time to figure out own specialization! • co-operation between professors and other units REALLY important.
Graduation and future in Finland?	<ul style="list-style-type: none"> • Language can be a barrier in getting a job • More connections (tips on thesis etc) to older int students in my field would be useful • More guidance needed in how to find a part-time student job in the HEI and beyond during studies because any odd job is useful to get to know Finnish working life customs • worry how the employers see the low credit accumulation of the first semester

7.1.3 Revelations by mobile ethnography

As the project was further defined to concentrate on the experience of the new international degree students at the beginning of their studies (see chapter 7.3.4), more research was done on that particular phase by using mobile ethnography as a method. The participants were all new students, migrating to Finland from abroad for studies at the case HEI. The method collected 31 touchpoints, called experiences in the mobile application, from 7 students. Although the data was relatively small, the level of detail of the experience descriptions was high. Some students also gave their location data and added pictures to illustrate their experiences with the case HEI.

The new students' challenges in the before and the beginning phases, discovered with the different research methods were collected in a table (table 2) below. The synthesis from the challenges experienced by the new international students in the beginning of their study journey were collected in a storyboard to be presented in the next phase of this development project.

Table 2. Summary of the challenges of the new international students before the start and in the beginning of their studies.

Before entry to Finland
High expectations based on welcome emails; voucher is a nice surprise for the whole family
Info is not detailed enough: no info on canteen offers for all diets, opening hours of offices
No info on how to prepare for studies in the summer: enrolling on courses, making study plan (HOPS) and weekly plan for studies, choosing minor etc
No info on how to prepare for practicalities during summer: Getting Finnish ID, bank account, travel card with student discount, electronic student card -> clear info on the order of things to do is missing
Info emails contain too much information at once
Need of clear, visualized info on "steps to do" for new students, difficulties in finding relevant info on many different HEI websites.

Telegram group by the guild (CS) and Facebook group for new students help a lot and fast, but tutors don't know enough to help
More detailed info needed on the important dates at the beginning of studies (guild activities, when to book housing from etc)
No info on Finnish language self-study
No info on academic culture in XX Finland
Difficult to understand the scholarship terms and their effects on study planning
Visa issues, the immigration process takes too long, some even miss the beginning of studies

At the beginning of studies
I don't know who and what are student services and/or Starting Point of Wellbeing and how can they help me?
The whole programme staff from student services to professors not being introduced so I don't know whom to turn to in which issue.
It's hard to use the freedom with low understanding of the system of study periods etc practicalities
The workload on first semester is too high compared to other things going on: no time to focus on interesting topics, no deep learning on courses, overlapping labs, recommended schedule is too intense, no control over the workload, no time to study Finnish nor get to know people and build a social network
I would appreciate more proactive approach from the teachers and student services on current, relevant matters.
There is a lot of independence for studies. No need to attend many of the lecture, just get the thing done/learn the material. Some love, some hate this approach.
Social activities are too much about alcohol.
I feel it would be a nice thing if the HEI could help us out on how to navigate between all the campus events: what to choose and how to balance out our studies
Some feel the lectures with teachers from the industry are dry, some love them.
The group work and projects are intense. Sometimes other students turn to speaking Finnish, which makes it hard to be part of the group.
The campus is overwhelming and it's easy to get lost and not find canteens with suitable food in my diet.
The study period system is unclear thus students just follow the recommended schedule which is too heavy in the first semester.

7.2 Defining international students' challenges

In the definition phase of the design process, visualizations of the students' experiences were used to make the HEI staff members relate to the students' experiences and to make use of this understanding in the following development phase, where service solutions were then ideated based on the customer insights. The customer journey map proved to be a good tool for sense-making and impacting: It stroke a core especially with the academic staff, to whom the challenges of the students may have appeared as single problems but who now could see

that there are also serious structural, cultural and attitude related issues that affect the whole campus community.

7.2.1 Journey map on the international students' challenges

Based on the survey results and five master's level student interviews conducted during Feb-Mar 2019 a customer journey map was built to describe the repeating challenges faced by the students. The journey map was selected as a tool to acquire a holistic understanding of the path that the students take. It was built based on the repeatedly mentioned challenges by the interviewed students. It has also served as a communication tool within the organization: it is a visual, easily understandable, boundary object that opens up a view into the international student's experience.

The journey consists of nine phases that arouse from the interviews. It includes key insights which describe the action of the students in each phase including their aims, goals and motivations for that action. The journey map was validated as describing the situation well, by a group of students participating in a following workshop, most of whom had been participating in the interviews.

Answering to the research questions on mapping the student experiences, the journey map (figure 19 in the following two pages) synthetizes the experiences in a form of key insights and pain points that the students face from the prospective student phase to graduation and finding a job. It presents the issues that were repeatedly reported by the students of the study, in a visualized and narrative path of experiences, thus revealing a shared story of many. Alumni eg. graduated students were not researched in the research phase, however, many of the survey respondents and the interviewed students had already been looking for a job while studying and finding a job was one of the biggest motivators for taking the degree in the first place. The international student journey can take from 1,5 years to 4 years. An emotion curve of a higher-level scale is shown as emojis and details of the experiences are embedded in the description of each phase.

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International student journey

The customer journey is based on student survey and interviews. It describes the international students' main emotions and the key insights: their actions, motivations, goals and restrictions to act in each phase.

Prospective student

When I chose the university I wanted to get a good education so that I will get a good job. I chose the university because of reputation/ranking of it/my programme, scholarship, good description of courses & wide variety of courses

PHASE 01



PHASE 02

Before the entry in Finland

Before I came to Finland I wanted to get oriented in studying in the university/Finland so that I can study effectively.

But there was no info on Finnish language self-study, no info on academic culture of the university/Finland, no info on when is it suggested I book housing starting from



First days in Finland

In the first days in Finland I wanted to be ready with organizing my new life so that I can get started with my studies. But the full study schedule with organizing your life in the beginning was very stressful: getting the travel card, Finnish ID, furniture etc for flat, finding relevant info on many different university websites, understanding the scholarship terms, finding out where and what to eat etc. I did not get emails to support finding relevant info. My tutor didn't know enough to help.

PHASE 03



PHASE 04

Orientation and starting studies

In the first days of my studies I wanted to get to know relevant info on studies so that they can succeed from the start. I loved the orientation programme but my programme staff from student services to my professors was not introduced so I don't know who to turn to for help in which issue. I did not understand the system of study periods to fully use the freedom to select courses so I just followed the recommended schedule which is too heavy.





Figure 19. Journey map.

The journey map also revealed, what creates value and meaning for the students during their studies. A value pyramid (inspired by Bain & company 2018) of an international student is presented below (figure 20).

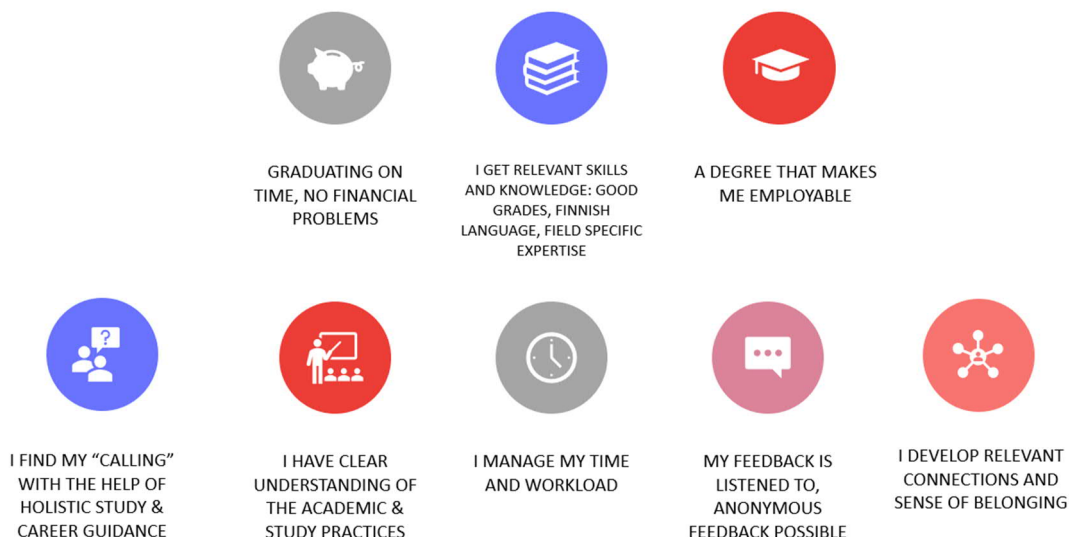


Figure 20. International students' value pyramid.

7.2.2 Storyboarding the onboarding experience

The further research done by mobile ethnography revealed more detailed information on the new international students' onboarding experience. The new international students' experiences of the before and the beginning phases of their study journey at the case HEI were illustrated in a storyboard (figure 21 below). The storyboard collected the insights given by all of the research participants into one cartoon and was validated by showing it to two participants to the mobile ethnographic research. Both of them agreed with the content and the other one even said "You could just change my name on the cartoon and that would be true". The storyboard was used for the following phase of this study, to describe the staff participating in the workshop, the experience of the new students.

