

## **Be provoking. Schooling critical and speculative designers.**

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**Abstract.** Designing the provocation is a powerful strategy to jump from denouncing to generating actions and behaviors of a critical and speculative nature in design students. This article presents the discursive character of critical design function through three guidelines for provocation design: intellectual risk, generative challenge, and embodied futures, based on the philosophical concept of experience as an act of knowledge. Those are discussed on three classroom experiences in clothing design, architecture, and industrial design in Medellín, Colombia, showing possibilities and challenges for critical and speculative design schooling as well as bringing teachers and students closer to new ways of interacting with social problems in the context of Latin America.

**Keywords:** Provocation, Experience, Critical and Speculative Design, Design Education.

### **1 Design as Provocation**

The nature of design has always carried out a mobilizing and transformative provocation. Talking about design as promoter of change is not a novelty. As a creation act or project, such power is welcomed as core condition. The technification of tools, scientific instrumentalization, industrial automation, sociotechnical and economic qualification are just some examples of transforming projects throughout history.

However, a view of change based only on technical and technological improvement for the interaction of humans with their environment is unable to describe design's potential for change.

Its involvement in configuring human actions and experiences characterizes design as constructor of social and cultural language [[1, 2], or as constructor of discursive rhetoric on the artificial world [3]. Horta [4] clarifies that the act of design in one sense connotes new actions and experiences, and in another, it denotes the transcendence of the meaning of the subject; in this way, it can be pointed out that the most notable provocation of design is to arouse new ways of interacting with the world. Gui Bonsiepe highlights from the *Ontological Scheme of Design*[5], that imagining, or creating images of these possible worlds, is to project interfaces that make possible a particular personification (performance), or corporal action (embodiment), designed to enable the development of an activity. Scheme that is underlined here to clarify the act of design as not merely a cosmetic representation, nor just a technical evolution; its purpose lies in producing new corporality through the design of interfaces.

Likewise, John Heskett [6]: “Design consists of designing a design to produce design”, a definition in which, in addition to presenting different forms and meanings of the word design, he points out that substantive to design is to cause a change in what it designs. What design does is thus to provoke other possible interactions and corporalities, by thinking about human interactions of a body in context.

Under Heskett’s logic we ask ourselves: what then causes critical design? His answer could be formulated as follows: Critical design consists of criticizing a critical aspect to produce critique. An elucidation that, like Heskett's, stems both redundancy and accuracy, and will appear as reference for the approach presented below, focused on how this provocative nature, linked to critical and speculative design, prompts a compelling representation of social phenomena and the provocation of critical and speculative actions in both the designer and the project user.

Thus, this text starts from the question: what is the function of critical design? to present provocation as a critical design strategy through three guidelines and the same number of classroom experiences to highlight the relevance of didactics used by the teachers to help students manifest their critical voice, and the conflicting challenges of a critical creator to materialize these guidelines.

## **2 What is the role of Critical design?**

Two approaches are presented to link critical design and function. On one hand, understanding function in artifacts of critical design. On the other, epistemological, methodological and conceptual implications brought to the discipline by addressing function within a critical design framework.

Understanding constant change and adaptation of disciplinary concepts is crucial, in addition to the function of critical design in response to society’s transformations and its consequential emerging needs and problems. Mechanization and mass production are no longer the focus. Contemporary approaches need addressing times of austerity, environmental crisis [7]and the dematerialization of reality due to the fuzzy limits between physical and digital realms.

These social changes reveal it is no longer possible to understand efficiency associated to operability as the hegemonic discourse of function in design, placing the discipline solely at the industry and market's service. Function in artifacts of critical design is often compared to the modernist conception; however, Matt Malpass [7] warns that even such recurrence is insufficient since: "Criticism of modernist functionalism can be traced back to an overemphasis on the physical and essentialist characteristics. However, what function in considers, even in the modernist sense of the term, is questionable".

The modernist bias in understanding function generates an excluding, one-dimensional view of artifacts. These can only be functional or non-functional [8]. when considered from the hegemonic understanding of operability. A review of the concept of function within the framework of critical design evidences the lack of connection of the artifact's operational efficiency with its physical characteristics or *usability*; its efficiency lies in the ability to bother, to communicate and transmit messages that induce reactions in others. A discursive efficiency consequently, demystified the hegemony of the inherent relationship between efficiency, operability and function.

Conceptions of function in design are expanded to embrace discursive, communicative and transitional capacities and possibilities of objects, focused on 21st century society's issues. The discursive efficiency of critical design seeks to generate a dialogue with others: discuss, discourse, provoke, debate, critique and highlight circumstances of a social nature. As stated by Tharp & Tharp [9]: "Confronting the status quo is necessary but not sufficient if seeking the broadest ultimate impact".

Thereupon, critical design induces a reevaluation of diverse social issues by raising questions, critiques and provocations with respect to social and cultural reality [10, 11]. From the epistemological perspective, critical design redefines the concept of function, understanding it as dynamic, immaterial and social[7]; thus, making clear that it embraces reevaluating concepts and expanding design's disciplinary limits by questioning its own certainties.

