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A community-based learning program to improve wellbeing and design student success

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Abstract: While the Pandemic has increased awareness towards student wellbeing in higher education (HE), it also exacerbated existing challenges. Specifically, students pursuing their master graduation (capstone) thesis often find themselves isolated and overwhelmed due to the individualistic nature of their project and pressure to create the 'masterpiece'. In this paper we provide insight into how designing for community can positively impact design student motivation, a sense of community and wellbeing. All of which we identify as drivers of student success. We discuss and evaluate a community-based learning (CBL) program we designed and implemented to improve student success during the master thesis journey of 92 students at the Faculty of Industrial Design Engineering (IDE), Delft University of Technology in response to the pandemic. Our findings from the program are; (1) facilitating connections between students generates a sense of community; (2) a customizable program supports student agency which in turn drives motivation; (3) a focus on student success instead of performance improves wellbeing. We conclude our paper with recommendations for design educators, policy makers and researchers in HE.

Keywords: design education, community-based learning; student wellbeing, pandemic

1. Introduction

When the Covid-19 pandemic hit the Netherlands in March 2020, we were worried about the wellbeing of our students. In particular, we were concerned with the wellbeing of our Master theses graduate students at the Faculty of Industrial Design Engineering (IDE), Delft University of Technology (TU Delft). The graduation is a solo thesis project and is popularly celebrated as the pinnacle of a student's Master degree. A successful graduation can lead to immediate job opportunities, peer stardom and institutional praise. We observed that an existing culture of performance coupled with new pandemic restrictions inhibiting access to project contexts, partnering organisations, and peers raised several 'red flags' regarding the wellbeing of our students. To this end, we felt compelled to explore the issue of student



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wellbeing among our faculty's community of graduating students and provide whatever additional support we could muster as design educators.

In this paper, we present a program we designed and implemented to improve student success and wellbeing of design students who are working on their master thesis. These Master students, between 23 and 30 years old, perform an individual design project (capstone) during the last course of their studies for 30 ETCS (1 ECT = 28 hours of study). Prior covid-19 pandemic research revealed that beyond the obvious restrictions affecting the quality of living and social engagement with peers and educators, and to our surprise, was that the design process was driving our students toward heightened vulnerability (van der Bijl-Brouwer & Price, 2021). Considering the individual nature of thesis projects, and the need for community as instrumental to peer learning, we particularly sought to develop a community-based learning (CBL) experience that has been so restricted during the pandemic.

The aim of this paper is therefore to share our findings from two years of CBL program implementation. This paper contributes:

1. Instruction on how to shape CBL experiences in HE;
2. Novel insight into how CBL can support design student wellbeing during the Covid-19 pandemic, and;
3. Recommendations for future practices in design education.

We conclude our paper with practical recommendations to design educators, administrators, policy makers and researchers.

1.1 Higher education sectoral problems during Covid-19

Evidence shows that HE students' experience rates of depression at a rate substantially higher than those found in the general population (Ibrahim et al., 2013). The Covid-19 pandemic has exacerbated existing mental health problems within the HE sector. As Lederer and colleagues state, "during Covid-19 students have faced increasing housing and food insecurity, financial hardships, a lack of social connectedness and sense of belonging, uncertainty about the future, and access issues that impede their academic performance and well-being" (Lederer et al., 2021). Studies from across the world confirm that HE students are suffering during Covid-19:

- A recent study about mental health among 28.000 Dutch students in higher education shows that around half of all students have psychological complaints, such as feelings of anxiety and sadness. (RIVM, Trimbos-Institute and GGD GHOR The Netherlands, 2021);
- A survey of 18 000 American college students conducted by the Healthy Minds Network (2020) in collaboration with the American Health Association found students are highly prone to anxiety and depression during Covid-19.

While these quantitative studies reveal the widespread and severe challenges HE students face, there is much to be gained from exploring how institutions and students are practically adapting to Covid-19.

1.2 What role do educators have with regard to student wellbeing?

Wellbeing is a holistic concept, covering our mental, physical, financial, spiritual, and environmental health. Our vision on wellbeing and education is based on the three dimensions of the purpose of education developed by Biesta (2015). Biesta claims that education is not just for (1) qualification – “the transmission of knowledge, skills and dispositions” (p77) - but also about (2) subjectification - how students “come to exist as subjects of initiative and responsibility” (p77) - and (3) socialisation - initiating students “in traditions and ways of being and doing” (p77). Biesta argues that these domains are inseparable and thus wellbeing and learning are inherently connected. For designers, such identity forming reinforced by socialisation with peers and teachers plays a significant part in shaping individual learning via designing (Baha et al., 2018; Baha et al., 2020).

The motivation for this research ventures beyond student wellbeing to also focus on *student success*. Focusing on student success for us means creating a learning environment where students graduate within a reasonable time, have room for personal development, where there is attention for student wellbeing, where students feel motivated, where students self-regulate their learning objectives, where there is room for (skill)development outside the study program and where students can work on self-actualization (adapted from Dutch student organisation ISO, 2020).

