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Rethinking the Campus Experience in a Post-COVID World: A Multi-Stakeholder Design Thinking Experiment

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Abstract: In a post-COVID world, rethinking the campus experience is critical for defining new pedagogical strategies. As higher education moves toward more student-centred action learning models, university leaders should engage in democratic design methods that empower students and professors. Design thinking (DT) is a user-centred design approach that can aid in the creation of future learning environments. While DT has been used in innovative space design, we know little about how students, professors, and other community members can act as codesign partners. To understand their role in codesign and how their experiences are incorporated into new building design decisions, we need a conceptual model. To develop this model, we examined a case study of the evolutionary co-design process of a new building for a leading information management school in Europe. Using the concept of three phases of design thinking defined by Brown (2009): Inspire, Ideate, and Implement, we collaborated with a group of 50 design thinking students and more than 500 members of the community representing different stakeholders, to create new spaces and rethink the learning experience. Our discussion will centre on the creation of a participatory design thinking model that positions students as design partners alongside university decision makers. The findings conclude that, by applying design thinking methods, it was possible to unveil new dimensions of the success of future campuses that go beyond the building design. Creating meaningful learning spaces that inspire creativity and critical thinking requires an alignment between human centred design, organizational change management and new pedagogical strategies.

Keywords: design thinking; human-centred design; multi-stakeholder co-creation; innovation; higher education

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1. Introduction

Education is at a moment of disruption [1]. Traditional teacher-centered methods and learning experiences have generally remained unchanged in the last decades [2], and they are no longer adequate to fully prepare students for future skills such as complex problem solving or dealing with uncertainty [3]. Thus, educational institutions are rethinking their learning experiences to become more student-centric, from the individual class to the end-to-end academic experience, in the context of the COVID-19 pandemic social and environmental changes.

Learning is no longer confined to the classroom [4]. The proliferation of technology and the ubiquity of remote experiences has made information widely available and has made peer or self-directed learning as crucial as instructor-led [5]. The increasing importance of more humane and soft skills in the job market has shifted learning into informal, non-institutional, and social contexts, considered as important to the students' development as the institutional context [5,6]. The COVID-19 pandemic has accelerated this profound change in the educational experience, mainly through the massive transition to online learning forced by confinement [7], and served to uncover issues, flaws, and areas for

reflection, particularly in the areas of digital literacy, creativity and innovation in education, and student assessment processes [8].

This paradigm shift has inevitably impacted the university campus. Traditional classrooms are designed for one-way information delivery, where the teacher is the central actor [9] and are not suited for supporting new pedagogical practices [10,11]. Space influences the learning experience not only on a cognitive [10] but also on an emotional level. The practice of daily routines can induce emotional bonds with space through the creation of meaning and a sense of belonging [12]. Future-proof learning spaces are more flexible and adaptable, enabling new interactions and activities based on collaboration, socialisation, and experimentation [4,13–15].

Campus planning and design have traditionally followed a formula-based approach that is usually driven by cost savings [16]. Furthermore, there is also a general unwillingness to invest beyond the minimum expected standards, specifically in the public sector, due to the impact of short-term expenditures for elected leaders [17]. Inspiration for the spaces has typically been backwards-looking, directly based on the needs of specific departments and favouring single-use spaces [18]. Conventional business drivers and environmental requirements are usually prioritised over user needs [19].

Design Thinking Methods Applied to Reimagine the Campus Experience

In recent years, the design thinking (DT) methodology has grown in popularity and has been the subject of research and application in a variety of contexts, including engineering, medicine, business, computer science, and education [20]. As a method of dealing with complex problems, which are distinguished by ill-defined problems that are sometimes unique and interconnected to other problems [21]. Design Thinking can be defined as a thought process that "brings designers' principles, approaches, methods, and tools to problem-solving" [22]. It can also be defined as "a human-centred innovation process that emphasises observation, collaboration, fast learning, visualisation of ideas, rapid concept prototyping and concurrent business analysis" [23].

Design Thinking is a tool that tries to respond in part to the increasing complexity that modern organisations and technologies arouse [24]. It has come to be known by organisations as a formal method to develop creative solutions with the purpose of enhancing innovation [25]. Its use is increasingly sought after for helping to simplify and humanise problems and their context [26]. The design thinking methodology presents the sensitivity and reasoning of a designer, as well as some of its practices, to help interconnect the user's needs with the organisational strategies and available technologies [27]. It focuses on the human being, multidisciplinarity, and collaboration, enabling the junction of areas from arts, technology, and science in order to find more assertive and innovative solutions [24,25].