### **3 Provoke me, don't explain me!**

Critical design has been shifting from critical representation to critical performance. This semantic turn, in terms of discursive functionality and reinforced by undergone revisions of critical design proceed [7, 12, 13], requests an experience of participation that allows the construction or reconstruction of reflections, conversations, or debates on critical questions, that is, to have an experience as an act of knowledge, as an act of making sense; that's the provocation that needs to be designed.

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<sup>1</sup> The concept of usability is understood as the operational and efficient performance of an object focused on a specific activity that occurs in a given context and is linked to a single user [38]. Usability does not consider possible uses or users, as it is focused on the operational performance of the artifact.

In the thesis: ‘*Provoke me, don’t explain me. Critical-creative participations to engage public with scientific culture in the science museum*’[14], Pérez-Orrego studies the philosophical concept of experience to define the conditions that define it in its participatory and creative nature for proposing a science museum that transcends reporting phenomena to one that proposes participation with scientific content. But the task is not limited to either the museum or scientific issues, since the understanding of the experience to be designed as a critical and creative provocation, as *poiesis*, the bet is to produce various participations and interactions that diversify the discursive hegemony of any subject.

In that way, the thesis details critical and creative participation as ‘Autonomous intervention in which one or more individuals, under the premise of developing a compositional activity to discuss socially controversial issues, construct "something" to produce their own vision. The materialization of such an intervention is, therefore, variable and diverse, and is characterized by its creative process and the discussion and resolution of critical issues performing rather than the production of tangible construction of exact and undeniable answers.’ It should be noted that both, the conceptual conditions of the provocation experience, are relevant input to pursue the performative turn, and also for training designers in the formulation of critical and speculative experiences, as will be detailed in section 4.

### **3.1 Conceptual conditions of the experience**

As Pérez-Orrego has reviewed[14], the experience concept is structured by four conditions as an act of knowledge, namely: 1) engaging from the event, 2) yearning for future actions, 3) claiming the body, and 4) confronting complacency.

#### **3.1.1 Engaging from the event**

Acknowledging experience as an act that involves rupture and alters regularity, Gilles Deleuze, in *The logic of sense*[15] correctly portrayed the event as not what happens in itself, but the creation of meaning to which it leads. Deleuze’s approach sticks to the singularity of the event itself through *counter-effectuation*<sup>2</sup>, or action upon the event. The individual operates against considering the event as merely an accident or minor eventuality. Apprehending what is intended to understand, represent and love about the event is not likely to occur without such resistance. It is clear that an event cannot be encircled or controlled. What stands out is the need to unfold the creation of meaning through the experience design.

#### **3.1.2 Yearning for future actions**

Under the reflection of John Dewey [16], it is relevant that it be conceived under the principles of *continuity and interaction*, so that the experience is not a regulated,

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<sup>2</sup> Term coined by Gilles Deleuze in opposition to the term effectuation that embodies the present state of things that intervene: space, time, individuals, among others.

precise and disintegrated activity towards future experiences. *Continuity* is referred to as a growth principle that constantly redirects experience to another and so on. *Interaction*, for its part, is the moment when both internal conditions of the individual and external conditions of context in which the experience occurs, meet and interact; characterized by fluidity, transformation prompted by mutual influences and reciprocal relationships that are built and redirected towards other constructions.

The two principles are force in motion, centrifugal force that separates the individual from the experience of the event itself, to launch it towards other events: experience yearns for future actions.

The paradox is that the existence of the experience is given from the event itself; However, without fading into it, the experience gains importance when it leads towards the flight and thus distances the subject from the event that transformed it, in this sense, the experience cannot be possessed as a tangible thing [17].

### 3.1.3 Claiming the body

Refers to acquisition of knowledge drawn from by the corporal performance individuals have with the environment, where, in first instance, body and mind are not disparate in their functioning[18]; and secondly, the context with which it interacts is also a projection of that same body inasmuch as it has been created by man himself [19]. The claim of the body in experience is the vindication of being and developing there. Heidegger [20]called it *Dasein*, a corporeality placed in the world to access and build it in turn; to deny the body with its rationality and sensoriality is to deny *the being-there* that can build possibilities and experiences of the world.

### 3.1.4 Confronting complacency

Reveals that experience cannot be possessed. Its tendency is to be a potential event; the freedom that experience itself entails can be seen in the subject's transformation while in interaction, in flight towards other experiences. This free nature supposes that, if experience is seized, possibilities of becoming a transforming event are lost, making it an accidental situation in daily life. Taking away the possibility of change and transformation, of spontaneity and creativity potentiated by the tension of an encounter between subject and object, implies a sort of surrender to the event that, most of the time, would remain only as a sensory stimulus.