To further investigate our position as teachers when it comes to wellbeing, we adhere to a framework to design for wellbeing in higher education (van der Bijl-Brouwer & Price, 2020, see Figure 1). The top ‘cure’ level considers specialised psychological support for students and staff with mental health problems. Below that, the ‘support’ level concerns informal mental health care, such as self-care programs aimed at supporting those who struggle and preventing more severe mental health issues. The third level ‘connect’ considers strengthening the university community within and outside curricula. The bottom layer is where wellbeing (and student success) become part of the way we shape education such as the learning experiences we provide, pedagogical approaches adopted and the learning environment created. Throughout CBL, we intend to move our impact above from ‘teaching and learning’ toward ‘connecting’ our students as a community during the Covid-19 pandemic.

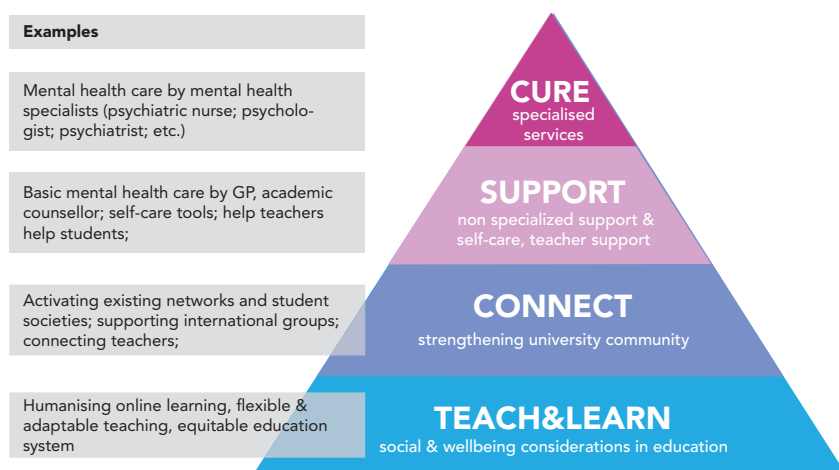


Figure 1 Intervention pyramid to support wellbeing in universities (van der Bijl-Brouwer & Price, 2020).

1.3 Learning communities as an opportunity to improve wellbeing

The idea to connect students was first determined after workshops with students and interviews with academic staff about graduation challenges and more general pedagogical approaches adopted during the pandemic HE adaption (van der Bijl-Brouwer & Price, 2020). Boud and Cohen (2014) state that peer learning results in students working collaboratively with others, taking responsibility for their own learning, and deepening their understanding of specific course content. In design education, peer learning encourages a deep learning approach driving motivated students, fostering collaboration with peers and active learning (Heavey, 2006). We saw an opportunity to extend this peer learning concept and investigate learning communities.

Research by Pike and colleagues (2011) indicates that learning community participation has a positive and significant effect on student engagement. They state that:

“Learning communities appear to be a ‘high-impact practice’ for improving student achievement, learning, and success (Kuh 2008; Kuh et al. 2005). [...], Membership in a learning community appears to boost student engagement which, in turn, leads to a host of positive educational outcomes.” (Pike et al., 2011, p316-317)

Lenning and Ebberts (1999, p64) argue learning communities are beneficial for students and faculty, as they result in “higher academic achievement, better retention rates, diminished faculty isolation and increased curricular integration.” Incidentally, all these factors have been threatened during the pandemic.

For a community to work, members need to ‘feel’ a sense of community. This sense of community is defined by Chavis and McMillan, (1986, p9) as: “A feeling that members have a sense of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together”.

The following five conditions are a synthesis of how to shape learning communities:

1. Members should have shared emotional connections because if we share, we feel we belong, resulting in feeling motivated (Mahar et al., 2014). Mahar and colleagues state that a student's sense of belonging can be promoted by sharing their battles and successes;
2. There should be place attachment, as it promotes the feeling of being part of a community (Chow, 2008);
3. Membership, meaning the values and aspects a group has in common, also contribute to the feeling of belonging (Chavis & McMillan, 1986). This feeling of 'relatedness' to a group would positively affect students' motivation (Goodenow & Grady, 1993; Ryan & Deci, 2000);
4. Mutual interdependence represents the idea that active participation in a group is needed, members should contribute to and benefit from the group (Huygen & De Meere, 2008). Huyen and De Meere (2008) also state that frequent and intense contact is key to this, and;
5. For a community to affect the learning outcomes of students, active and collaborative learning should be present to maximize learning (Lenning & Ebbers, 1999). As Tinto (2015) states: "In those communities that also employ active learning strategies that require students to learn together, students are not only likely to learn more but also more likely to want to persist and in fact do so" (Tinto, 2015).