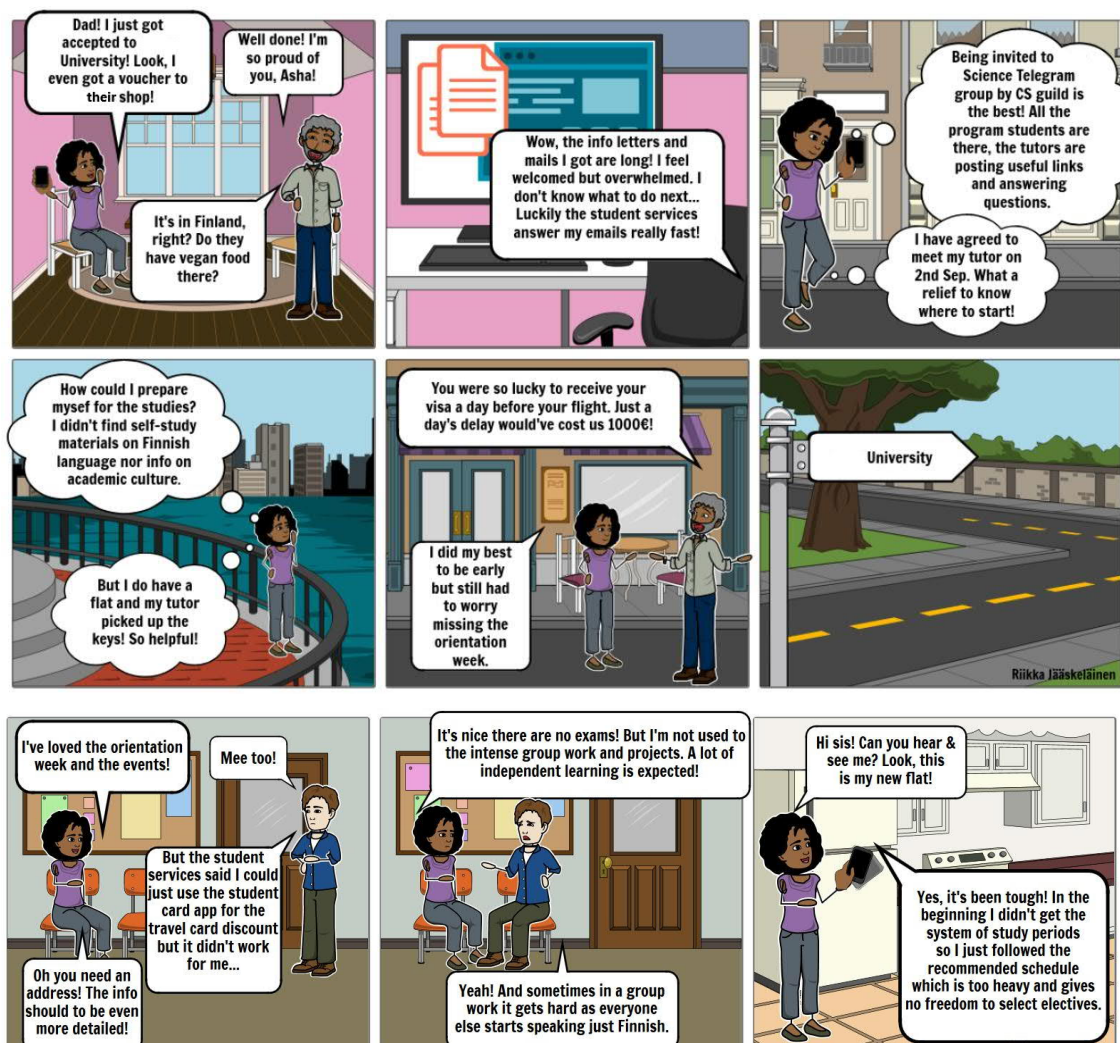


Figure 21. A storyboard illustrating new international students' experiences.

7.3 Developing feasible solution ideas to support social inclusion

Most of the developing phase was executed with co-creative workshops which used the user insights created in the previous phases of the design process. Facilitating workshops with a specific aim to improve the service experiences and making the participants cross silos and to build on the user insights and each other's ideas has been one of the ways to make also an impact on the culture of doing service development in the case organization. Social inclusion being a bigger theoretical concept, the workshops used terminology, such as succeeding in studies, organizing life, studying skills, graduating etc., which are closer to the vocabulary used by the users.

7.3.1 Workshop for a better flow of studies

A co-creative workshop with the goal of validation and ideation was arranged for students and one staff member. The student journey map with its pain points was generally accepted by

the workshop participants being very accurate. The participants voted the most crucial phases to be 2-3, that is “Before the entry to Finland” and “First days in Finland”, and phase 6 “Studying in my programme”. For the ideation part of the workshop, two “How might we” questions were formulated together with the workshop participants as follows:

1. How to fix the problem of full study schedule with organizing your life in the first days of studies (phases 2-3)?
2. How to benefit from the nice variety of interesting courses in the case HEI while graduating on time (phase 6)?

As it turns out, both of the questions are concerned with the flow of studies, or more precisely, the lack of it. I am defining it here as the possibility to control and predict one’s workload and thus create (and modify) a feasible study plan to follow until graduation. When the flow of studies runs well, one is better able to succeed in their studies since the beginning, to choose more interesting courses, graduate with more skills and find satisfying employment efficiently. The flow of studies is linked to both dimensions, the academic and social inclusion of a student: Being well-engaged in their new learning environment enables the students to succeed in their studies and achieve their goals. After the workshop, the solution ideas were grouped in themes shown in the table 3.

Table 3. The grouped solution ideas by themes.

<p>Theme 1: Improve teaching</p> <ul style="list-style-type: none"> • Teach courses better to keep up the motivation for the major and to provide the prerequisite skills for the following courses • Enable recorded/online teaching to full effect on all courses • Check and evaluate teaching staff performance after exams to improve quality • Regularly check on teaching staff by introducing TEACHER POLICE!
<p>Theme 2: Collaborative Ways of Working</p> <ul style="list-style-type: none"> • Create dynamic connections between teachers • Organize better collaboration between students and teachers and researchers to decide the best flow of the curricula • Plan course schedules in collaboration between teaching and administrative staff (Learning Services) • Combine understanding of different research groups to make up relevant courses • Provide possibilities to learn from other international students • Help students get prepared in the summer before studies
<p>Theme 3: Better Programme Structure</p> <ul style="list-style-type: none"> • Better programme design that includes feedback on programme level and impact assessment on workloads • Better show the course schedules and explain the period system in one platform for the student to be able to make a feasible study plan • Use spring term more effectively, offer more courses then • Ease the 1st term (4 compulsory courses, not 6) • Leave more room for Finnish language in the degree structure

7.3.2 Developing solution ideas with case HEI staff

The HEI staff were interested in the results of the research and I was invited to present the student survey, interview and workshop results in three meetings, called mini-workshops here, during March-May 2019. From the first presentation, it became clear that I would need to respond to claims such as "Why should we change our programmes for a couple of students?", "All students are and should be given the same help and services" and "International students are so loud in demanding special treatment". To benefit this development project, I combined the presentations with a small interactive workshop moment by asking the listeners to write down their solution ideas to each phase of the student journey that I was presenting. All three mini-workshops' ideas are collected in the table 4 below.

Table 4. Development ideas per customer journey phase.

Phase of student path	Development ideas
1 Prospective student	<ul style="list-style-type: none"> • More realism in the marketing of the HEI as a study place/of our programmes (manage expectations) • Better understanding of the applicant profiles in marketing to target it better • One page summarising why to come to Finland and to the case HEI (use as benchmarks)
2 Before the entry in Finland	<ul style="list-style-type: none"> • More self study materials online eg. On Finnish language + pointing to those materials • Clear, realistic communication on HEI level webpages for the first phases of the student's path, eg. FAQ pages, video on study essentials in Finland, chat for questions • More tutor training on int. Issues, now it's too general • Do more customer journey maps with different personas and their needs and use it as a guiding tool in student advising
3 First days in Finland	<ul style="list-style-type: none"> • Student service officers of the programme invite to meet all int. students at least once during 1st semester
4-5 Orientation, starting studies & 1st term in the HEI	<ul style="list-style-type: none"> • Explain the Finnish communication style (student needs to be proactive) • Special introduction to tuition fee-liable students (obligations, study essentials, HOPS of 2 years, working in Finland, period system - or end the period system) • Connect study planning and career planning; specialization/"study track" must be discussed with every student in the very beginning • Get a tutor (personal or group) right when students arrive in Finland
6 Studying in my programme	<ul style="list-style-type: none"> • Personal scheduling of studies • Academic advising works well but could be still improved • Teaching quality should get more respect, not just research • Ease the pressure to graduate in 2 years in MSc by spreading workload more evenly (use 5th period) • Less compulsory courses to ease the workload on 1st term • Make sure there is always a second chance to complete a course • All program directors should think about the int. student journey presented to identify issues and bottlenecks for improvement
7 Impacting my programme	<ul style="list-style-type: none"> • Better programme leadership with annual programme feedback (session with 2nd year students) • Industry sponsored cost of living scholarships for best students • Feedback on teachers: students can give feedback via their tutors • The money the HEI receives from education should come back to fund better education eg. tuition fees to programmes of those students to reward the best programmes • Many good practises in WAT programme (for benchmarking)

	<ul style="list-style-type: none"> • Spreading the workload evenly by arranging courses steadily throughout the academic year instead of cramming lots of courses for example in the autumn
8-9 Thesis, graduation & finding a job	<ul style="list-style-type: none"> • Use continuing education people from Finnish industry to create networks with current (international) students • Recognize int. students as resource: Role of staff is vital in building bridges with companies throughout the studies • Professors need to help students find thesis positions and a job after graduation • Discussions with profs. of majors at least twice a year. That would help to understand better individual needs of students to find out the suitable master's thesis project. • We have very good experience with our master students, when we have interviewed them twice a year (30min individual interview with a professor). Based on these interviews we can help students a lot when they are seeking summer jobs and places to do thesis.

7.3.3 Developing the onboarding experience

All of the co-creative workshops dealt with ideation of the possible solutions for the different phases of the student journey. However, the scope of the project was defined at a later time to focus on the onboarding phase. Therefore, the development ideas created in the workshops for the onboarding phase of the student journey were collected for the purpose of developing a service solution for that particular challenge: How to fix the problem of full study schedule with organizing your life in the first days of studies? (see figure 22.)

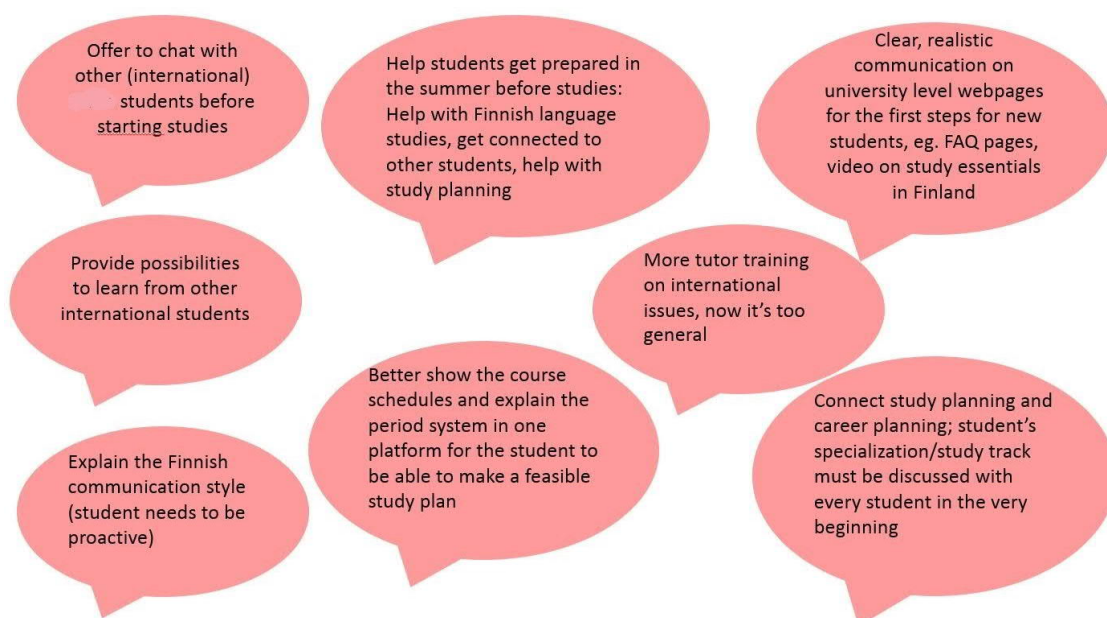


Figure 22. Solution ideas for the pain points of the beginning phases.

7.3.4 Redefining the scope: The onboarding phase and its stakeholders

To decide on the more specific challenge, there were two options. The student workshop had prioritized two most critical journey phases to solve:

Challenge 1. How to fix the problem of full study schedule with organizing your life in the first days of studies (phases 2-3 on the customer journey)?

