

Research & Education in Design Conference

ABSTRACTS

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Session A1 & A2

Design & Pedagogy

Facilitating complex knowledge in design education through design tools.

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KEYWORDS: Design Tools, Design Education, Knowledge Facilitation.

Design is a practice-based discipline, which is reflected in its education methodology. In this context, consuming complex knowledge might prove challenging, since designers think and work in a predominantly visual way. However, being able to master precise subjects offers a unique advantage in design in contrast with a dispersed and superficial approach to knowledge. In this paper, we argue that design education can benefit from using design tools as a didactic way of conveying complex knowledge and of making it actionable. To illustrate our proposition, we analysed 14 theory-focused design tools, showing how these convey knowledge and make it usable. In addition, we compared design tools with their respective sources of knowledge to showcase the contrast, proposing a three-part model of knowledge accessibility. Lastly, we describe anecdotal experiences: teaching design classes with and without design tools. The ideas discussed in this paper represent opportunities for further academic inquiry.

Teaching Interaction Design: A Theoretical Framework.

Marco Neves

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KEYWORDS: Interaction Design, Teaching, Process.

Education in interaction design is growing and gaining importance. Given the diversified origins of the area, courses which have emerged in higher education have different approaches. In this article, we present a theoretical framework for a curricular unit of introduction to Interaction Design Project, at master's level, at the Lisbon School of Architecture, University of Lisbon. For this purpose and this specific context, we will assume the nature of interaction is multidisciplinary and that training at this level should refer to designers' abilities to think and act in different circumstances. In establishing this framework, we isolated four items that such teaching-learning system should assure: fundamentals, process, media and tools. Together they form a context upon which a syllabus can be developed for teaching interaction design practice.

Pastiche Plus; Styles, Philosophies and Advanced Design Skills.

Nathan Middelham & Wouter Eggink

University of Twente, The Netherlands

KEYWORDS: Advanced Design Skills, Graphic Design, Visual Communication, Design Movements, Design Philosophy.

This paper describes the Pastiche+ learning method for design skills on a master education level. By using philosophies and stylistic elements of art and design movements the method tries to extend ones skill and knowledge about design tools, principles and processes in an elaborate way. The paper describes the purpose and context of the method in the introduction and method section. Pastiche+ is then put to the test in a case study around graphic design and communication. This resulted in a profound set of posters, advocating using the train. After an extensive reflection and evaluation of the process and results we conclude that the method can be considered effective as a high level individual skills developer. The research results about communication are inherently subjective, however the insights from the personal reflection can be valuable in informing the design process of every designer who has a message to tell.

A Process Which Captures Insight and Nature's Silent Design Lessons.

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KEYWORDS: Design Research/Education, Human Behavior, Diffusion, Process, Public/Social Space.

Design education, design research design practice are vitalized by embracing tools through which people take lessons in nature. We use a case study to illustrate this point. Two phenomena have come together to compel case for expanded scope of design research as part of design problem solving and education: (1) multi-facetedness and complexity of the world we inhabit and (2) hot new role design has gained recently as a way of cross-disciplinary/cross-professional problem solving--as can be seen all over media as multiple disciplines begin to advocate design. What all this means is (1) designers should be trained about and (2) learn to use tools which enable probing into how phenomena are constituted/constructed. This is particularly useful for phenomena that occur silently, organically, but, if we have interrogated them, give informed perspectives about how interdependent phenomena occur or might be predicted. Good designing involves recognizing (through probing and discovery) interdependencies.

A Framework for Introducing Emerging Technologies in Design Studio Classes.

Matthew Lewis

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KEYWORDS: Emerging Technology, Prototyping, Possibility Spaces, Permission to fail.

