HOW DO YOU FEEL? EMOTIONAL WELLBEING IN DISTRIBUTED LEARNING ENVIRONMENTS IN DESIGN STUDIES

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ABSTRACT

This study analyses emotional wellbeing and the learning process of design students in a globally distributed learning environment. Currently students are known for their capabilities to find information, to learn and think, to socialize and to behave in a global network, but difficulties operating in a distributed product development process have emerged.

Global co-habituation and other user-generated internet content have helped to connect student partner teams in different time zones and cultures but have raised questions of learning practices within pluralistic and virtual learning environment in design studies.

Uncertainty of design process, tackling outcomes from each of the design phase that were informing the subsequent design stage and performing from two different 'personas' (the client and the designer) by not knowing prior which role to take, has contributed to emotional ill-being amongst students. During the learning process via distributed product development students were constantly surveyed and questioned to understand how they felt and what was their emotional wellbeing point in a learning ecosystem which they experienced and practiced for the first time.

The analysis of the learning process outlines that it is crucial to have supportive and enabling technologies and lecturers for virtual learning to create a positive learning experience. The learning process aimed to enable students to work successfully with various organisational members in the distributed product development process while emotional underpinning of the learning trough design process was described as frustrating and confusing.

Keywords: Design pedagogy, distributed learning environment, emotional wellbeing

1   TEACHING-LEARNING THEORIES BEHIND DISTRIBUTED LEARNING ENVIRONMENTS IN DESIGN STUDIES

The design process as a teaching - learning methodology involves authentic experiences inherent in the community and a critical reflection of context and culture. There are several teaching-learning theories that reflect design process and design studies. Constructivism emphasizes that students have to actively construct understanding from different sources and emphasizes exploration of learning by doing, thinking and connecting ideas in a meaningful context. [1] It also suggests that the implication of learning experiences needs to be culturally and contextually authentic. [2]

Design process as a hands-on teaching paradigm is closely linked with situated cognition [3] where learning a subject is a process of becoming a member of that subject's community. Situated cognition when 'learners' participate in real-world contexts is embedded in human-centred and ethnographic studies of design projects and research. Design research and product-service development are based on social constructivist theory. The focus and design context are based on socio-cultural factors, growing or developing ourselves and our society in certain (connected) ways. [4] As an active engagement design process reflects connectivism [5] – i.e., activities that are undertaken when we conduct practices to learn. Distributed learning environment (DLE) is characterized by independent learning over time and place: learners are "distributed" or separated by geography, technology, experience, and people. [6] The main components of DLE are learned and practiced in small increments or over several spaced sessions, that in this case study reflects learning through design process. Distributed practice claims to help in recalling information over longer periods of time and to activate contextual memory. [7] Overall DLE emphasize

the importance of learner-centred, collaborative and network approaches and provides students with the flexibility and autonomy to construct their own learning experience while also offering opportunities for socialization, feedback, and reflection. [8]

Current students are representing Generation Z (Gen Z). As digital natives they prefer intrapersonal or solitary learning as a backup to using technology. [9] The post-millennium period created a shift in culture and behaviour and Gen Z is known of their capabilities to find information, to learn and think, to socialize and to behave in a global network. [10] Their individual learning differs radically from the teamwork-oriented and collaborative nature of Millennials. Gen Z need time for individual learning and reflection before group work or Think-Pair-Share processes. [11] They value peers and instructors as learning resources only after thinking through a concept, problem, or project on their own, and the content they are learning needs to be applicable beyond just a single practice. [12] However "around a third of university students struggle to learn independently" [13] and have emotional and mental difficulties. Emotional wellbeing is a crucial factor in the teaching-learning process and significantly impacts academic success [14] and personal development of students [15].

The twenty-first century is marked from other eras through the incredible power of technology, not by the need to develop important skills such as problem-solving, creative thinking, critical thinking, and relating to people [16] as foundations for emotional wellbeing. Design creates happiness and satisfaction as an end-result in the products and services we use [17], and so should education as a learning and teaching process. It is important to engage not just all senses in the learning process according to cognitivist theory, but also to build emotional connections. [18] It is about connecting teams, peers, even students, with emotions, not task-focused automatons, says Edinger. The emotional connections made through mentoring and coaching, and the lecturers' 'interest in students' professional growth, pay off in the long term for both parties. [19] Investing time and resources in students' development, coaching and mentoring, allows them to feel more engaged in their work, increases their confidence, and ultimately improves their performance.

