



Virtual mobility for all

UNITE! SUMMER PROJECT

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Executive Summary

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UNITE! Summer project

Presentation

Mobility programs, such as Erasmus+, are not accessible, inclusive or equal for all students. Students with disabilities, learning difficulties and disadvantages face significant challenges, such as extensive preparations, inaccessible campuses and insufficient support, when planning to join these programs. This project aims to tackle these challenges in virtual mobility.

Design Thinking Method was used in this project to create innovative solutions to these challenges. This iterative problem-solving method can be used to, e.g., design new products, services or concepts by empathizing with target groups, defining problems, ideating solutions, creating a prototype and testing it.

Project goals

Our goal is to make virtual mobility accessible for all students from UNITE! universities by ensuring inclusion, strong student involvement, peer support, individual approach to students, cultural exchange, flexible study paths, minimal bureaucracy as well as career support.



Inclusion

student
involvement

peer support

cultural
exchange

career support

individual
approachminimal
bureaucracy

We propose:

- creating a **unified online platform** for linking UNITE! students together
- designing a **rich pool of virtual courses** for students to freely choose their courses
- implementing **automatic credit transfer** to reduce bureaucracy and assure credit recognition
- forming a strong online **peer support network** with students as tutors, course assistants, buddies and student representatives
- launching **Virtual Student Network** for organising social activities for students
- constituting **Virtual Career Centre** to support students to enter labour market through personalized career guidance, international working culture courses and a combined job and internship platform

Summary

A Virtual Mobility Platform would provide an equal, accessible and inclusive online environment for all students from UNITE! universities. It could be a worthy alternative especially for students unable to join physical mobility to experience international student life and get linked with other students in Europe.



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Disclaimer

This report has been produced in the attempt to provide ideas and solutions for the UNITE! Alliance on how to meet the needs of students for supporting and encouraging virtual mobility. Students with special educational needs were the primary focus group, however, all solutions were examined also from the point of view of all students. The authors and their supervisors have adhered to publicly available resources and terminology and all work has been carried out for common good and following principles of good scientific conduct. This document reflects personal viewpoints and views from the literature, and this is not a legal nor official document.

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1 Introduction

UNITE! (University Network for Innovation, Technology and Engineering) is a network of seven different universities, which form an European University Alliance. The partners of the Alliance are Aalto University, KTH Royal Institute of Technology, Technische Universität, Grenoble INP Institut d'ingénierie et de management, Politecnico di Torino, Universidade de Lisboa and Universitat Politècnica de Catalunya [1]. In accordance with the mission of the European University Alliance initiative, these seven universities strive to create new models for European inter-university campus by connecting staff, faculty and students. The Alliance focuses on engineering, science and technology, but includes also comprehensive universities with a broad range of disciplines spanning from art and design to business and entrepreneurship. This network of networks is achieved through different actions, such as mobility for all students, mobility for all staff, development of a model for a Virtual Campus, and a Teaching and Learning Academy or community, and trans-regional network for open innovation and entrepreneurship. UNITE! is co-funded by the Erasmus+ Programme of the European Union for a three-year pilot initiative (2019-2022). The results of this initiative will lay the foundations of the European University in the field of science and technology by 2025 [2].

Mobility is a key principles in UNITE!. The aim is to have 50% of the students in UNITE! Alliance benefiting from mobility during their studies or career. This covers over 84 000 students and 18 000 graduates [1]. Students can join mobility through, e.g., joint summer schools, short mobility programmes, transnational internships and virtual mobility [2]. Virtual mobility, staff mobility as well as mobility support activities will promote equity, cohesion, active citizenship and also provide broad inclusion of students independent of possible difficulties, disabilities or disadvantages.

This project focuses on students with disabilities, learning difficulties and disadvantages, later addressed as students with special educational needs (SEN) [3]. These students are underrepresented in conventional physical mobility programs, such as Erasmus+, and face significant challenges when they would like to participate in the Erasmus activities [4]. These challenges range from insufficient support from universities and inaccessible information to difficulties with funding personal assistants or other special needs and accessing local healthcare services. SEN students also face a vast amount of preparation compared to other students, systemic and cultural barriers as well as lack of recognition of their previous studies and qualifications.

Our work aims to identify these problems and create practical, student-friendly solutions to them by using an innovative and easily approachable Design Thinking Method¹. These solutions can then be used in designing and implementing accessible and inclusive Virtual Mobility Platform for Virtual Campus by UNITE! Alliance. They can also be of use in achieving the half of the UNITE! students benefiting from mobility during their studies and career in the future. Moreover, these solutions can be integrated in

¹<https://voltagecontrol.com/blog/5-steps-of-the-design-thinking-process-a-step-by-step-guide/>

different blended mobility programs within virtual mobility to increase accessibility and inclusiveness for all students. UNITE! summer project was funded by Aalto University as part of the UNITE! University Alliance activities. It was conducted by two students, Jenna Järvenpää and Paulina Szymaszek, from Aalto University, Finland, in summer 2020.

2 Inclusion in Mobility Programs

2.1 UNITE! working frame

UNITE! actions are divided into ten different work packages (WP) covering areas from Project management (WP1), Governance (WP2), Support Services (WP3), Virtual UNITE! Campus (WP4), UNITE! Teaching and learning Academy (WP5) to UNITE! Mobility4all -Student (WP6), UNITE! Mobility4all -Staff (WP7), UNITE! Ph.D as Learning-Research Innovation Interface (WP8), Regional Involvement and Innovation (WP9) and to Sustainability and Dissemination (WP10) [1].

Work packages directly related to this summer project are WP3, WP4, WP5, WP6 and WP7. WP3 Support Services aims to create a UNITE!Center4all to support UNITE! in the implementation of its mission and enhance mobility, student involvement, recognition and integration. This UNITE! Service Office will cover Joint Mobility Centre, Student Engagement and Welcome Centre, Global Language Centre and Career Liaison Centre. WP3 will also create the UNITE! Special Educational Needs Network (USEN Network) to improve SEN students participation and integration in the university ecosystem as well as in the labour market [2]. This USEN Network will give special attention to enlarge the inclusiveness of SEN students in the university ecosystem and mobility programs in close connections with all UNITE! WPs.

WP4 focuses on creating a Virtual UNITE! Campus by 2025, which would offer online tools and virtual spaces and classrooms to be used in joint teaching, research, embedded mobility as well as in social and cultural interactions. WP4 is in close contact with WP5, which builds on the expertise of unique pedagogical approaches for teaching and learning at all degree levels in the Virtual UNITE! Campus. It will also develop models for the implementation of flexible study paths and joint curricula as well as innovative ways of working in different physical and virtual spaces.

In addition, WP6 and WP7 focus on seamless mobility of all levels, including students, teachers, researchers, administrative and technical staff. WP6 will carry out actions related to short-term programmes, traditional credit mobility, degree seeking mobility, summer and winter schools and internationalization at home, during the pilot phase of UNITE!. By contrast, WP7 will aim to cover the entire university staff in mobility schemes and increase the mobility of faculty and teaching staff. It will also organize thematic international weeks on different topics, such as UNITE! Well Being for All to support the health, well-being and social inclusion of UNITE! students and UNITE! Student Career Weeks to create the Career Liaison Centre together with WP3 in collaboration with the student representations or student unions of UNITE!.

The purpose of this summer project is not to be constrained by any of these work packages alone, but to innovate and create new student perspectives and solutions to inclusion in virtual mobility based on the UNITE! working frame. Within this UNITE! frame, SEN (special educational needs) students are defined as students falling in the cross-national categories of A/Disabilities, B/Difficulties and C/Disadvantages, which include students with disabilities or impairments viewed as organic disorders attributable to or-

ganic pathologies (A/Disabilities), behavioural or emotional disorders or specific difficulties in learning (B/Difficulties) and disadvantages arising primarily from socio-economic, cultural, and/or linguistic factors, as stated by Organisation for Economic Co-operation and Development (OECD) [3]. This UNITE! working frame gives us an international environment, in which our work could be recognized and taken into account when designing inclusive and accessible virtual mobility platforms, campuses, environments and other digital practices or applications for all students in UNITE! universities.

2.2 Erasmus+ programme

Erasmus+ is the flagship programme of the European Union including 28 EU Member States and 6 countries outside of the EU [5]. It strengthens social inclusion through education, training, youth and sports in Europe by supporting mobilities, financing organisations and funding projects. In 2018, it supported more than 850 000 mobilities, financed close to 95 000 organisations and funded more than 23 500 projects. It has lasted over three decades and provided unique experiences to over 10 million people. During the academic year of 2017/2018 it funded almost 470 000 higher education (HE) student and staff mobilities, of which 545 participants requested special needs support [6]. The percentage of these participants of the total was 0,12 %, which is in accordance with the percentages (0,12 to 0,17 %) of student participants with special needs from the years 2009/2010 and 2014 to 2016, stated by Erasmus Student Network AIBSL and Support Centre Inclusive Higher Education (SIHO) [7].

According to European Agency for Development in Special Needs Education [8] it is extremely difficult to estimate exactly how many students there are with disabilities or other special educational needs in higher education (HE) in Europe. Since EU Member States have different requirements for students to assess and identify their difficulties or special needs, the number of SEN student in HE varies a lot, from 0,3 % (1995/1996) up to 13 % (2000) depending on the method and the country the research was executed.

