SKILLSLAB - PEER EDUCATION IN A RAPID CHANGING WORLD

Hilde VAN DYCK, Elke MESTDAGH, Kristof VAES and Alexis JACOBY
University of Antwerp, Belgium

ABSTRACT

In this fast evolving and changing world, design education is challenged to evolve and change at the same pace. The surrounding context, subject to continuous change, has a major impact on the university as an organization but also on the lecturer's role and the way students are prepared for their professional future. The necessary skills one needs to acquire in order to thrive in the context of the fourth industrial revolution [1] paves the way to re-evaluate what and how we teach bachelor and master students in product design & development and reveal new opportunities to experiment with new required knowledge, soft and hard skills, assignments, learning and interaction formats. New insights can be used as a baseline for future curriculum transformation.

This paper describes a pilot project at the department of Product Development of the Faculty of Design Sciences at the University of Antwerp, in which we designed and set up a SkillsLab in an extracurricular setting, where both bachelor and master students learn from each other with the lecturer as a coach [2]. SkillsLab focuses on the development of supporting skills for design students with the intention to make them grow as a person, and thus as a designer. Students are invited to propose subjects for a SkillsLab session that fits within one of 5 pillars: teamwork & leadership, creativity, self-management & well-being, communication and applying supporting tools & techniques. If needed, an expert from the work field is involved. SkillsLab sessions are organized as short and hands-on sessions. The cross-year interaction stimulates the students to learn from peers, with room for failure and a focus on a trial and learn attitude.

Throughout the pilot project, new insights are obtained on the way students can acquire and develop soft skills that provide an answer to the emerging needs and the complexity of their future professional context, but also on the way students can design, assess, and adjust their individual learning path. This pilot project, and the disruptive way in which it was implemented, is the first step in developing a generic script for best practices and an integrated approach for the product design & development programme and other programmes in the faculty in order to stimulate soft skills development, peer learning and multidisciplinary knowledge sharing.

Keywords: Peer learning, cross-year interaction, multidisciplinary knowledge sharing, community building, peer coaching

1   INTRODUCTION

One of the goals of higher design education is to provide students with a broad and suited set of hard and soft skills, to maximize their employability and to facilitate lifelong learning. This goal aligns with the first of ten TLRP principles of effective pedagogy (Table 1).

The professional design context reveals that designers are starting to play a larger and more substantial role in organizations, not only designing but also managing beyond the context of the design studio, broadening their activities across the different business units of an organization. Designers' responsibilities are expanding beyond the technical to include the organizational and the managerial [5].

Table 1. 10 TLRP principles of effective pedagogy

Principles
A. Educational values and purposes
1. Effective pedagogy equips learners for life in its broadest sense.
B. Curriculum, pedagogy and assessment

2. Effective pedagogy engages with valued forms of knowledge.
3. Effective pedagogy recognizes the importance of prior experience and learning.
4. Effective pedagogy requires learning to be scaffolded.
5. Effective pedagogy needs assessment to be congruent with learning.
C. Personal and social processes and relationships
6. Effective pedagogy promotes the active engagement of the learner.
7. Effective pedagogy fosters both individual and social processes and outcomes.
8. Effective pedagogy recognizes the significance of informal learning.
D. Teachers and policies
9. Effective pedagogy depends on the learning of all those who support the learning of others.
10. Effective pedagogy demands consistent policy frameworks with support for learning as their primary focus.

Design education, traditionally, focuses on the development of hard skills in a project-driven setting. The acquisition of soft skills is a side effect of this educational setting. The way in which students work together, develop communication skills and define their proper role as a designer evolves along the way. Although this approach has proven its merits in the past, the development of supporting soft skills deserves more attention. Not only because these skills are important in any given working environment, but also because it is important that students understand the explicit added value of supporting skills during their educational journey, enabling them to control the development of an individual skill set, adapted to their proper needs. Therefore, and as of 2019, the department of Product Development of the faculty of Design Sciences at the University of Antwerp, decided to focus more on the development of supporting soft skills and to actively involve students in this process of personal development and growth. By providing the opportunity of selecting, learning and practicing several supporting skills, students can enrich their learning path, enhance their educational output, and increase their employability. Doing so, SkillsLab also embraces the 4th and 8th TLRP principle of effective pedagogy (Table 1), providing the opportunity to learn in an informal and a scaffolded way.