This paper presents a framework for introducing emerging technologies into design studio classes. After an overview of motivations, three projects are described including their structures, typical outcomes, successes, and challenges. The first project exposes students to different conceptions of emerging technologies as well as a generative design process. Visualizations of possibility spaces are created that communicate students' overlapping research interests. The second project challenges students to engage with unfamiliar technologies of their choosing. Student attention is directed toward their learning process and hurdles encountered, more than toward what they are able to design. A final project presents both strategies for prototyping emerging technology systems as well as the use of emerging technologies for prototyping. Permission to take risks and document failures is strongly emphasized. The paper concludes with general observations and plans for improvement.

Research as a link between the What and the How in Fashion Design Education.

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KEYWORDS: Fashion Design Education, Fashion Sustainability, Research for Design.

While it has been widely recognized that the fashion industry has many negative impacts on our planet and communities, fashion design practice and education hasn't changed enough to reverse the situation. Sustainable fashion practices are more important than ever and we need fashion graduates to be prepared for that task. This paper compares the barriers for the integration of sustainability in the textile and apparel education identified in a study conducted in 2014 with the ones of the present day, recognizing that there isn't much difference in this 5-year period. We conclude by suggesting that Research for Design can mitigate the difficulties faced by educators when teaching the skills and competencies required for students to design fashion in a challenging world.

Ecoliteracy: Shaping the Design Process from a Systems-Based Perspective.

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KEYWORDS: Ecoliteracy, Design-process, Systems-based.

Multiple literacies have emerged in the 21st Century broadening the meaning of literacy. These literacies describe the professional skills required to meet the challenges of contemporary and future society. This paper focuses on Ecoliteracy as a skill to understand the organizational principles of ecological communities in order to be able to apply these principles to the improvement of human communities. Design as a discipline plays a fundamental role in the development of such communities, and so, this paper presents a systems-based design process developed from Ecoliteracy perspective, reflecting upon how ecoliteracy could nurture the design process and aid in developing educational strategies to train eco-aware professionals.

Exploring Question Asking Practices in a Design Pre-jury.

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KEYWORDS: Question Asking, Design Education, Design Review, Design Pre-Jury

This study investigates question asking practices in a design pre-jury, mainly focusing on its facilitative function in students' development. It aims at providing an initial understanding of question asking practices in design juries and students' understanding and interpretation of the questions posed by jurors. To this end, an empirical study was conducted in a project-based design course of first year Industrial Product Design students that consists of two stages: observation and recording of design pre-jury reviews, and interviews conducted with students. Building on observations in the pre-jury, frequencies of particular question categories and interviews conducted with students, initial inferences about the factors lead to particular types of question asking patterns were provided. By interpreting each student's case separately, the tailored nature of the reviews was explored; unique patterns of questioning were revealed, and an initial understanding of students' perspective on question asking practice in design pre-jury reviews was obtained.

Session B
Design Studio

Immersive Behaviour Setting in Architectural Education.

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KEYWORDS: Studio culture, Behaviour setting, Immersive virtual environments, Place.

Immersive Virtual Environments are acknowledged to support fundamental values of the Architectural Studio course. However, little is known about the way these environments are experienced by their users. This shortcoming creates difficulties in evaluating their educational sufficiency for different learners' needs. Immersive virtual environments are often expensive and require adequate staff and may create curricular changes, which emphasize the need to discerningly integrate the setting into future syllabi. This paper uses the theory of "Place" to identify the emerging relationship within immersive environments. We conducted observations and interviews upon a Studio course that used a traditional studio classroom and an immersive setting. The results provide significant insights on how the different educational settings are experienced and used. Students spend a significant amount of time in the studio. As such, Studio pedagogy ought to address learners' needs, actions and experiences, in order to promote learning processes.

On the Notion of Power in Education and Its Presence in Design Studio.

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KEYWORDS: Design Pedagogy, Design Studio, Power, Knowledge, Social Relations.

This paper aims to explore the notion of power in educational discourse and apply its theories to literature of design pedagogy, particularly on design studio. In the first section, it is introduced how design studio in this paper is taken as a living environment where theories of social sciences are applicable. Then the traditional and critical theories of pedagogy are explored and possible contributions of transitional pedagogy is discussed. In the following section, practices in the design studio are attempted to be examined with the gaining from the reading of educational theories. Corresponding weaknesses are tried to be pointed out. Lastly, it is discussed how power should be treated in order to generate a more inclusive design pedagogy.