On the other hand, approximately 10 % of the population of Europe has a recognisable disability and around 22 % of the total school aged population requires special educational provision. Depending on the assessments and identifications, SEN pupils make even up to 18 % of the school age population. Regardless of whether the exact number of SEN students in HE in Europe lies between any of the numbers mentioned above, the percentage of SEN students participating in Erasmus+ HE mobility programmes is still extremely low. Consequently, Erasmus+ programmes should pay more attention to inclusiveness and accessibility to effectively reach all SEN students and provide equal possibilities for all students regardless of their status to join the programs.

2.3 Terminology on virtual mobility

The main terms used in this summer project, virtual mobility, virtual exchange and inclusive mobility, have multiple definitions. Since it is important to share the same understanding of these terms, the key definitions used in this project are presented below. Moreover, we use terms combining these definitions, such as inclusive virtual mobility, which means virtual mobility embedded with the adequate conditions to learn, work or volunteer virtually for people with fewer opportunities and taking their special needs into account. In addition, we combine some parts of virtual exchange to virtual mobility to improve and broaden student experiences on mobility, such as providing formal, course-based cultural exchanges within virtual mobility programs.

Key terms:

1. **Virtual Mobility** According to Erasmus+ Programme Guide by European Commission [9], virtual mobility is "a set of activities supported by Information and Communication Technologies, including e-learning, that realise or facilitate international, collaborative experiences in a context of teaching, training or learning."
2. **Virtual Exchange** According to EVOLVE (Evidence-Validated Online Learning through Virtual Exchange) project funded by Erasmus+ programme of the European Union [10] virtual exchange "is a practice, supported by research, that consists of sustained, technology-enabled, people-to-people education programmes or activities in which constructive communication and interaction takes place between individuals or groups who are geographically separated and/or from different cultural backgrounds, with the support of educators or facilitators. Virtual Exchange combines the deep impact of intercultural dialogue and exchange with the broad reach of digital technology."
3. **Inclusive Mobility** According to Erasmus Student Network AIBSL and SIHO [7] inclusive mobility "means creating and ensuring adequate conditions to learn, work, or volunteer abroad for people with fewer opportunities, by addressing their diverse support needs. It is a needs-based approach to what the individual beneficiary needs to ensure a safe and exciting mobility period abroad." Inclusive mobility is identified with values, such as fairness, equality, accessibility, individuality, simplicity, independence, understanding, inclusion, effectiveness and learning.

3 Design Thinking Method

In our work we utilized the Design Thinking method, an iterative problem solving approach that has its origins already in the late fifties [11]. The term design thinking encompasses various processes and steps that lead to a solution. It is a human-centered technique since it requires a deep understanding of the target users and close cooperation between them and the designers. There are five main phases of Design Thinking:

1. Empathize

Getting to know the target users is the first step towards creating a product that

they need. Empathizing, interacting and observing the people can give us a deep understanding of them, their problems and needs.

2. **Define**

The goal of this stage is to define a problem that we are eventually going to solve. It is recommended to specify problem statement in a human-centred manner. In order to do so, we need to put together and analyze all the information gathered in the previous phase.

3. **Ideate**

During this creative phase, we come up with as many different ideas for solutions to the problem statement we created. It is important to think outside the box and put down even those ideas that seem unrealistic. The more ideas we gather the better.

4. **Prototype**

Prototyping phase moves us from the ideas to solutions. In this iterative process we implement the solution as a prototype and either improve or reject based on the user experience. After having the user's feedback we may come up with new ideas and repeat the process.

5. **Test**

Finally, our solution is thoroughly tested, e.g, by making a questionnaire, survey or personal interviews, and usually the results of this phase are used to redefine the initial problem statement or even to learn more about the users. This may bring us back to the earlier phases of the process. Through these iterations and refinements we are able to find the best solution that fulfills the user's needs. In our case, we would propose that the solution is tested via a student questionnaire for which we have made the first draft (Appendix A.3), and that could be modified and launched by UNITE! at a later stage.

4 Design Thinking for Inclusive Virtual Mobility

4.1 Empathize

We started the project from a thorough research aimed at learning about experiences of the students in higher education (HE) with special educational needs (SEN) who participated in physical mobility already or thought about it. Due to both time constraints as well as the Covid-19 pandemic we did not manage to physically reach out to the students, which would have been very beneficial. Instead, we analyzed the already existing materials available online:

- “(No) Limits on International Exchange? International mobility and students with a disability²”

²https://sites.arteveldehogeschool.be/siho/sites/sites.arteveldehogeschool.be.siho/files/no_limits_on_international_exchange_-_international_mobility_and_students_with_a_disability_0.pdf

- Publication written by SIHO³, Flemish Support Centre for Inclusive Higher Education together with LINK Network⁴ that gathers experiences of nine students with disabilities who took part in Erasmus+ exchange programs or internship.
- “Equity in Student Mobility in Nordic Higher Education (ESMHE)⁵” A report on how disability in higher education is addressed in different Nordic countries, student experiences of mobility, reasons for not participating and suggestions for improving the programs.
- “MappEd - Student testimonials⁶” MappEd⁷ is a project aimed at improving the accessibility of the Erasmus+ Programme. The testimonials created within this project contain inspiring stories of students who participated in a mobility despite their disability.
- “Her Story: Studying Abroad with a mental illness⁸” A story of student with clinical anxiety and obsessive-compulsive disorder who spent a semester in Kenya.
- “Welcoming the Rain in Ireland⁹” Mobility experience of student with bipolar disorder.
- Stories of students suffering from depression who went for mobility programs: “Managing Depression on the Other Side of the Pond¹⁰”, “How to Deal With Depression While Studying Abroad¹¹” and “I have depression yet I did Erasmus¹²”.

We accumulated a vast amount of information on different needs and challenges regarding physical mobility programs. Although the problems were found to be group specific, there were still common factors linking these experiences together. Most of the students described the mobility experience very positively - as a chance to improve various skills, meet new people and become independent. However, they also had to overcome various obstacles in order to go abroad.

Among the most frequently mentioned problems there was lack of information on accessibility of the host university or funding options. The students didn't receive sufficient support and guidance during the application for mobility, finding grants nor in arranging practicalities such as accommodation, assistance and transport. All of the students emphasized the importance of social network and its superiority over professional assistance.

³<https://www.siho.be/en/>

⁴<https://ahead.ie/link>

⁵[https://www.universell.no/files/share/fileupload/2102/Report%20-%20Equity%20in%20Student%20Mobility%20in%20Nordic%20Higher%20Education%20\(ESMHE\)%20Print%20version.pdf](https://www.universell.no/files/share/fileupload/2102/Report%20-%20Equity%20in%20Student%20Mobility%20in%20Nordic%20Higher%20Education%20(ESMHE)%20Print%20version.pdf)

⁶<https://mapped.eu/testimonials>

⁷<https://mapped.eu/about>

⁸<https://www.npr.org/templates/story/story.php?storyId=113846968>

⁹<https://www.miusa.org/resource/story/linea>

¹⁰<https://www.miusa.org/resource/story/portia>

¹¹<https://www.gooverseas.com/blog/dealing-with-depression-while-studying-abroad>

¹²<https://www.esn.org/blog/i-have-depression-yet-i-did-erasmus>

4.2 Define

After collecting more information and empathizing students sharing their experience on physical mobility programs, the problems found in their stories were identified, defined and grouped. We identified issues related to support from the home or the host university, access to information on accessibility and healthcare at the host university, social life while being abroad, special assistance during physical mobility, systemic or cultural barriers and virtual learning (Appendix A.1).

Support from the home or the host university was considered insufficient, since the students felt they had to do vast amount of preparation and arrangements by themselves [12]. It was mentioned several times, that there were no clear contact persons available with experience on working with students with disability or experience on accessibility issues [13, 14]. Lack of support affected their experience on the bureaucracy of physical mobility programs, which was seen as difficult, slow and highly challenging. Moreover, some students felt that the communication between them and universities was not satisfying and in some cases not even welcoming [15]. Students faced slow responses [13], discouragement to go abroad and uncomfortable situations when professors were sharing their personal information about their disabilities in front of other students [15]. They were also afraid of failing the courses or falling behind others [13]. Some students were not able to see the benefits of going abroad, such as increasing their independence, advancing their career prospects or linking the experience with their studies.

There were also lots of challenges in accessing to sufficient and accessible information regarding students' rights, mobility, exchange programs and addressing students' diverse disabilities in the applications [12]. Moreover, some students did not know how to apply funding for mobility programs, whereas some students had to apply for funding from several different sources [13]. Difficulties to get information on reimbursement for special assistance, healthcare and other special needs were also highlighted in the stories and experiences [14, 13]. A lack of one centralized place to get access to the information needed was mentioned multiple times [12, 15, 13].

Access to healthcare was considered difficult since some students were worried of not finding adequate healthcare in the host country. Some students were afraid of their mental health issues, such as depression and anxiety to disrupt their exchange and felt ashamed of them, which prevented them from getting medical help from the local healthcare provider. They were also afraid of these mental symptoms getting worse during the exchange period, if they would not have enough social contacts or activities [16].