"How do you feel?" aims to reveal the invisibly visible emotional wellbeing during DLE in design and questions; 'What should design lecturers address for better learning experience for Gen Z students?

2 GLOBALLY DISTRIBUTED LEARNING – TEACHING ENVIRONMENT: PROCESS, PROS & CONS AND IMPACTS

Teaching-learning experience models, based on design process, constructivism, situated cognition and connectivism, when knowledge is constructed by the individual and their experience in the world, was behind global DLE in design studies analysed in this paper. Students were surveyed three times via Vevox platform during twelve-week module, questioned and observed to comprehend what their emotional wellbeing and the learning progress is. For the case study eleven student responses were analysed.

Each study week as learning phase corresponded to a particular stage in the design process such as: Exploration (1), Design Brief (2), Design Brief Evaluation (3), Concept Design (4), Concept Evaluation (5), Design Concepts Refinement (6), Detail Design (7), Prototyping (8), Testing (9) and Design Evaluation (10), and outcomes from each of the phases informed the subsequent design phase of the projects over one semester's 12-week learning-teaching process. Students were divided into teams (three students per team) and paired with international student teams from four countries. To address given assignment students had to act from two different 'personas' – the client and the designer, and to work across different cultures and time zones in Europe and Asia. If one team was not performing on time and not delivering output weekly, the partner team could not progress.

Initially students were not instructed in which phase (Figure 1) they had to act as clients (phases 1; 2; 5; 9; 10) or designers (3; 4; 6; 7; 8). Phases 1 and 9 asked students to become a member of subject's community and be involved in authentic experience as a critical reflection of context and culture.

The assignment was managed by international lecturers from six countries and led by studio X (anonymised). To respect partner universities, it was decided not to reveal the institutions identities. However, the module was delivered according to the ethical guidelines of the academic practice.

By agreeing to be part of an international, collaborative design assignment, I was briefed not to reveal the prior design process - in which persona and why students have to behave. Students were supposed to find out themselves in which role every week are they performing. To communicate, to monitor the progress of given assignment, collaborate, reflect and to give feedback, an online WordPress blog page was created with each team member given individual access.
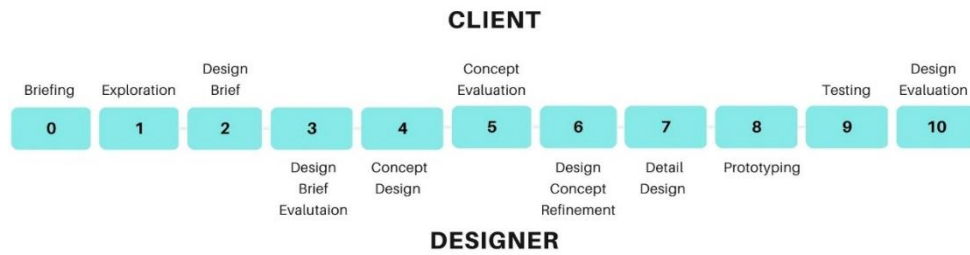
Figure 1. Learning trough design process in DLE, Freimane, 2023

Students were not briefed that the module was not only based on authentic situation-assessment [20] and product development across distributed environments but also on developing students' transversal skills [21]. It was supposed that students would discover and understand the learning outcomes by themselves during the DLE process in design studies.

2.1 Uncertainty of design and learning process – pros for emotional ill-being

Uncertainty is an inherent part of the design process, and it can be both exciting and tough for designers to navigate a range of different challenges and obstacles in order to arrive at a successful outcome. Designers, including students, experience a range of emotions throughout the design process, including excitement, anxiety, and frustration, as they navigate the uncertainties and challenges of the process. [22] In this case study not only design process – as design for the result was confusing but also the learning process as it was not revealed from the very beginning. In spite that Gen Z students are digital natives and are accustomed of using technology to access and process an information, limited access to materials, lack of face-to-face feedback, communication challenges, technical issues and limited collaboration opportunities in DLE created additional uncertainty and frustration from the very first day. Yet that design studies were planned to be delivered online as DLE, I decided to hold weekly teaching sessions in person: the University had a requirement for in-person classes as a return to campus policy after Covid-19 break.