Given this, the experience cannot be calm or complacent. In it, self-sufficiency and, at the same time, the comfort of receiver-receptacle must be lost, since the instability or drift that the encounter with the new in experience entails, it is not possible to enunciate it as a calming encounter; on the contrary, that encounter or interaction with the other must be provocative for the sake of displacing the subject from its initial state. Hence, it is affirmed that the experience does not seek complacency, rather, it bothers and unsettles the subject, it is not reduced to

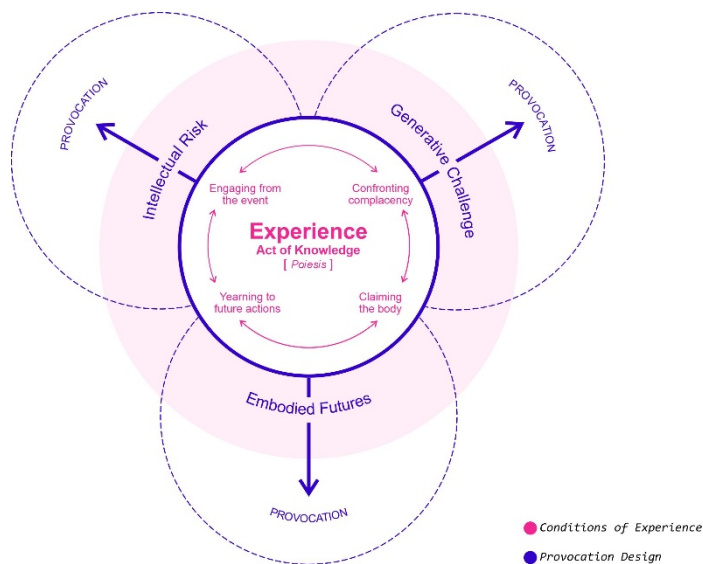
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<sup>3</sup> The contribution of Heidegger to the philosophical object *Sein* (to be) of Hegel, is to locate it, to give it place, as regards this as *Dasein* (to be-there); argument amply exposed in the texts *Being and Time* [20], and *Constructing, Living Thinking* [39].

instants of sensory stimulation or excitement; it is provocation. Without the challenge or the obstacle mentioned by Martin Jay [17], the situations would not be arranged for interaction and escape to occur.

## 4 Three guidelines for provocation design

*Intellectual Risk*, 2) *Generative Challenge*, and 3) *Embodied Futures* were defined as guidelines for provocation design (Fig. 1). Previously mentioned conditions of experience are welcomed, looking forward to turn users or spectators of critical representation to become participants willing to embody critique, construction of meaning and problem resolution, while prompting emotional, cultural and political ties amidst social controversies.



**Fig. 1.** Three guidelines for provocation design

### 4.1 Intellectual Risk

To create an interest in participation, both physically and intellectually challenging activities are relevant [21, 22]; intellectual risk is an important component that requires participatory confrontation, both in its statement and artifacts, to enhance yearning for future actions and the conceptual agency. Participants are thereby enabled to interpret meanings, ask questions or choose and adapt a method [23, quoting a Pickering, 1995]. Intellectual risk also requires delimiting the results that are minimally expected so that the participant recognizes actions that will lead to

success and make him resist failures that arise; such resistance is important, since failure is the learning tool of this design guideline in which error is seen as a creative opportunity and not as a catastrophe, to encourage the participant to explore new solutions and meanings [24]. The error enhances the flight of imagination, reflection, discussion; For this reason, intellectual risk must threaten the comfort of the participant and confront their modes of regular participation [25] in order to stimulate critical discernment.

This guideline proposes creating artifacts or open-ended spaces with multiple participation structures [26], which endorse age differences and previous knowledge to operate within an intellectual space that allows formulating their own strategies, questions and hypotheses; actions to interact with space or artifacts, stimulated from the diversity of media.

## 4.2 Generative Challenge

A state of generative intervention in which opportunity is provided to explore a problem: invent, recompose, co-create and experiment with new ideas about the effects of the problem, rather than to seek its solution. This is what Wilkinson & Petrich call Tinkerer's disposition [23], where stimuli and mediation encourage people to have a conversation with the materials [27], to think through doing [28], to propose new goals and ideas and cultivate an innovation spirit. For this disposition, Resnick & Rosenbaum [29] suggest presenting an open exploration in which approaches are enunciated that can lead to a diversity of projects without being circumscribed from the beginning, as well as a fluid experimentation to bolster improving the interaction between the subject and other participants. To reduce or shorten the initial configuration codes, the discursive type is defined in advance: critical or speculative.

## 4.3 Embodied Futures

It is the process of personal interpretation that the participant performs and obtains from experience with content, activities, space and people. As a basic procedure of construction of *knowledge*, when promoted as an *expectation of participation*, requires *connecting new knowledge* with the previous ones by, for example, contextualizing themes with a known situation; in other words, creating a syntonetic experience to reflect on a metacognitive level — thinking from what one does and doing what one thinks [24]. Csikszentmihalyi & Hermanson [21] argue that intrinsic motivation for learning is given both by curiosity or situational interest and by reward for individual interest. In this sense, the experience provokes curiosity from the encounter with tasks or contexts with a level of uncertainty, challenge or novelty, as a hook for participation; but, in turn, these must be intrinsically rewarding at the individual level so that the participant is motivated to produce positive emotional and intellectual changes. One form of reward is to allow and stimulate *creation of narratives* with which the participant schematizes the construction of their meaning [30], while serving as input for the artifactual or spatial characterization.