We have used these conditions to design, implement and evaluate the CBL experience for design students conducting their thesis projects during pandemic HE.

2. Designing and evaluating the community-based learning program

Our initial efforts followed a bottom-up approach, initiated by teachers at the faculty of IDE with continual engagement with students to offer support. After half a year, our efforts were registered by a senior university policy advisor who funded the development of a formal project for the next 2 years with mandate to implement within other faculties across TU Delft. The project consisted of different research activities and iterative design of multiple interventions to test and learn our way forward. The project was executed by research and teaching staff of the Faculty of IDE.

To design, implement and evaluate the program, we applied a Research through Design (RtD) approach. As stated by Stappers and Giaccardi (2017), RtD represents the execution of design activities (part of one of the design professions), often articulated in prototypes that contribute to the generation of knowledge (Stappers & Giaccardi, 2017). The designed educational experience - The Graduation Community Program (GCP) - provides new knowledge about shaping CBL for graduate master students in design. The GCP was based on a foundation of previous and new research into student wellbeing during the height of

the pandemic (March-April, September-December 2020). This research forms part of a lineage of work to connect and support students during a once in on-hundred pandemic event.

2.1 The graduation community program

The goal of the program was to connect students and create 'graduating cohorts' that support and motivate students while pandemic restrictions were in place. The program ran for twenty weeks, which is the duration of a nominal graduation project. A total of 92 student participants took part via a sign-up procedure communicated through formal and informal faculty communication channels.

Students were divided into fixed groups of six to eight students and stayed together throughout the program. During the kick-off day, being the first activity of the program, these groups were formed based on the following matchmaking elements: frequency of meeting with the group (i.e., daily, weekly, bi-weekly, Master track (strategic product design, design for interaction, integrated product design), project topic, and preference for being in a group with fellow students.

Rather than a fixed program, students were encouraged to shape their learning communities independently and to their own needs, e.g., on the kick-off day they collectively designed and decided on the most important elements of their groups, such as meeting frequency, the purpose of meetings, digital support of their work and more fun social activities. Therefore, students were responsible for the success of their groups and had to take ownership across the 20 weeks. Figure 2 illustrates a part of how one of the sixteen groups filled in the provided templates on the kick-off day.

Besides the kick-off day, the GCP consisted of five other activities organized by us as the program team (see Figure 3). Four 'journey sessions' were organised; these sessions were organized to let students reflect on and learn about their (work) attitude and mindset during the graduation project and let them think about what type of designer they wanted to become.