Challenge 2. How to benefit from the nice variety of interesting courses in the case HEI while graduating on time (phase 6 on the customer journey)?

After discussing the selection of the problem within the case organization, the development challenge of the project was decided to be the challenge 1, the beginning phase of the international student journey. The selection was based on feasibility, impact and desirability. Feasibility is higher for the challenge 1, as it comes closer to my job description, developing the services for international students, and I believe I can develop the solution better from my current position within the organization. It also allows possibly faster solution development than the challenge 2, which requires longer development in the area of planning the teaching and education as a whole. This project naturally has given material to develop that area as



well, and the material has been shared within the organization, thus possibly having an impact for the challenge 2 in the future as well. The impact of developing a solution for both challenges seems equal, whereas the desirability of the first challenge appeared higher for the scope and timing of this study as well as for the case organization. There is for example currently not that many services offered for the students during the summer, before the start of their studies (see figure 23). However, summer is when the students would have the time to get prepared for their studies.

Figure 23. Service desks at the higher education institution are closed during the summer.

For a clearer concept development, the beginning phase, selected as the scope of this study, is named the onboarding phase. To develop the ideas that support the student's experience toward a more inclusive one in the onboarding phase of the journey, the people needed for co-creating the solution, were mapped using a stakeholder map (see figure 24.). The purpose of the map was to have the right people to a co-creative workshop for solution ideation based

on the importance of the stakeholders to the new international students' experience. Emphasis in selecting the right people for the "solutionshop" was put on the following needs of the students and thus on the people with most expertise on those issues: improving the sense of belonging of the new international students, helping the students to improve their Finnish language and intercultural communication skills and to develop their general studying skills. As the focus in this study is on improving the case HEI services, mostly staff members from services were invited. Although, teachers and other academic staff obviously have an immense impact on the student experience, they were not included in this workshop as their ideas were carried to this workshop from the previous workshops. Peer students were represented by the student union. Otherwise, all other stakeholders described in the stakeholder map below were represented in the workshop.

The map shows the international student in the focal point but also describes the direction of information flow between the stakeholders. The map is built based on my personal working experience within the organization on the relationships between different service units, the student interviews and the workshops conducted during this study. The map reveals how some units are functioning perhaps too isolated from the other services units that the students interact with. For example, the communication flow between the career services and the other service units seems to be needing more support. The map also shows that peer support is not actively integrated by the organization to support the student in focus. All in all, sharing expertise between different people within the organization seems to need more emphasis.

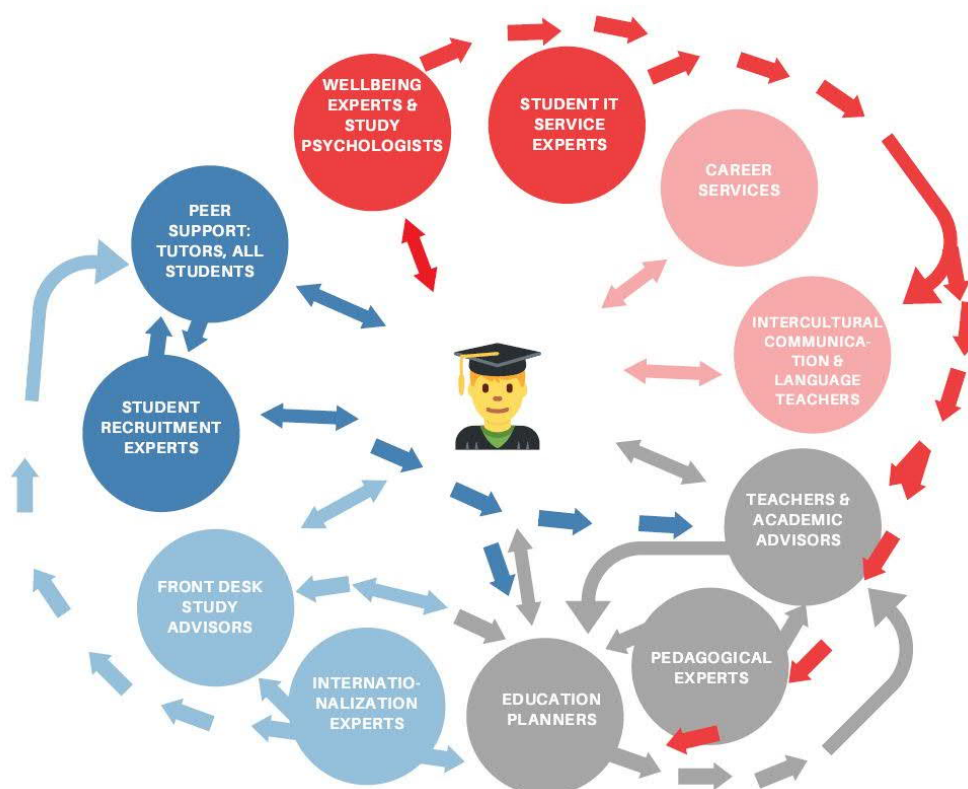


Figure 24. A stakeholder map with the emphasis on international students' onboarding.

7.3.5 Ideating for inclusive onboarding experience

The next step was to ideate a service solution for the onboarding phase of the student's journey at the case HEI. The challenge "How to fix the problem of full study schedule with organizing your life in the first days of studies?" was sliced into smaller challenges for a workshop called "solutionshop" conducted in October 2019 for mostly staff members indicated by the stakeholder map. The workshop was called a "solutionshop" as I wanted the workshop to stand apart from other similarly called concepts lately organized within the organization. The turnout was a success with 13 participants, as almost all invited came. Also one student from the student union and with personal tutoring experience attended. The participants were selected from different functions and roles in the case HEI to share their expertise to solve the students' - and possible also their own - user challenges. The goal was a) to share knowledge of the challenges the international students meet in the beginning phases of their study journey at the case HEI, b) to bring together people who might not normally meet to work together and c) to co-create solutions to the defined challenges based on the ideas developed in the previous phases of this project.

In the workshop, the extensive student experience data was presented to the participants, among others, in the form of the storyboard (see chapter 7.2.2). The solution ideas collected in previous workshops to solve the issues of the onboarding phase were also presented as a starting point for the co-creation (see chapter 7.3.2). To maximize the time used for ideation, the "How might we" questions were created before the workshop. The three challenges for three 5-person groups were

1. How might we ensure that the new international students get the information needed on their new learning environment before the start of their studies, so that their flow of studies would be smooth?
2. How might we help students strengthen their general study and learning skills, thus helping them to adopt to their new learning environments? and
3. How might we support the inclusion during onboarding of international students into Finland and the the case HEI community from the beginning of their journey, so that they would find a job in Finland after graduation (if they so wish)?

In the end of the workshop the groups were asked to present the solution concepts that they had created:

1. Solution concept "Virtual Alvari" ensures that the new international students get the information needed on their new learning environment before the start of their studies, so that starting them would be smooth.

- The services are planned focusing on user-centricity and cost-effectiveness: general communications directed better so that there is more time for better personal advice-giving
- An app for comprehensive, interactive experience (website, apps + games)
- Otaniemi campus Go! Inspired by Pokemon Go with added reality on campus experience
- Offer videos on the HEI culture and Finnish language course online (get credits before actual start of studies)
- New and senior students meet via "student Tinder"; mixing cultures and people
- Rewarding the active chatters in chats
- Make FAQ based on question in the chats
- Better information distribution in the beginning of studies has a big effect on the student's study success in the future!

2. "Core" courses, helping students strengthen their generic study and learning skills, thus helping them to adopt to their new learning environment

- The Core courses are special courses that contain study and learning skills as part of the learning goals of the course
- Especially recommended for the first compulsory courses in every degree
- Student defines the goals for their personal learning on the study skills (within a framework) and shares their goals and learning results with peers (crowd-sourcing)
- Study and learning skills to be presented in an easily comprehensive visual way (for teachers and students); giving a badge for students showing their skills (gamification)
- The course material in the course platform includes voice recordings of the generic skills taught on each course; AI senses the taught skills from the course content description making it easy for the teacher
- In addition, self-learning courses on essential study skills are offered
- Automated + personalized support (chatbot) based on each student's individual situation
- Student gets extra credits a) when the subject matter course contains learning goals of generic study and learning skills and b) when they complete the course during the recommended time/period
- The teacher gets help and resources from psychologists and pedagogical experts in how to teach the generic skills, eg. presentation skills for working life; the course containing for example mixed groups will not get bad reviews from students when it is compulsory content of the course
- Verbalising and visualising the learning goals (generic, working life skills) of the course; these courses are special and support the learning on other courses!

3. "Capacity toolpack" supports the inclusion/onboarding and employability
 - A thematic timeline on a platform offering information toolpack that develops personal capacity in different themes and phases of the study journey
 - Timely and thematic guidance given by different service providers on a same theme in one place: eg. On the theme of group working: "how to work as a group" by study psychologists, teachers and students, "how to mix groups to enforce inclusivity" by pedagogical experts, academics etc
 - Service providers learn from each other and complete the information gaps; the service helps find the community's experts in different subject matters.
 - The students give input to the themes; the service providers get instant feedback on missing services
 - All campus community has a chance to build up their capacity on the themes on which they need capacity-building
 - Helps users digest the information better than many different websites/emails by different service providers offering all info at once but separately.
 - Themes: Loneliness, wellbeing, immigration, tuition fees, career planning...
 - Easy to find contact information in one place for all services as they are by themes
 - It offers a fluid visually attractive timeline (a circle, or ladder lane) on services, help and information for each phase of the student journey:
 1. Before start of studies: suitable themes eg. How to support student engagement and guidance online
 2. Orientation: Tutoring "how to" for student tutors including a guidebook-let for academic and campus culture
 3. Starting semester: Groupwork etc study skills in themes, Planning studies etc
 4. Planning your career: Guidance on Career + study options
 - The users may use the recommended timeline or browse content by themes
 - The toolpack is built together with everyone engaged in guiding the first steps of the new students (but it can be used in further phases also)

Figure 25. The solution concepts developed in the workshop.

The "solutionshop" functioned as a way to collect some of the personnel's issues regarding advising of international students and teaching multicultural student populations. For example, one participant reflected on a conversation with a lecturer who could not direct their course content to include intercultural communications experts to support their teaching because it would create costs for the course. Another reason for not including some teaching methods or contents is that students might rate a course low because of them, making the lecturer risk getting tenured. These are the kind of insights that could be used to develop the other customer journey phases and their pain points, especially those that fall under the phase 6 "Studying in my programme".

7.4 Delivering a concept and testing the prototype

The delivery phase tied together the insights and the solutions gathered during the whole design process. It focused on giving concrete deliverables to real life challenges met by the users and tested and validated the solution concept to make sure the new service fulfils its value promise.

7.4.1 Concepting a co-creation platform Pathfinder

The three solution concepts co-created in the last workshop were combined and mixed to best serve the purpose of this development case. The developed solution concept is an online co-creation platform called the Pathfinder that provides a game-like setting that helps international students acquire the needed knowledge on their new learning environment and get the skills to succeed in their studies even before arrival to the campus, but not limiting to the onboarding phase. The students are connected to other students and relevant staff members and feel socially engaged in the case HEI right from the beginning of their studies. The platform supports the students in succeeding in their studies while also helping the HEI community to pool their knowledge and resources around the themes that enable successful studies. The service concept provides the HEI community with a platform, where the support staff, faculty, student tutors, academic tutors and the students co-create content on the selected themes together.