SkillsLab wants to consciously activate the potential that lies in every individual, create a common language and act as a catalyst. Lifelong learning, interdisciplinary collaboration and sharing knowledge are central in this approach. On top of this, SkillsLab can be an appealing driver to attract new students for the product development programme.

Since a structural change in the curriculum requires time and effort, SkillsLab started with small experiments, organizing limited extracurricular workshops in which both bachelor and master students can participate voluntarily.

This paper firstly reveals how SkillsLab is conceived and implemented and concludes with the most essential learnings (advantages, pitfalls, and challenges) to take it to the next level.

2 THE PROJECT

2.1 Set-up

The main objective of SkillsLab is to teach and practice skills that support a designer in his development as a person and a designer, but also in his process of learning and in his daily tasks. Another primary objective is to bring together students of different years and education levels and have them learn from each other. Through peer learning and peer coaching, collaboration and debate are stimulated.

The secondary objectives of the project are community building and fostering a growth mindset in the students.

The SkillsLab sessions are organized as short and hands-on sessions during lunch break. One SkillsLab session takes 90 minutes and usually contains an introduction of 20 minutes, followed by interactive and practical exercises. The specific setup is adapted for each session. Groups of 6 to 8 students gather around a table to form a group, stimulating peer learning between students from the same and different cohorts. The interactive session on 'giving and receiving feedback,' for instance, was organized in a speed date setup where every participant could give and receive feedback on a design project they have

been working on in that period. During the 20 minutes introduction they got acquainted with the do's and don'ts of how to give and receive feedback.

One weekly session has a potential audience of about 400 students across three Bachelor and two Master years, with a maximum capacity of 25 students per workshop. In total, to date, 23 sessions with 235 participants (100 unique participants) have been organized over three semesters. In recent months, the Covid pandemic restricted the way we could organize real-life workshops and even if real-life workshops were organized the use of face masks and social distancing in some cases affected the interaction between students and the effectiveness in which objectives could be obtained.

Since we use a workshop format, we maximize interaction and stimulate debating. The cross-year interaction stimulates the students even more to learn from peers, with room for failure and a focus on a trial and learning attitude. A team of 2 lecturers are present and functions as a coach for the students. If needed, a supporting professional expert is involved. During the workshops students are reassured that there are no mistakes, no grading and a lot of room to grow skills.

Every SkillsLab topic is shortly introduced in a video that students have to watch prior to the session or a short introduction on the spot. This way, a basic background framework or step-by-step approach is provided on the topic, leaving plenty of time for practice.

2.2 Themes and programme

Initially, the SkillsLab programme was defined by the staff, looking for advanced topics that fit within one of 5 pillars: teamwork & leadership, creativity, self-management & well-being, communication and applying supporting tools & techniques. A suitable topic is extra-curricular and can be introduced in a 'SkillsLab setting, which means that the students should be able to experiment and learn after a short introduction. If relevant, we design a second SkillsLab session that builds further on prior sessions to dive deeper in a certain topic. The goal is that the specific learnings can be internalized by the students during their regular curricular project work.

Why these 5 pillars?

- **Teamwork & leadership**: In both educational and professional contexts, product designers encounter a lot of teamwork. They mostly learn it by experience. We noticed, however, that a lot of basic pitfalls could be prevented if we teach students the basics of teamwork and leadership in a SkillsLab session. In this experiment two workshops were organized on this subject: one explaining basic aspects, such as how to put together a suitable team, make team agreements, and other basic working agreements. A second workshop focused on dealing with conflicts and communicating feedback, both giving and receiving feedback.