In terms of sustainability, design thinking has been proposed as a framework for sustainability-oriented innovation [28] and as a method to create outcomes that meet environmental, social, and economic needs [29]. DT appears to be particularly beneficial for comprehensively solving sustainability-related problems because it explores the problem context before mapping out the scope for innovation [24], as it is suitable for challenges characterized by a high degree of uncertainty, such as most sustainability-related challenges.

Over the last decade, new design principles and approaches have been increasingly used to reconceptualise spaces to be more student-centred. Harrison and Hutton [11] argue that learning strategies should guide campus design—and not the other way around. Finkelstein [9], Yang [30] and Jamieson [10] reported on the use of pedagogical principles based on proven best practices to design learning spaces that are adapted to different curricular units and physical setups. Space can be viewed not as absolute but as one of many interconnected parts of a complex experience involving physical, social, virtual, cultural, temporal and psychological variables [31]. Therefore, space design has also been addressed through a holistic lens [32]. Keppell, Souter and Riddle [33] propose design principles based on comfort, aesthetics, flow and repurposing, focusing on the physical and mental wellbeing of the users of the space. Domae [4] experimented with a

campus design that used a neighbourhood as a model to encourage community interactions and engagement.

Some experiments involving the users in the design process have also been reported in the literature. Perks et al. [34] detail an experiment of redesigning a classroom based on the feedback of students and instructors. Moreover, Lundström [35] described the process of repurposing a campus cafeteria using a participatory design method called Charrette. Whang [36] used design thinking to rethink the academic experience of transfer students. Harth [37] presents insights and ideas resulting from a 2-day intensive design thinking workshop that involved a diverse group of 17 students. A more specific case was presented by Nizamutdinova [38] concerning the use of design thinking to address energy efficiency on campus. Design thinking research also finds greater application in STEAM teaching. Some examples are through the use of communities of practice [39], as a natural bridge between the arts, sciences, and other interdisciplinary subjects [40], or as a pedagogical approach of problem-based inquiry [41].

We contribute to the discussion by describing the impact of applying design thinking in a holistic way to the reconceptualisation of the campus experience involving the multiple stakeholders in the academic community (students, faculty, alumni, and staff). Furthermore, we propose an open-innovation [42] approach to encourage the voluntary participation of the whole academic community. To the best of our knowledge, there is no similar case reported in the literature. Our paper presents the method, results, and learned lessons from this experiment that could be replicated in other higher education institutions.

In this paper, we describe the design principles for a new building by a leading information management school in Europe by applying design thinking in a multi-stakeholder context. The objectives of this paper are to leverage the capabilities of design thinking to create a deep understanding of the needs of the academic community (students, faculty, alumni and staff), and translate those needs into integrated solutions that would address the different—and often conflicting—needs of the multiple stakeholders we are designing for, having in mind new innovation and sustainability principles.

2. Materials and Methods

The innovation project was structured according to the three phases of design thinking defined by Brown [23]: Inspire, Ideate, and Implement. The process was designed to enable the academic community (students, staff, researchers, and professors) to participate in each phase, adding additional contributions to those collected by the design thinking teams. The design thinking teams consisted of 50 students divided into 10 workgroups, mentored by two professors from the Innovation Management and Design Thinking (IM&DT) course. The mentors' role was to develop students' understanding of the design process and corresponding mindsets [43], as well as to allow dialogue and ideas to develop in relation to the desired problem and solution [44]. Design thinking can be used effectively by novice teams [45], which is one of the reasons for its growing popularity and a promising approach for this experiment. This way, the design thinking teams were the central actors in the innovation project and were responsible for incorporating all the feedback from the community into their process.

The fact that IM&DT is an elective course for all master's programs, resulting in a high student diversity, which is desirable for a Design Thinking team to produce better outcomes [46]. The class had students with ten nationalities, five different backgrounds (health, management, marketing, data science, and engineering), and different levels of work experience (20+ years to no work experience). To leverage this diversity, the workgroups were created based on students' characteristics (academic background, personality traits, demographics, and work experience) and clustered them into teams with the aim of creating the most heterogeneous groups possible.

Furthermore, the academic community functioned as an extended design thinking team. The objectives of their participation were twofold: first, to increase the diversity of inputs by extending the design team in specific moments, and second, to create a sense of

community and participation within the academic community and create excitement about the project.