Generally, some students felt lonely, isolated and homesick during their physical mobility [17, 15, 18]. They suffered from lack of peer support from other students and challenges to make friends abroad. They missed mentors, tutors and buddy programs, which could have helped them to integrate into the local culture. Some students were afraid of leaving their rooms, being sociable and of losing control abroad [18, 17]. For some students, it was hard to get used to the new culture without anyone who they would know in advance. Students missed role models, ambassadors and other students

with their disabilities or special needs to have gone through the same mobility process before [13]. Some students did not believe in themselves to be able to go abroad, be worthy or good enough to participate in physical mobility. Some students even confronted cultural shocks on conflicting expectations on the state of students with special educational needs and reality in the host country [15].

In some cases, students were not able to choose their professional assistant in the host university, which made the interactions and communications between the assistant and the student unpleasant and highly negative [12]. Long-term exchange was regarded difficult to organize due to the challenges with getting assistance, interpretation, medical healthcare and therapies [13]. Students with disabilities also often needed specialized apartments, furniture and accessible environment to move and live independently. Due to the different practices and standards regarding accessibility in different countries, students were sometimes faced with situations where their special needs were not considered and they were not able to move without assistant [15]. These situations decreased the level of independence students wanted to feel.

Moreover, the systemic and cultural barriers found in these stories and experiences were related to strong attitudes and hesitation against students with special educational needs, such as disabilities or mental health issues, on participating in physical mobility programs. In addition to discouragement, these students felt discrimination, racism and also fear of going abroad. It was mentioned, that people think that students with mental health issues don't go on Erasmus+ programs [17]. Students also felt that in some cultures students with disabilities are not seen as individual persons rather than persons with assistants [15]. Students also experienced language barriers and also issues related to lack of personal documents and recognition of previous education and qualifications, especially in case of students with refugee backgrounds.

Finally, the virtual learning was seen sometimes challenging due to the lack of student's technological skills, time differences and issues with communication online, especially in foreign language, as mentioned in U.S. News & Word Report [19] and Network of Universities from the Capitals of Europe (UNICA) [20]. Virtual learning was generally seen as an alternative to long-term mobility, but not equivalent to it. It needed more discipline and certain level of independence from the student to succeed. In addition, communication issues arose with the virtual learning earlier and faster than in normal learning environment.

After analyzing the problems, we synthesized our observations to determine the core problem statement:

Students don't receive enough information on accessibility from HE institutions and adequate support and guidance before and during the mobility.

4.3 Ideate

Having defined the core problem statement, we moved towards the ideate phase in the Design Thinking Method. During one hour we came up with as many different ideas as possible and added these ideas on online Miro whiteboard [21]. After creating new and adding already existing solutions to the whiteboard, we grouped the ideas and linked them to each other and to existing websites. These ideas were grouped to ten different topics, which were: promoting virtual mobility to students and encouraging them to join mobility, the organization and formalities, curriculum, peer support, social activities during mobility, inclusive teaching methods, university accessibility and support for students as well as career center, shown in Figure 1. Our original grouped whiteboard is presented in Appendix A.2.

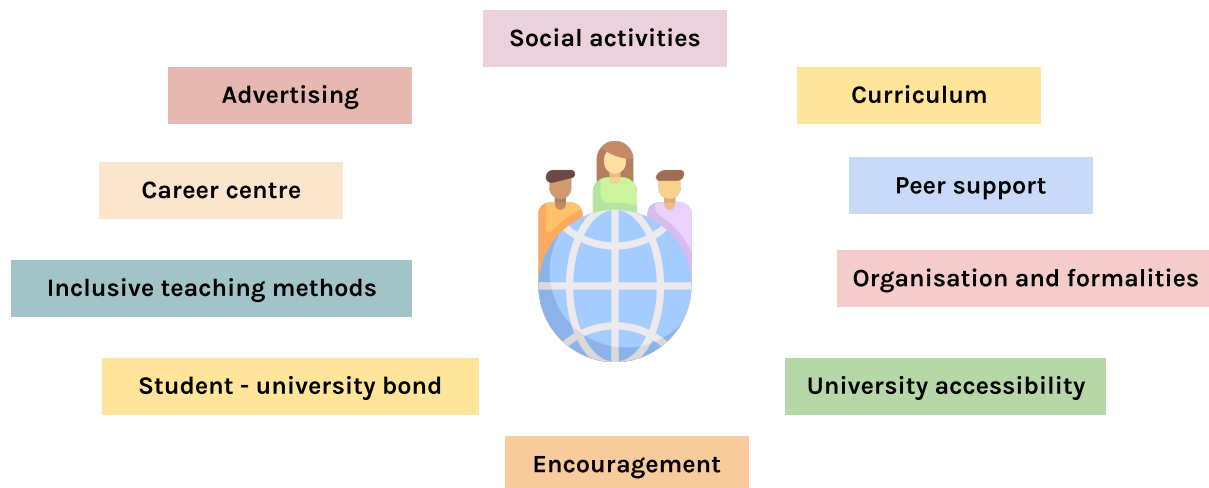


Figure 1: Key factors affecting virtual mobility.

4.4 Prototype

After Ideate phase, we decided to move to Prototype phase and describe our ideas briefly and in a practical manner. Our focus was in expressing these ideas clearly and elaborating them to be used by UNITE! Alliance in different work packages mentioned earlier and in their implementations. The goal of this phase was to provide proposals we thought might solve the problems related to the core problem statement and inclusiveness of virtual mobility by all students, especially by SEN students. All the prototype ideas can be found in the separate Section 5.

4.5 Test

In the Test phase the prototype is usually tested by the users and modified according to the results. The outcome may also be used to redefine the initial problem statement and to learn more about the phenomena under investigation or about the users. These iterations and refinements are done to find the best solutions to fill the needs of the users and solve the problems defined earlier.

The test can be conducted by different methods, such as quantitative or qualitative methods, different techniques, such as, critical incident technique and lifeline approach and different distribution channels, such as emails, social media or online platforms, and personal or group interviews. In our case, we would propose that the test is implemented through a survey of possible interviews with a smaller group of students.

The test should answer the following questions:

- What is the purpose of the survey?
- Who are the targets of the survey?
- How is this survey distributed?
- How the targets are reached?
- Why would targets be interested in answering the questions?
- What is the survey coverage?
- How many respondents it is needed to make this survey statistically reliable?
- Do other test set-ups also provide reliable and repeatable results?

To test our prototype of ideas presented before, a questionnaire can be done to answer our research questions. The questionnaire draft is presented in Appendix A.3. This is a preliminary draft and will need more elaboration by all UNITE! partners and should be modified according to the aim of the survey.

The aim of the survey could be to answer to the following research questions:

- Do our prototype ideas of virtual mobility solve the core problem statement related to physical mobility programs?
- Do these ideas provide students enough information on accessibility from HE institution and adequate support and guidance before and during the virtual mobility?
- Is virtual mobility more accessible and inclusive for SEN students and all students interested in mobility than already existing Erasmus+ programs?
- To what extent are students interested in the prototype ideas of virtual mobility?

Moreover, a demo version of virtual mobility platform could be developed and evaluated by UNITE! SEN students having experiences with past physical mobility programs.

This way SEN students could compare their experiences on past physical mobility programs and the demo version of virtual mobility. They could also identify the problems related to online environments, e-learning, online enrollment and personal well-being during the virtual mobility.

Thus, our prototype ideas could be tested with students having already experienced Erasmus+ mobility programs or intending to participate in these physical or virtual programs. Testing by using a survey could be done with a certain target group of students within their first year of Bachelor or Master's studies, since some virtual mobility programs could be already available for these students and they could have time to participate in them and embed mobility within their degrees. The target group depends on the purpose of the survey: are the answers sought from students with prior experience with mobility, those intending to go on mobility, or students with no current interest to do so.

Moreover, the testing via a survey could also be directed to representative groups, networks, organizations, foundations or alliances of people with special educational needs to reach the intended target group of students. Target groups could also be UNITE! university administrations, IT services, pedagogic and teacher services. The survey should be pre-tested internally within one UNITE! university, for example Aalto University, as it would form a continuation of the work done by us so far. This could be done with a small number of volunteers to identify points that need to be clarified and to produce a finalized version to be tested within UNITE!. Moreover, the pre-test (ie. the first version of the survey) as well as the finalized version should define the key terms used and they both should take into account issues, such as the COVID-19 health crisis or similar major influences within our societies. In addition, the final survey should also be translated to local languages within UNITE! partners to better reach the target group of students.

5 Our prototype

5.1 Ideas for how to promote virtual mobility

Based on our interpretation of the data that has been published, some students were discouraged to participate in mobility programs. There were opposing attitudes towards SEN students going abroad and some of them even felt discrimination, racism and lack of independence. These issues should be taken into account while preparing virtual mobility programs so that students with diverse backgrounds feel welcome to join them. The following proposals are related to reaching those students who might be interested in enrolling in virtual mobility programs, to increasing media awareness of different student participants and to providing different perspectives of added values of these programs.

Channels and ways to promote.

Virtual mobility programs can be actively promoted by UNITE! Alliance through various channels in social media, e.g., Facebook, Instagram, Twitter, SnapChat, Twitter, LinkedIn, through local and international events related to, e.g., launching of the virtual mobility programs or school years/semesters, virtual and physical job or mobility fairs, social gatherings, competitions and opening ceremonies and through student unions, clubs and nations with existing email listings and websites.