This guideline promotes the *development of new attitudes and behaviors* to follow and perpetuate after the experience. As an effect of participation, this dimension is directly linked to the theme of the experience, which, when *dealing with issues of social controversy*, either critically or speculatively, seeks for the participant to go from being a passive spectator to being an informed actor that determines his/her own future. Xanthoudaki [24] therefore emphasizes, when quoting Price [31], that it is necessary to embrace uncertainty in order to stimulate attitudes such as: resilience, adaptability, leadership, responsible decision-making and awareness of global risks; attitudes that can be expressed in experience as the *intrinsic desire to learn more* [32]. Finally, another stimulus for the transformation of attitudes is *social visibility* [28] that occurs within the experience, while the open participation characteristics of the artifact or space allow peer learning, discussion and critique during the process. that empowers a community of practice; as well as abroad, by publicly presenting the materialization of the exploration as a final reflection of the experience.

## **5 Provocation design in critical and speculative experiences: Discussion from Classroom Projects**

Next, three critical and speculative design class experiences in clothing design, architecture and industrial design are presented, based on two descriptions: which provocations were used by teachers to trigger students designs, and which provocations were designed by students. Likewise, details on how these experiences were approached or established relationships with the guidelines for design of the provocation proposed by Pérez-Orrego [14], pointing out that in the experience of clothing design and architecture, guidelines were not an explicit didactic while, on the contrary, they were clearly explicit for the experience in industrial design.

The intrinsic and extrinsic aspects around this particular formative process and its didactics are then discussed, aimed at stimulating critical judgement by students and prompting awareness of the main challenges faced by both teachers and students during the project process.

### **5.1 Provocations from the body-dress: Critical clothing design**

From the Faculty of Clothing Design at the Universidad Pontificia Bolivariana there have been different approaches to critical design, from a course in the curriculum directed to this purpose to a cross-curricular academic exercise at all levels of training called "Rapid design of wardrobe", in which design challenges are posed around contemporary themes of the economic, social and cultural context and their impact on the discipline and on the profession. Here we will analyze a project of this experience called *Two sides of the same coin* (Fig. 2).

From the very beginning of this academic exercise—the guiding statement—teachers promote intellectual risk and generative challenges prompted by critical experience in students. Further guidelines intend to mobilize questioning, which



include identifying areas and range of intervention, critique, context, intention, and people involved.



**Fig. 2** Two sides of the same coin (2017). Clothing Design students, Universidad Pontificia Bolivariana.

A first area is from the designer; You can approach the project wondering about their methodologies, their ways of seeing the world, their ethics. Another area is from people and the relationship they have with design products, points towards the sociocultural implications of their use. The last area from which criticism can be exercised is from artifacts, that is, questioning their materialities, their production systems, their life cycle, their environmental impact. Additionally, there are three essential elements when thinking about critical design: the context, the intention, and the people involved. The context must be consciously observed in order to reflect on the relationships we build through the artifacts we use and it is essential when asking questions. The intention is everything that you want to point out, expose, interrogate and debate about the questions and reflections that the analysis of the context throws up. Finally, the people involved are those to whom the signaling is directed, with whom it is sought to debate the questions of the context and who are, generally, the actors of the situation, problem or phenomenon addressed.

For its part, in the *Two Sides of the Same Coin* project, the provocation from students to potential users or recipients who seek to question them with their critical artifact, had as a starting point the different types of violence and discrimination, generated by stereotypes linked to people's physical appearance; violence that is exerted from prejudices and imaginations with respect to strangers with whom we share in urban spaces and in different situations of daily life. From this, the students create a clothing artifact whose use forces two strangers to physically approach and share some words to get to know each other; that is, it works as a principle of reality that allows ideas based on imaginary to be transformed, and in some cases, strangers find similar affinities or feelings that connect them. The peculiarity of this device

(Fig. 2) is that it cannot be used by a single person. In addition, those who use it are forced to face each other at a short distance and to be joined by the arms by single sleeves that induce physical contact; which creates an uncomfortable situation for two strangers, which leads them to break the barriers of prejudice through words[33].

### 5.2.1 Embody criticism through clothing. The discussion

**Overcome metaphor and materialize criticism.** Materializing criticism involves some risks in academic exercise, such as falling into metaphors, comparisons or representations of the situation, behavior or phenomenon that you want to question. This aspect requires special attention in clothing design exercises by virtue of singularities in its design process compared to others. This is generally the first response of the students, perhaps the result of conceptualization exercises that are formulated during early training semesters, in which the student is encouraged to use rhetorical figures that describe bodily experiences. Another possible reason is that different fashion clothing brands in recent years have resorted to critical washing as part of their campaigns and fashion shows, with which they empathize with potential consumers through phrases and images that allude to relevant social issues; such is the case of the phrase on a t-shirt at Dior's fall 2020 show that reads "We should be all feminist".

While the represented critique calls the viewer / user to reflection, the materialized critique promotes reaction and interaction with. However, overcoming this first stage of metaphorical or representational response is one of the toughest tasks for teachers, as it requires the student to place himself not in the description of what is debated but in its effects on the body. They require appealing to their understanding through the senses and beyond, to an aesthetic experience. Only with it can the proposed criticism be rationalized.

**The intellectual risk, a physical and conceptual combat.** The three provocation guidelines are actively applied in the *Two Sides of the Same Coin* project. Intellectual risk and embodied futures are worth highlighting due to singularities within the clothing design process, compared to other design processes. Intellectual risk occurs when passersby are urged to wear a garment with a stranger. The dress designed with its particular morphological characteristics is the equipment that leads to interaction with another and, therefore, to the confrontation of prejudices or fears that people may have in front of a stranger with whom they now share such an intimate space.