Figure 1 illustrates our approach with the overall design thinking project executed throughout one semester (13 weeks), starting in February and ending in June 2020, with a final open presentation of the process and key outcomes to more than 100 participants from the academic community.

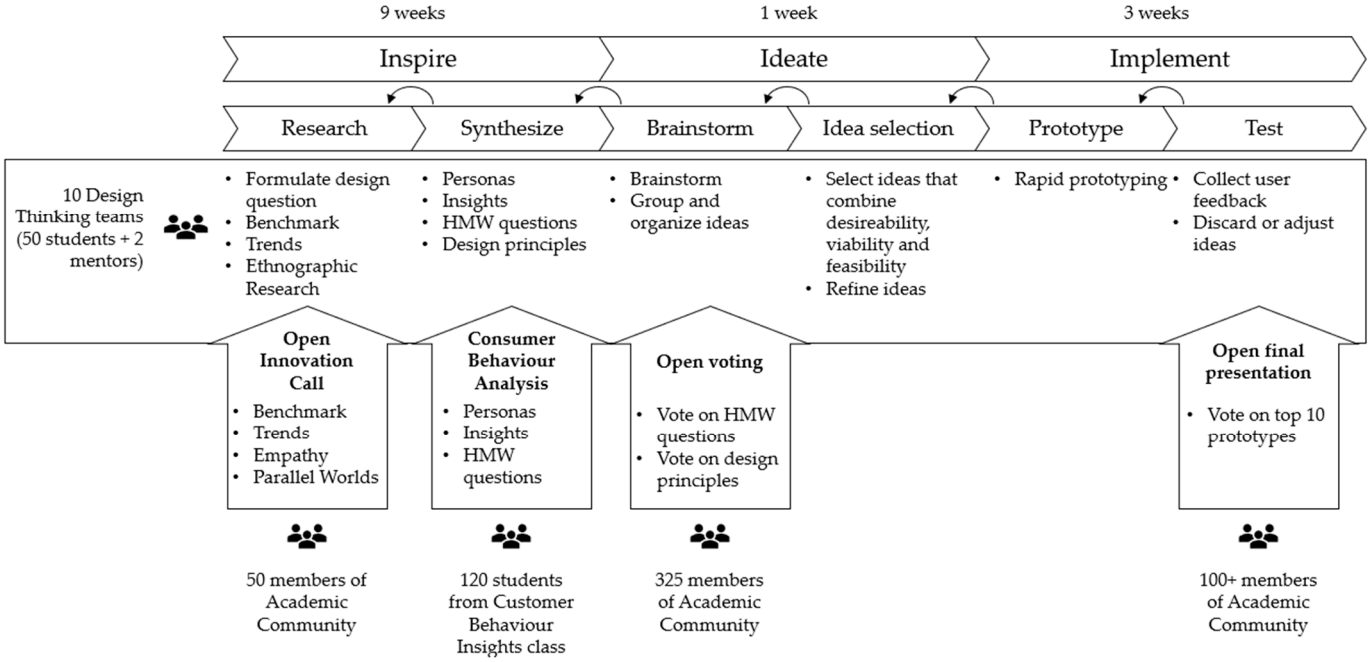

Figure 1. Our approach to the innovation experiment was based on the three phases of Design Thinking as defined by Brown. The academic community was involved in all three stages, adding inputs into the design thinking process.

The design thinking teams integrated the knowledge contributions from the different stakeholders and synthetised them using three methods: (1) "Personas", a method for representing and communicating customer needs by using a narrative and a name [47]; (2) Research "Insights" [48], which is a simplification of the observed complexities by gaining understanding from salient features of the environment and, out of them, building a causal understanding of it; and (3) "How Might We questions" (HMW), representing specific opportunity spaces for innovation, not suggesting a particular solution, but giving the correct frame for innovative thinking [49].

Each stage of the design thinking process had contributions both when diverging and gathering inspiration (50 members from the academic community), synthetising the research (120 students from the "Customer Behaviour Insights" class; prioritising innovation spaces (325 members from the academic community), ideating possible interventions (with the 50 elements of the 10 design thinking teams) and defining next steps (with more than 100 members of the academic community) by voting on the feasibility, viability, and desirability of the prototypes presented.