Moreover, UNITE! Alliance can promote these programs through co-operation with national and international organisations, foundations and alliances dedicated for students with special educational needs. Tight and close communication with these shareholders promotes accessibility of virtual mobility for all students.

Media awareness of these virtual mobility programs is increased by co-operation with bloggers, vloggers and other media influencers representing students with diverse backgrounds and needs. Media acceptance of students with diverse backgrounds and special educational needs having the same rights to study, enroll to different mobility programs and have same possibilities as students without any special needs is increased by having higher press coverage and positive campaigns for virtual mobility inclusive for all students. Campaigns can also be focused on mobility inclusion and accessibility of virtual mobility for everyone.

Use of different online and social media platforms added to conventional local advertisements on paper reaches the students best than just advertising on paper. Communications organized with welcoming tone for SEN students should be taken into account in the programs already in the promoting phase.

Interactions between student ambassadors and student healthcare providers and staff of HE institutions increases the awareness of SEN students participating in virtual mobility. Healthcare providers and staff can encourage students to participate in the virtual mobility programs during their normal interactions with students. The experiences of these student ambassadors can then be shared within the UNITE! Alliance to improve the execution and quality of virtual mobility.

Universities within UNITE Alliance can advertise virtual mobility programs for students within their first year in Bachelor and Master's level through tutors, welcoming weeks and other school related events. Organizing events especially for those students who have not been in any mobility programs so far but would like to go can be highly beneficial to students as individuals and to increase the diversity of students participating in these mobility programs. There can also be trials to take part in some sessions or online seminars in virtual mobility for students to see how virtual mobility programs are organized and if they want to enroll in them.

Attracting students.

The added value of virtual mobility for students can be personal gain, such as being a student representative, an ambassador, or a mentor or getting access to lectures of top key note speakers or guest lecturers. Students can also enroll virtual mobility programs for getting credits from new courses and learning new relevant topics not available within their home universities and increasing their skills for labour market. Virtual mobility can increase students soft skills, such as social and communication skills, but also technological, topic specific skills, such as programming or modelling.

Public awareness and increased diversity of students participating in virtual mobility has also institutional gains for UNITE! Alliance universities as well as for organisations, foundations and alliances mentioned above. These gains can be, e.g. increasing the pool for future talents, decreasing attitudes and other barriers against SEN students and other minorities and also increasing inclusiveness and equality within virtual mobility programs and UNITE! universities.

Students can also benefit from different incentives related with course arrangements, such as embedding more visits and free short-term programs within courses, organising easy credit courses on mobility and on applying processes to these programs and making virtual mobility compulsory or highly recommended in university courses or curricula.

Course enrolling platforms or student information systems, such as WebOodi¹³ used in various Finnish universities, could show similar courses from other universities, so that a student can choose where to take the course and how. Lecturers can also have common practices to attract students to enroll in these virtual mobility programs and other similar courses within the first lectures of their own courses.

Virtual mobility programs can have award ceremonies and fancy dinners or events for students and faculty for acknowledging good practices or congratulating students for passing the programs or courses. These special events can also be organized for competition or contest finals for students within virtual mobility. Students can also present their life and challenges with virtual mobility through social media channels of UNITE! university, like international students doing InstaTakeOver - taking over the university's Instagram account for certain time periods (a good example is FU Berlin¹⁴) Moreover, virtual mobility programs can have added value for students, e.g., passing the courses or programs will guarantee them a summer job, an internship or the first job after graduation.

5.2 Organisation and formalities

The students' experiences on physical mobility clearly showed that most of the problems they had were related with the organisation of the program and formalities, such as application procedure, funding or finding assistance. Bureaucracy is a big obstacle

¹³<https://www.ulapland.fi/EN/Studies/During-your-degree/Oodi---Student-Information-System>

¹⁴<https://www.fu-berlin.de/presse/informationen/socialmedia/insta-takeover/index.html>

especially with SEN students. In order to solve these issues when preparing for virtual mobility we propose the following solutions.

Enrollment and preparation

Enrollment for the program should take place few months in advance so that the program can be prepared to take into account the needs of the participants. It can be especially recommended during the first few years of the program's existence. In order to facilitate the enrollment process, a monthly timeline with important dates and deadlines can be provided so that the students know what they need to arrange and when. Students should have a possibility to ask designated staff to lead them through the enrollment process or alternatively use prerecorded video tutorials. The enrollment process should be fully digitized with minimal bureaucracy.

We recommend to prepare a survey or organize a video chat prior to the mobility, so that organizers can learn more about needs of the participants and adjust the program if necessary. The staff may also guide the students and suggest them suitable virtual mobility programs.

Regarding SEN students, it should not be required from them to prove their special status before the virtual mobility. In order to achieve this, the officers responsible for supporting SEN students at home institution should closely cooperate with the officers at host institution and, upon student's agreement disclose information on their special needs. Consequently, the receiving institution can prepare adequate support and assistance. Moreover, before the start of the mobility the host university should make the students familiar with their digital platform and technologies by providing webinars or introductory courses in advance.

Coordination

Each UNITE! university should have a coordinator who is in charge of the virtual mobility and a main contact person responsible for SEN students. The contact details of all the coordinators ought to be collected in one place and easy to find. Moreover, the information on whom to contact when having a particular disability or other special educational needs should be also highlighted. There should be effective cooperation and exchange of knowledge between all coordinators within UNITE! Alliance.

Funding

The students, who need additional financial support for the duration of virtual mobility, should be able to find all the funding opportunities easily from one place and to apply once for all services they need. Therefore, an integrated funding system is a necessity.

In virtual mobility, funding may be needed for services, such as personal assistance and language interpreters or for other special needs, such as assistive technologies and arranging physical student meetings with accommodations and transport. Access to

digital tools, such as software or applications and also their licenses might add some costs of virtual mobility.

Physical meetings

A virtual mobility program can include one or more short-term physical meetings for all students at the host university. They can take place, e.g., at the beginning of a course in order to get to know the future team mates, at the end as a reward for successful completion of the course or during virtual mobility. Regarding practicalities, such as accommodation, the incoming students can be hosted by their foreign peers or their families upon the agreement. Additional financial support can be provided for the hosts.

Technical solutions

There should be one virtual mobility platform for students and staff from all UNITE! universities. It should be accessible both as a website and a mobile application for those who want to quickly access the content with their phones, tablets or other electronic devices. The platform can encompass different services, such as enrollment portal, virtual study space and virtual student space dedicated for social activities and career center.

Moreover, every student could have their own account where all personal data is stored and managed. Thus they could easily keep track of their study progress, enrollments and gained skills or acknowledgements.

The platform's website and mobile application's compliance level according to Web Content Accessibility Guidelines (WCAG)¹⁵ should be AAA, which is the highest level of web accessibility. The virtual mobility platform should use the state of art digital teaching tools and be compatible with assistive technologies as mentioned in section 5.3.

Credit transfer

Virtual mobility platform can have a pool of virtual courses, as will be discussed in 5.8. Virtually available courses from all UNITE! universities can be matched with equivalent courses with similar content and grouped together. Students could then substitute courses from their home universities with their equivalents offered by other UNITE! universities. It would unburden students from finding suitable courses within mobility program. Besides, students would not need to fill in a Learning Agreement, which is currently mandatory for Erasmus+ Student Mobility. They would be able to freely enroll for selected virtual courses without the need to ask for staff's consent.

After the completion of virtual mobility program the earned credits can be transferred to the students' personal account in virtual mobility platform and from there to the home institution. Students would not need to ask for approval of the credits earned from the mobility coordinators.

¹⁵<https://www.w3.org/WAI/standards-guidelines/wcag/>

Certificates

Students can receive a certificate confirming their participation and to be used when applying for jobs or internships. Taking example from Erasmus+ Virtual Exchange Open Badge¹⁶ and Open Badge Passport¹⁷, students can receive digital badges for the skills earned during the virtual mobility. These can be small visual certificates associated with acquisition of soft skills as well as digital and technical competencies, suitable to add to a CV or LinkedIn profile. Our idea is to integrate the virtual mobility badges with the European Qualifications Passport for Refugees¹⁸, a documents that proves higher education qualifications and skills of refugees.

5.3 University accessibility

According to the core problem statement created from the analysis of the student's experiences on physical mobility, SEN students don't receive enough information on accessibility from higher education institutions. They are not able to find relevant information as easily as other students, especially regarding their special needs on accessibility. This issue can be solved by following proposals.

Requirements for UNITE! partners

In order to assure that each UNITE! university can conduct the virtual mobility program in inclusive manner, several requirements need to be fulfilled.