Part of the action proposed by the student designers is to ask the participant what he thinks of another person present in the context in which the action takes place. Afterwards, the two strangers are invited to dress in the garment and take a short tour with it. In this experience there is a total bodily involvement that includes an authentic physical and intellectual combat. The actions of walking, talking, smelling your scent, or just looking too closely at the stranger are inescapable and threaten your comfort.

At the end, the participants are invited to talk about what they learned about that person and confront it with their previous ideas. The success of the action mediated by this artifact is evident to the user from the very fact of his closeness to another, whom he already knows a little more and therefore has taken the first step to overcome a possible prejudice from the appearance. But success is also evident for the training clothing designer, who thanks to this critical exercise sees in the dress not only an artifact that differentiates us from the individual staging that each one makes of their body, but also unites us more beyond its function as a sign of identity and belonging.

The creators of the experience turn to originate a narrative with embodied futures. Two strangers come together and take tours where they end up getting to know each other a little better. The narrative recreates a situation where the artifact designed as an extension of the bodily experience of joining promotes the creation of meaning by the final participants. This guideline prompts developing new attitudes and behaviors to follow. In this case, the experience of momentary union with someone else and the opportunity to learn about they can transform the attitude towards the stranger. It might stimulate previously nonexistent approaches and interests.

Worth noticing here is the way conceptual conditions of the experience come into play with the body's vindication, in addition to interaction as a vehicle for the acquisition of knowledge through bodily action, wherein the interacting context is a projection of the body itself. In this case, the garment whose sleeves join another is a projection of the experience of joining hands almost in an embrace.

Dewey's principle of continuity of interaction is another of the conceptual conditions that stands out in this project. Its generating potential is not exhausted in a single action and is not limited to the artifact. The experience designed for the knowledge of another until now inaccessible goes beyond the use of a garment, moving the subject away from the event that transformed: dressing and walking. Lived, not possessed. Thus, when these types of responses take the form of a product, they do not stop there, they are means to an end.

**Discursive efficiency and function in the design of critical body-dresses.** The analysis of clothing as a critical artifact subverts not only the functions traditionally associated with design artifacts, which, as we discussed earlier, are linked to their operational function and the efficiency of their use in context. The dress as artifact is the depository of other biases from the disciplinary point of view of design, which are determined by its association with the phenomenon of regular change called fashion, and with this, the erroneous conception of the dress as the only artifact depository of the accelerated updating of signs. Far from these assumptions, the discursive efficiency of the critical dress in the case studied appeals to one of the two sources of its artifactual identity defined by Fernández-Silva [34], which refers to the dissolution of boundaries between subject and object and between body and artifact that occurs in the experience of wearing clothing as a consequence of the intimate relationship between the two, which exceeds physical limits, and of the anthropological conclusion that this artifact is part of the identity of the human when

there is no evidence of human bodies that are not dressed. Consequently, the possibility of incorporating an artifact instead of using it means embodying the critical experience, experiencing it in one's own body, a way that makes it even more meaningful and lasting.

## **5.2 Provocations from space: Dwelling of our times: Furniture, corners and devices Lab.**

*Projects 3*<sup>4</sup>, is a project foundation course in the architecture program at the Universidad Nacional de Colombia in Medellín campus, focused on the development of residential architecture projects on a domestic and neighborhood scale. During the 2020-2 period, the theme was developed: the dwelling of our times, in which students were proposed to design an “*Ecologic + collaborative + housing*” (E-Co-housing). In the context of this article, Laboratory 1 is presented: Furniture, corners and devices, aimed “To compose a manifesto of contemporary life, based on the approach of a series of furniture groups that make possible the deployment of activities in the domestic space”. In this case, no specific exercise developed in the course will be shown. The laboratory will be reviewed in its pedagogical propose, taking into account several central aspects that are part of what is methodologically proposed by the teachers themselves and that constitute part of the intellectual risk guideline.

The laboratory proposes the approach to architectural space "from the soft and mobile interior, before moving outwards to develop the formal and load-bearing structures" [35]. Then the students are proposed to shape the space from furniture through an attentive look at human activities, at the ways in which bodies are arranged in space, "since furniture reflects the ways of being of people" [36]. Given the course's interest in domestic space, observation exercises of daily domestic activities are proposed, based on drawings that describe actions in space, namely as verbs: To sleep, to play, to plant, to talk, to eat; thus promoting first approach to intellectual risk for students describing the space from actions, not from nouns, because actions exceed the names that are usually given to spaces, i.e. the dining room, which defines only one of the possibilities of action that usually occurs in this space as eating, but in the dining room you do more than just eat, you talk, discuss, give good or bad news. The name of the space or of the furniture piece immediately stereotypes the body's action.