2.1. Inspire

The "Inspire" phase is crucial since the insights are the basis for idea generation. For this reason, this phase lasted the longest and had the most inputs from the academic community. As a first step, each of the design thinking teams created their design challenge question. In this way, each group would follow its exploratory path to end up with different perspectives on the problem. The design questions were formulated with the new building in mind but framed as an integral part of the overall university experience and not as the solution to the problem. The teams used the 5 whys technique [50] to perform a root

cause analysis and to identify the causes and contributing factors to the misalignment of stakeholder needs and campus building design. Simply put, the goal of the design challenge is to ensure that we are working on a relevant (innovation) topic that is open to unexpected areas of value while remaining narrow enough to be actionable and integrated with the context. Ten initial "Design Challenges/Questions" were formulated, and one was selected by the groups: "How might we make the academic journey more dynamic, collaborative and engaging, to fit the needs of current and future ways of working".

The teams then performed exploratory research to immerse themselves in the topic of study and empathise with the user they were designing for. Multiple stakeholders were interviewed, namely students, professors, school staff, researchers, and the faculty dean.

To complement the initial interviews, an open innovation call was made to the 495 members of the academic community (students, staff, researchers, and professors). A brief survey was developed with four open questions regarding:

1. Trend analysis—"a recent news piece/article about some innovation in higher education that you found interesting";
2. Empathy—"a comment you've made or heard on campus regarding some problem or constraint related to equipment, space, or process that affected the pedagogical experience";
3. Benchmark—"one or more images that represent the ideal campus space";
4. Parallel worlds—"a brand or company that could, hypothetically, manage their university campus building, e.g., Apple, Netflix, DHL, . . . ".

These questions were explicitly designed to collect input about the community's needs (gaining empathy) and their unique ideas for research topics (trend analysis, benchmarks, and parallel worlds). No questions regarding solution proposition were included at this phase, as ideation could only occur after the insights resulting from the "Inspire" phase had been formulated. The feedback from the 50 valid responses was synthetised into ten mood boards [51] and incorporated into the research conducted by the design thinking teams. The mood boards created acted as a visual tool to present the general "feel" (and "flow") and to clearly illustrate the principles that participants expected the future building to follow. We utilised them as a visual aid to explain a specific architectural type or a hypothetical classroom scenario.

In a multi-stakeholder universe a key issue is user acceptability [52], therefore, designers must consider the different—and possibly conflicting—needs of the different users. To explore those needs, different ethnographic research methods were conducted: in-depth interviews [53] with stakeholders from different higher education institutions (not only with students and professors but also staff, researchers and alumni); user journey maps with mobile ethnography [54] created both for students and professors allowed us to illustrate a series of direct and indirect touchpoints, which are points at which users encounter a particular experience and form an opinion. Because of its open approach, mobile ethnography differs from other quantitative and qualitative research methods. It is up to the participant to determine what constitutes a touchpoint during their individual customer journey. We used an online tool (Experience Fellow), that allowed users to register relevant and spontaneous moments and feelings throughout their day at school.

To complete all the primary research data collected by the design thinking teams, an additional input was collected from 120 students from a Consumer Behaviour Insights class, who performed an in-depth benchmark of best practices in higher education space design.

The design thinking teams followed the method proposed by Thoring et al. [55] and exchanged results of all data collected by using storytelling (verbal narration/report, concurrent writing down by the other team members). The input about user's needs was based on photographs, videos, interview transcripts, mood boards, and other notes, and the output was a list pain points for each stakeholder (Table 1) and a list of written insights (Table 2).

Table 1. Key pain points identified for each stakeholder at the "Inspire" stage.

Stakeholder	Key Pain Points/Method Used	Verbatim
Students	• Pedagogical models followed (in-depth interviews) • Spaces adaptability to different contexts of work (empathic experiences and in-depth interviews) • Value of theoretical classes taught to a wider audience (empathy)	• Some classes are "too theoretical and not very engaging" • Lack of "diverse places to study" (quiet and for group work) • Many students think it is "not worth it going to campus for theoretical classes" • Many want to explore their capabilities outside of class but "do not know where to look for opportunities"
Students (postgraduate/ night time)	• Accessibility to the campus (student journey) • Knowledge transfer to industry context (benchmark, in-depth interviews) • Maintaining motivation and energy levels up (Empathy mapping)	• "Four hours of theoretical class after work is exhausting and not engaging" • "Do not care for grades", only for ways to apply their knowledge • "Commuting from work to campus at rush hour"
Faculty	• Digital transformation (trend analysis) • (Lack of) incentives to innovate in pedagogical models (benchmark and in-depth interviews) • Physical spaces adapted to new teaching/learning methods (in context observation)	• Lack of time, guidance and tools to "explore new teaching methodologies" • Do not want to remake their entire class plan/materials • Discomfort with the "noise from aeroplanes" from a nearby airport
PhD Sudents/ Researchers	• Social networks and student integration (in-depth interviews)	• Lack of "quiet places to work" • Feeling "isolated from the rest of the academic community"
Academic Support Staff	• Information, communication, and customer service (in-depth interviews)	• Some students "need help from academic staff but do not know they provide support"
Alumni	• Engagement and participation (benchmark and (in-depth interviews). • Willing to find new, flexible and relevant pedagogical offers (trend analysis and in-depth interviews)	• Would like to "update some knowledge but do not have time for doing a complete course" • Would like to share their experience and help current students if they were given the chance