In the Midst of Things: A Spatial Account of Teaching in the Design Studio.

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KEYWORDS: Studio; Design Education; Space;
Sociomaterial; Design Pedagogy;

The role of the material space of the studio is underarticulated in design pedagogy, despite the studio being distinctive and central to design education. This underarticulation represents challenges when defending space and its occupation, designing new studio spaces and for those interested in ways in which the material space of the studio can enhance learning experiences. In this paper, I argue that spatial accounts of learning and teaching can begin to address this underarticulated and under-researched area of design education. Specifically, this paper develops spatial accounts by focusing on design tutors' experiences and practices of teaching in the studio. Using ethnographic mapping and interviews with design tutors to show embodied and spatial accounts of teaching in the design studio offer new lenses with which to understand design education teaching practices.

Integrating Immersive Visualization Laboratory into a Design Studio.

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KEYWORDS: Design Education, Design Tools, Virtual Learning Environment, Visualization, Architectural Studio

The Immersive Virtual Environment (IVE) Visualization Laboratory (VisLab), at the Faculty of Architecture and Town Planning at the Technion-Israel, facilitates immersion in a virtual, digital, three-dimensional space – a new working environment and tool. The Visualization Laboratory was presented in a design studio to a group of third- and fourth-year Architecture students. This was the first time that they had been exposed to the new environment and tool of the Visualization Laboratory. The main purpose of the research was to assess and describe the comprehension and evaluation of the students regarding their design process with the integration of the Visualization Laboratory into the design studio course, and in comparison to the other design tools they use. The research presents the reader with the interpretation, the experience and the meaning that evolved in the observed setting, as described by the students and using a qualitative research approach.

Session C

Visual Design Representations

Mental Imagery as a Tool in Visualization: A Participant Observation Study.

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KEYWORDS: Visual Imagery, Visualization, Design Communication, Tacit Knowledge

Designers are required to produce 2-dimensional representations of objects in both design and production phases. To create right 2-dimensional representations, designers mostly relies on their ability to create visual mental images of these objects. Constructing a right visual mental image is important for visualization process, as designers can work on these images and reason visual transformations. The ability of generating accurate mental images is not strong in design students as they lack of necessary knowledge and experience. In visualization courses, students are exposed to the employment of this ability by their instructors. This paper discusses the tacit characteristics of the utilization process of visual mental imagery in a visualization course. The tactics that experienced designers and educators use for demonstrating students the ways of constructing detailed and accurate visual mental images are also explored through the study.

Pinpointing Fragility Through the Act of Drawing as a Moment of Embodiment.

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ku Leuven University, Belgium

KEYWORDS: Fragility, Drawing, Moment of embodiment, Empathy.

Fragility is evident yet uncharted in architectural design. To fathom the term and develop ways of understanding it, we explore the potential of drawing. Through making drawings, and reflecting on their outcome, we probe a more effective implementation of fragility in architectural design processes. Lagrange (2016) previously argued that fragility is a subjective phenomenon that resides in both the material and mental space.

To fathom fragility, we address the following threefold: material space (the drawing as an object), the moment of embodiment (the body: the drawing hand) and mental space (the mind). This paper elaborates on how the central moment of embodiment, installed as a mediator between material and mental space, might facilitate ways of understanding fragility by demonstrating how empathy can be activated through specific ways of drawing. We do so by explaining two research cases: a Belgian dune landscape and the investigation of the first author's drawing archive.

Integrating Visual and Narrative Reflective Components in Architecture Pedagogy.

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Israel Institute of Technology

KEYWORDS: Reflection, Architecture, Architecture pedagogy, Schön, Kolb.