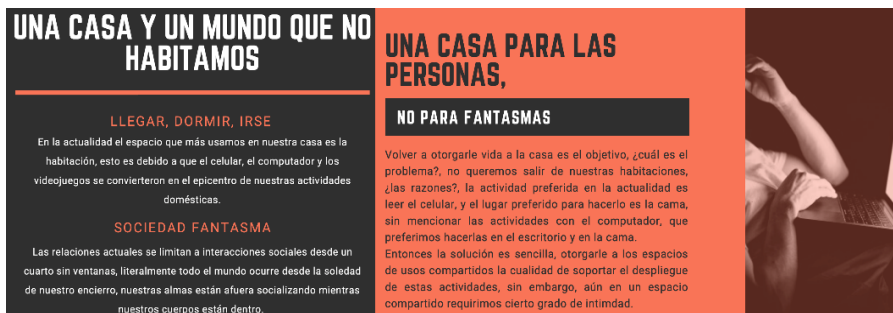
The core of intellectual risk involved the writing of a critical text that proposed a personal position regarding the problems faced in the laboratory, based on the reading of three reference texts [36] and open conversations with classmates and teachers. Next, a series of furniture explorations were proposed that implied a personal bet on how these activities should be spatialized.

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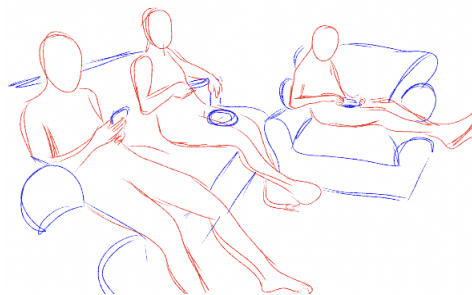
<sup>4</sup> Course guided by professors Marco Montes, Luis Escobar, David Sebá and John Arango-Flórez.

The didactics 1-2-4<sup>5</sup>, developed during all the course laboratories constitutes another critical provocation from the methodological point of view, since it proposes to students that the exercises they develop individually must always be at the service of the collective exercise of the course, first in pairs, then in groups of four and finally open to the whole group, to the point where it proposes to the students that any individual or group exercise developed in the course can be used by another student freely at the time in which he/she considers it necessary or pertinent. A new didactic is thus configured; one that exceeds the usual competition between peers and replaces it with collaboration.

For its part, the exercise of the students was strongly influenced by the confinement to which the world was subjected during the development of the course, due to the COVID-19 pandemic, so a first provocative response by the students is evidenced in the written manifestos (Fig. 3), which mention, for example, how Colombian housing, for the most part, is not prepared to develop a full-time domesticity and also describe issues magnified by the pandemic, such as evidencing that we spend less time at home than we think.



**Fig. 3** Fragment of manifesto by student Santiago Gómez

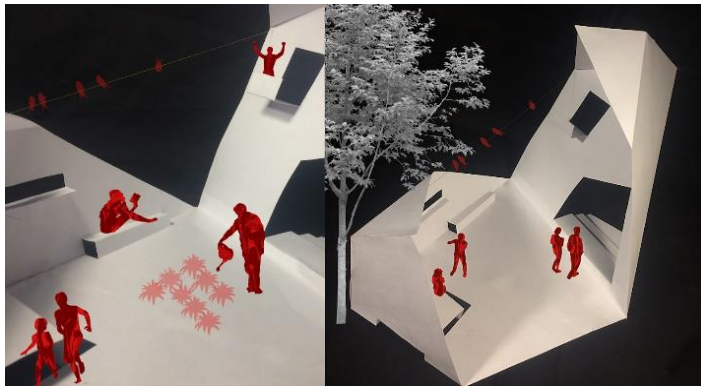


**Fig. 4** Living room for socialization. Drawing by Andrea Gómez Jiménez.

<sup>5</sup> “This technique is based on the fact that, within a core team, each student (1) first thinks about the correct answer to a question or questions posed by the teacher. Second, they stand two by two (2), exchange their answers and comment on them. Finally, thirdly, the whole team (4) must decide which is the most appropriate answer to the question or questions that have been posed to them” [40].

Another critical provocation of the students was noted in the drawings of daily activities, where some paradoxes were highlighted, such as the role of contemporary social networks, which leads to a hyper-virtualization of daily life, the extreme individualization of some spaces, and the loss of shared domestic activities (Fig. 4).

Consequently, some of the collective exercises (Fig. 5) responded with proposals for the recovery of the community, based on activities such as shared cooking, garden planting or Wi-Fi free outdoor areas that encourage conversations, along with furniture proposals to bring the domestic realm to the collective space of the street. This result contains creative activities, but is not a generative challenge for others; however, the project takes ways to embodied futures, since it proposes possible transformations of the domestic space as a result of the critical view of the current situation.



**Fig. 5** Proposals for indoor-outdoor devices. Model and collage by Sophia Osorio Bolivar.

### 5.3.1 Approaching domestic space through human activities: the discussion

This is an exercise that, from the didactic proposal, poses a high degree of intellectual risk, both for students and teachers, and that uses the generative challenge not as a project strategy, but only as an experimentation guideline when carrying out exercises that explored various related paths to the problem addressed, from an unusual point of view. For embodied futures, this more than being a guideline is a cognitive input that the students obtained from the generative challenge and that they themselves took to the final project, where these movable devices took concrete form within a larger architectural system, and that includes elements studied later in the laboratory described here, such as technique, formal structure and place. The desire to experiment led them to retake, reconstruct and compare their exercises with that of their peers in an iterative way during the semester, thus allowing to configure a perspective of collaborative work, and collective engaged the event, that went beyond the mere pairing of didactic activities and finding in everyone's work some contribution from the rest of the group.