After generating and analysing all the insights, we had a group of 57 insights, so we grouped similar insights and rearranged a final list of 10 insights to support the teams, identifying innovation opportunity spaces by formulating "How Might We" questions that would be address in the ideation stage of the process (Table 2). Finally, design principles were defined and then subjected to an open vote by the academic community. From 468 votes received, 325 valid responses were incorporated, with the distribution illustrated in Figure 2.

Table 2. Top 10 insights, their respective "How Might We" question and tested prototypes.

Insight	"How Might We" Question	Idea/Prototype
Younger students pay more attention to the university brand and facilities than to the quality of the learning experience.	How might we make the university experience more attractive for all age groups?	Bridge of Knowledge: an inverted classroom with a professor cockpit that allows the parametrization of interactive walls and environment sensors aligned with the type of learning objectives.
Students do not often explore activities and spaces outside of their course work due to a lack of free time and energy.	How might we create an environment that motivates students to explore other activities on campus?	Knowledge Network: an academic social network to share knowledge and events, and to promote networking through a gamified experience.
Anticipating the time needed to get on time to the next class creates stress and anxiety.	How might we improve the campus circuits and navigation to reduce stress and anxiety?	Smooth Navigation App: an augmented reality app to helps users to navigate the campus.
Students have different workspace preferences (e.g., silence, individual/group, lighting).	How might we create a study place that suits different study styles?	Diverse Study Spaces: different study environments and corners that enable different forms of working regarding concentration and collaboration needs.
Students with disabilities feel excluded by being unable to access certain facilities.	How might we improve accessibility on campus?	Inclusive Campus for All: a campus designed for inclusivity.
Students feel that the traditional curriculum does not respond to reskilling and upskilling needs.	How might we adapt learning journeys for reskilling/upskilling?	Tailor-made Learning Programs: personalised learning pathways fully adaptable to the student's needs.
People restart their mindset when they change spaces, enabling them to focus better on the next activity.	How might we adapt space to motivate a certain mindset?	Village Campus: ability to adapt different spaces/buildings, using different colours and shapes, to fulfill different academic and social purposes.
Students highly value the sense of community.	How might we create a space that connects the academic community with itself and the world?	Immersive Rooms: develop 360° data visualisation rooms for internal and external presentations and events that create a "wow effect"
Student engagement in a class is strongly related to how inspiring the professor is, independent of the topic.	How might we help professors to be more engaging and inspiring?	Super Teachers App: a gamified app that motivates professors to try new teaching techniques with tips and challenges.
Students value the spaces that allow for both socialisation, being alone, and connecting with nature.	How might we embed nature in a space that allows for different types of interactions?	Connecting Gardens: development of green natural places for meeting, relaxing, or studying.