Some direct quotes from students surveyed during the process: on the assignment and the study process after the first three design phases, revealed: "*I found the tasks confusing*"; "*We received very vague information in terms of what the process and content of creating the brief was, so it was very difficult to complete*"; "*Not many guidelines on how to provide a brief. Just felt really confused all the time. I was often left asking other students in the class about the work we were meant to be doing. Every so often I did not understand why we're doing what we were doing. These issues were eventually figured out but took time away from the actual work we were meant to complete*."

It was easy to sense the students' frustration and anxiety through the face-to-face meetings. They were also asking for certainty in the teaching-learning process. As a result, I decided to reveal every learning phase and design process and to make it clear and explicit not only verbally but also visually (Figure 1). I marked the phase as a milestone and the role in which students should act for the upcoming week in relation to the whole design process. In that way I reflected Gen Z's need to know what and why they are doing and supported their emotional wellbeing.

As a take-away it is essential that lecturers provide clear guidelines, communication channels, and feedback opportunities to help students navigate the uncertainty of the design and learning process effectively. It is even more important for Gen Z students as they need to know what and why are they studying and where can they apply their acquired knowledge and skillsets.

Lockdown and remote learning during the Covid-19 Pandemic as recent experiences have taught us how to collaborate and study online. It might be obvious that students are capable and willing to continue in distance education, but does that process favour opportunities for socialization, receiving feedback and reflection from lecturers and peers, as technologies and distributed peers are invisible, even in different time zones and sometime have limited knowledge of English language? These are the critical questions. It highlights that collaborative online platforms need to be perceivable, intelligible, and experienceable [23] not to burden both learning and teaching process technology-wise and administratively.

Need for understandable, intuitive, logical technologies was mentioned by students: "W*e have to use the Studio X platform, but it is such a bad and difficult website to use. It is very confusing and difficult to set up, navigate and understand. There were many technical difficulties that prevented me from using the online recourses, so it was quite frustrating.*"

Handling uncertainties of design and learning process as well as technological issues highlights the need for "*more casual way to communicate and easy to share Q&A that saves more time.*" Students found their way to communicate but that gave an impact on overall visibility of what was happening behind the screen and how to be sure that the learning process happens.

Neither design process nor DLE reflected Gen Z need to have time for intrapersonal or solitary learning and reflection before group work or Think-Pair-Share processes. It might be considerable to iterate some design phases and not to run over design process every week. Students reflected that they "*felt very lost and confused because we were never taught how to write a brief*", for example.

2.2 Responsibility, time management and tolerance – pros for successful collaboration and teamwork

Teamwork, collaboration, and people are crucial aspects in the design process and DLE. It can be challenging to sustain the emotional connections between lecturer and students, to perform independent learning, to build trust and establish strong working relationships when working with colleagues who are geographically distant over time and place. Building trust in distributed teams requires a high level of communication, transparency, and shared understanding of goals and expectations [24], empathy and responsibility towards peers.

Distributed teams can experience social isolation and lack of camaraderie, responsibility towards teammates and partner teams, and even towards deliverables. Students acknowledged that it was "*hard to communicate due to time differences and schedule differences. It's definitely different when you come with online and in-person conversation, especially with the role of clients and designer.*" Analysis of the learning process revealed the need for teaching and practice in asking questions and discuss, and to accept other person's point of view; "*the most dissatisfying was trying to communicate with the other team and them saying we can't do this we can't do that even though the brief says so. The collaborating group deciding to not participate in our brief and not communicate with us.*"

The theory said that the lecturers' interest in students' growth, coaching and mentoring, allows students to feel more engaged in their work, increases their confidence, and ultimately improves their performance. Lecturers should be mindful in their communication and understand cultural differences as much as students to create an emotional connection and wellbeing which is a critical factor in the teaching-learning process. The feedback given by students indicated that not only uncertainty of the given assignment and used technologies, but also the tone and voice of coaching impacted student emotional wellbeing: "*Lecturer was consistently extremely rude and abrupt during online classes. He would always talk over, interrupt other lecturers and students. He did not allow us to properly communicate and left many students unwilling to speak to him or even turn up to the online class. He created a very uncomfortable environment.*" Overall, the emotional experience of learners is an important consideration in the design of DLE in design studies. By addressing the challenges of isolation and disconnection, and employing strategies to improve learner motivation and engagement, lecturers can create environments that support positive learning outcomes.