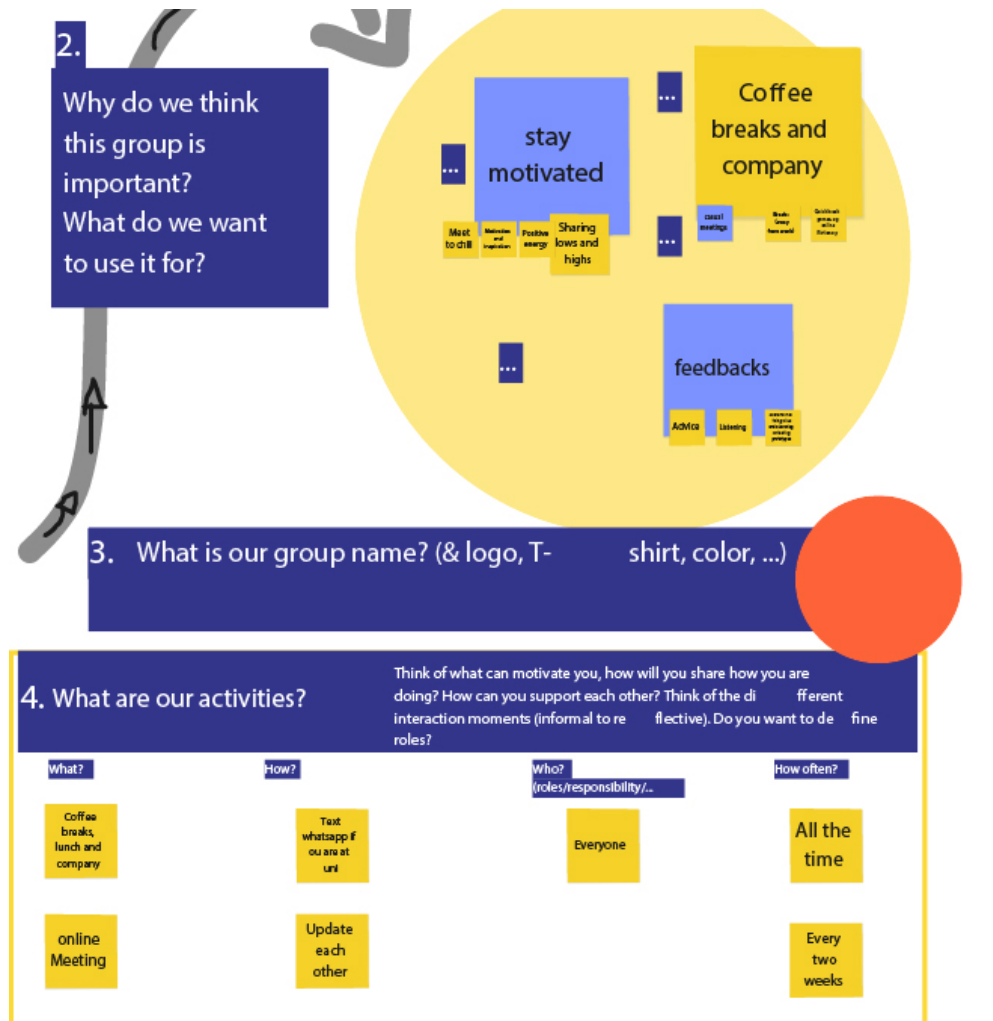


Figure 2. Snapshot of a filled-in template by one graduation group

2.2 Program evaluation

To evaluate the program and feed forward into future revisions of the program, we investigated the following research questions:

- RQ1: How can we create a sense of community among Master Graduation design students?
- RQ2: How do Master Graduation students experience self-directed CBL?

We use selected conditions of a 'sense of community' to further evaluate the program's impact (see section 1.3). The sub-research questions are therefore:

- SRQ1: Do students experience a shared emotional connection?
- SRQ2: Is there an attachment to a place even if virtual?
- SRQ3: Can students feel they relate to the members of their group?
- SRQ4: Do students have the feeling they contribute to and benefit from their group?

We generated and collected qualitative and quantitative data from different evaluations performed throughout the testing of this GCP. Figure 3 and Table 1 describes the various iterative evaluations performed. The surveys were distributed to all students who joined The GCP.

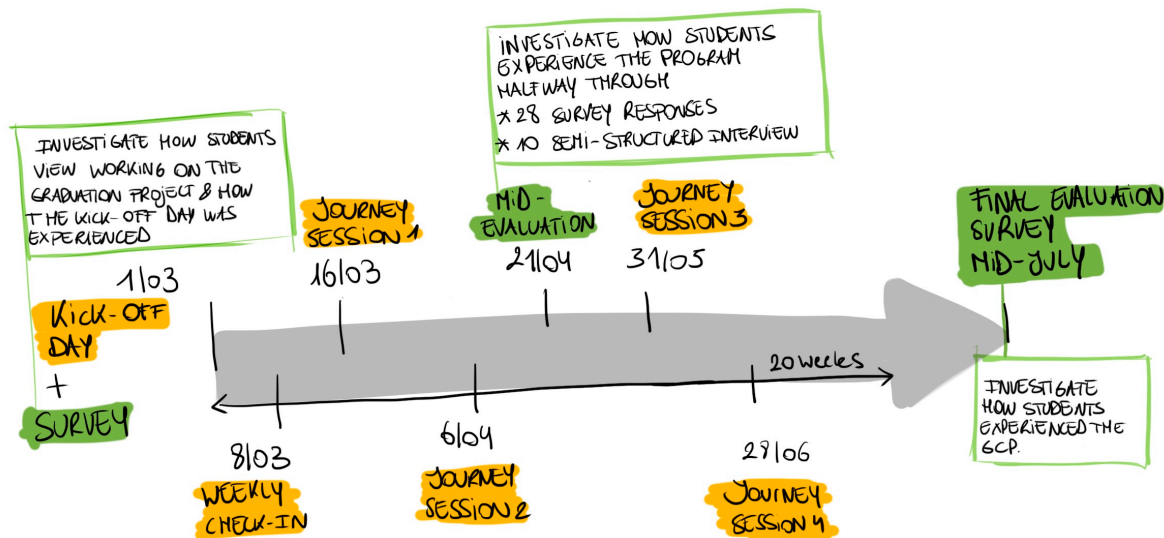


Figure 3. The program activities for students and evaluation timeline for the first cohort of design students that were engaged in the program

Table 1. Evaluation response rates feeding the design process

Week number	Evaluation activity	Protocol
Week 1	Kick-off half day	Observation was done during the activity. Evaluation was performed afterwards with 2 evaluation questions at the end of the session and of an online survey with 15 questions and 39 responses.
Week 9-10	Mid-Evaluation survey	Online questionnaire including 19 questions about their experience with the program. 28 responses
Week 10	Mid-Evaluation in-depth interviews	10 semi-structured online in-depth interviews with students about the value of the program.
Week 21-24	Final evaluation survey	Online questionnaire including 13 questions about their experience with the program. 35 responses

2.3 Data analysis

Data analysis was performed throughout the program in order to improve our support for students by assessing what went well, and what could be improved. This was conducted through familiarisation with feedback forms completed at the end of each workshop. The data analysis protocol was guided by previous work on student wellbeing (van der Bijl-Brouwer & Price, 2021) which emphasises research speed to evaluate and feed into future student wellbeing activities while advising educational policy makers in tandem. A thematic

analysis (appendix A) was performed at the conclusion of the GCP in order to pick apart themes, patterns and identify results.