- **Creativity**: Although every design project throughout the educational programme requires creativity, this creative mode doesn't always come easily or naturally. It is essential, however, that students develop their creative skills and explore supporting techniques and tools. In these sessions, specialized experts teach the participants how to enable a creative mindset and which creativity techniques to use in specific situations. As a result, the creative confidence is boosted based on scientific facts and hard practice.

- **Self-management & well-being**: Students entering the product design & development programme have to combine many projects and theoretical courses throughout the semester. The project-driven approach requires optimal planning throughout the entire academic year, and not only during the exam period. The workshop topics in this cluster included: focus management, planning, how to cope with stress and deadlines, providing essential learnings for them to deal with the context in a better way.

- **Communication**: Since the self-confidence of an 'idea-presenter' influences the judgment on the creativity and added value of an idea [5], several SkillsLab sessions focus on how to pitch an idea, how to communicate about a design concept and how to communicate in a connecting way during the creation process.

- **Applying supporting tools & techniques**: By offering SkillsLab sessions on specific digital and analogue techniques like laser cutting, 3D printing, drawing in Virtual Reality (VR), screen printing, etc., we motivate our students to explore and play [7],[8],[9] with tools and techniques. Although this cluster cannot be categorized as soft skill development, the underlying rationale is to support a 'create while doing' attitude and create a mindset on how to learn about design solutions by prototyping and making things. On top of that, learning about specific techniques is

also just fun. The value of augmenting the fun factor in an educational setting cannot be underestimated.

In a second phase, students could also propose additional topics for SkillsLab sessions as long as they would fit in one of the above-mentioned categories. Many of their proposals fitted with our targets, expressing their enthusiasm and involvement. Their ideas also provided valuable insights in the needs that students expressed on their personal development.

2.3 First observations and evaluation

As from the third semester, every participant was asked to evaluate each session anonymously, reporting if the workshops were clear and tailored to their needs, provided added value for them, delivered new insights that were useful and usable, and whether the right balance between theory and practice was applied. Figure 1 shows that the participating students (n=87) are very enthusiastic and consider SkillsLab as an added value with usable insights and skills for their own development. The workshops were evaluated as clear and tailored to the needs of the participants with a good balance between theory and practice. The average score on a ten-point scale is 9.05.
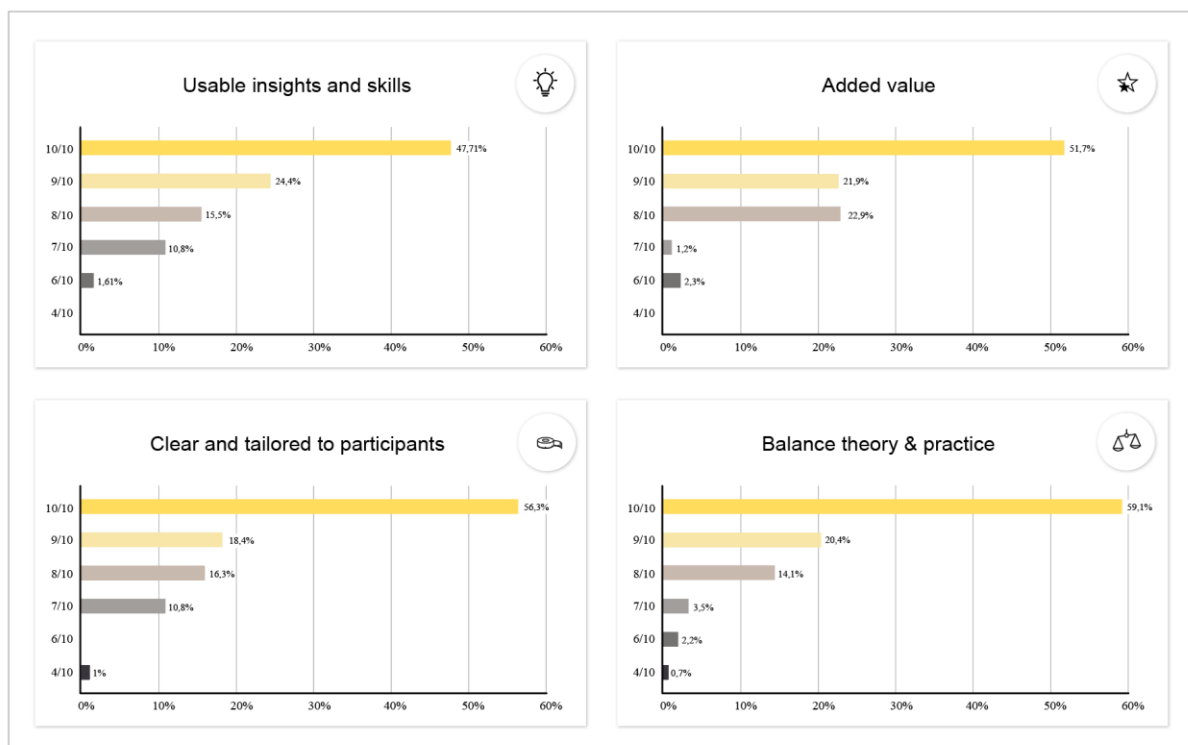