The concept was tested with a service advertisement poster (figure 26) that is directed to the campus community to change their behavior toward a more inclusive one. It was tested in a classroom setting with students who had no previous knowledge on the concept. After the comments, the picture was changed from a portrait photo into a cartoon character to match the style of the texts. The testers deemed the quotes believable and figured that the poster could nudge people's behavior to be more considerate and to better support students with different backgrounds.



Figure 26. A service advertisement poster of the Pathfinder service.

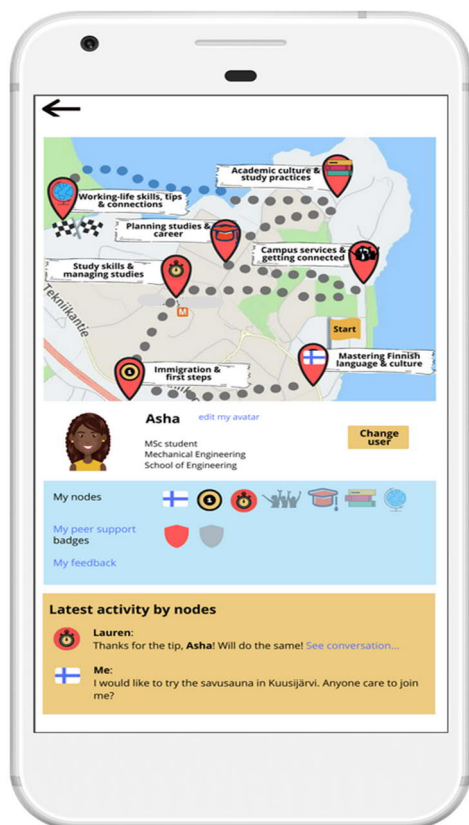
7.4.2 Prototype of the new service solution

The following nodes are provided for the new international students to visit and to complete in a game-like setting by using a game character created by the student:

- Immigration & first steps
- Study skills & managing studies
- Academic culture & study practices
- Working-life tips, skills & connections
- Planning studies & career
- Mastering Finnish language & culture
- Campus services & events

The prototype is a click-on prototype, with only few functionalities and it's opted for mobile use for easy testing. The mockup app version can be viewed at <https://marvelapp.com/492cge1>. The service is customized according to the user's role within the organization. The prototype shows the student's and lecturer's views (set of figures 27 below).

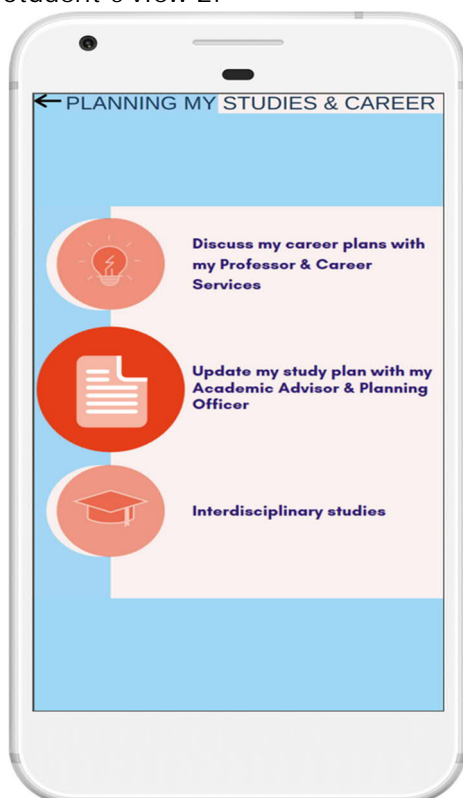
Student's view 1:



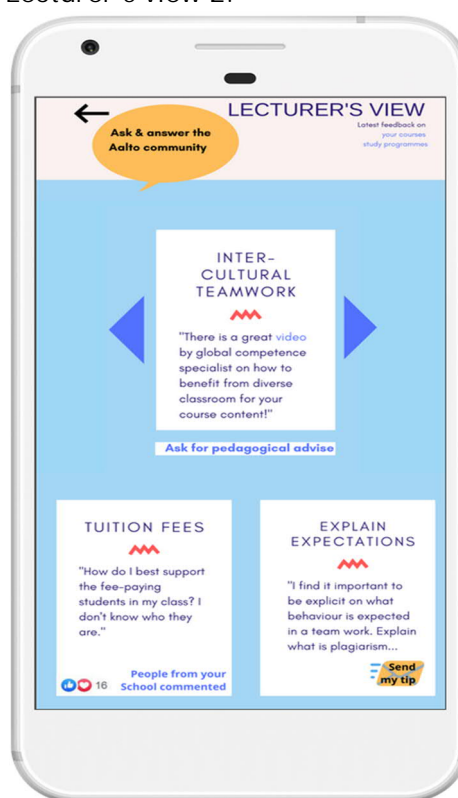
Lecturer's view 1:



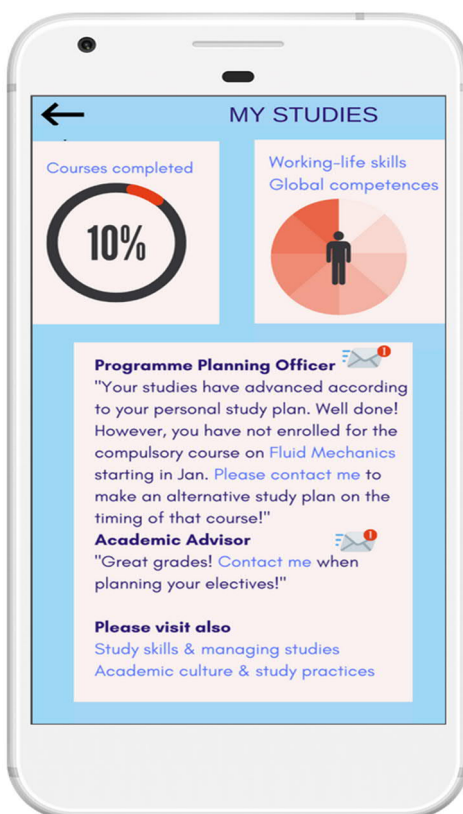
Student's view 2:



Lecturer's view 2:



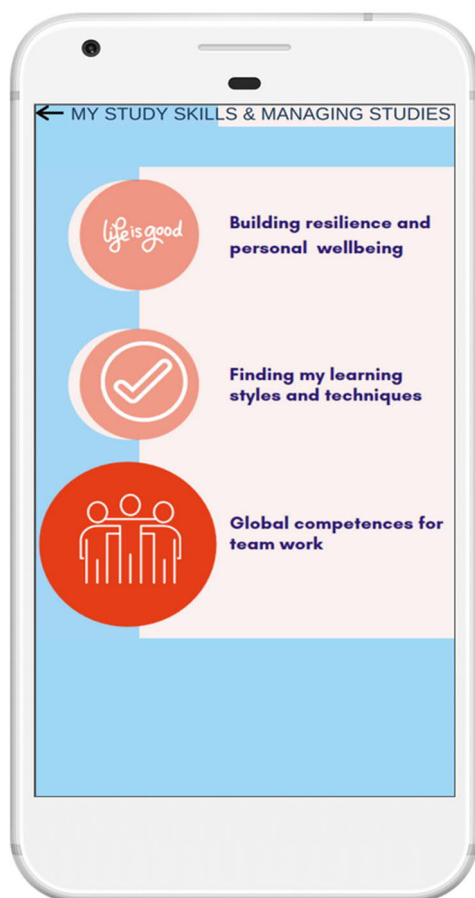
Student's view 3:



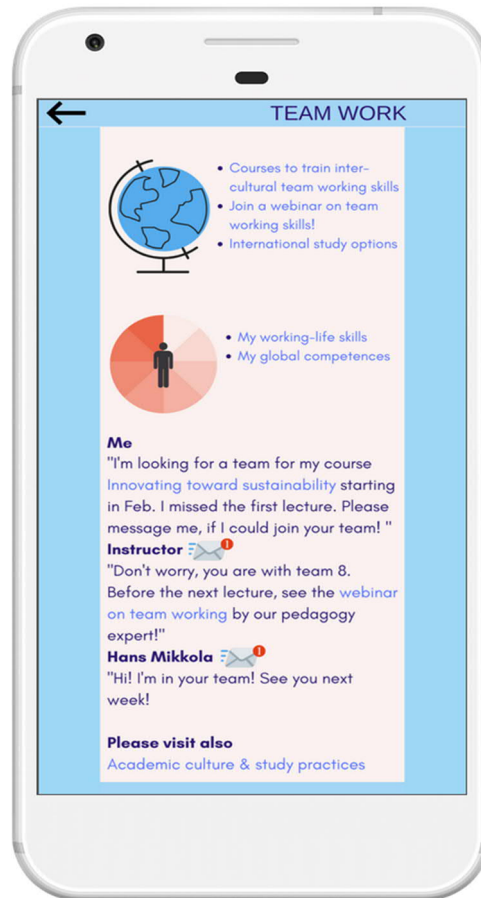
Student's view 4:



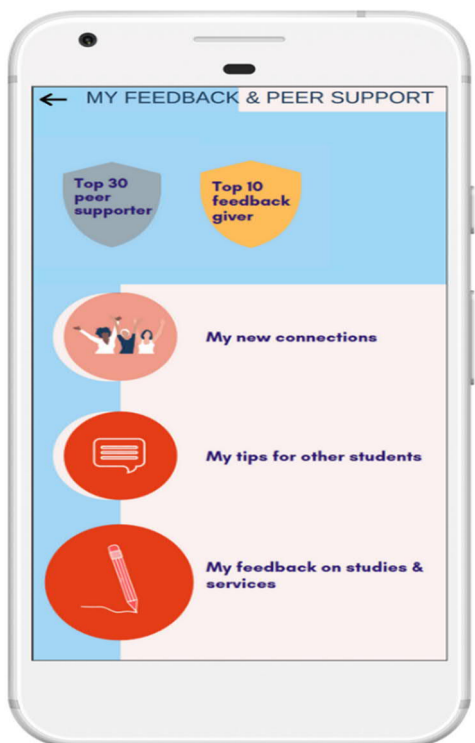
Student's view 5:



Student's view 6:



Student's view 7:



Student's view 8:



Figure group 27. The prototype of the service solution shown here as a mobile version.

The users enter the service by creating an avatar they will be using when interacting with others on the service platform. The avatar is connected to the user's role via their HEI identity authentication, but the user chooses the look of the avatar. The main user of the platform is a new international student but all HEI members are invited to create an avatar in the service. Ideally the service is used by all students. The service platform creates a place for all campus community members to come together to support the new students (and staff members) to navigate their way into successful studies and onboarding within the campus community.