Reflection, an old concept, is relevant to nowadays higher education undergraduates and graduates, architecture and design students among them. While reflection is considered as a powerful learning tool that enables students to use personal resources, the definitions and concepts associated with it are diverse and sometimes even contradictory. This paper briefly reviews the roots of reflection and the leading theories connecting reflection to learning, pedagogy and architecture. The paper also presents insights regarding the verbal and non-verbal expressions of the reflective design process, based on a case study of an architecture course. In conclusion we suggest a new reading of the different dimensions in Schön and Kolb reflection theories, through the lens of our research findings.

Session D
Research in Design

Mapping the Territories around Design Research: A Four-Layer Analysis.

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KEYWORDS: Design Research, Design Practice, Design Theory, Design Research Methodologies.

Despite great progress in the last five decades, Design Research still reveals fragilities in comparison with other academic fields. To avoid stagnation and lack of impact, it needs to strengthen its theoretical and methodological foundations. Following previous work aiming to contribute to Design Research consolidation, we propose in this paper a Map where four categories of Design Research are positioned in relation to territories of Design Research, Education and Practice. The Map also supports the examination of those four Design Research categories based on a four-layer analysis resulting from the conference title keywords: Processes, Philosophy, People and Products. The Map intends to help design researchers, especially inexperienced ones, like PhD students, to visualise where their own research is located within the Design universe and, by that, understand the ontological, epistemological and methodological implications.

A Framework to Analyse PhD Theses in Design.

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KEYWORDS: : PhD in Design, Analytical Framework, Research Methods, Design Research Methodology.

This paper presents the analytical framework used to conduct a survey of PhD theses in Design completed between 2010 and 2019 (106) at the Lisbon School of Architecture. The framework is described in how it relates to the broader research project started in the REDES research group. Each PhD thesis is detailed according to four main levels of analysis: research identification, territory, processes, and results. The framework produces detailed results concerning the research reported in each thesis manuscript and the aggregate of the individual analysis allows the production of meta-data about the research conducted in the PhD course.

Tools, Methods or Theories in Design Research?

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KEYWORDS: Tools, Methods, Theory, Philosophy of Design

The use of terms in design research is not clear. A significant number of papers discuss how to design with reference to “tools for” without making clear what constitutes a tool (or method). This paper reviews work on the concept of tools, it examines the use of terms in selected papers and reviews three possible ways to define and categorise tools. It recommends the term “tool” be used as little as possible and only with reference to tangible objects. This can help distinguish between methods as ways to carry out an action and tools as the physical means to do so.

A Roadmap for a Hot Air Balloon Journey? A Grounded Design Research Approach.

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& João Ferreira**

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KEYWORDS: Research Methodology, Grounded
Design Research, Research Through Design

Looking over the Design theses from the Lisbon School of Architecture's Ph.D. in Design course we noticed that the research design diagrams were similar regardless of the investigations were theoretical or practiced-based. The common template prescribes a sequence of steps that places the research process along a predetermined path in which the design project takes a secondary role. This observation raises questions concerning the research through design paradigm. Using a roadmap is a contradiction to the kinds of research that unfold through the practice of design, which are open-ended and exploratory in nature. The implications of having a template for all kinds of design research needs examination. In this paper, we build on this analysis and explore an alternative we termed Grounded Research Design.

On the Brink of Dissipation: The Reactivation of Narrative Heritage and Material Craftsmanship Through Design Research.

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Chatterjee, Eliana Penedos-Santiago**

University of Porto, Portugal

KEYWORDS: Silver Generation, Design for recovery,
Brand Archaeology, Immaterial Legacy..

This paper introduces two ongoing research projects based at ID+, Research Institute for Design, Media and Culture / Unexpected Media Lab (LUME), namely, Anti-Amnesia; and Wisdom Transfer.

The common ground for the argument sustaining both projects pertains to the preservation of specialised knowledge on the brink of disappearance:

Anti-Amnesia focuses on the recovery and documentation of human, social, and material narratives surrounding four dissipating traditional industrial contexts in Portugal;

Wisdom Transfer aims to establish the groundwork for acknowledging, communicating, and activating the contributions to knowledge, culture, and the social fabric made by retired Portuguese art and design academics.