Figure 1. Evaluation and feedback on SkillsLab

In order to obtain more direct feedback from the students after a year of SkillsLab workshops, a student volunteer team was put together. In monthly meetings with the coaches, student topics were discussed and evaluated. In a next phase the SkillsLab team is looking for opportunities to organize workshops that tie in with design courses and projects, reviewing with them how we can further improve communication with the large student population of the Product Development programme at our university.

3 CONCLUSIONS

3.1 Learnings

After 3 semesters, we gathered valuable insights to improve the SkillsLab format and to better serve our students in the future. Some learnings we can share:

The 5 pillars we defined are well chosen and cover the main gaps and needs that we noticed in the existing curriculum. Although it is positive to offer extracurricular learning possibilities, it is also essential to define how skills development and peer learning can be built in the regular project-driven

curriculum. A few SkillsLab sessions that we consider very useful, e.g., about stress and focus, did not reach a lot of students. We noticed that our jargon language on the topic did not resonate. This is a point of action for our future communication. Undoubtedly, our team of student volunteers will help us with this.

Since this is not a mandatory course, and participation is based solely on intrinsic motivation, we currently reach the more motivated students rather than those who may need it more. A possible pitfall is that the motivated and stronger students accelerate and the gap between them and the others can even grow bigger. To avoid this, we have decided to make three SkillsLab sessions mandatory for the second- and third-year bachelor students that start next academic year. By applying a pass rate based on their attendance, we are not undermining the safe trial and learning environment of the SkillsLab format. The workshop offerings will also be aligned with the ongoing projects and assignments in the specific bachelor programmes. In addition, we will provide supplementary workshops in all 5 categories, so students will have a wide range of options to choose from. Needless to say, that on top of the three mandatory workshops, we will encourage students to take up more workshops.

It is difficult to motivate first undergraduate students to participate in SkillsLab lunch sessions. They are new to the faculty and seem to be overwhelmed by the workload from the mandatory courses. Growing awareness among the other students might, in the long run, also have a positive effect on the engagement of first year students.

Similarly, students of the second master year are focused on their master thesis and rarely join a SkillsLab session. Further investigation is necessary to determine how we can motivate them to participate in the future as we feel they have an important role to play in the peer learning process.

In the current format, the workshops are organized during the students' lunch break. On top of a full learning programme, it is rather difficult to incentivize students to participate. This was mentioned explicitly by many students in the feedback forms. It was always the objective to integrate the development of supporting skills in the regular curriculum. It is a challenge for the upcoming years to embed SkillsLab sessions in the design project courses or to reorganize the courses in such a way that the sessions can obtain their proper place in the curriculum.