2.4 Limitations

Our evaluation is limited in three ways. First, when investigating wellbeing through convenience sampling, more engaged students might engage than their fellow unwell peers. Hence, our sample may be affected by the presence of predominantly positive results. Second, our survey is limited by self-reporting data collection. While self-reporting does allow for rich participant insight and is used extensively in psychological research, it can be limited by participant bias, i.e., exaggerating some challenges, or interpreting the questions differently than intended by the researchers. Therefore, we applied a triangulation of methods (survey and questionnaires, semi-structured interviews, observation of journey sessions) to develop reliability and validity. Third, because we emphasised speed across our analyses process as it occurred in parallel to the program, it is possible results were overlooked or underdeveloped. For this reason, we have treated this conference paper as a more formal post write-up driving toward conclusive findings and practical recommendations.

3. Findings

We identified many findings during and after the community program. Three main findings are presented in lieu of our research questions. Namely we find that; (1) facilitating connections between students generates a sense of community; (2) the customizable program supports student agency which in turn drives motivation and; (3) this program shifted the design focus from performance to student success as a more holistic framing.

3.1 Facilitating connections between students generates a sense of community

The kick-off day proved to be important to the students, as it created connections for the students for the rest of the graduation project. One student shared: “The kick-off day made me feel part of a community because we 'built' our group and we had a nice talk, and our topics are somewhat related. Also, we have similar issues, doubts.”

For 80% of respondents of the final survey, the GCP made them feel like they were part of a community (see Figure 4). Since this prototype took place during COVID, these human connections were especially valuable to the students. It renewed old relationships and created new ones. As one student shared: “It did the brilliant job of connecting new people during this online version of the graduation project”.

The program not only connected students but also created a sense of belonging to the university. This connection was important to students since they perform an individual project with low interaction with peers, staff, or the university. One student said: “The contact with TU Delft is important, I would feel lonely, disconnected if this was not here. I feel more engaged now.”

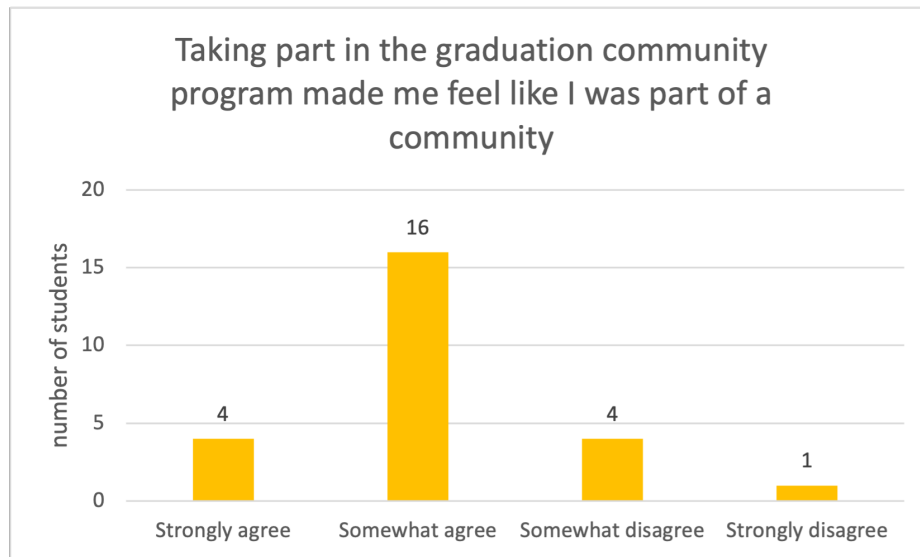


Figure 4. Student final evaluation of feeling part of a community created by The GCP

The general level of engagement and number of participants dropped throughout the program. As some students shared, this was because students required more support and structure at the beginning of the graduation journey while later on they could self-direct themselves. We were not overly concerned by this loss of engagement and instead focused our attention on those students that did engage.

Shared emotional connection and membership are essential elements of a sense of community. 75% of the students shared that they could relate to one another (see Figure 5). Students said that going through the same struggles assisted them. One student wrote: “I mainly benefit from my graduation group by giving and receiving emotional support. We all have different projects, but we go through similar struggles, like worrying about the quality of our work.” The group also gave them a feeling of comfort and companionship. However, for some students building this emotional connection was challenging when people were not always attending group meetings:

“We don't meet every week as we planned, this is fine, but some people only showed up 1 time. If this person is there, I find it harder to talk about struggles, because you don't know this person's journey [sic] yet. So, then you need to start all over again.”