Both approaches are ostensibly human-centric, relying primarily on ethnographic practices to gather the essence of the respective realms — foremost from the point of view of the original masters and makers — to arrive at a position from where it is possible to truly understand the involved historical and cultural legacies.

REDES – A Research Group on Research & Education in Design – a Vision.

Rita Almendra & João Ferreira

University of Lisbon, Portugal

KEYWORDS: Research Group In Design, Design
Research Aims, Understanding Design Education
and Research.

This paper presents REDES, a research group on Research & Education in Design that integrates CIAUD – the research centre of Architecture, Urbanism and Design – from the Lisbon School of Architecture – University of Lisbon. The vision, the process and planning of activities of this research group are here explained as well as its relationship with the ongoing discussion on design research and education. By detailing the genesis and ethos of REDES we aim to discuss how design research and education can look inward, reflect, and ultimately uncover paths to advance.

Session E
Design Thinking

Design at Stanford: the D.school's Daddy.

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KEYWORDS: Stanford University, D.School, Design Thinking, Design Education, David Kelley

"Design thinking" has emerged as one of the discipline's key movements, and is typically associated with having roots at the d.school at Stanford University. Its founder, and also the creative force behind global design company IDEO, is alumnus David Kelley, who has achieved legendary status. Prior to formation of the Hasso Plattner Institute of Design (the d.school's formal name), however, since the 1950s design education at Stanford consisted of many lesser known, but still influential, faculty members and an innovative curriculum combining engineering and art. This paper exposes the "founding fathers" of design education at Stanford (many of whom were David Kelley's professors), and reveals two curricular proposals that preceded the D.school.

In Quest of a Successful Design Studio Course: A Course Evaluation Template.

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KEYWORDS: Design Pedagogy, Design Studio,
Course Evaluation, Reflective Writing.

It is hard to uncover design studio courses because it includes complex, intricate and rich learning experiences. Therefore, it needs a special attention in terms of both instructional strategies and academic studies. This paper addresses developing a qualitative way of evaluating a design studio course. This is an attempt to shed a light into this complex issue together with the students. To achieve this, senior industrial design students participated a two-part session to generate a design studio course evaluation template. Based on the reviews and suggestions from the students, the evaluation template was developed including these three main dimensions, which are *communication*, *content* and *process*, and overall.

Industrial Designers Problem-Solving and Designing: An EEG Study

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KEYWORDS: Design, Problem-Solving, Industrial Designers, Design Neurocognition.

This paper presents results from an experiment to determine brain activation differences between problem-solving and designing of industrial designers. The study adopted and extended the tasks described in a fMRI study of design cognition and measured brain activation using electroencephalography (EEG). By taking advantage of EEG's temporal resolution we focus on time-related neural responses during problem-solving compared to design tasks. The experiment consists of multiple tasks: problem-solving, basic design and open design using a tangible interface. The tasks are preceded by a familiarizing pre-task and then extended to a fourth open design task using free-hand sketching. The results indicate design cognition differences in the brain measurements of task-related power and temporal analysis of transformed power between the problem-solving task and the design tasks. Statistical analyses indicate increased brain activation when designing compared to problem-solving. Results of time-related neural responses connected to Brodmann' areas cognitive functions, contribute to a better understanding of industrial designers' cognition.

Session F
Beyond the Classroom

Integration of Novice Designers into Interdisciplinary Teams.

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KEYWORDS: Design Education, Novice Designers, Collaborative Design, Designerly Activity Theory

It is accepted that "essential aspects of Design are better understood in its own terms". With this in mind, we attempt to understand the challenges of novice designers when they enter interdisciplinary collaborative design projects and try to tackle complex and ill-defined problems. We present a way of inquiry to collect data from novice designers themselves and their collaborators. By using the Designerly Activity Theory model, we examine how novices mobilize and apply their theoretical and practical design knowledge in the real practices of collaborative design. In this perspective, it becomes possible to assess the alignment of design education in relation to the aptitude of working with others and towards professional dynamics of collaboration. Identifying the gap will allow us to create training strategies and tools that would improve novice designers' integration into teams.