Although, up to now, only a limited number of students have participated in the SkillsLab sessions, we can state that the experiment is a success. Students participated with great enthusiasm and provided valuable evaluations and insights.

The fact that several students demand a more organizing (responsible) role and team up as volunteers is a positive sign. The meetings with the volunteers are always very inspiring and have a positive impact on the SkillsLab programme, subsequently increasing the awareness around SkillsLab among other students and improving the attendance rates of the workshops. As a result, SkillsLab also contributes to student cohesion and the community building across the different years, which was a secondary objective of this project.

Over the last semester several students also organized specific workshop for their peers, proving that they were motivated to share their own skills with others as well.

3.2 Positive side effects

SkillsLab clearly boosts cross-year community building among students within the department. Alongside other initiatives from the students and the staff, this project specifically supports the connection of students in a learning environment, which is quite new. It also opens other opportunities for cross-year collaboration within the context of design projects.

Furthermore, SkillsLab facilitates an improved student-life experience. The informal context of the sessions makes the coaches more accessible for the students to talk to, also about other education-related issues.

As the set-up is not bound to the formalities of the regular curriculum, SkillsLab can act as a living lab, opening opportunities for easy to organize learning experiments with students that we can enable in the future in order to anticipate on changes in our rapidly changing world.

3.3 Next steps

We are exploring new collaborations with our student and alumni association to boost this project even further in the next academic year and investigate if the sessions can also be opened for alumni. We are confronted with a growing need for specific skill development in the working field as well, since the future of design also lies in tackling larger, more complex, and often immaterial tasks [10]. Some

SkillsLab sessions may be suited for other departments or faculties. We will investigate this opportunity and see how we can build bridges and collaborations with other educational programmes.

To further support the self-development and growth component of SkillsLab, we want to explore (software) tools that can be used by the students and the coaches to monitor the individual competence development. The tool should support the student to be in control of the growth process and stimulate the necessary self-reflection and self-understanding in order to define the direction that best suits a particular student. This will be an important asset in constructing and further developing the SkillsLab workshop programme.

REFERENCES

[]   Gray A. The 10 skills you need to thrive in the Fourth Industrial Revolution. Available: *https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/* [Accessed on 2022, 21 February], (2016) 19 January.

[2]   Muratovski G. The making of an American Design school: lessons learned. In *She Ji,* Vol. 6, Glasgow, 2020, pp.67-82 (Elsevier, Amsterdam).

[3]   James M. and Pollard A. TLRP's ten principles for effective pedagogy: rationale, development, evidence, argument and impact. Available: *https://discovery.ucl.ac.uk/id/eprint/1504912/1/James2011TLRP's275.pdf*

[4]   Biesta G. Onderwijsonderzoek, een onorthodoxe introductie. Boom, 2022

[5]   Meyer M. and Norman D. Changing Design Education for the 21st Century. In *She Ji,* Vol. 6, Glasgow, 2020, pp.13-49 (Elsevier, Amsterdam).

[6]   Card deck of Vigor Innovation Research Group. Available: *https://vov.be/assets/files/news/vigor_kaarten_2.4.pdf*

[7]   Brown S. Play: How it shapes the brain, opens the imagination, and invigorates the soul, *Penguin Books*, 2010.

[8]   Bateson P. and Martin P. Play, Playfulness, Creativity and Innovation, *Cambridge University Press*, 2013.

[9]   Reenders R., Spijker W. and van der Vlugt N. Spelend leren, lerend spelen, *Koninklijke Van Gorcum bv*, 1996.

[10] Swanson G. Educating the Designer of 2025. In *She Ji,* Vol. 6, Glasgow, 2020, pp.101-105 (Elsevier, Amsterdam)