The analysis of students' feedback revealed the visible emotional wellbeing in design studies and answered the question on what should design instructors address for better learning experience for Gen Z students. However, learning-teaching process is two dimensional and the question – what impacts lecturer emotional wellbeing within DLE and international online collaboration - is still opened and unrevealed.

2.3 How do you feel – an effect of distributed learning environment in design studies

The emotional experience of learners can have a significant impact on learning outcomes under DLE, including those in design studies. A range of factors, such as feelings of isolation, frustration, and disengagement, can negatively impact learner motivation and engagement, and ultimately impact learning outcomes.

At the end of the module students were surveyed the third time to capture the progresses of independent learning over time and place. Some students acknowledged that "*I have not experienced much during this module besides stress and confusion*" and "*due to issues already stated it was difficult to learn about other culture issues and concepts.*" In spite of emotional ill-being throughout the module some students admitted; "*I'd say that this experience would be the benefit for us as design student.*"

As students were not briefed on the module aims and learning outcomes, but were supposed to discover it by themselves, it was essential to find their take-away. Multiple answers on what was the aim of the

module were available. The least popular answer was to enjoy the process (63%). Also, 91% of students noted that the aim the module was to learn and tolerate cultural differences, learn to be responsible of team member's time, practice to write design brief and to gain skills to work with various organizational members. 82% admitted that the aim was to practice design research and to learn about design process whereas 73% acknowledged that the study aim was to learn to ask questions and respond, and to gain skills to work in the distributed product development environment.

100% of students acknowledged that communications skills were the most important competencies from the range of transversal skills they learned during this module. It indicates that design studies through DLE is more about communication than creativity, which was mentioned only by 50% students. 70% of students identified critical thinking, teamwork, conflict resolution and collaboration whereas no one recognized that media and information literacy should be taught in design process trough DLE. However, it is possible to analyse only a short-term effect on the design studies trough DLE.

Figure 2. Survey results on the aim and learning outcomes of the DLE module, Freimane, 2023

Students when asked about the most satisfying aspect of this module named the final presentation of their work and feedback from their partner team as key: "*We have learned a lot of skills and experience through this project, specially understanding the position between as client and designer.*" Asked what students will remember the most from this module, as a positive take-away, they highlighted "*designing progress of our product; the importance of understanding and researching political and cultural differences when working internationally; and speaking to our lecturer about various cultures and how to tolerate everyone and be better, and also all of the beneficial skills in conflict resolution, which was great*!" As a negative students commented on some lecturers "*being rude and the other team not cooperating*". However, they "*did learn a lot about time management and communication.*" In short, students acknowledged "*the task was a good learning experience.*"

3 CONCLUSIONS

Also, students admitted that they learned a lot during the module and the international collaboration, that they never ever before experienced authentic assignment-assessment, and the task was not easy but engaging. Even in student-led learning paradigms they have to construct understanding from different sources, explore learning by doing, connecting ideas in a context, it is essential that lecturers minimize uncertainties and provide clear guidelines on what and why students are studying and where can they apply acquired knowledge and skillsets. To decrease ambiguities by providing communication channels, and feedback opportunities in person would help students navigate the uncertainty of the design and learning process, something that is centrally important for Gen Z students.

Lectures and administrative staff should ensure that technologies and digital communication platforms are supportive and user-friendly. DLE should facilitate the learning process with all involved parties explicitly visible. Lecturers should consider that Gen Z need time for intrapersonal or solitary learning and reflection before group work or Think-Pair-Share activities.

An emotional connection and wellbeing, the tone and voice of coaching are critical factors in the teaching-learning process for both students and lecturers. The case study analysis revealed the invisibly visible emotional wellbeing in design studies and identified what design should lecturers address for better learning experience for Gen Z students. Is it possible to increase enjoyability of the study process at least to 99%? This should be the research question for the next case study.

Nevertheless, the learning-teaching process impacts not only students but also lecturers' emotional wellbeing. Lecturers can deliver the subject professionally, address the inclusive needs of students, be empathic and student-user-centred, to be student-centred, empathetic and tolerate non-attendance of lectures, manage administrative process that DLE runs fluent. But ultimately, no one asks and assists when the lecturer's personal health, emotional wellbeing become strained and fragile.

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