Mutual interdependence is crucial to feel part of a group. 75% of the responding students answered they benefited from their group and 85% said they felt they contributed to the group (final survey, see Figure 5). Students supported each other by listening and sharing their challenges and worries. Just the fact that they had a group of people they could rely on was of high value. 78% said they felt there was mutual trust in their group (see Figure 5).

The GCP and the graduation groups had an impact on the learning experiences of the students. The students supported each other in design activities, for example, helping with performing interviews, facilitating creative sessions, and prototyping. As a student shared:

“When I was lacking participants for testing, I know I was welcome to ask my graduation groups to help.”

In the final evaluation of the program, 72% of the respondents felt motivated by their graduating groups. One of the things that contributed to this was the activities the students performed in their groups. As one student said: “It [the weekly check-ins every week with his graduation group] is motivating, you want to be able to share something that you have been working on every week.” Other students shared it was motivating to know that the meetings with their group occur every week and that the group gave a much needed energy boost.

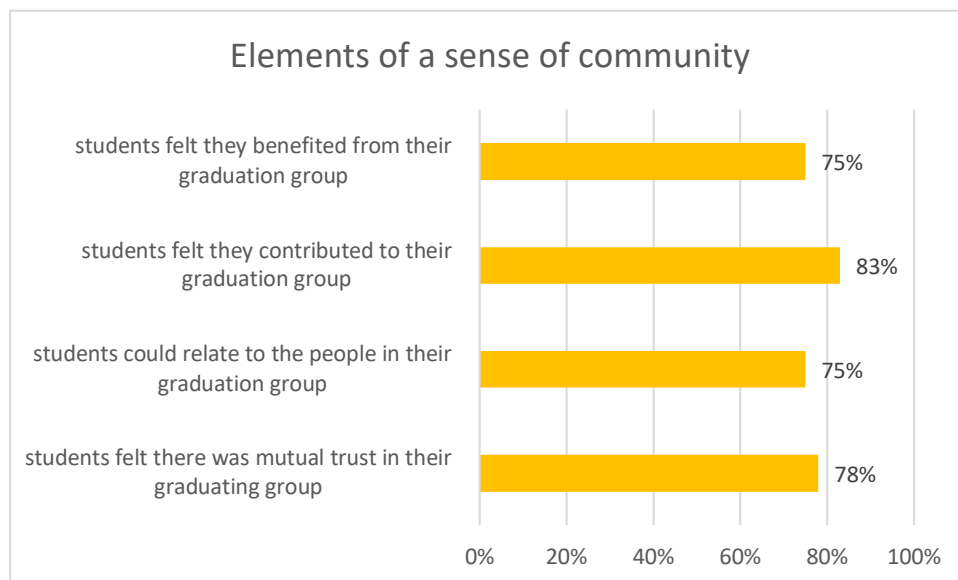


Figure 5. Student evaluation of elements of a sense of community

Students learn from and with each other. As a student wrote: “We share our visions, tools for the project, compare methods and support each other.” Students were able to compare and receive reassurance about their work by sharing with others. It helped them to see where they were in the project and how well they were doing. A student told us: “It helps me to compare with them, to see that I am on the right track.” The personal experience of one student can be found visualised in Figure 6.