Design Education for the 21st Century: The Multiple Faces of Disciplinarity.

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University of Lisbon, Portugal

KEYWORDS: Design Education; Working Environment; Collaboration; Disciplinarity.

Preparing designers for the 21st century working environments involves providing them with skills to quickly adapt to a world of continuous change, to face a time where flexibility is a must and where uncertainty is the most assured reality.

Societies and economies are now knowledge-based, due to globalization and technology; knowledge is then the key to succeed; in a knowledge-based world, professionals with different disciplinary backgrounds need to join efforts in teams where they interact and share their expertise to achieve common goals; collaboration, communication and critical thinking are some of the crucial skills they should possess and their education pathway should include opportunities to acquire those skills. The education process should then include experiences that mimic those environments, that some classify as multidisciplinary, while others prefer interdisciplinary, or even transdisciplinary. This paper contributes to clarify these terms and to assert which the correct level of disciplinarity might be

Parergon in K Magazine.

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KEYWORDS: Parergon, Graphic Design, Theory, Processes

Under the fields of design theory and practice, we propose a critical comment on K magazine (1990-1993), under Derrida definition of parergon to understand the publication design solutions. The survey is the result of two crossing methodologies: the empirical analysis of the magazine issues and the critical review of its theoretical frame, were the device parergon is rescued to grasp the magazine's graphic design strategies, providing us a close reading of K visual layout through postmodern graphic design scope. The essay will identify and analyse 4 case studies of parergon in the magazine layout to demonstrate the significant role of graphic design in the text interpretation, as a postmodern graphic design feature. The pertinence of the study concerns the ability of design to become a subjectivation device in communication process.

Session G
Design & Society

Design & Entrepreneurship *– A Reflection on the* *Approximation of areas.*

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Natália Plentz & Rita Almendra**

University of Lisbon, Portugal

KEYWORDS: Entrepreneurship, Design Education,
Creative Economy, Design Competences.

This paper discusses the relationship between design and entrepreneurship in the theses of PhD Program in Design of Lisbon University (ULisboa). We analyzed 72 theses that were defended between the years 2010 and 2017 and the results have indicated that there is a little relation between the areas. So, we discuss the harmful effects that this context can produce in the design competences and Portuguese economy. Moreover, we discuss how design can benefit from entrepreneurial skills and present some scenarios that propose ways to approach each other in the design teaching.

Teaching of Design for Social Innovation in Portugal: Perspectives for its Improvement.

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University of Lisbon, Portugal

KEYWORDS: Social innovation, Design Education, Competencies.

The paper discusses the teaching of design geared towards social innovation processes, identifying competencies required to work with this type of project. To arrive in these competencies, specialists were interviewed, crossing their answers with literature. To evaluate whether these competencies are being adequately taught, students from a social innovation based course in a Portuguese graphic and product design undergraduate program were interviewed. The paper concludes the students find difficulties in working with projects of this nature, mainly for due to the fact that they spend most of the program working with a design process focused on results. We propose the competencies identified here should be worked on from the beginning of the program, stimulating earlier on practices like the interaction with communities and the problem identification process.

Design Education for Theatre Regarding Craft-design Alliance.

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KEYWORDS: Design education, Craft-Design Alliance,
Design and theatre, Designerly ways of knowing,
Innovation

This paper discusses the collaboration between design education and theatre. Currently, due to financial and social issues, some theatre companies are forced to eliminate different topics from the creative process, such as the culture of drawing, sketching and craft-work. On one side, this situation contributes to the stagnation of answers for theatre shows, devoid of a process, unconnected with the culture of project. On the other hand, manufacturing world loses an occasion to reinvent itself, building new business areas for a sector, also, with problems. Methodologically, the authors present three case studies that crosses those fields. With this paper the authors demonstrate that a craft-design collaboration contributes to the improvement of theatre audiences, design education and local entrepreneurs. The paper highlights the importance of connecting design and enterprise as a common learning system. Thus, design-business networks can reinvent local contexts and create opportunities for entities, design education and human beings.