When completing a node, the user gets a badge. The badges are encouraged to be completed in a certain order, nudged by the default setting. The nodes represent topics that are relevant especially for a new student moving first time to Finland for studies. However, the service also responds to the needs of students who might want to get deeper into some topic later on during the studies, as for many, the orientation week offers even too much information to digest at once. Feedback and peer-support badges are awarded for those who are active in giving feedback to the HEI or peer support in a form of comments and tips for other users. The badges nudge the users to being active on the platform. The nodes and their contents are changing according to the current needs of the students. Currently, there are contents for the suggested topics that already do exist but other content, such as information on academic culture and study practices, are not described sufficiently enough according to the data collected during the research phase of this study. In many cases, the content does exist, but it is difficult to find (for example the career services, according to the survey data) or it is organized in silos, so that the different personnel advising the students do not collaborate or even know about their services or knowledge related to a topic (according to co-creative workshop's data).

Selected nudges are added to the service in order to make the users choose to support their peers and other actors within the community: For example, the platform encourages the student to give constructive feedback on their programme as a whole; feedback which is not collected systematically at the moment. When giving feedback to a lecturer, the student is reminded to "be kind when giving personal feedback". When other students are looking for information in e.g. learning Finnish language, the user is nudged in a form of reminders to add their tips on that topic. The platform also offers the different service providing actors and stakeholders to see the messaging to the individual students. This way they can learn about each other's processes as well complement the information they give to the students without the student having to write the same question to many staff members.

The service providing stakeholders working in different units can refer to content produced by other experts within the community and also ask advice from each other and help each other

by commenting on topics of their choice. The users are again nudged to support their community by referring to their peers and noted when people from the same organization unit are commenting their contents. The service saves the messages so that the user can get back to the messages that concern certain topics. It is easier to get back to these messages within the service than looking for them in their email folders. Also the service providing unit's defined personnel can view the messages sent to individual students so that they know how to advise them further. The whole service can be considered nudging through simplification by collecting the vital information and online services under one platform that also adds a layer of peer support for the whole campus community. Obviously personal data and privacy issues need to be solved to enable this.

The student can see how their studies are advancing and what skills they have attained during their studies. This makes it easier for them to comprehend their personal development and provide a skills-based resumé for employers. To support the social, free-time inclusion, the service platform provides a possibility for a student to "look for a friend" or to look for team mates for a course by contacting other students on the same courses. The node on academic culture and study practices orientates a new international student toward what is expected of them in their new learning environment and how their performance is assessed. It allows the local students and faculty to translate the academic culture and its practices to the new students while also widening their understanding of their own culture. The node on campus services and events introduces all services to the new students without them having to look through different websites to understand the offering. The platform invites the users for collaboration and helps new international students develop their understanding of their new learning environment, thus increasing their sense of belonging and inclusion.

7.4.3 Validating the concept and testing the prototype

The service solution was validated by using a value proposition canvas (figure 28) which exhibits the customer's jobs-to-be-done, their pains and gains as well as the service's features, pain relievers and gain creators.

Value proposition canvas on the service solution

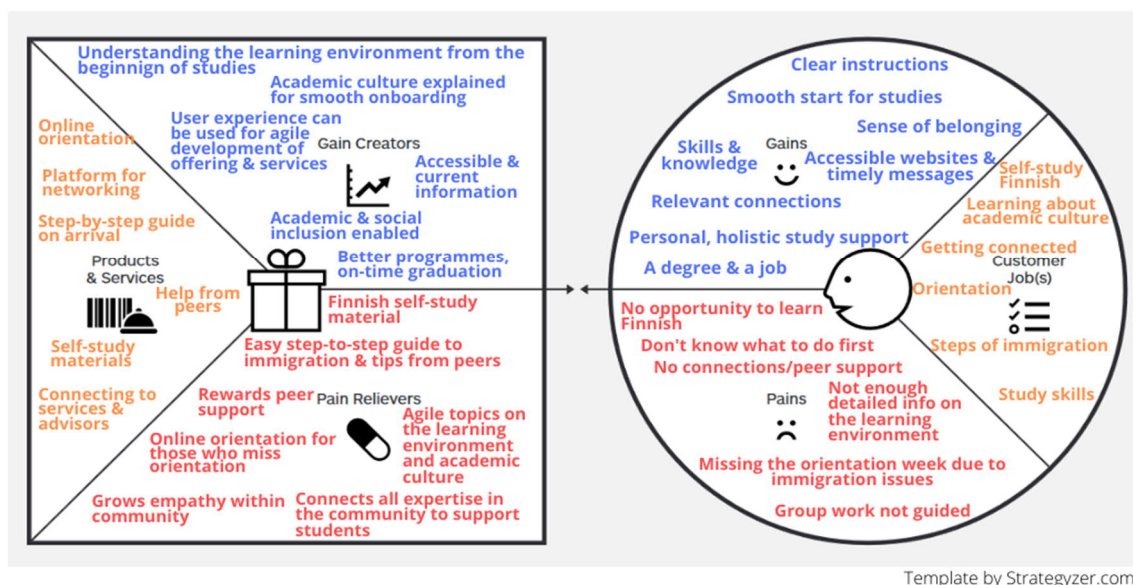


Figure 28. Value proposition canvas on the service solution concept. The user is the new international student.

When evaluating the values that the service solution creates for the users it is important to look at the research questions and the needs of the customers, as well as the needs of the service provider. The following goals can be recognized to be crucial for the new international students:

- Good “flow of studies”: Understanding the learning environment, including academic culture, to be able to control and predict one’s workload and thus create a feasible study plan to follow are components to social inclusion. Making the study plan is actively supported by the programme personnel regardless of their location or position within the organization. The values co-created by and for the student users are skills, grades and knowledge.
- Connections to other students for peer support promote the inclusion of the new students within the HEI community. The values co-created by and for the users are social engagement and networks.
- Employability: Getting engaging training on Finnish language and culture, even before starting of studies. The students also get tips from the staff and other students on job-hunting. The values co-created by and for the users are knowledge and social engagement. Employers as stakeholders are provided with highly skilled applicants who have the needed language and cultural skills to work in Finland.
- Smooth immigration process: clear information on the steps to take and made always current by the peers’ comments. The values co-created by and for the users are skills. The HEI gains value by the students giving each other more actual and often localized information on the practicalities of embassies and other immigration units globally.
- Holistic services to support finding one’s “calling”: Getting study guidance connected with career planning by bringing the service providers within the HEI together on one

platform. The values co-created by and for the users are skills, grades and networks. The value for the HEI are more effective services that support the students holistically for graduation (the HEI is rewarded for its graduates in government funding).

- Information and feedback related to the onboarding phase: Collecting the scattered information and knowledge within the community into one platform. The programmes and the services can be constantly developed according to the systematically collected customer feedback. The values co-created by and for the users are skills.

With the service blueprint (figure 29 below) the holistic functionality and dependencies to other processes was assessed and validated. The nudges applied in the service form an added layer in the service blueprint (inspired by Salmivalli 2019). The blueprint gave the understanding that there are still many processes, for example within the immigration and housing processes, that affect the students' experience and sense of belonging in the community significantly, but which the HEI can only try to have an impact on by affecting the service providers. The nudges applied in the service would need to be tested for their functionality one-by-one to ensure they guide the behavior of the users in a desired way.










New intl student journey phases	Prospective student	Before entry	First days in Finland	Orientation & onboarding
 Online/physical evidence	Application to study 	Admissions -> first badges 	Peer-support badges 	More badges, networks 
 User actions	Applicant gets to know services & community	Student completes first nodes in the service -> gets to know culture & practicalities	Student checks the service for information on steps to take, gets peer-support	Student completes nodes, gets included in the community
 Front stage interactions	Applicant connects with peers, other students and staff	Student prepares personal study plan with their programme staff	Student finds holistic support in one place	Student may come back to completing nodes on their own pace -> stress relief
 Nudges & desired behaviour	Social reference: encouragement by peers to choose this education	Default settings: guide student to complete nodes in order to get needed information	Social reference: encouragement & support to and by peers, simplification	Simplification: intuitive guidance online, reminders: nodes to be completed
 Background processes & systems	Student recruitment and marketing, admission services, tutors, programme staff	Housing services, travel arrangements, immigration process, funding, tuition fee	Housing arrangement, tutoring, family connection, ID, transportation, registration	Orientation week, studies, new hobbies, friends, weather, health

Figure 29. The service blueprint of the service solution.

Testing the prototype was the next step. The first draft of the prototype was tested with a person who has no previous knowledge of the service concept. The prototype was iterated after that by removing futile steps in the service flow and by emphasizing the meaning of the badges by fading the ones that were not yet completed by the user. The direction of the app was changed to vertical in the mobile version. The second draft of the prototype was tested

with two international students and four staff members in an event (Learning Gala 18.12.2019) at the case HEI. Both students said they would use the service but it should be integrated into an already existing services such as an app for reserving learning spaces. They suggested changes into some of the node's names; e.g. grocery shopping, housing and finding secondhand household items and furniture were topics that they would like to see presented more clearly in the service solution. Other themes suggested to be added were zooming in to show the campus location in relation to the capital region, a node describing cultural events in the region as well as the possibilities to visit different natural wildlife areas in the region.

During the testing it became obvious that some of the themes presented in the service were not expected by the students, but upon asking, they were after all deemed necessary: One of the testers said that they would not recommend this higher education institution for a friend looking for an exchange studies' destination as there is so much teamwork on courses - however ending up with the conclusion that the problem may not lie in the teamwork itself, but rather in the lack of preparation and guidance for intercultural teamwork. Both students appreciated the orientation week in the beginning of their studies and concluded that meeting people face to face during the orientation is very necessary and should not be minimized into an online experience. However, the service could be used for looking for peers from previous batch of students in the same study programme, which reinforces the idea of the need for peer-support and the understanding of a study programme being the unit to which most students (would like to) feel included in and thus confirming the need for structural, constant feedback for the study programmes given by their students.

8 Results

This chapter summarizes the research results and outputs produced during this study. The purpose of this study has been to develop the service experience of new international, degree pursuing bachelor and master students at the Finnish case higher education institution. The goal of the study has been to map the experiences of the new international students and to understand what kind of challenges they encounter, especially when starting their studies. The research questions of the study have been tackled with applying a double diamond design process. The mapping of the experiences of the international students, as well as the knowledge-needs and skills valued by them, have been covered mostly in the discovery phase of the study by conducting a survey, in-depth interviews and mobile ethnographical research.

The student experiences have been made sense of by using various service design methods and tools and by visualising the user insights for impact and further use within this study and the case organization. Especially the international students' journey has been an output revealing the student experience with nine main phases with pain points and gaps that present

the potential for service development. This design challenge was focused on the onboarding phase. The pain points faced by the students in the onboarding phase are, among others, the lack of detailed enough information on immigration, HEI processes and academic culture, lack of connections to other students and support staff, expecting pro-active approach from the staff, being overwhelmed with information and the tasks to complete, pressure to graduate since the beginning of studies, no time to recharge and the lack of guidance in intercultural team work.

During this study, the customer journey map also become an important narrative tool in sharing the understanding and empathy toward the students' pain points during their studies and thus guided the organization toward a more student-centred approach in service development, described better in the discussion chapter. The issues that create value for the international students in higher education were discovered based on the customer journey map: they include graduating on time, a degree making them employable, transferable professional skills, finding a "calling", giving feedback with an impact, relevant connections and sense of belonging to the community.