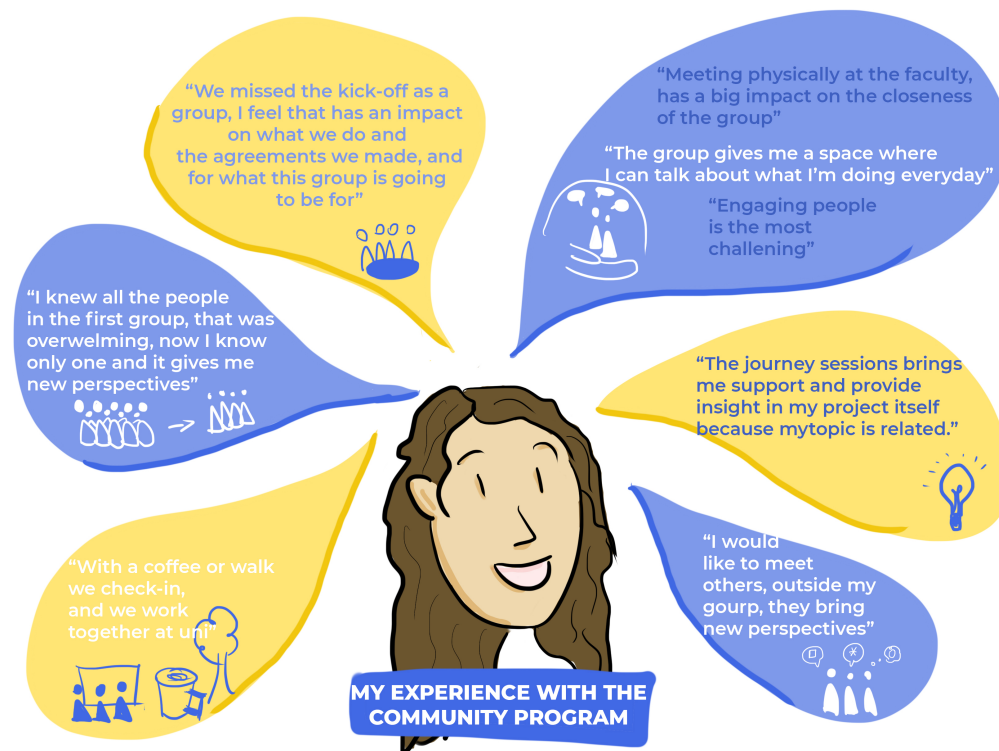


Figure 6. The personal story of a participating student at the midterm evaluation

3.2 A customizable program supports student agency

The graduating group activities were self-organized and initiated by the students. Consequently, students depended on themselves and their teammates to make it work. When we performed an intermediate check-in at the middle of the program, we learnt that most groups (13 of the 16 groups responded) met each other once per week. What students benefited from was weekly meetings they planned. It helped them to start the week together on Mondays. Some groups also set up a check-out, to end the week together. A student wrote:

"Every Monday at 9 AM we discuss how our weekend was, what we did last week, what we plan to do and the challenges we are facing. I like that it is on Monday, so you are a bit forced to start. And it is nice that you start with social contact."

Another student shared: "The group works the best when everyone is there, and you know that. So, you feel responsible and obliged to come." There was a wide variety amongst the graduation groups of activities and platforms they used for communication. Some groups had a Slack channel, others a WhatsApp group. Some students met at the faculty when this was possible or studied together. Part of the suggested weekly check-in format was to 'pledge' together, meaning that students shared what they would work on the coming week.

Several students expressed the provided structure of the GCP helped their groups to start the conversations. This structure consisted of some templates provided by the program.

They liked the guided parts of the program and expressed that the activities forced them to plan. One student reported:

“We use the template, then it is easier to talk about the type of problems we face. It makes it easier to first write down what you think [...]. I feel like we would not share so much if the questions wouldn't be there.”

Not all students felt the same way about their groups. 61% of the students said the graduation groups gave them a sense of community. This number is low compared to the feeling of community the program gave them (80%). There were differences between groups: some groups met once or twice every week though others didn't speak or meet each other after the facilitated kick-off day. One student wrote: “Each person has different expectations and organises the day differently. Not everyone sees it the same way. It is not a priority for everyone.” Another student shared: “It is a good place to relate, but I often feel like the only person who's actually putting at least some effort to set up a call or something”.

A proposed solution by students was to make participation voluntary, but when people sign up, they are responsible to commit. Lacking students who took responsibility was also a challenge as one student shared: “There is no responsible person, that might be nice in our group, it is very personality [dependent], I could use a leader.” Lastly, we found that cultural differences might also influence the engagement and connections between members of the group. One student shared the following:

“When we were only with Dutch people, it helped me much more. Because International students have other struggles [...]. While Dutch people don't understand these problems because of cultural differences. When we were with only Dutch people, everyone was more open, and we talked more in-depth about our projects.”

3.3 A focus on student success instead of performance improves wellbeing

The journey sessions were specific learning moments for students to work together on a topic outside their graduation work. One of these activities was the journey session on the balance between learning and performing. Students interacted with graduation supervisors on the goal of the thesis project. This session specifically was valued by the students as it provided them with a different perspective on graduating and helped them to reflect on their personal learning goals.

It is interesting for students to interact with graduation supervisors about the goal of their project. A student wrote: “I liked the session where there was an interaction with the supervisors. This gave me a lot of info about how they think. And their perspective about learning and performance, which helped me!” A student also shared how the session affected her wellbeing: “In the beginning, I had a lot of anxiety, and couldn't sleep. When I heard the idea, you should learn and not focus on performing, I could sleep again (laughs). It helped my mental health.”

Another student shared: “IDE presents an unrealistic picture of the thesis. Having the graduation group, helps you to see that there are more outliers than you thought.”

4. Discussion and recommendations

The GCP is a promising framework to guide and support students in their graduation journey by facilitating peer learning and offers immediate value during pandemic restrictions. The concept of peer learning in design education is widely explored and advocated in our program (Heavey, 2006; Boud & Cohen, 2014). The focus on community takes peer learning beyond a means to improve learning outcomes, to a means to increase student success, including (social) wellbeing. This is in line with Biesta's (2015) premise that education is not just for qualification, but also subjectification and socialisation (Biesta, 2015).

This program was built by three design educators responding to a decline in the health and wellbeing of their students. Our approach was reactionary yet rapid given the sense of crisis and chaos of the pandemic in 2020. We forged agency by sharing our work and eventually gained funding to scale our program idea across the university. We were lucky that our colleagues around us bought into our concept and supported us with their time and enthusiasm. At other times, we lacked a sense of how this program would evolve or whether it would be valuable. What we did appreciate, was that any contact time we could arrange between students who were alone at home studying (and lonely) would be better than none.