Each of these institutions should:

- have uniform criteria to include the student in the SEN category
- have an office(s) or person(s) responsible for supporting SEN students locally and virtually
- have a designated representative of the local student union to increase inclusiveness into the local student community
- have an accessible website, preferably with the highest compliance level according to Web Content Accessibility Guidelines (WCAG)
- provide various assistive technologies such as OCR software, braille, track ball
- assure that the courses they offer within virtual mobility are accessible or have potential to become accessible on students' requests
- provide information on campus accessibility, such as video or campus map
- provide information on student health care and personal assistance

¹⁶https://europa.eu/youth/erasmusvirtual/erasmus-virtual-exchange-competences-framework_it

¹⁷<https://openbadgepassport.com/>

¹⁸<https://www.coe.int/en/web/education/recognition-of-refugees-qualifications>

Staff training

The university staff should be prepared to work with SEN students in online environment and properly trained on:

- how to use assistive technologies and integrate them in the curriculum
- how to cooperate with special assistants or language interpreters
- how to use non-discriminative and sensitive language¹⁹
- how to support and motivate SEN students in their studies
- where to direct SEN students in case of any problems

There can be a community or network for university staff from UNITE! Alliance engaged in virtual mobility. Through this community staff can share knowledge and good practices related to online teaching and work with SEN students. Sharing knowledge and learning from each other could also improve the quality of virtual mobility, which would then also benefit all the students joining the mobility. UNITE! staff training events should also be organized on virtual mobility and include the needs of SEN students.

Course finder

The virtual mobility platform should allow students to easily and quickly search for different courses. We propose to use labels, e.g., colourful, visual elements, symbols or marks, that indicate the course duration, level of difficulty, prerequisites or language skills needed. Moreover, they could also show to which extent is the course accessible, e.g., if it is adapted for students with visual or hearing impairment or if it has physical meetings and how long they will last. Thus, the students could easily filter out the courses which are interesting and suitable for them.

Course materials

Each UNITE! university should assure that the courses they offer within virtual mobility are accessible or can be adapted according to students' needs. Therefore, it is important to get to know the participants before the course starts and re-arrange the course or the content of the course upon to the requests by SEN students in advance if possible.

It is recommended to follow the principles of Universal Design while preparing the curriculum and study materials [22]. According to this, the lecturers ought to provide syllabus with clear course objectives, explain assignment details and deadlines in advance and present the agenda at the beginning of the classes and the content summary at the end in order to give students more time to process the information.

All the students study in a different pace and some of them may need more time to accomplish tasks. Therefore besides attending live sessions, students should have the

¹⁹<https://aso-resources.une.edu.au/academic-writing/usage/non-discriminatory-language/>

possibility to study asynchronously. The course materials should be available online, ideally before the course starts, and in various formats such as video, text transcript or voice recording. They should be accessible with a screen reader or other assistive technologies. We recommend to use database of assistive technologies²⁰ developed by Support Centre Inclusive Higher Education (SIHO)²¹.

Course organisation

The lectures should be as inclusive as possible by bringing students with different abilities and backgrounds together. Online lectures should be kept short and effective, since sitting in front of a computer screen for longer times makes it hard to focus on the subject and personal learning.

Flexible course requirements and passing criteria as well as individual student approach would make virtual mobility more accessible and inclusive. Alternative assignments and increased optionality on ways of accomplishing tasks can be given to students. These can be, e.g., recording a video, podcast or creating visualisation instead of writing an essay or report. Moreover, there could also be a chance to choose between oral or written course exam if it is suitable for the course content and arrangements.

In addition, a possibility to have an individual consultation with staff would be very beneficial for students. Each lecturer could have their own online office hours and students could use an appointment booking system to reserve a time slot to discuss about their issues related to the courses or virtual mobility.

5.4 University support

UNITE! universities can support their students in various ways, such as providing unofficial communication channels with students and university staff, e.g., forums or chats and supporting individual student-centered approaches in student related interactions.

The universities may also consider giving salary, credits or acknowledgements to the students who engage themselves as tutors, personal assistants, course assistants or buddies. UNITE! universities can also provide self-assessment surveys for the students before and after virtual mobility to assess skills and competencies learned from the program, as in Erasmus Skills Project ²².

Wellbeing

Students' well-being can be taken into account through already existing programs, such as AllWell? questionnaire [23] used in Aalto University or Goodies wellbeing program [24] used in University of Jyväskylä, Finland. The annual AllWell? questionnaire is sent

²⁰<https://www.siho.be/en/publications/database-assistive-technologies>

²¹<https://www.siho.be/en>

²²https://www.erasmusskills.eu/eskills/tools/self-assessment-questionnaires/_intro/I02_Development_Self-assessment_Questionnaires.pdf

to Aalto's 2nd year Bachelor's and 1st year Master's students to measure the impact of teaching on study well-being. The results are delivered to the program heads and deans to develop actions, such as increasing cooperation, communication and peer learning between teachers, to improve student's study well-being. By contrast, Goodies program has well-being advisors for students to chat confidentially and personally about their issues or problems. These advisors are not therapists nor psychologists, but can help the student to find information on enhancing their own well-being. They can link the students with available peer support groups and support building students' own personal support network. UNITE! universities can modify and integrate the already existing programs in Finnish universities to support students' well-being during virtual mobility. UNITE! virtual mobility platform could even have a pool of well-being advisors from different UNITE! universities, to whom students going through virtual mobility could contact to.

5.5 Peer support

According to students' experiences on physical mobility, we found out that students appreciate and value peer support more than professional assistance. Students with special educational needs prefer to be supported by someone they have good connection with and they can choose themselves. They were also lacking of peer support from other students, mentors, ambassadors and tutors.

Interactions between students and student representatives can battle loneliness, isolation and homesickness and also help SEN students to be better prepared for virtual mobility programs. By implementing the following practices UNITE! universities can strengthen peer support within virtual mobility and provide better experiences for all students.

Course assistance

Students, as well as PhD students, can act as course assistants in different virtual mobility programs and courses by supporting students in their home assignments individually or in groups as in exercise sessions. They can also help lecturers or professors to correct exams, give personal feedback, share the load of online course arrangements, give extra-support for students falling behind and act as a link between students and the lecturer or professor. These course assistants can also teach some of the course contents, organize virtual laboratory exercises, support students to learn soft skills and improve their communications as well as interactions with each other.

Moreover, they can give new perspectives and ideas to the course arrangements and topics and lower the hierarchy between students and the lecturer, especially in online environments. Course assistants are dedicated for each course separately and give peer support only to those students attending the course. Each course can have separate course assistants or some courses may share the same course assistants together. By being a course assistant, PhD students can also fulfill the requirements for conferment

of the doctoral degree, as mentioned in Grad School Hub²³.

Tutoring

Students can also be trained to be tutors to welcome new students entering the virtual mobility programs. Tutoring can be organized to integrate these new students to the virtual campus, virtual learning environments and virtual university. Tutors can introduce these students to the faculty and staff of the virtual mobility program and keep up with them during the first weeks or months. They can also explain new students how the practicalities work in each mobility program, link them with virtual student communities and lead the way through the course selections, registrations, enrollments and other formalities. There can also be one designated tutor per one exchange student to be responsible for checking if everything is going well during the virtual mobility program and helping with integration with student communities and host universities, both in virtual and physical environments.

In Finland tutors will smoothly integrate first year students to the student life in a university during the first couple of weeks of the semester. Tutors organise events and meetings for the students, have their own teams to take care of and check if practicalities, such as accommodation, funding, enrollments to courses are taken care of. Moreover, tutors are responsible for showing the facilities, such as laboratories, lecture rooms and student cafeterias and introduce lecturers to their teams. There are usually one or two tutors per one team of five to ten new students. This how students can have personal guidance through the first weeks and months of the first university semester. Tutors and course assistants can also cooperate to support the students individually to get through the first semester and the first year in the university.

Buddy Program

The idea behind a Buddy Program is to connect incoming international students with the current local students to support their transition into life in a new country. Being a buddy is less formal than a tutor and usually one buddy is assigned to a incoming student and vice versa.

In the virtual setting the students could explore the local culture and participate in social activities together with their buddies. During any physical meetings the buddies could provide a helping hand with arrangement of practicalities and be the guides on campus and in the city. As an example, the students participating in courses organized by Aalto University, would be matched with the current Aalto students.

With regard to SEN students, buddies could also become their personal assistants when meeting physically. If needed, a preparatory training can be provided particularly for future buddies of students with physical, visual or hearing impairment.

A matchmaking online tool should be developed that would allow students find their

²³<https://www.gradschoolhub.com/faqs/what-does-a-teaching-assistant-do/>

buddies based on mutual interests and own preferences. An existing example of a platform matching international and local students is the Buddy System²⁴

Student representation

Ambassadors, mentors, role models and other students could share their experiences on virtual mobility through different existing communication channels of the UNITE! university, such as social media platforms, virtually and physically arranged local and international events and mobility fairs. They can also share their stories through virtual mobility info events and networks of organisations, such as ESN ExchangeAbility Team²⁵ or foundations and alliances, such as Inclusive Mobility Alliance²⁶, representing students and youth with disabilities, difficulties or disadvantages.

Moreover, these organisations could promote their members to become ambassadors, mentors and role models for other students and increase the participation of diverse students in these programs. Their students could also be represented in a committee responsible for designing and testing accessible virtual mobility programs and giving students' perspectives on developing these programs to fit for students with diverse special educational needs.

There could also be a technical support group of students with diverse backgrounds aimed at improving virtual mobility experience of students from the technical side. They would be partly responsible for web service maintenance, including designing, developing and testing under guidance of UNITE! partners or UNITE! employees. All students regardless of their studies and backgrounds could apply for being a member of this group and develop these online information services designed for student use.