Collecting the understanding for the second research question on the knowledge and skills needed by the new international students to succeed in their studies and at the start of their new life in Finland has been covered by referring to previous studies on social inclusion in higher education but also during the survey, interviews and the mobile ethnographical research. Important knowledge and skills for new international students include the understanding of the learning environment: holistic understanding of the studying practices and their management, including career planning and the academic culture of the higher education institution, one's ability to control and predict one's workload and thus create a feasible study plan to follow, ability to form connections to other students for peer support, knowledge on Finnish language and culture basics even before starting of studies, understanding the steps to take in the immigration process, recognizing personally suitable learning styles and techniques as well as developing studying skills, managing intercultural team work and developing resilience.

During this study it became clear that the international students, especially the tuition fee liable ones who have a high price to pay in case they cannot keep up with the predefined schedule, have difficulties in taking the interesting cross-disciplinary studies that had attracted them to choose the HEI in question, in the first place. This brings us back to the question of value creation and the fulfilment of the value promise: This study suggests that more attention should be paid upon the possibility to complete a master's degree while taking cross-disciplinary courses that are actually desired by the students, opposed to just taking any course that happens to fit their overbooked schedule. The possibility to take on Finnish clas-

ses should also see more attention from the educational leaders as both the international students and the Finnish job market seem to value the skills (Shumilova et al 2012, Puttonen 2018).

Disproportionate workloads and tight schedules are seen to undermine the students' ability to learn deeply or benefit from the opportunities, such as interdisciplinary studies, that had made the case HEI attractive for the students in the first place. The study period system is unclear for new international students, thus they just follow the recommended schedule which is too heavy in the first semester. As follows, one important user insight created in this study is the definition for the flow of studies from the point of view of the students. It is defined in this study as the possibility to control and predict one's workload and thus create (and modify) a feasible study plan to follow until graduation. A good flow of studies allows students to succeed in their studies since the beginning, to choose more interesting courses, graduate with more skills and find satisfying employment efficiently. The skills and knowledge needed by the new international students are important enablers for a good flow of studies. The flow of studies is then closely linked with both dimensions, the academic and social inclusion of a student (Tinto 1975). Being well-engaged in their new learning environment, the students are able to succeed in their studies and achieve their goals. However, it is the responsibility of the higher education institution to support the flow of studies for all its students.

Bringing the primary and the secondary data together and combining them with solution suggestions from the students themselves as well as the faculty and support service staff of the case HEI, a new service solution responding to the students' needs has been created. It improves the international students' experience and helps them succeed in their studies and increase their sense of belonging in the higher education community, has been co-created. In the case of a higher education institution, the service provider is not a simple value creator, but more like a value facilitator, as it is the students who for in many cases create the learning experience themselves e.g. in peer groups. It is essential for any organization to understand the values desired by their customers so that they can create an offering that fills the gaps in already existing services (Grönroos 2017, 130).

The knowledge and skills needed for succeeding in studies, have been analysed as part of the value creation process taking place in higher education: Knowledge and skills are seen as values best produced when the dimensions of academic and social inclusion merge. When the higher education institution commits to facilitating the merger of the customer's and the service provider's spheres, the new international student is able to accumulate knowledge of the learning environment and of the academic culture, as well as gain peer support and connections to wider society. Social inclusion nudged with a platform of co-creation creates meaningful values for the students and for the higher education institution. The higher education

institution also benefits internally of the better communication flow between the service units as sharing expertise between different people is facilitated.

The solution concept Pathfinder developed in this study will also have the users, the students, creating value for the service providing organization by giving valuable feedback on how to improve the service offering (see Grönroos 2017, 128-129). Pathfinder creates a platform of co-creation, where the two spheres, that of the service provider and that of the user, meet. There the provider may get an opening to participate in the customer's value creation process as a facilitator-co-creator (Grönroos 2017, 130-131). Pathfinder is a place where both staff and students exchange knowledge not just between each other but between themselves.

9 Conclusion and discussion

This chapter evaluates the study, describes the main conclusions, suggests topics for further studies around the theme and describes the use of the results of this study and its impact within the case organization as well as possible societal impact.

9.1 Evaluation of the study and suggestions for further studies

Recognizing personal experiences as part of the operational environment with the so-called hard facts, creating an impact with synthesis and storytelling, evoking empathy and discovering meaning, is what design thinking and service design have brought in the development case of this study. The data has been triangulated in order to guarantee the validity and richness of the data used in the study and numerous different data collection, analysis and synthesis methods have been used. The scope and the participants in each method have varied to give a broader as well as deeper understanding of the issues around the research questions. Furthermore, the survey results and the first workshop were used to direct the scope of the research to the most important issues for the customers, that is, the international degree students at the case organization. The data was synthesized and presented to the stakeholders by using a customer journey map and a storyboard which revealed certain gaps in the services for students, which further helped define the case for the service innovation. The study has functioned as an important learning case for developing facilitated co-creation, using the service design methods and tools and their visualised outputs to further the project and trusting the design process to guide the study in an intuitive and truly iterative way toward impact. The power of visualization of experience-based data presented as a story has been one of the biggest learnings.

The inevitable researcher bias has been challenged in this study by using a colleague's viewpoints in interpreting the survey and the interview results. Considering the ethics of this

study, the participants and the organization have been at all times informed of the purpose of the study and the use of the research results to develop the international students' experience. The case HEI has contributed for example by providing students' contact information and incentives for student participants to the research, and shared facilities and statistics, as well as commented the content before the publication of this study. To further develop the concept and the prototype into a minimum viable product with functioning nudging, extensive testing with both staff and student users will be required. The nudges used in such a product will need to be transparent and easily avoidable to the users to fulfil ethical standards.

As the faculty's experiences in welcoming new international students or teaching diverse classrooms have not been studied extensively within this study, secondary research data has been integrated with the research results done during this study to develop the student experience in the case HEI. The research literature on social inclusion in higher education has functioned as a background setting to understand the phenomena in a global scale and from the perspective of the faculty and the higher education institution. Nevertheless, developing further applications from this study will need more attention on the faculty's needs and wishes when it comes to inclusive pedagogies. For further research on the topic, the support needed by the teachers to execute inclusive teaching is recommended.

Indeed, one of the stories falling outside of the scope of this study, is the question that has been shortly touched upon and which can be seen in the customer journey map: the pedagogies to follow the diversity of the campus population. Developing the flow of studies and the academic inclusion is not just a question of improving administrative student support services and peer support. As the international students have very limited time for experimentation, they have high expectations on the organizing of and the content of the studies. Students participating in this study were calling upon better programme design that includes feedback on programme level and impact assessment on the courses' workloads. They also would like to see more collaboration among different teachers to co-create course content and design the flow of studies in the study programmes in cooperation with the administrative staff. What might be surprising, is that the students themselves were not that worried about the lack of mixed teamwork (Finns with internationals). This is an indication that the importance of the peer-support, networking and social inclusion during learning situations has not been understood by the students nor the faculty. However, introducing inclusive pedagogies to support societal transformation is strongly suggested by research (see Gidley et al 2010, McLean & Ransom 2005, Reid et al 2003, Tinto 2017).

Having a diverse campus community alone does not lead to inclusion of minority students nor convert society for equity (Tienda 2010, 467). When it comes to the dimension of social inclusion, the divide between the local students and the international students is already building up, which can be seen in the responses of the survey of this study. The lack of social inclusion

due to immense time-pressure to graduate backfires in the job-hunting phase. International students feel less included and in risk of burn-out, as well as lacking peer-support, compared to their local peers. The student union is worried by the international students founding their own clubs instead of being included or feeling the sense of belonging in the already existing clubs (opening meeting of the task force on international student experience in 13.12.2019). To turn the tide on this development, the higher education institution needs to support the inclusion of all of its students and make it easy and lucrative to all students. Collecting the peer-support to one platform that allows people with diverse backgrounds to interact and learn from each other, will also boost the innovation potential of the whole campus community.

Bearing in mind the national plans to attract young, skilled talent to Finland, making international students and graduates feel included since the onboarding in Finnish higher education, this study provides valuable lessons on the importance of the social inclusion for finding employment in Finland. The main conclusion of this study is that nudging behavior on a co-creation platform would offer a feasible way to support social inclusion in the higher education institution but it requires the HEI to put its humans in the center of the development and recognize, observe and understand the students as individuals with specific goals, needs and values requested. The HEI needs to consider its customers as individuals with goals that go beyond supporting national economy and strive to empower the human potential of all its individuals. Facilitating and nudging for the encountering of the diverse campus populations may eventually produce values located on the top of the value pyramid (Bain & company 2018): life-changing values for the individual and societal change toward inclusion.

9.2 Implications of the research results

Searching for innovation potential in the margins has been a successful approach in this study as there are many indicators that the same “moments of truth” are part of any student’s experience with the case higher education institution. In the near future the pressure to graduate on time may even raise for all students as the new funding model from 2021 for Finnish HEIs puts more emphasis on completed degrees and graduating on time (Ministry of Education and Culture 2019b) and the HEIs will most likely need to push the students graduate faster. This means that being a new student there is no time to waste finding the paths to success in the academia, it’s practises, networks and the new learning environment in general. The flow of studies - or the academic inclusion - defined in this study as the possibility to control and predict one’s workload and thus create and modify a feasible study plan to follow until graduation, must be supported by the higher education institution to the maximum. Succeeding in studies in which the international students have invested (dozens of) thousands of euros in, needs to be the starting position which may lead to life- and society -changing values after

graduation. But unless the onboarding experience is managed to its best, it will be difficult to support the inclusiveness of the experience and the students' self-confidence and motivation along their studies.

The created service concept allows the facilitation of the desired values for the students: the skills that enable them to achieve good grades and make them manage their studies well, skills and knowledge that will make them employable, graduate with a desirable degree, create networks needed for studying effectively and to get employed by. The final outputs of this study, e.g. the concept and the prototype, may be used within the case organization when building content, nudges and functionalities for the student service platform, currently under tendering. Another application may be the just initiated development of an online orientation for new students.

The other outputs from the development case may also be used to improve the student experience in the case HEI: The findings on the pain points on the international students' journey offer a good starting point for further development and the already ideated solutions may be developed further to induce concrete change within the structures of the study programmes and their contents. The scope and timing of the student support services may be redesigned to better respond to the international and new students' needs. The participatory process that has introduced service design process and methodology, as well as user-centric mindset has great potential to shape the organizational culture in the case HEI. Furthermore, the theoretical frameworks on intercultural adaptation and social inclusion, revised for the use of this development case and reinforced by the experience-based data acquired from this study, may be used when considering the practical steps to take in designing education with inclusive pedagogies. This provides an opportunity to subsequently fulfil the promise of the case organizations' equality plan.