However, proposing critical design exercises in architecture is not free from disciplinary risks. The application of the proposed analysis guidelines was only partially achieved, due to the fact that these are directed, on one hand, to designers in their job and, on the other, to inhabitants in their participatory experience. Architecture classroom projects need exploring new ways to express and materialize the end user's experience, not quite accomplished by architectural previews such as models and renders. On the other hand, the architecture practice itself as critique is already a rarity in Latin American contexts, not because of the lack of critical architects, but rather because of the high economic costs that any architectural work implies to achieve the scope or impact that a critical type object or dress possess. In any case, the exercise is still interesting since it takes the discipline and its teaching out of self-absorption, and confronts it with present social issues.

### 5.3 Provocations from the object: practices for (de) confinement

The *Cultural Practices*<sup>6</sup> course at the Faculty of Industrial Design, Universidad Pontificia Bolivariana, Medellín, from 2020-2, aimed to design a critical-creative laboratory that promotes reflection, and evidence it on socializing practices at and from home, generated by the current state of emergency and prevention against COVID-19.

The teachers' academic proposal began by introducing students to the intellectual risk guideline. For this, they were asked to define and characterize a critical theme from: the actors, space-time, objects and symbols immersed in the present crisis to understand their influence and particularities. Next, the work team chose between three provocative discursive typological approaches: critical, speculative or resolute, to guide the discourse of the proposed lab. With this definition, they were asked to write a *Manifesto* in which they declared the intellectual risk willing to perform about the issue, the actions to be taken, the means and the possibilities of transformation that would be pursued as embodied futures through the project. Subsequently, they were asked to define a narrative flow for the experience in which the team specified the phases that made it up, with questions such as: What risk does it invite? Who and whom for? How is this invitation expected to be developed? definitions with which it would contribute to: the confrontation, the actions that stimulate the conceptual agency and the multiple structures of participation.

The manifesto and the narrative strategy were the initial didactics for defining provocation and also the base for designing generative challenge in open interfaces that allow creative participation, fluid exploration, and experimentation; as well as the desire for future action. Those interfaces are thought as a medium to reach critical, speculative, or resolute performance through different blank spaces that

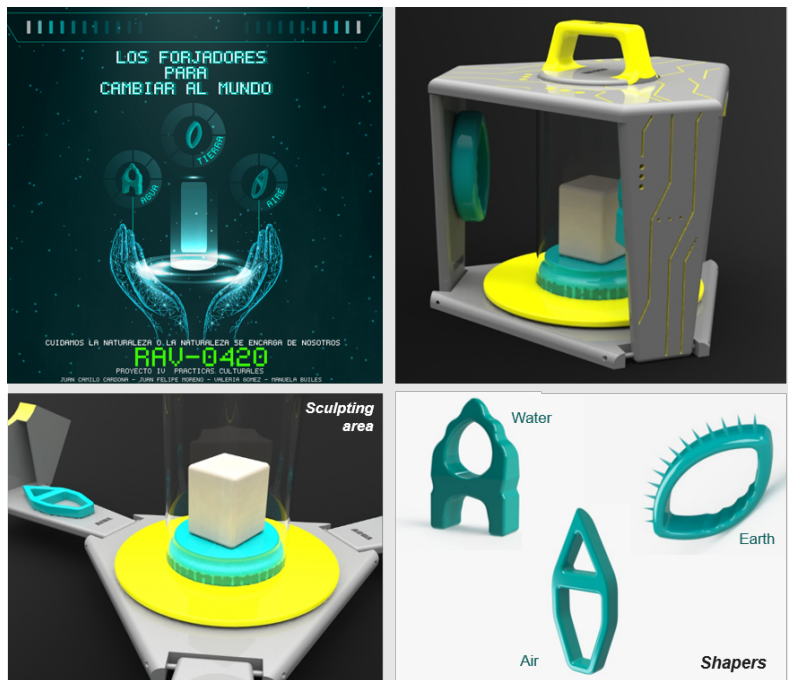
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<sup>6</sup> Course directed by professors Natalia Pérez-Orrego, Andres Felipe Gil and Alejandro Villa Ortega. Its general objective is to project experiences emphasizing the understanding of cultural practices and the relationships between the elements that constitute them in a situated human group: cultural codes, values, ways of coexistence, ideologies, techniques, technologies, institutions, aesthetics, memories; etc.

<sup>7</sup> As defined by Julian Hanna [41], it faces and claims particular intentions to provoke transformation from the discourse and actions that arise from forms and interfaces.

will be filled by the user, for example, drawing, writing, acting, sculpting, telling, among others, for performing their own reflection of the controversial issue.

The generative challenge allows the deployment of previous knowledge and the generation of new connections on the critical issue, from these interfaces, and towards new future actions.