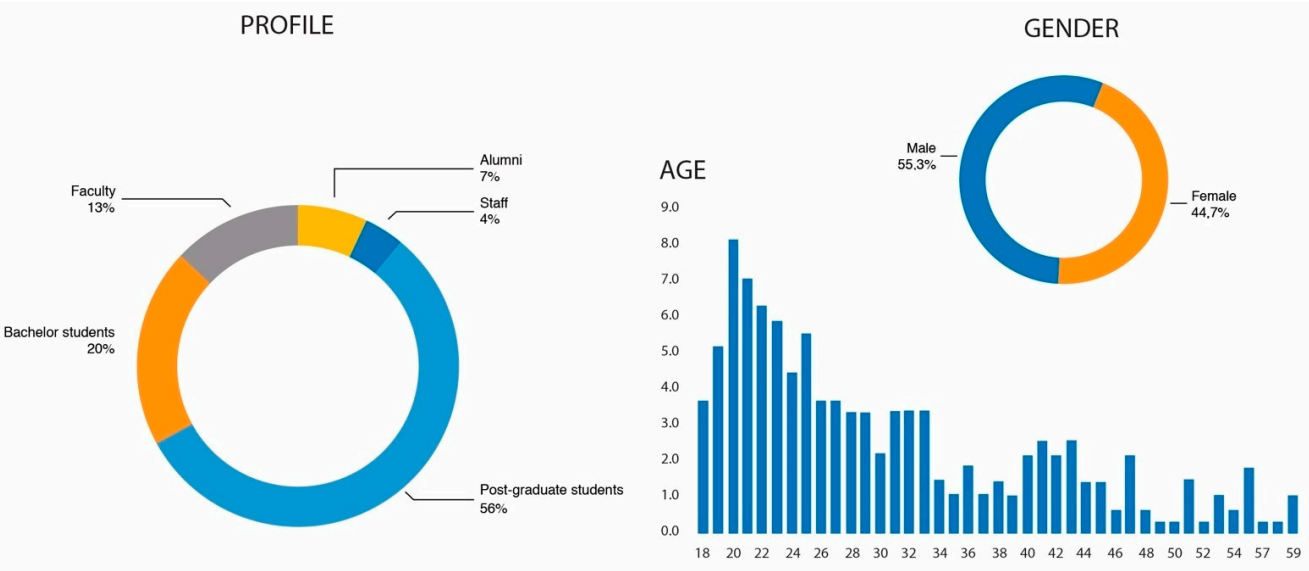

Figure 2. Profile, Gender and Age distribution of the 325 academic community members who voted on the "How Might We" questions and design principles.

2.2. Ideate

Following the open vote and selection of the top 10 "How Might We" questions and top 3 design principles by the academic community, each design thinking team brainstormed around the selected opportunity spaces, generating as many ideas as possible [49]. Each team then scored their ideas in terms of their desirability, viability and feasibility, discarding those that did not combine these three dimensions, as illustrated in Figure 3. The top-scoring ideas were then refined and developed until the level of detail was sufficient for building a prototype.

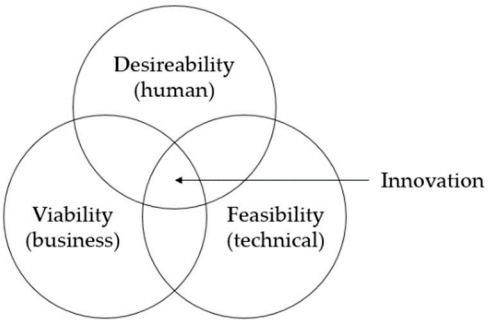

Figure 3. Innovation as a combination of desirability, feasibility and viability [56].

Though the design teams typically seek balance by overlapping between all three segments, they typically enter through the desirability (user) quadrant, hence the phrase "human-centred design." Notwithstanding, one may argue that Figure 3 omits any mention of sustainability, planetary boundaries, or broader societal duty, as if it was designed in a world where growth and competitiveness, as well as consumer and buyer preferences, were the primary motivators. Teams were urged to consider two extra layers: Society (responsibility) and Planet (sustainability) circles arguing that design thinking for sustainability considers and balances the needs of these five different perspectives [57].

2.3. Implement

The 3-week "Implement" phase began with listing the assumptions behind each idea generated. Then, a rapid prototyping [23] technique was implemented to develop visual storyboards that were used to support a 3 min pitch of the top idea of each design thinking team. The objective was that, by the end of this phase, each team had at least one prototype that passed the user tests. Teams built minimum viable products/solutions with a "fail fast" mindset: for each idea that failed the user testing, the teams either adjusted the idea, or dropped it and prototyped the next best idea.

The project's final step was an open pitch presentation, where the innovation process was described, and the key insights and final prototypes were presented. Over 100 academic community members participated in this session, voting on the final prototypes.

3. Results

The design thinking approach allowed the project teams to gain a deep understanding of each stakeholder in the academic community, which resulted in a set of insights and ideas that were deemed by the school board as surprising and unconventional. Having 10 different workgroups working side-by-side resulted in a high heterogeneity of the results and, therefore, a richer set of insights and ideas, as each group made unique discoveries. A summary of the critical pain points identified for each can be found in Table 1.