Gender and Territories of Design Research: A Reflection about the Relationship between the researcher Profile and the Chosen Territory.

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& Natália Plentz**

University of Lisbon, Portugal

KEYWORDS: Design Research; Design Process, Gender; Research territories.

This paper aims to map and discuss the relationship between researcher genders and their chosen research territories, using the PhD program in Design at the Lisbon School of Architecture as a case study. Based on the PhD thesis database and using the REDES' methodology for analysis, we identified some search tendencies on specific areas and some preferences for specific research processes, respectively by women or men. Thus, we reflected about how gender can influence the choice of research territories of a PhD student in Design.

Session H

Community-based Research

Care for Veterans and their Healthcare Providers.

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KEYWORDS: Healthcare, Design, Biomedical, Community-based Research.

In design research needs identification should be investigated based on different communities. For this matter, proper and sufficient engagement of these communities is an undeniable core for design researchers. Healthcare in design education hasn't been fully explored because of its sensitive nature. This paper is a study in progress that creates a unique opportunity for Industrial Design and Biomedical students through an immersive course to experience the professional environment in healthcare. Considering the important role of the communities in user's need identification we chose veterans as target group because of their special conditions. This exceptional target group and their healthcare providers will bring another layer of emphasis on definition of needs in relation to the communities involved. This program will give any design educator an extraordinary experience in Community-Based Research and Design in Healthcare. This proposal has been granted by the National Institutes of Health starting from Spring 2020.

Designing Integrated Solutions for Resource-limited Societies.

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KEYWORDS: Resource-Limited Societies, Integrated Design, Stakeholders, Design Inputs, Base of the Pyramid (Bop)

Poverty is characterized by many different constraints at individual, institutional, economic, and technological levels. To satisfy unmet or underserved needs of people living in poverty, it is essential to address all the relevant constraints in the target context through the design of integrated solutions. Although previous studies in this field have indicated that designing such solutions requires involvement of many stakeholders, there is a lack of related research in this field. To address this, using a case study methodology, we analysed two design projects that have successfully responded to all the pertinent constraints in the resource-limited societies, supporting social and human development of the marginalised people. Based on the findings of these design case studies, we developed a framework of stakeholder inputs, representing a diverse range of stakeholders, embedded within or outside the context of poverty and contributing towards the design of integrated solutions.

Fostering Empathy Through Design Thinking Among Children in Rural Trinidad.

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KEYWORDS: Design Thinking, Empathy, Rural Education, Critical Utopian Action Research.

Children from a fourth-grade class at a primary school in Trinidad and Tobago participated in a three-week summer camp with a design thinking- based curriculum. The study aimed to examine how children developed and practiced empathy during the design class. Qualitative data were collected from the children and the instructors, providing thick descriptions of the children's experiences during the camp. As anticipated, the findings showed that the children practiced empathy at several stages during the design process, where they had to learn to take the perspective of the target user of their designs. However, the less anticipated result was that the findings also demonstrated that the children had more opportunities to practice empathy during groupwork and critiques, where they empathized with the angst of their colleagues. These findings demonstrate how design education can be used to enhance the social development of children by providing varied opportunities for them to empathize with others.

Empowering Design Innovation In Albania: Methodologies and Approaches in “Design” Curriculum.

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KEYWORDS: Innovation, Product Development, PO LIS, Research and Education.

The paper has as objective to define what is Innovation in design in the context like Albania. Throughout this paper, the authors examine the educational tools of how universities and academia, in this case, PO LIS in Albania foster innovation through research and “design” curriculum. The concept of innovation in this context of crisis is examined as a matter of research methodology, education vs. industry product development, and customization of social needs. This challenging process of the continuous collaboration between universities and business lead to new definitions of innovation, using research methodologies such as “Design Thinking”, “User-Centered Design”, creating a bottom-up process toward product design.

CONFERENCE CHAIR

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