**Fig. 6** Shapers to change the world. We take care of nature or nature takes care of us

One of the projects that resulted from the exercise was *Shapers to change the world*. The students of this project defined in their manifesto addressing a critical type of provocation: future without humans or without nature? Triggering question for the interior of a family nucleus confined by COVID-19 to critically question the role that as humans we have had in the face of the destruction of the environment and thus shape the commitments that would be assumed as a family to remedy it. The RAV-0420 designed interface (Fig. 6) is a traveling capsule that contains a space for the reproduction of a video from the personal cell phone, three forgers and a clay block. The experience begins with the arrival of the capsule at home and invites the reproduction of the video in which the responsibility that human actions have in current natural disasters is narrated. The video proposes to carry out a dialogue about

<sup>8</sup> Project developed by: Juan Camilo Cardona, Juan Felipe Moreno, Valeria Gómez and Manuela Builes.



the family and personal commitments that will be made regarding the use of water, air and land, to be molded with the corresponding forgers in the clay block. The sculpture obtained will remain on display at home as a constant reminder of this critical reflection on caring for the environment; the capsule and the forgers will travel to another environment to repeat this experience, once it is replaced with a new block of clay.

### **5.3.1 Trigger the provocation. The discussion**

In this project, guidelines for design of the provocation were conducted explicitly by the teachers, which generated, on one hand, didactic clarities and perceptible product specifications, but on the other, a comprehensive struggle of the students when trying to differentiate between the act to design (critical, speculative or resolute) so that others create reflections through the open interfaces, and their personal action with the subject of controversy being faced. That is, for them the limits of the exercise of critical design and their training as critical actors that this activity requires were confusing. In such a way that it is necessary to clarify in advance that such process is metaprojectual. In other words, to distinguish its pedagogical complexity insofar as the teaching of provocation consists of provoking the student so that he provokes critical or speculative actions in others.

For the intellectual risk to surge the methodology required a greater teaching guide for students to delve into the critical problem and the declaration made in the manifesto about the controversy's treatment and performative projection. Triggering critical voices of both students and participants is the most relevant task and probably the most demanding compared to the other two guidelines, since the designer's confrontation with the generative challenge is a constant in the development of their ideation and experimentation processes, and embodying futures is in itself a guideline that derives from the conception of the other two, of intellectual intentionality and formalization for creativity.

As teachers, this task of discursive creation and intellectual daring is perhaps what training designers in the 21st century means, by expanding the trajectory of artificiality to compose projects and discourses [37], and for a designer of the 3rd and 4th order in Buchanan's terms [33]; The teacher is no longer a counselor to find technical or technological solutions, he is a counselor for powerful questions to emerge in the face of the problems that we face today and from which we have looked away as we have been designers for the economic and industrial force. From our contexts, we now orient provocateurs for change.

## **6 Conclusions**

This article set out to highlight provocation as a powerful strategy to jump from denunciation to the generation of critical and speculative actions and behaviors, by addressing three design guidelines for provocation: intellectual risk, generative

challenge, and embodied futures. Three classroom experiences in clothing design, architecture, and industrial design were presented, in which critical perspective projects were developed, with the aim of exposing that, for both teachers and students, the following provocations lead them to become provocateurs.

**Overthrow the hegemony of the teacher-problematizer.** Addressing critical design from teaching implies a critical challenge in itself since, usually, in project-based design pedagogy, it is the teacher who raises the problem or project to be solved, which, for the critical or speculative design student would limit its analytical, argumentative and provocative concreteness towards a problem of a critical nature. It is not possible to be provocative without being provoked by the problem.

**Throwing the student into intellectual risk.** This was one of the didactics most explored by teachers in the three class experiences in terms of separating themselves from being the problematizing subject so that the critical voice of the student emerged and, in turn, designed an experience that would pose an intellectual risk to the participant. This process requires tact and accompaniment, since being critical contains a violence in itself that, at the risk of not being well oriented, intellectual provocations could be rude, insignificant or superficial. Issues that, without underestimating the dedication that the other two guidelines require, if it makes intellectual risk predominate, since the generative challenge is an action that is already close to the designer himself when faced with this type of ideation and experimentation processes, and, embodied futures, is in itself an integrating guideline of the other two.

**Differentiate the concept of function *from* and *in* critical and speculative design.** When talking about critical design and function, two different analysis scenarios must be established in order not to fall into the modernist and biased understanding of function: the first, in which critical design rethinks the concept of function within the disciplinary field. of design itself; and the second, in which the function of critical design artifacts versus the function of traditional design is understood, since they are artifacts that provoke discursive actions instead of discursive representations.

Otherwise, the understanding of project efficiency in Latin America is focused on cost vs. social impact, instead of cost vs. prospective knowledge. Economic investment for the exploration of interactions and possible futures around design disciplines is still in a primary conception by governments and research institutes.

**Overcoming the usual metaphorical answer.** While represented criticism calls the viewer / user to reflection, materialized criticism promotes reaction and interaction with its presence. However, overcoming this first stage of metaphorical or representational response is one of the toughest tasks for teachers, as it requires the student to place himself not in the description of what is debated but in its effects on the body. They require appealing to their understanding through the senses and beyond, to an aesthetic experience. Only with it can the proposed criticism be rationalized.

**Approximating architecture to critique and speculation.** The productive limitation of space at a 1:1 scale creates a dilemma for the recognition of critical and speculative interactions from the architecture classroom. This question involves designing such experiences for small-scale or quick prototyping of spaces—models—in which non-complex interactions are speculated on, formalizing ephemeral spaces or simulations in virtual environments to visualize critical spatial narratives. The Latin American case is even more difficult due to economic limitations in which investments to carry out experimental projects around contemporary and future problems of living are simply nonexistent, rather taking care of basic living needs.

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