In addition, students could collect feedback from the virtual mobility programs and courses to present them to the lecturer and faculty. This way students' experiences, feelings and recommendations can be covered in more depth and in truthful manner than giving feedback online directly to the lecturer after the course or program has ended. These two ways of giving feedback could also co-exist to address the possible issues and improve the quality of the courses, programs and virtual mobility.

Educating tutors and students

Educating tutors within UNITE! universities on virtual mobility can also be beneficial to promote virtual mobility programs and give peer support for new students. Tutors can be educated to encourage first year students to participate in virtual mobility programs and go abroad and also on how to take into account SEN students within social activities or tutoring sessions.

²⁴<https://buddysystem.eu/en/>

²⁵<https://exchangeability.esn.org/>

²⁶<https://mapped.eu/inclusive-mobility-alliance>

Reward for the peer-support

As a reward for student's engagement in being course assistants, tutors, buddies or student representatives their universities or UNITE! Alliance could offer them salary, credits, internships, summer jobs or special acknowledgements. Their work can also be recognized as voluntary or civic service. In some cases, students could also have a possibility to become student representatives, mentors or ambassadors for certain programs or projects. Moreover, a special mention of all of these peer support activities could be added to the student's Diploma.

Award ceremonies or other high-end events should also be organized for these students and faculty for acknowledging the efforts and best practices on virtual mobility within UNITE! Alliance. These ceremonies and events could further promote these programs and attract more students to join them as student participants or as assistants, tutors, buddies or student representatives.

Students empowering each other

Students can empower each other by helping, supporting and giving guidance as mentioned earlier, but also by giving positive feedback to one another. This can be organized by positive peer-assessment feedback after virtual mobility program by asking students within the same course to define and describe strengths of other students, as done in "How to Play to Your Strengths" by Harvard Business Review²⁷. Focusing on building up students' strengths can help students to reach their highest potential and boost their self-confidence. It can also help students to recognize patterns and compose their own self-portrait to guide for their future actions.

5.6 Social activities

We are aware of the fact that online learning lacks very important aspect - social interaction. Therefore, virtual mobility should to the greatest extent resemble physical mobility. The goal is to bring students together and make them feel part of an international UNITE! community.

We gathered ideas on social activities that could take place during virtual mobility and distinguished the ones offered to students by university from those organized by students themselves.

University to student

- **Language tandem**

The best and most fun way to learn the foreign language and culture is to have casual conversation with native speakers. This is what language tandem is about. In the virtual mobility setting students could be matched with each other through a web portal and meet online using chosen social media platform.

²⁷<https://hbr.org/2005/01/how-to-play-to-your-strengths>

- **Physical activities**

Starting a day with a 30 min group relaxation such as yoga, stretching or breathing exercises would boost students' energy and improve their concentration during classes.

- **Game tournaments**

Informal online meetings would allow students and staff to get to know each other better. One example of common activities could be a online game tournament.

- **Language animation**

Beside the language tandem, virtual mobility may include organized extracurricular language classes. In order to make them more attractive than regular classes, the language animation method may be used. It is an informal language teaching method with a strong emphasis on group games and practical communication. There is no division between teacher and learner, everyone is an expert of their mother tongue.[25]

- **Travelling using virtual technology (VR)**

Students could have a chance to visit their host university as well as other foreign cities thanks to VR technology. They could also use VR technologies to present their home country and local culture as well as home university campuses to other students. VR technology can also be used to reduce homesickness, visit inaccessible places, such as some tourist attractions, high towers and mountains or deep waters, or keep up with courses at home university while being abroad.

Student to student

We propose to establish Virtual Student Network (VSN), a virtual equivalent to the commonly known student organisation called Erasmus Student Network (ESN)²⁸.

Its role would be to plan and organize various activities for students throughout the whole virtual mobility programs. The members of VSN would be student delegates from all UNITE! universities. For them this could be a great chance to improve organisational, leadership or communication skills and such an experience would be valued and appreciated by future employees. In addition, an European VSN could be developed through collaboration with all the other European University Alliances.

The following are exemplary activities that could be conducted by VSN.

- **Welcome week**

During the first days of virtual mobility, the students will be invited to participate in different activities so that they can all get to know each other. Such tools as Kahoot²⁹, a service for creating group quizzes or Mentimeter³⁰ for organizing interactive live polls could be used.

²⁸<https://esn.org/>

²⁹<https://kahoot.com/>

³⁰<https://www.mentimeter.com/>

- **Talent Show**

During a talent show every student would have a chance to share their hobbies with others or teach something they are good at.

- **Pen friends**

Exchanging letters or emails is a very good way to get to know different people and it can be a chance to improve foreign language skills too.

- **Weekly challenges**

A good way to attract students and keep them engaged in social activities throughout the programs might be to organize weekly challenges, in which students are, e.g, asked to learn 10 phrases in foreign language, collect 3 postcards from international students or learn how to introduce themselves in sign language.

An interesting example of organizing online challenges is AaltoSDG application³¹, that shows how to make more sustainable choices everyday.

Virtual Student Space

As previously mentioned, a part of the development of a Virtual Mobility Platform would be a Virtual Student Space. We imagine it to be a place where everyone feels welcomed and appreciated, where students can freely communicate, support each other with the studies and have fun together. They could use a chat in order to exchange messages, photos or any content related to student life. A student event calendar would remind them of all the activities that take place in a future Virtual Mobility Platform during each academic year.

5.7 Virtual Career Centre

We believe that an inclusive university does strive for equal chances for all students to enter the labour market. One of the core services within the Virtual Mobility Platform would be the Virtual Career Centre. It would act as a middleman between the students, universities, alumni networks and companies and could be accessible for all students, not only those participating in virtual mobility.

Its major function would be to provide students of UNITE! Alliance with a common, unified place to search for a job, internship and other work opportunities. It can also provide personalized career guidance to help students to enter the labour market or pursue academic careers. Different solutions on how to implement Virtual Career Centre in virtual mobility are presented below.

³¹<https://www.aalto.fi/en/sustainability/aaltosdg-mobile-application>

Job and internship platforms

An unified platform within virtual mobility can allow students to search easily jobs and internship offers in Europe and within UNITE! Alliance. It can be targeted to students who are new to the labour market, e.g., during their studies or shortly after their graduation.

There are already some existing job platforms that can be used or integrated with virtual mobility. Some of these platforms are:

- The European Job Mobility Portal Portal³²
- EURAXESS Science4refugees³³
- ErasmusIntern.org³⁴
- Eurodesk Opportunity Finder³⁵
- Positive action program for trainees with a disability³⁶

In order to help students navigate in the job search portal, we propose to use labels next to job and internship offers, similarly to the course labels facilitating course discovery as mentioned in 5.3. The labels would contain information on job accessibility, required skills, qualifications, experience and competencies.

Job fairs

In addition to a job and internship platform, virtual mobility could also offer virtual campus job fairs, such as vFairs³⁷. These fairs could be organized at least twice a year, in the beginning of the school year and in the spring semester. There can be virtual fairs, company and research group introductions at the end of courses or during physical meetings in virtual mobility. Students regardless of their special educational needs can benefit from these fairs and introductions as well as from student ambassadors sharing their work experiences and career paths. These ambassadors can also encourage student peers to apply for different positions in various companies, research groups, courses and programs.

Individual career guidance

All UNITE! students would have an opportunity of individual and free of charge career guidance session. The career advisors should be able to give advice on which skills are currently valued on the labour market. After getting to know student's wishes regarding their future job, the advisors would identify which competencies they still need

³²<https://ec.europa.eu/eures/public/en/homepage>

³³<https://euraxess.ec.europa.eu/jobs/science4refugees>

³⁴<https://erasmusintern.org/>

³⁵<https://programmes.eurodesk.eu/internships#>

³⁶<https://www.consilium.europa.eu/en/general-secretariat/jobs/traineeships/positive-action-programme-for-trainees-with>

³⁷<https://www.vfairs.com/solutions/studentalumni-virtual-job-fair/>

to acquire or improve. They may also suggest the students to take specific university courses or internships as a preparation to pursue career in the desired field. Those, who are still undecided about their career plans, would receive a personal advice on various job opportunities according to their interests.

Moreover, the counsellors should help the students discover their strengths and boost their self-confidence. We believe that such a service would be highly appreciated and trusted by students rather than external career counselling companies that might be detached from the university or student life.

Introduction to business culture

Another important task of the Virtual Career Centre would be to introduce students to the both national and international business cultures. Learning what is required and appreciated by employers in different countries would be a great support and may open up new possibilities for the students.

We propose to organize an UNITE! inter-european workshop on how to write a good CV and motivational letter or how to prepare and make a good impression during a job interview. It would be also beneficial if the students could learn not only how to successfully apply for the first job but also how to apply for higher positions or get promoted. Alumni students could be invited to share their stories and work experiences, give some advice and encourage their fellow students to entering labour market.

As a good example for SEN students, we recommend to have a look at VIPTechJob³⁸, a project, co-funded by the Erasmus+ program that empowers youth with visual impairments in finding a job and prepares them for job interviews through online and offline trainings.[26]

5.8 Curriculum

To get the full benefits from virtual mobility, students need formal credits to be recognized by their home university in their curriculum. Due to various structures of Bachelor's and Master's programs in UNITE! universities, one uniform practice of recognizing skills and experience gained during mobility is needed. Virtual mobility offers new possibilities to organize and attend different courses and it can be used as a platform for new innovative ideas and connecting students within UNITE! Alliance. Different course arrangements and ideas are mentioned below.