In the autumn 2019 the case organization established a new working group titled "Task force for international student experience", which aims at taking the international students' journey, produced in this study, as the starting point for developing the international degree students' experience at the case HEI (opening meeting of the task force in 13.12.2019). The customer journey has also been used when ideating indicators to measure student experience in the study programmes of the case HEI (Educational leadership seminar 19.12.2019). The analysis of the issues that create value for international students on their journey at the case HEI are also being used as part of designing the contents of a service platform, and the needs of the students regarding Finnish language and intercultural communication studies have been shared with the case HEI language teachers. Possibilities to share the results of this study to other Finnish higher education institutions are currently being looked for. The results of this study will also be shared with other European HEIs with whom the case HEI is collaborating in

a European Commission funded project including the topic of “student welcome and engagement”. A service solution like the Pathfinder would be increasingly needed in not only in the arena of Finnish higher education, but also internationally, as higher education institutions around the world continue to attract global talent in the hope of making them stay after graduation.

The problems with inclusion of the international students within the case higher education institution may have serious implications in the future for the HEI. One important question to consider is whether unsuccessful personal study experiences shared in social networks of the students and the prospective students would lead to losses in the global competition for young talents in a form of reduction in valuable applicants. If this scenario would materialize, it would possibly have implications for the quality of education and reputation as well as reduce the possibility of the local students to gain intercultural experiences during their studies, thus making them less prepared after graduation for the intercultural team work. Failed experiences during the bachelor’s or master’s studies most probably would also have an effect on unsatisfied students’ motivation to apply for doctoral studies in the same institution or country. Not having found one’s “calling” during the studies hardly inspires for a career in the academia. After all, the master’s graduates of the case HEI are one of the main source of doctoral students for the case HEI, thus representing a significant group of people hoped to grow as part of the community and stay. Problems with inclusion do also affect the wellbeing of the community as a whole. A big portion of the courses include team work where one student’s wellbeing influences the other team members significantly. Problems with wellbeing also delay completing studies thus creating more pressure for the HEI and the counselling offered by it.

Besides the implications on education and research quality, institutional reputation and wellbeing, the lack of inclusion provides consequences on learning. Learning is compromised when institutions of higher education allow the formation of “homogenous groups of like-minded people”. Tienda reminds that it is a national responsibility of these institutions to support integration with inclusive learning environments. (Tienda 2010, 473.) Learning happens when one is required to challenge one’s own thinking and prejudices – it does not happen when ideas are not contested. Nudging a higher education institution community for inclusion supports the mission of the universities in producing societal impact and supporting innovation. The third mission of universities in Finland, societal impact, is not fulfilled without an attempt on cultural change, when it comes to the inclusion of international students and graduates and inclusion of people with diverse backgrounds in general. For a society to be able to move to the next age following the information era, the “conceptual age” – “a society of creators and empathizers, of pattern recognizers and meaning makers” (Pink 2008, 49-50), its culture and structures need to also embrace the innovation potential within its diversity and margins and support the aspirations of and interactions between all its members. What this

study does, is not a suggestion for special treatment - it nudges the higher education community to ensure that all its students are able to start from the same line and succeed in reaching their potential which Finland is not to miss.

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Figures

Figure 1. The number of international students in the HEI is gradually growing	9
Figure 2. The most common nationalities of international students.....	10
Figure 3. The employment situation of higher education graduates in Finland.....	12
Figure 4. The ideologies underlying social inclusion theory and policy.....	17
Figure 5. Layers of social inclusion in higher education	21
Figure 6. The academic success of international and local students in 2018.....	22
Figure 7. Elements of value.....	25
Figure 8. Design thinking and doing for feasible, functional and desirable services.....	27
Figure 9. Double diamond design process and the methods used.....	29
Figure 10. The spheres of value creation.....	32
Figure 11. The two dimensions of academic and social inclusion merge.....	33
Figure 12. A template for designing facilitated, co-creation workshops.....	42
Figure 13. Answers to question 15 How would you rate your overall experience of the HEI?	47
Figure 14. Answers to question 16. How would you rate the Student Services?.....	47
Figure 15. Answers to question 18. How would you rate the Starting Point of Wellbeing....	48
Figure 16. Themes found in the answers to the open question 28.	49
Figure 17. Answers to open question 29. What are your future goals after graduation?.....	50
Figure 18. Answers to open question 30.	51
Figure 19. Journey map.....	56-57
Figure 20. International students' value pyramid.....	58
Figure 21. A storyboard illustrating new international students' experiences.....	59
Figure 22. Solution ideas for the pain points of the beginning phases.....	62
Figure 23. Service desks at the higher education institution are closed during the summer..	63
Figure 24. A stakeholder map with the emphasis on international students' onboarding.	64
Figure 25. The solution concepts developed in the workshop.....	66
Figure 26. A service advertisement poster of the "Pathfinder" service.....	69
Figure group 27. The prototype of the service solution shown here as a mobile version.....	70
Figure 28. Value proposition canvas on the service solution concept.....	75
Figure 29. The service blueprint of the service solution.....	76

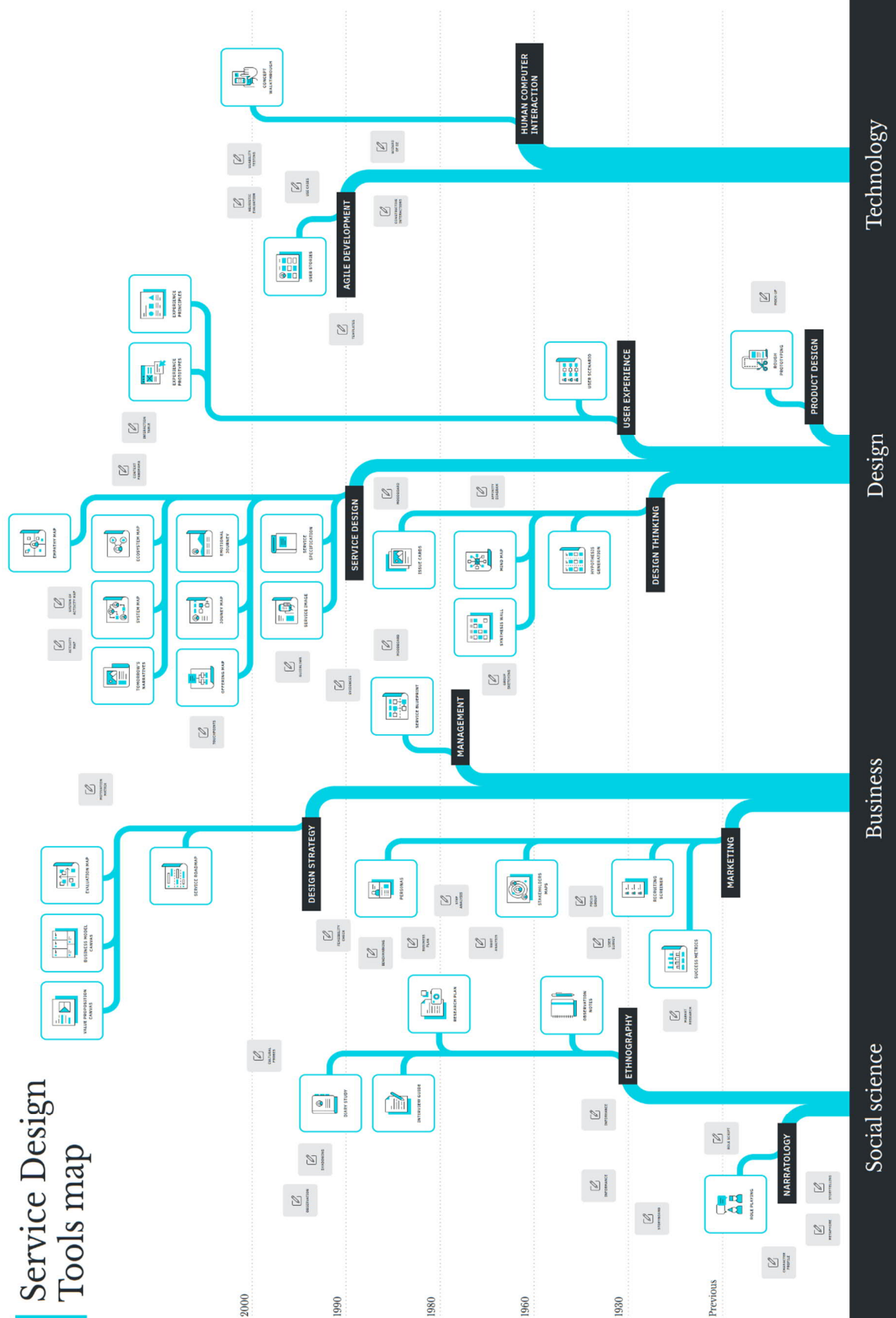
Tables

Table 1. Summary of the interview results.....	52
Table 2. Summary of the challenges of the new international students before the start and in the beginning of their studies.....	53
Table 3. The grouped solution ideas by themes.....	60
Table 4. Development ideas per customer journey phase.....	61

Appendices

Appendix 1. Service design evolvement.....	93
Appendix 2. Information for research participants.....	94
Appendix 3. The field guide for student interviews.....	97
Appendix 4. Instructions on joining the mobile ethnographic research.....	98
Appendix 5. Questions of the student survey.....	99

Appendix 1. Service design evolvement (Oblo design 2019).



Appendix 2. Information for research participants

Information for Research Participants

28.6.2019

By downloading this application you participate in a research study on improving [REDACTED] services for new international students. Participation in this study is voluntary. You can discontinue your participation in the study at any time. Should you discontinue your participation, you will not be subject to any negative consequences, but information gathered from you up until the point of cessation of your participation may be used in the study.

1. The subject of the research study

The project studies the new international students' experience at [REDACTED]. The aim of the project is to improve [REDACTED] services for new international students. The study is being conducted by Riikka Jääskeläinen working at [REDACTED] as a specialist in international studies.

2. The method by which personal data is collected

Data is being collected by an ExperienceFellow application. The participants of the research download the free ExperienceFellow mobile app from the app store, scan a QR code or insert a token, and start reporting their experience during different phases of their study journey. The researcher may contact the participants by email and by push notifications in the app by proposing them questions on their experience. The research takes place during a 2-4 week period and the participants may decide themselves how much time they spend on the reporting. Reporting may contain writing, images and videos. The study is conducted online.

3. How and on what basis your personal data is processed in the study

The purpose of this study is to understand the needs of the new international students and to improve [REDACTED] services. The results of the study will be used as a part of the researcher's Master's thesis for Laurea University of Applied Sciences in Master's degree in Service Design. The data given by the participants is processed by using the Experience Fellow application by More than Metrics GmbH, Austria by protecting the anonymity of the participants. The participants do not see the comments of the other participants. In case the participant uploads an image or a video to the app during the research, they may be used by the researcher in the following research publications without mentioning the participant's name. The data is removed from the app after the research has ended.

Personal data in this study include the participant's name, age, gender, School and study programme at [REDACTED], email address, nationality and country of the previous studies. When enrolling in the app, the participant may choose to use a pseudonym instead of their given and last name. They may also deny sharing location data. The personal data inserted in the app by the participants is analyzed by mostly qualitative service design methodology. The aim is to look for patterns that repeat in the participants' experiences especially related to the before starting studies and the beginning phase of the studies. The data is being analyzed anonymized after being retrieved from the app. The analyzed data will be used in a workshop aimed at developing a concrete service solution to improve the student services.

