25<sup>TH</sup> INTERNATIONAL CONFERENCE ON ENGINEERING AND PRODUCT DESIGN EDUCATION 7-8 SEPTEMBER 2023, ELISAVA UNIVERSITY SCHOOL OF DESIGN AND ENGINEERING, BARCELONA, SPAIN

# COMBATTING LONELINESS BY INTRODUCING A START-UP PROJECT FOR FIRST-YEAR STUDENTS

#### Ingrid LANDE and Anette HEIMDAL

Faculty of Engineering and Science, University of Agder, Norway

#### ABSTRACT

Loneliness among university students is a major issue. For new students, the first week at the university is crucial to develop a new social network and possibly reducing loneliness. This study aimed to investigate the effect of having a group project for new university students in the start-up week of the first semester. The social aspects were the focus of this study, however, also the students' reception of the project task is investigated. The students were working in groups of 4–5 students and were asked to design a small student cottage. To investigate the effects of having a group project at the beginning of the first semester, a survey was distributed at the end of the first week. The results indicated several benefits both academically and socially. 88% rated the project *to a high degree* and *to a very high degree* contributed to gaining new friends, 90% and 79% respectively, replied either *to a high degree* or *to a very high degree*. The results of this study can provide other educational institutions with insights on how to meet first-year students, and how to provide a social arena. By having a Start-up project which is both a theoretical and physical task, the students find other students to befriend and work with.

Keywords: Student environment, start-up project, civil engineering, education, survey

### **1** INTRODUCTION

The first year of a students' higher education considerably affects their performance and probability of completion. Even the first weeks are a crucial phase [1]. It has been found that social adjustments during the first weeks are related to a higher probability of completing a degree [2]. Findings by Wilcox et al. [3] suggested that social support networks have a major influence on preventing dropout and that not making new friends was of high importance when deciding whether to continue or not. During the first weeks, it is an urgent need for social arenas to interact with others [3].

Every four years the SHoT study (*Students' Health and Wellbeing Study*) is carried out to map the health, well-being and psychosocial environment of students in Higher Education in Norway [4]. In recent years there has been an increase in reported loneliness among students. In SHoT 2022 [5] 36% reported that they either miss someone to be with, feel left outside or feel isolated often or very often. This is an increase from 2018 [6] when 30% of the students reported this. Another result from this research is that 34% report that they only have a few friends and 7% report that they do not have any friends. Loneliness amongst university students is reckoned a major public health issue [4]. These students are vulnerable to feeling loneliness, as most of them are in a stage of life where they are transitioning from teenagers to young adults [4]. This period in life is associated with moving away from home and moving to a new place, and a need to develop new friends and social networks.

The first week (*introductory week*, *Fadderuke* in Norwegian) at university is in Norway often associated with non-academic social activities and partying. In Norway, 77% reported that they participated in the *introductory week*. It was shown that 8 out of 10 felt that it was expected to drink alcohol during the *introductory week* [7]. It has also been found that 61% of the students want more events without alcohol and many feel that there is too much drinking in the student environment [5].

Based on the findings above, it is imperative to integrate students into their new academic environment as effectively as possible, meaning that universities must be aware and utilize this window of opportunity to give students a meaningful start. The purpose of this study was to investigate the effect of having a group project (Start-up project) in the first week for first-year students, as a supplementary activity to the other *introductory week* activities.

## 2 CASES

The students participating in this study were first-year civil engineering students at the bachelor and master level at the University of Agder (UiA), Norway. The students were assigned a Start-up project in their first week at the university. The Start-up project was developed by lecturers in the Civil Engineering department and supervised by the study program leaders. The project was presented to the students as a design project and not a get-to-know-each-other project. The goal of the project was to design a small student cottage, with the main assessment criteria being functionality, creativity, sustainability, and design. The long-term goal of the project is to build an actual cottage for the students to use. They also had to build a model on a scale of 1:20. The students were divided into groups of 4–5 students and had three days to complete the project. They started their study on August 15<sup>th</sup> and was given the information about the assignment on the 16<sup>th</sup> of August.

The students were working on their models of the cottage on Thursday the 18<sup>th</sup> of August. In the evening of the same day the study program leaders hosted a barbeque for all the first-year students. The purpose of this barbeque was to incentivise the students to complete a full day of working with the project, and to facilitate a non-alcoholic social arena. On the final day (19<sup>th</sup> of August), they presented their project in front of the rest of their class, and a jury consisting of employees from the civil engineering department. Each project was evaluated by the jury according to the aforementioned criteria, and the winner were awarded sweaters from the Civil Engineering department. The students were informed that the project was not mandatory, but participation was highly recommended.