Perhaps underestimated is how developing and implementing this program demonstrated to our student community that they were valued. Teachers who take leadership can provide students with models of leadership for their own career. We showed our students that it is possible to react and take design leadership even if that means stepping away (temporarily) from your job description.

Based on our work, we present several preliminary recommendations that have proven to work for this particular program and can support teachers, colleagues and students in shaping CBL initiatives in future design education. We recommend:

1. Designing communities based on a shared goal. e.g., graduating students all aiming to graduate on time;
2. Matching students to each other based on their shared interests. e.g., The same master program, similar topic, closeness; if they already know each other;
3. Connecting students who have a shared practice and experience, it is important that students have more or less the same experience since this is what they will be discussing together;
4. To provide a structure that allows for the creation of self-directed learning communities but facilitates reoccurring student interactions;
5. Paying attention to student engagement and support where necessary through regular check-ins or reflection activities, and;

6. Searching for and acknowledging the wellbeing of hidden students, the ones who attend class but rarely interact with community outside of their coursework. Are these students okay?

We also see some challenges when reviewing the design of the program, its evaluation and implementation:

- We saw the level of engagement in the organised activities drop as we progressed throughout the program. We received the feedback from students that more support is needed earlier on in the process. In an iteration, we want to organise regular check-ins about what type of support students need. We want to validate this when performing another iteration of The GCP;
- This lack of engagement and leadership was a challenge for the student groups. It can be due to low level of student agency in our design education curricula and that engagements with peers have been highly controlled and functional in their previous group work. We therefore question if we equip our students with the right skillset to build learning infrastructures around them to truly shape self-direct learning.
- We have no data about students who do not participate in a program, the hidden students. How do we reach and engage these students – should they want to take part in the program and if not, what can we learn from their independence as design students?
- We experienced a challenge when embedding this program on faculty level. Since the program originated from a bottom-up approach it is harder to achieve structural changes in across various faculty curricula.

After presenting the positive outcomes of the first implemented GCP program, the GCP was implemented and tested at various other engineering faculties, including the Faculty of Mechanical, Maritime and Materials Engineering (3mE). In addition, the Faculty of Industrial Design Engineering has started with a second cohort of the GCP in March 2022.

We are satisfied with the results of this program though further research into CBL initiatives in design HE will need to be done. We will continue working on and researching student success-oriented initiatives in our teaching and are interested to learn from other initiatives and similar work.

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Appendix A: Coding Example

Final themes	Patterns/themes	LABELS	Quotes
A customizable program supports student agency	empowered structure / student agency	type of activity they do	we have a trello: we share our weekly goal. You can see how other work and how they reflect. I use that the most. It is more flexible that is nice.
A customizable program supports student agency	creating meaningful connections	kick-off is an activity that created connection	we did the kick-off and I loved it, it reunited the group. And then people left the group.
A customizable program supports student agency	empowered structure / student agency	kick-off is a structure to connect	we did the kick-off and I loved it, it reunited the group. And then people left the group.
A customizable program supports student agency	empowered structure / student agency	weekly check-in forces me to plan	the check-in works well. You don't expect too much but every time you get something out of it. You can just talk and share. It forces me to plan this week.
Facilitating connections between students generates a sense of community	belonging / peer support	weekly check-in is great for talking and sharing	the check-in works well. You don't expect too much but every time you get something out of it. You can just talk and share. It forces me to plan this week.
A customizable program supports student agency	empowered structure / student agency	structure of template enables sharing among students	bi-weekly check-ins. (1 hour at 9h- 3 to 4 people) We use the template, it is easier to talk about the type of problems we face. The template makes its easier to first write it down what you think is challenging and then talk about it. I feel like we would not share so much if the questions wouldn't be there.
A focus on student success instead of performance improves wellbeing	Enriched learning experience	Getting a new perspective	The most important the program brought some insights on how professors see the project
Facilitating connections	belonging / peer support	reassurance: I feel I'm not	I get encouragement of others. We share the struggles. It feel like everyone can feel

between students generates a sense of community		the only one struggling	difficulties so it is fine if I also face some problems.
Facilitating connections between students generates a sense of community	belonging / peer support	students share their struggles	I get encouragement of others. We share the struggles. It feel like everyone can feel difficulties so it is fine if I also face some problems.
Facilitating connections between students generates a sense of community	peer support/ peer learning	students share how they approach deadlines or phases of the design process	The insights they shared about how they are approaching the project
Facilitating connections between students generates a sense of community	belonging / peer support	reassurance: I feel I'm not the only one struggling	I work in my own space, I don't talk to others. I would only think that I have the problems, but now I see and hear that everyone is the same