The characterisation of the painpoints for each user group allowed the creation of insights that, along with the design principles, led to specific opportunity spaces summarized in the "How Might We" questions. Finally at the "Ideation" stage each team brainstormed possible solutions and interventions for each topic which resulted in the final ideas listed in Table 2 that were refined and prototype at "Implement" stage.

The project's outcomes presented in Figure 4 allowed the school board and community to frame the new building in the broader context of the academic experience. The resulting prototypes impact not only the physical space but also technology and learning.

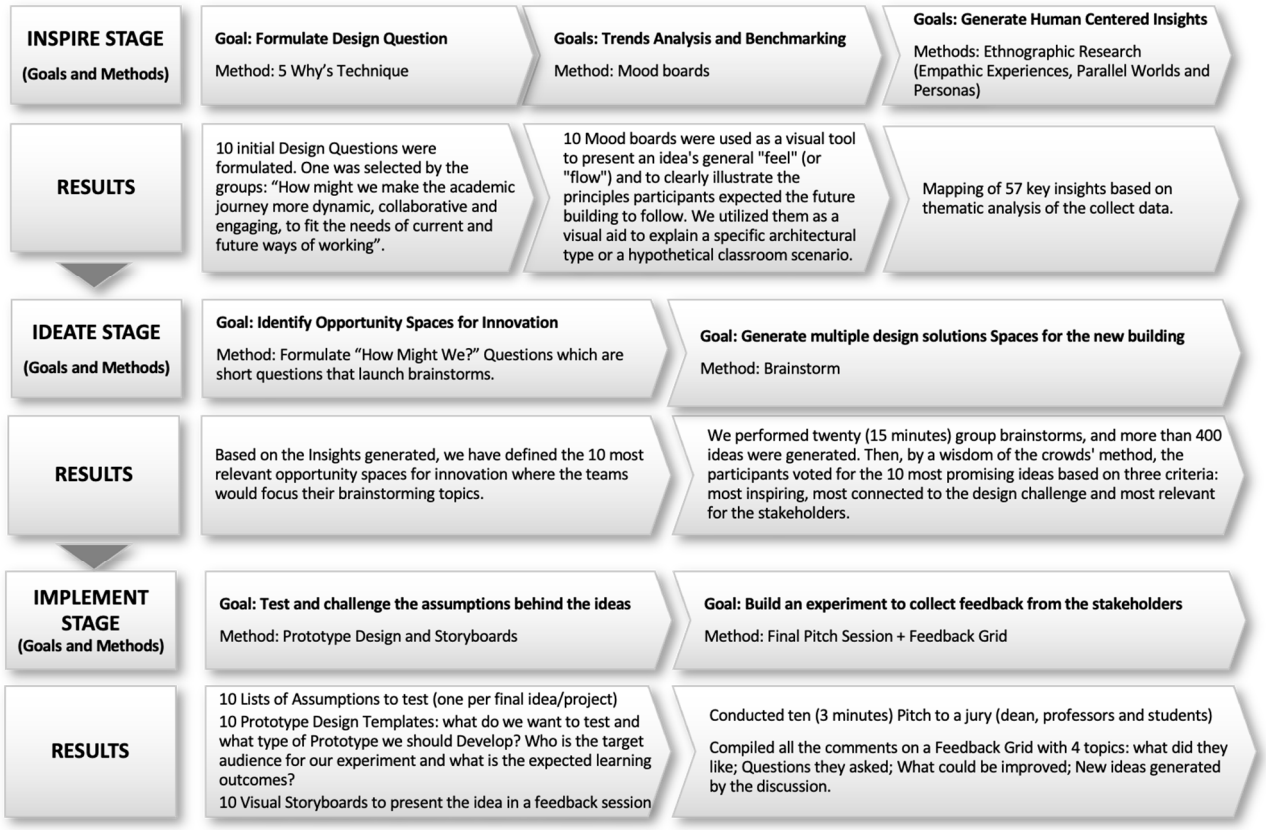

Figure 4. Goals, methods, and results for each stage of the design thinking Process.

4. Discussion

The findings presented highlight the benefits of widening the scope of the design challenge, not focusing on one single user group or dimension of the experience at the expense of alienating any of the others. We must note that this comes at the expense of increasing the intake of information to be collected and processed by the teams, which requires more resources to undertake the initiative. We believe the quality of the results would have suffered from a single or small number of design thinking teams. Having 10 teams working separately—although openly sharing their results and doubts in class—allowed the problem to be approached through a different lens. For instance, one group decided to explore the impact of green spaces and noise reduction on psychological wellbeing. In contrast, another group focused on learning about the cognitive processes of learning and motivation to inspire their ideas. Due to the exploratory and divergent nature of design thinking, it is expected that different teams, although starting from the same design challenge, take different research paths.