### **3 METHODS**

The purpose of this study is to map the students' experiences from completing a start-up project. The students participating in the Start-up project were asked to answer a survey immediately after the presentation of the final projects. The same survey was sent to both bachelor and master students. Table 1 shows the number of students answering the survey and response rate. The survey consisted of 11 multiple-choice questions and two free-text options to give more detailed comments. All surveys were distributed through the Learning Platform *Canvas* and made with SurveyXact.

The students were asked to evaluate the different aspects of the Start-up project on a scale from 1 to 5, where 1 meant *to a very low degree* and 5 meant *to a very high degree*. The survey questions covered social aspects, study environment, motivation, and academic benefit. However, the main aim of this study was to investigate the social aspects of having a project at the beginning of the first semester.

-	Distributed	Total number of students	Number of respondents	Response rate
Bachelor students	Aug 19 <sup>th</sup> 2022	79	53	67%
Master students	Aug 19 <sup>th</sup> 2022	20	17	85%

Table 1. Data about the surveys

# 4 RESULTS AND DISCUSSION

### 4.1 Social aspects and study environment

Figure 1 shows the results related to the outcomes of working in a group during the Start-up project. The students reported that working in a group generated many positive outcomes.



Figure 1. Response to the questions "To what degree did working in a group contribute to"

Most students reported that the group work contributed to a *high* or *very high degree* of getting new friends (88%), feeling part of a group (88%) and getting to know the group members (88%). When 88% of the students' experience getting new friends during this Start-up project it can result in a reduction of the experienced loneliness that was demonstrated in the SHoT study [5]. We wanted to avoid a completely theoretical assignment and give the students a task where they had to build a physical model. This was done to encourage the students to not only meet their peers physically, but also to meet on campus, to possibly increase the sense of belonging. Like a virtuous circle, the students will have some familiar faces when arriving at campus, increasing the likeliness of getting to know more of their classmates, reducing the feeling of loneliness, and being included in an academic collaboration. Also, the barbecue allowed the students to meet the university staff in an informal environment. This may lower the threshold for some students later when they need to interact with the university staff. According to Pedler et al. [8], students with a greater sense of belonging usually have more academic self-confidence, higher motivation, higher achievements and higher academic engagement. Additionally, a sense of belonging and social integration is essential for retention [3].

The feedback from the students in the free-text option of the survey was that the group work was a fun and social activity, with little pressure. However, a small number of participants reported that it *to a very low degree* contributed to getting new friends (2%). Some students also reported issues with few group members showing up for the group work and that these did not contribute to solving the assignment.

Figure 2 differentiates the answers to questions regarding working in groups between bachelor and master students, showing the percentage answering *to a high* or *very high degree*. There is a clear positive response to the group work, both academic collaboration and pure social aspects. For the master students, all students (100%) answered that the group work contributed *to a high* or *very high degree* of getting to know the group members, feeling part of a group and academic collaboration.

Previously there has been little focus on having a Start-up project at the beginning of the master studies at UiA. Although most of the master students have completed their bachelor's degree at UiA, a clear majority of the master students stated that this Start-up project gave them new friends. However, we wanted to integrate the students coming from other universities and chose to run the same start-up project for everyone. The results of this study show the importance of having a Start-up project for the master students as well as the bachelor students.



Figure 2. Percentage answering "to a high and very high degree" on the questions in Figure 1. The figure differentiates between bachelor (BSc) and master students (MSc)

In Figure 2 it is also clear that the master students scored every aspect higher than the bachelor students. The reason for this is not investigated in this study but may be explained by their previous educational experience. The importance of cooperation during the study period might be more obvious for the master students since they have already finished at least three years of higher education.

### 4.2 Academic aspects

Figure 3 shows the students' experience of the task for the group project. The figure illustrates that few students felt that the task was stressful and unnecessary, while most students experienced *to a high* or *very high degree* that the task itself was fun (89%) and relevant to the study (71%). However, only 57% of students experienced *to a high* or *very high degree* that the task was educational.



Figure 3. Response to the questions concerning to what degree the project task was

Although the focus of the Start-up project was to be a social arena, a high educational outcome was also desirable. The students starting at the Civil Engineering education at UiA have various backgrounds. A possible explanation for the relatively low reported educational relevance might be that it was desirable to include all the students in the Start-up project. Therefore, the Start-up project did not require any prior knowledge.