The beginning of new student's studies affects strongly in how well they are able to onboard the [REDACTED] community and to succeed in their studies. Students arriving to [REDACTED] and Finland from abroad encounter extra challenges due to cultural and practical reasons during the immigration. In this study personal data is needed to understand the experience of the new international students in order to develop [REDACTED] services to correspond to their needs.

Effects to data subjects

The processing of your personal data is required for the performance of a task carried out in the public interest, namely scientific research and academic expression. In addition, the purpose for processing of personal data is journalistic expression (the research results may be used for publications such as X website, newspapers and magazines).

Lawful basis for processing of special categories of personal data

Processing is necessary for reasons of substantial public interest, which is academic expression in a form of Master's thesis. Data subject has given explicit consent to the processing of those personal data for one or more specified purposes, by adjusting the settings of the app.

4. Sharing of Personal Data

[REDACTED] may need to share research data with a third party. Sharing of personal data shall be carried out in accordance with privacy legislation. [REDACTED] aims to share only anonymized data whenever this is possible without jeopardizing the research study.

Third party in this study: Laurea University of Applied Sciences, Finland

[REDACTED] safeguards the rights and privacy of the individuals by agreements with third parties.

5. Transfer of your data to non-EU/ETA countries

The data of this study is not being transferred to non-EU/ETA countries. The [REDACTED] policy is to take special care in case your data is transferred to countries outside of the European Union and the European Economic Area, particularly where those countries do not provide data protection regulation according to the standards set by the GDPR. These transfers of personal data are conducted according to the GDPR utilizing for instance standard contractual clauses or other appropriate safeguards.

6. Measures taken to protect your data

The following measures are taken in this research study to protect your rights:

- The research study has a research plan
- The person responsible for the research study is: Riikka Jääskeläinen, [REDACTED]
- Personal data is only processed and transferred for the purposes of mentioned at section 4, and information is handled in a manner so as not to reveal information about a specific person to external parties.

7. Storage period of your data and anonymization

The criteria for defining this period is based on good scientific practice. In scientific research the aim is to store the research data so that the research results can be verified and previously collected data can be used for further scientific research on the same subject or for scientific research in other fields. The personal data will be deleted from the app after the research has ended.

Anonymised data is no longer personal data.

8. The rights of the study participant in a scientific study

Because data is being processed for the purposes of scientific research, the purpose of processing is not to use the data in decision-making related to the participant.

[REDACTED] actualizes your rights as defined in the GDPR. The extent of your rights is related to the legal basis of processing of your personal data, national legislation and exercising your rights requires proof of identity.

9. More information on the study and the exercising of your rights

The controller in this study is [REDACTED].

The contact person in matters related to the study is: Riikka Jääskeläinen, [REDACTED]

Contact information of the researcher: [REDACTED]

This privacy notice is available at the app used in this research.

The research participant must contact [REDACTED] data protection officer if they have questions or demands related to the processing of personal data.

Data Protection Officer [REDACTED], Phone number: [REDACTED], Email: [REDACTED]

If the research participant sees that their data has been processed in violation of the general data protection regulation, the participant has the right to lodge a complaint with the supervisory authority, the data protection ombudsman (see more: tietosuojafi).

Appendix 4. Instructions on joining the mobile ethnographic research.

Thank you for participating in this study! The aim of the study is to improve [REDACTED] services for new students, thus I would like to ask you to describe your experiences on [REDACTED] Services!

Please use the Experience Fellow app as your online diary to describe and evaluate the experiences you have had as a new student. You can enroll for this study by following the instructions in the attachment!

Please document

- The experiences you have had with [REDACTED]
- Where and how did they take place?
- How did they make you feel (surprised, happy, worried...)?
- What help did you get and was it useful?
- What information would have been useful and where did you look for it?
- Anything else you consider relevant

Here are some ideas on what to report:

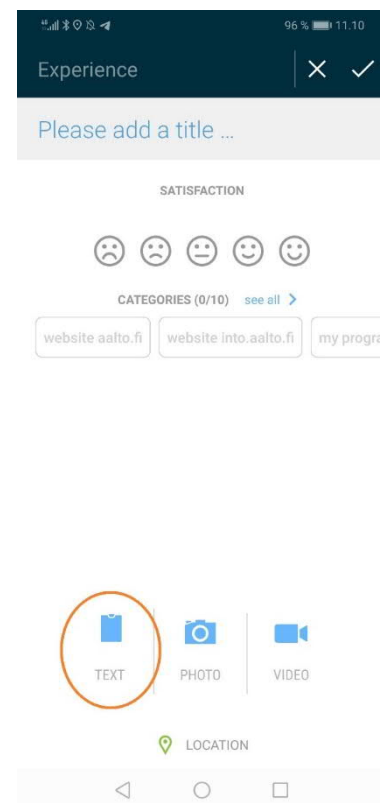
- Arriving in Finland or the campus
- Starting your studies at [REDACTED]
- Experiencing a particular aspect of Finland in general
- Browsing websites or print material
- Personally meeting someone
- Using particular services related to starting your studies

Please keep adding experiences during this research. You may report as many experiences as you can and wish. They may be positive, neutral or negative - all are valuable!

In the app, please add text description (circled in orange in the picture below) to describe your experience. You may also add images and videos.

Information about the Experience Fellow app:

- You may use for example your nickname or an invented name when enrolling in the app. However, please mark the other data, such as your study programme correctly.
- You may allow the location data to be shared with me, the researcher, but you do not have to.
- I would like it very much, if you could allow for me to send you push notifications in the app during the study, but you may also deny receiving them.
- You do not need to have internet access while documenting your experiences in the app. However, afterwards you need to be connected to the internet when you share your experiences with me in the app. This sharing is called syncing (synchronizing).
- More information on this research and the handling of your personal data is attached.
- You may always contact me by email with any questions on this research at xx.



Appendix 5. Questions of the student survey.

Tuition fees at X - your experience as a student

Please answer the brief survey below.

The survey is strictly confidential and you will not be identified at any stage so that you can give feedback freely.

In the open comments you can elaborate on any aspect of your experience.

The results will be used to improve services and wellbeing initiatives for students liable to tuition fees at X by organizing a series of events, workshops and discussions in the spring term.

The survey is open until Monday, 14th of January, 2019.

Answering should take about 10-15 minutes. Thank you for your time!

Part 1: Expectations**1. How did you expect living in Finland would be?**

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Difficult
- ☐ Very hard

2. How did you expect studying at X would be?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad

3. How did you expect the services for students to be at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad

4. How did you expect the social integration at X would be?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad

5. How did you expect to manage your finances at X?

- ☐ Very well
- ☐ Well enough
- ☐ About average
- ☐ Somehow to get by
- ☐ I knew it would be a struggle

6. Do you feel that the university has expectations towards you?

- ☐ I feel the university expects relaxed commitment towards my studies
- ☐ I feel the university expects reasonable commitment towards my studies
- ☐ I feel the university expects very hard commitment towards my studies
- ☐ I feel the university expects extreme commitment towards my studies
- ☐ I feel the university expects obsessive commitment towards my studies

7. Do you feel that your family, relatives or close people have expectations towards you?

- ☐ I feel they expect relaxed commitment towards my studies
- ☐ I feel they expect reasonable commitment towards my studies
- ☐ I feel they expect very hard commitment towards my studies
- ☐ I feel they expect extreme commitment towards my studies
- ☐ I feel they expect obsessive commitment towards my studies

8. How would you describe your own expectations?

- ☐ I have relaxed expectations towards my study success
- ☐ I have reasonable expectations towards my study success
- ☐ I have very hard expectations towards my study success
- ☐ I have extreme expectations towards my study success
- ☐ I have obsessive expectations towards my study success

Part 2: Experience

9. How has living in Finland been so far?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Difficult
- ☐ Very hard

10. How has studying at X been so far?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Difficult
- ☐ Very hard

11. How would you rate your academic workload?

- ☐ I have relaxed workload
- ☐ I have reasonable workload
- ☐ I have very hard workload
- ☐ I have extreme workload
- ☐ I have far too big workload all the time

12. How would you rate your chances of influencing your academic workload?

- ☐ Excellent: I have many different options for choosing how hard my workload is
- ☐ Good: I can influence my workload quite well

- ☐ About average: I can influence some parts of my workload
- ☐ Difficult: there is very little I can do to influence my workload
- ☐ Very hard: I am pushed beyond my limits and I cannot do anything about it

13. What is your experience of social integration with other students?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad

14. How are you managing financially while studying at X?

- ☐ Very well
- ☐ Quite well
- ☐ About average
- ☐ With difficulty
- ☐ It's very hard

15. How would you rate your overall experience of X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad

Part 3: Services

16. How would you rate the Student Services (providing help with administrative and study-related issues) at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad
- ☐ I don't know, I have never used the Student Services

17. How would you rate the Career Services (providing help for finding jobs and starting a career) at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad
- ☐ I don't know, I have never used the Career Services

18. How would you rate the Starting Point of Wellbeing (providing low-barrier support, guidance and tools for your personal wellbeing) at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad
- ☐ I don't know, I have never used the Starting Point of Wellbeing

19. How would you rate the academic tutoring (providing support and help for your studies) at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad
- ☐ I don't know, I have never had academic tutoring

20. How would you rate the UniSport services (providing opportunities to exercise and enjoy recreational activities) at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad
- ☐ I don't know, I have never used the UniSports

21. How would you rate the Student Health Service YTHS (providing help and care in case of

illness)?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad
- ☐ I don't know, I have never used the Student Health Services

22. How would you rate the Student Union services (representing students, organizing events and providing opportunities to socialise) at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad
- ☐ I don't know, I have never used the Student Union services

23. Do you feel there is enough communication between the university and tuition-fee-liable students about the key issues?

- ☐ Yes, perfect information
- ☐ Quite good, but there could be more or better information
- ☐ About average: some things are well informed while others are not
- ☐ No, there's not enough or good enough information
- ☐ Not at all, I have not received any relevant information about most issues

24. How would you rate the help offered by the academic staff at X?

- ☐ Excellent
- ☐ Good
- ☐ About average
- ☐ Not good
- ☐ Very bad

25. How would you rate the help offered by administrative staff at X?

- ☐ Excellent
- ☐ Good

- ☐ About average
- ☐ Not good
- ☐ Very bad

26. What is your home school at X?

☐

27. What is your X scholarship status?

- ☐ 100% tuition fee waiver
- ☐ 50% tuition fee waiver
- ☐ No scholarship

Part 4: Open Comments

28. What kind of changes or actions in teaching, supervision or services in your school, programme, or in the university would help you to improve your experience at X?

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29. What are your future goals after graduation, and how could we help you to achieve them?

^

30. Anything else you would like to say about your experience as a fee-paying student at X? ^

Would you be willing to be interviewed or participate in a workshop for improving the international student experience together with staff?

If yes, please send a simple email with 'yes' to x so that we can reach out to you later on.

Thank you for taking part in this survey!