Virtual courses pool

Since virtual mobility could offer an access to various courses and programs for students within UNITE! Alliance, students should be able to choose their mandatory courses from other universities than their own and pick the most suitable courses to explore their individual interests. Increasing optionality on courses within students' curricula

³⁸<https://webapp.viptechjob.eu/>

could benefit most of the students regardless of their special educational needs. A pool of virtual courses and programs could also increase the competition between courses, programs and universities as well as improve their quality at the same time. This pool could consist of courses on specific topics and course arrangements, such as including physical meetings to online lectures or interdisciplinary courses. Students could then choose whether they want to be physically present all time or some time or take the whole course online. Moreover, there could also be a timeline or a process chart for courses available in the pool for students to enroll in and take in the right order. With this timeline or process chart, students could know when to register and what kind of prerequisites they need to have for the courses. Ideally, students are also informed of what skills they need in order to attend the courses and how to learn these skills or gain knowledge in advance.

Innovative course ideas

Through virtual mobility, students can study different courses from conventional topics related to certain disciplines to novel, innovative and exciting courses. These new course ideas to be implemented in virtual mobility can be:

- soft skill courses, such as debate, communication, intercultural, online working and social interaction skills, similarly to Erasmus + Virtual Exchange [27].
- intercultural and communication skills, as in Open Virtual Mobility [28].
- introduction to academic writing online including e.g., using of LaTeX, different citation methods, searching for academic contents, scientific writing, using of references and drawing conclusions from the information.
- media literacy and critical thinking courses
- courses on presentation skills and public-speaking
- courses on digital skills for everyone, e.g., preparing students and staff to work in virtual environments and use different online tools and platforms as well as arrange online meetings.
- sign language courses for everyone on International Sign Language by using e.g., mobile applications [29].
- student competitions to innovate new ways of communication, online learning, virtual interactions or innovative teaching methods, such as hackathons, tournaments, championships and contests.
- student programming courses to create a mobile applications or other digital platforms to be used virtual mobility
- courses on Design Thinking Method and real-life case studies
- courses to develop virtual mobility, virtual exchange and inclusion within them

- interdisciplinary courses on global warming, global policy making, architecture, energy markets, start-ups and other topics to be targeted to students with diverse backgrounds and degree programs.
- courses on real-life start-up experience

For example, a sign language course could increase the popularity of the sign language, bring students without and with hearing impairments together and support the integration of the students with hearing impairments to different student and virtual mobility communities.

Offers for students with migrant or refugee background

There could also be skill boosters or separate study tracks for students with migrant or refugee backgrounds, such as the online learning platform Kiron [30]. Separate bridging and language preparation courses could be introduced to virtual mobility for students from diverse backgrounds. The virtual mobility platform could also be used as a way to introduce students into an academic environment and studying before they physically move to the country where they plan to study or enroll in the university within their home country. Free of charge introductory courses could also be beneficial to youth deciding on their career and study paths when applying to UNITE! universities.

Universities could also have partnerships and other co-operations with existing platforms providing free digital learning for inclusion of migrants and refugees, such as MOOCs4inclusion[31]. These courses from MOOCs4inclusion and Kiron could be integrated in the curricula of university degree programs to benefit also other students than only those ones with migrant or refugee backgrounds. There could also be introductory courses on certain topics, such as languages, culture, math, programming etc, to support students regardless of their backgrounds or special needs to keep up with mandatory courses or pursue their interests.

Cultural exchange

Formal, course-based cultural exchanges could also be arranged by the UNITE! universities. Within these courses students could present their own unique culture and get to know foreign cultures through workshops and panel discussions. Students could also create the contents of the courses by themselves and get credits from preparing and teaching them to other students. This way the cultural content is ever changing, innovative and matching the interests of the students. The lecturer's role could then to be available as a mentor, supervisor or facilitator to provide the space, time and other arrangements for the students to interact with each other. Moreover, after graduating from virtual mobility programs, students could continue with virtual mobility as assistants, facilitators, tutors or even young lecturers within the guidance of the supervising lecturer or professor.

6 Conclusions

To have 50 % of all UNITE! students benefiting from mobility during their studies or career by 2025, major actions on inclusiveness of the mobility programs, such as Erasmus+ programs, are needed. Pre Covid-19, yearly close to half a million student and staff participants joined Erasmus + programs, of which only less than 600 were students with special educational needs. This makes up to 0,12 % of the total participants, which is significantly less than the percentage of SEN students in higher education in Europe varying from 0,3 to 13 % depending on the country specific assessments and scientific research.

To achieve the mobility of over 84 000 students, UNITE! Alliance needs to provide different ways to arrange mobilities for diverse groups of students within its seven partner universities. Students could join mobilities through e.g., joint summer schools, short mobility programmes, transnational internships and virtual mobility. Within this volatile, uncertain, complex and ambiguous world, virtual mobility can offer novel ways to provide mobility experiences for university students and staff. It could improve inclusion, accessibility, equality, cohesion as well as active citizenship among students and staff in Europe and eventually in the whole world.

Our project focused on the inclusion of SEN students in virtual mobility. These students are underrepresented in conventional physical mobility programs and face significant challenges when planning to join them. These challenges range from insufficient support from universities and inaccessible information to difficulties to arrange special needs from personal assistants to accommodation. By using Design Thinking Method we were able to identify these issues and create practical, student-friendly solutions to be used in the virtual mobility context. By focusing on students with special educational needs, we were not only able to provide these solutions, but also improve the whole mobility experience for all students within UNITE! Alliance. As it is commonly said, "What is good for students with special education needs, is good for all students."³⁹

To make virtual mobility for all, we recommend UNITE! work packages WP3 to WP7 to create a unified online platform for linking UNITE! students and staff together, design a rich pool of virtual courses and programs for students to freely choose their mandatory courses and explore their individual interest, and implement automatic credit transfer between UNITE! universities to reduce bureaucracy and assure credit recognition for all students. Moreover, we recommend forming a strong online peer support network for students engaging as tutors, course assistants, buddies and student representatives to interact and support each other. Moreover, launching Virtual Student Network (VSN) for organising social activities and constituting Virtual Career Centre would be essential to improve the virtual mobility concept and increase student participation in mobility by 2025. Through these actions, a Virtual Mobility Platform could provide an equal, accessible and inclusive online environment for all UNITE! students to join mobility and experience international student life together.

³⁹https://www.european-agency.org/sites/default/files/inclusive-education-and-classroom-practice-in-secondary-education_iecp_secondary_en.pdf

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Appendix

A.1 Issues found in Define -phase

Support from the university:

- There is not enough support for the SEN student
- Vast amount of preparation and arranging by SEN students themselves
- There is no clear contact person for the SEN students
- Some host universities don't have services to welcome the SEN students.
- There is not enough flexibility for these students in mobility programs and courses
- Worries about failing courses at home university, slow responses by the sending and receiving university
- Students need to arrange their own travel and setting into the host country
- The bureaucracy is strong and difficult
- Special needs are not respected and students feel uncomfortable if professors are sharing information about their difficulties to other students
- Professionals might not have experience on working with SEN students
- Students may not wish or are hesitant to take on unknown challenges, and are also sometimes discouraged to go abroad
- Students may need to get more information about the specific benefits, such as getting more independent and linking the experience with their studies and CV, of going abroad
- Students with disabilities have to arrange all the formalities on their own

Access to information:

- Many students with disabilities are not informed about their rights, and therefore do not necessarily know their rights
- Lack of sufficient and accessible information about mobility and exchange programs
- No information about contact people who are skilled in accessibility issues
- There is no one place to get the information from
- SEN students need more information about how to fill in the applications for mobility, as they may not wish to indicate their personal needs, and therefore they may need more support with interpreting data protection issues

Social life:

- There is a lack of peer-support
- Hard to make friends abroad, since there are no clear mentors, tutors or buddy program available
- Isolation and being lonely while being abroad
- Concerns about leaving their personal lodgings in an unfamiliar environment, which may increase concerns about how to integrate into the local (student) community
- Concerns about being able to manage in an unfamiliar environment
- It is hard to adjust to the new country and society without anyone who you know in advance
- There are no role models, such as ambassadors or mentors
- Cultural shock on conflicting expectations on the state of students with special educational needs and reality
- Society does not support equality between students with diverse backgrounds
- Students have not been encouraged to go abroad, so they may not feel that they are able to do this
- Students with depression or anxiety may be concerned about symptoms getting worse in an unfamiliar environment
- Depression and anxiety can disrupt the exchange
- There are feelings of not being equal with others with regards to the programs
- Students are homesick

Access to healthcare:

- Difficult to get information on reimbursement for special assistance, healthcare etc.
- Worries about finding adequate healthcare in the host country
- Students are reluctant to seek medical help for sensitive personal challenges
- Local health care providers are less able to provide the care the exchange student needs

Special assistance:

- Paying interpreters is costly and the home university can't help students to afford it
- Students don't know how to apply funding for the mobility

- Long-term exchange is difficult to arrange due to challenges related with assistance, interpretation, medical care and therapies
- There is a lack of specialized apartments/furniture
- There is not enough accessibility for these students and accessibility is defined differently in every country
- Students need to get funding from several different sources
- Communication between students, universities and programs does not work
- Students don't have an opportunity to choose their professional assistant
- Students need very different physical items in order to be independent