Figure 4 shows that there was little difference between the bachelor and master students' perception of the project task. The largest differences can be seen regarding how relevant the task was for the study/

academic field. Almost similar tasks were given to both bachelor and master students. Hence, to make it more relevant for master students a more specialised project could be made. In contrast to the bachelor students, the master students have some prior knowledge. Hence, the Start-up project for the master students could be made more relevant for the study which again could increase the educational outcome. Intriguingly, both the bachelor and master students found the Start-up project to be fun, making it a viable option to the *introduction week*. This could reduce the pressure of drinking alcohol [7] and accommodate the request of more events without alcohol [5].



Figure 4. Percentage answering "to a high and very high degree" on the questions in Figure 3. The figure differentiates between bachelor (BSc) and master students (MSc)

Overall, these results indicate that a Start-up project can be beneficial for social integration and introduce new students to the academic field. Whether or not initiatives at the beginning of the degree contribute to minimising loneliness should be further assessed at several time points. According to Bowman [1], the effect of various initiatives to predict the well-being and belonging of university students should be assessed over time and not only at one or two time points.

# 5 CONCLUSIONS

This paper set out to investigate the effects of having a group project for new bachelor and master students in the start-up week of the first semester. Based on the knowledge obtained in this study, the following conclusions can be drawn:

- The Start-up project was found to give the students an introduction to the academic field.
- Working in groups had multiple positive outcomes, e.g., the students got to know the other students, and made new friends.
- Few differences were found between bachelor and master students, both concerning the social aspects and perception of the project task.
- Although the focus of the group project was to facilitate a social arena, an effort can be made to develop project tasks that also give a higher educational benefit.
- The project can also be an alternative arena to make new friends and work with a project related to the academic field, as well as being a non-alcohol activity.

The research presented is based on one attempt to make a simple Start-up project aiming at contributing to social and academic integration. However, the results are limited to short time effects, long-term effects have not been covered in the present study. The findings might offer insight into how to meet new students and a possible approach on how to facilitate an academic and social arena for new students.

# **6 FURTHER RESEARCH**

A further study should assess the long-term effects of the Start-up project and investigate whether such initiatives can reduce the loneliness of university students as well as investigate if it can contribute to student retention. Since many of the master students know each other from previous years a different kind of start-up project could be considered.

### REFERENCES

- [1] Bowman N. A., Jarratt L., Jang N. and Bono T. J. "The Unfolding of Student Adjustment During the First Semester of College," *Research in Higher Education*, vol. 60, no. 3, pp. 273-292, 2019/05/01 2019, doi: 10.1007/s11162-018-9535-x.
- [2] Woosley S. A. "How important are the first few weeks of college? The long term effects of initial college experiences" *College Student Journal*, Article vol. 37, no. 2, p. 201, 2003.
- [3] Wilcox P., Winn S. and Fyvie-Gauld M. "'It was nothing to do with the university, it was just the people': the role of social support in the first-year experience of higher education," *Studies in Higher Education*, vol. 30, no. 6, pp. 707-722, 2005/12/01 2005, doi: 10.1080/03075070500340036.
- [4] Hysing M., Petrie K. J., Bøe T., Lønning K. J. and Sivertsen B. "Only the Lonely: A Study of Loneliness Among University Students in Norway," *Clinical Psychology in Europe*, vol. 2, no. 1, pp. 1-16, 03/31 2020, doi: 10.32872/cpe.v2i1.2781.
- [5] Sivertsen M. S. J. B. "Studentenes helse- og trivselsundersøkelse 2022," Folkehelseinstituttet, 2022 2022. [Online]. Available: https://studenthelse.no/SHoT\_2022\_Rapport.pdf
- [6] Knapstad O. H. M. and Sivertsen B. "Studentenes Helse- og Trivselsundersøkelse 2018 (SHoT)/ HELT ÆRLIG-undersøkelsen," Folkehelseinstituttet, 2018 2018. [Online]. Available: https://siomediaservicesdatadev.blob.core.windows.net/studenthelse/SHoT\_2018\_Rapport.pdf?sp =r&st=2021-09-06T14:31:19Z&se=2099-09-06T22:31:19Z&spr=https&sv=2020-08-04&sr=b&sig=LrGPP8qXeLRHZGJBq0istgH4NbJMyxNQ3lb0Kg5W0rw%3D
- [7] Mikkelsen S. "8 av 10 studenter følte drikkepress i fadderuka." https://khrono.no/8-av-10studenter-folte-drikkepress-i-fadderuka/730582 (accessed 05.03.2022.
- [8] Pedler M. L., Willis R. and Nieuwoudt J. E. "A sense of belonging at university: student retention, motivation and enjoyment," *Journal of Further and Higher Education*, vol. 46, no. 3, pp. 397-408, 2022/03/16 2022, doi: 10.1080/0309877X.2021.1955844.