Involving the academic community through an open innovation call and voting proved to be valuable approaches on two fronts: (1) additional input was received, which was especially valuable in this context, since the students' time was limited, having to coordinate this initiative with other classes and academic activities; (2) voting provided direction to the project, allowing the teams to prioritise their insights based on massive feedback from real users.

In a time where education is being reinvented, human-centred approaches to design academic experiences have the advantage of encouraging an open-minded and curious exploration of what the experience might be, and not a view that is biased from what

the experience is today. Beyond that foresight capability it is relevant to consider the design impact regarding sustainability and disaster risk reduction. Under the UNDRR framework [58], disaster risk management policies and design practices must be integrated raising awareness for the campus of the future on all dimensions like vulnerability, capacity, human and property exposure, hazard characteristics, and the environment [59].

While this approach can generate innovative ideas, we also acknowledge a challenge in persuading higher education institutions to implement the outcomes. While people naturally desire creative ideas, they also paradoxically reject them. This reaction is associated with the level of uncertainty: the more disruptive the idea, the more uncomfortable the thought of implementing it, independently of how creative and attractive it is [46]. According to Salmon [60], on-campus investments are usually well accepted in legacy structures and facilities rather than new pedagogical tools and environments. In the academic context, there may also be some resistance to the concept of innovation, as the term is usually associated with entrepreneurship, which connotes a commercial context and may generate an adverse reaction in higher education institutions [60]. This reaction might be addressed at the implementation phase of the design thinking, as described by Brown [23]. Prototyping allows the testing of an idea (e.g., a piece of technology, a new pedagogical model, a new space) in the real world in a controlled universe in order to test its receptivity and adjust or even abandon it early in the process—and with little impact and cost. This approach might be a viable option for persuading higher education institutions' decision-makers to invest in innovative approaches with controlled risk. Experimenting with ways to put disruptive ideas into practice in higher education institutions is possible for future research.

5. Conclusions

Rethinking the campus experience usually reflects an understanding of current programmatic needs. However, predicting the future nature of teaching/learning and student research and support is a complex challenge, as the pace of new technology and innovation impacts future operating models. As a result, the useful programmatic life of a building is often much shorter than its physical life. By using a participatory design thinking process it was intended to enlarge the future vision and promote the value of 'flexibility', so that the building and design principles defined do not compromise structurally or in terms of cost in adapting to changing needs.

According to the design thinking research performed, the teaching of the future will be carried out with different pedagogical models and in an online, blended, or hybrid regime (online and face-to-face). This challenge implies individual and group learning, with mentoring, peer-to-peer, or tutoring by teachers, and not just lectures. These new models should be an invitation to external partners to participate and develop a multistakeholder collaboration model where social, environmental and business challenges are addressed to have practical applicability. Moreover, spaces should invite and adapt to new teaching models, and also to informal collaboration outside the classroom. It was clear by the projects generated that to consecrate the possibility of integration of technology for data visualisation, ideation, and prototyping of ideas.

One of the main insights was that the physical space of a university campus should act as a lever to enhance the student experience by creating spaces where students will want to stay, even if they don't have classes to attend. The environment has to be a reflection of the student experience policies, which implies spaces that are useful for both individual and group work, study spaces, and places to socialise and rest between classes.

As a conclusion of the work performed by the 10 design thinking teams, we can observe that a new building is not enough. We need to create environments that foster the human interaction providing the foundation for learning, creativity, and innovation, the basis of innovative educational communities. The pandemic has shown that our societies have immense potential for collective action and change when faced with a perceived emergency. Returning to business as usual would mean passing up an important opportunity to address the underlying and interconnected environmental, economic, and social challenges. By

applying design thinking methods it was possible to unveil new dimensions of the success of future sustainable campus buildings: the success of a new building will imply a culture change and a new strategy.

The environments and projects presented in this design thinking experiment aim to provide opportunities for new relationships to be established, breaking down boundaries between disciplines, administrative barriers, or between students, faculty, and staff. Reflecting on the unprecedented mobilisation and impact of COVID-19 responses inspired new ways of thinking, and assisted decision-makers in seizing the moment and effecting change.

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