System/ culture:

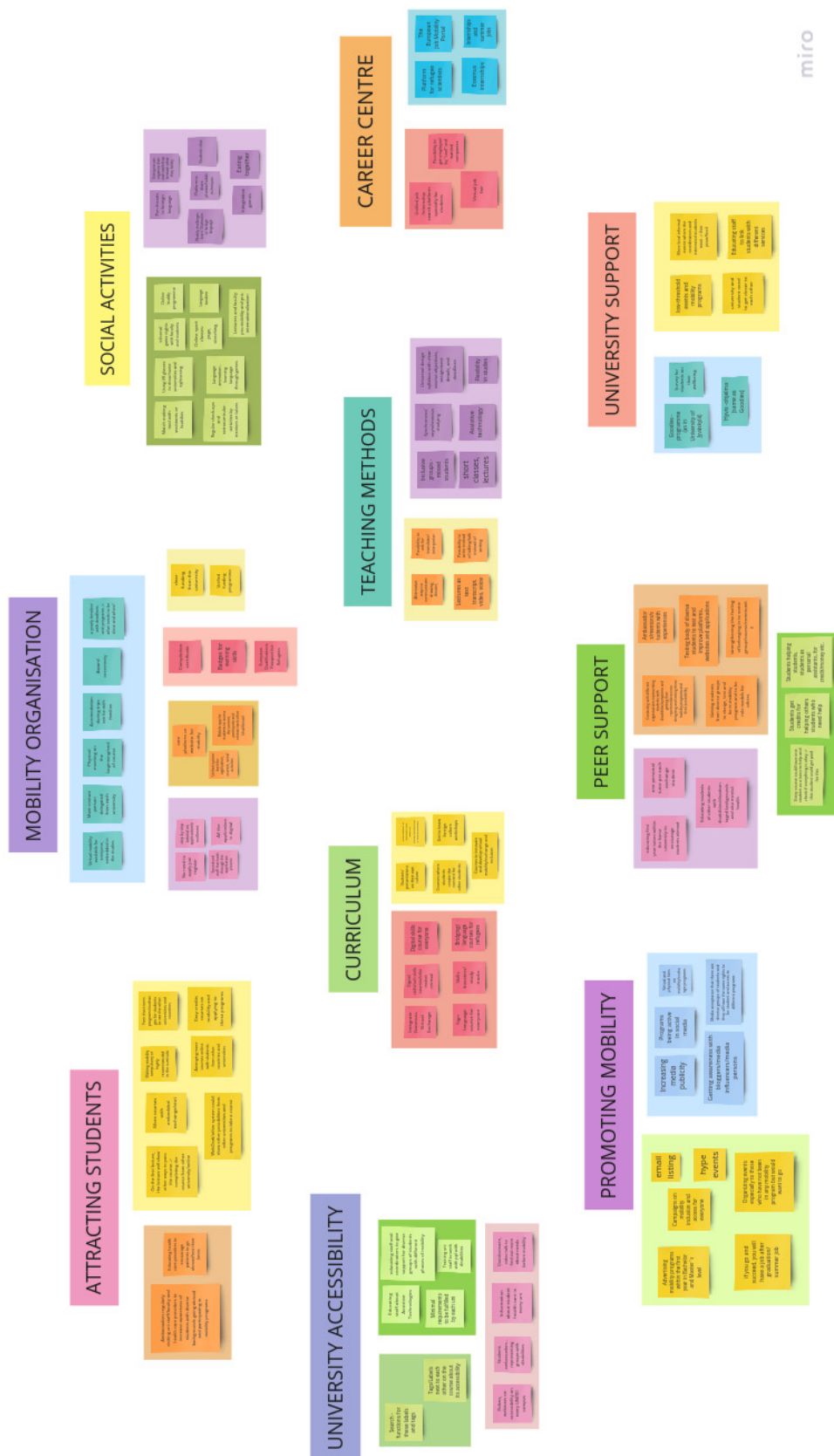
- Attitudes and hesitation by other universities may hinder the possibility for exchange, e.g., provision of health care and personal support may differ widely
- People think that students with depression don't go on Erasmus
- Discrimination and racism are also present
- Fear of going abroad with disability
- Due to the cultural differences accessibility is understood differently and students need to be more specific on their special needs
- Different cultures do not allow students with disabilities to be independent
- Students want to be independent but are not always able to be due to reasons, such as inaccessible environments.
- Refugee's previous education and qualifications are not recognised
- Language barrier
- Lack of personal documents
- Financial troubles
- Lack of knowledge on how to apply to university or higher education and how the education structures work
- Students are not aware of feelings of unfamiliarity that could in some ways manifest itself into an anxious framework

Virtual Learning:

- More support is needed for technological skills to be developed
- Time differences

- It is more difficult to communicate in a virtual way, especially with foreign language
- Virtual learning is an alternative to long-term mobility, but not an equivalent
- Communication issues may arise earlier and faster than in face to face situations
- Requires discipline and independence from the student

A.2 The Miro board for Ideate -phase



A.3 The Test draft

The Test draft for students to evaluate the prototype on virtual mobility is presented below. This draft survey is based on a rating scale, where the person who answers is asked to rate their preferences on a specific numeric scale.

1	Promoting virtual mobility
1.1	Which channels would you like to use to stay informed about university programs? (e.g. email, Instagram, Facebook, posters, fairs, guest lectures)
1.2	Which of the following would attract you the most to join virtual mobility? a) soft skill courses b) work in international team c) flexibility in course selection d) getting to know people from other countries e) cultural exchange f) learning how to work in online environment
1.3	Would you be interested in participating in virtual mobility if someone you know, such as friend, mentor, tutor, lecturer would recommend it for you?
2	Organisation and formalities
2.1	Would you be interested in participating in physical meetings during virtual mobility?
2.2	Would you like to access the virtual mobility platform via mobile devices (e.g smart-phone, tablet)?
2.3	How do you rate the idea of automatic credit transfer?
2.4	How do you rate the idea of digital badges for the skills earned during the virtual mobility?
3	University accessibility
3.1	How do you rate the idea of having a video chat with staff or filling in a survey before the virtual mobility so that the staff could consider your needs while preparing the courses accordingly?
3.2	How do you rate the idea of course labels (colourful, visual elements, symbols or marks, that indicate the course duration, level of difficulty, prerequisites or language skills needed) aimed to facilitate the course search?
3.3	Would flexibility in choosing different ways to pass the course support your studies?
3.4	How do you rate the idea of online office hours during which students can have individual consultation with professors?
4	University support during virtual mobility
4.1	Would you be interested in receiving support related to your well-being from staff members of virtual mobility through programs, such as Goodies program (where staff is trained to support student's well-being and students can confidentially chat with them about any issues they have)
5	Peer support during virtual mobility
5.1	How do you rate the idea of students becoming online course assistants?
5.2	How do you rate the idea of online tutoring program?

5.3	How do you rate the idea of online buddy program?
5.4	How do you rate the idea of technical support group of students (responsible for web service maintenance, including designing, developing and testing)
5.5	How do you rate the idea of online peer assessment (giving and receiving feedback from your team mates after completing virtual mobility)?
6	Social activities
6.1	<p>Rate the following ideas of online activities during virtual mobility</p> <ul style="list-style-type: none"> a) language tandem (mutual language exchange with other student) b) physical activities (scheduled group relaxation, yoga, stretching or breathing exercises) c) game tournaments (for students and staff) d) language animation (language learning sessions through group games and practical communication) e) travelling using VR glasses (visiting host university and city) f) pen friends (letter or email exchange between students) g) welcome week (integration games and activities at the beginning of virtual mobility) h) talent show (sharing own hobbies with others or teach something you are good at) i) weekly challenges (e.g learning 10 phrases in foreign language, collecting 3 postcards from international students or learning how to introduce yourself in sign language)
6.2	How do you rate the idea of Virtual Student Space containing, for example online chat and a calendar of online events?
7	Career Center
7.1	How do you rate the idea of labels next to job or internship offers (colourful, visual elements, symbols or marks, that contain information on job accessibility, required skills, qualifications, experience and competencies), aimed to facilitate the job search?
7.2	How do you rate the idea of virtual job fairs?
7.3	How do you rate the idea of individual online career guidance?
7.4	How do you rate the idea of online sessions on international business culture (including guidance on writing CV and motivational letter)?
7.5	Would you find useful to listen to alumni stories on their work experiences?
8	Curriculum

8.1	<p>Rate the following ideas of courses during virtual mobility:</p> <ul style="list-style-type: none">a) soft skills (intercultural communication or leadership)b) media literacy and critical thinkingc) public speaking and presentingd) sign languagee) Design Thinking Methodf) start-up experience (learning how to create own start-up with guidance of start-up entrepreneurs)g) academic writing (searching for scientific sources, citing, using editing tools such as LaTeX)
8.2	<p>Rate the following ideas of other educational activities:</p> <ul style="list-style-type: none">a) Online contests or hackathons (innovating new ways to solve real life challenges)b) Cultural exchange workshops (presenting own culture to the other students)c) Developing virtual mobility (co-creating the virtual mobility program for other students)