Projecting The Future:

Scenario Building and Storytelling for Holistic Perception of Future Context.

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Abstract

In this paper, hybrid use of scenario development and storytelling tools is discussed to enhance the design process and how they can be used in the field of urban design to create solutions to the wicked problems of the future.

The workshop in which the proposed scenario building and storytelling processes were experienced was presented and how the methodology used in this study was developed, its findings and outcomes were introduced. As a result, it was determined that by integrating these tools into the design processes, the needed common idea development platform was created and design teams from different disciplines were enabled to holistically define the unpredictable context of the future and accordingly, a positive contribution was obtained in the development of the design idea.

Keywords: Scenario building, storytelling, future context, design education, wicked problems.

1. Introduction

The aim of this paper is to demonstrate how urban space can be considered within a holistic contextual proposal to build a vision of the future and confront possible wicked problems by using the scenario building and storytelling tools.

Based on the prediction that wicked problems such as climate change, whose global effects we have begun to encounter, will turn into continuous phenomena rather than isolated events, there is a need to define a new future context (IPCC, 2018). The concern that the idea projects produced through the analysis and synthesis of existing data for the problems of today and the near future cannot provide solutions to the wicked problems of the distant future is the starting point and basic question of this paper. Therefore, this paper explores the need to develop tools for interdisciplinary discussion of the uncertain and unpredictable new context of the future, especially in the field of education, at professional scales ranging from planning to architecture and other disciplines related to urban space.

Within this scope, the positive effects of the use of scenario building and storytelling tools were first examined through the development of the design idea in the historical process, the qualities that can be transferred to the current design process were determined. A redeveloped and interrelated hybrid process of using these tools collectively was tested in a workshop with mixed groups of undergraduate and graduate students from different disciplines working on urban space, and the findings were shared and discussed. When the results obtained are evaluated, it is determined that by using scenario building and storytelling tools together, it is possible to establish a common working platform that is necessary for interdisciplinary work and thus, it is possible to define the context of the future holistically in a part-whole relationship to support the design education process.

2. Design Problematic in The Presence of Crises

Although the act of design is simply defined as a fundamental problem-solving process (Archer, 1965), underlying this simplicity is the system approach that has developed since the late 19th and early 20th centuries, when scientific approaches developed and discussed the design problematic in relation to other disciplines. The necessity of considering the internal and external contexts starting from the individual who is the subject of the design to the society and community and their environment, as the whole system to which the problem belongs, and the need to analyse the diversified scales in relation to each other has been revealed (Bertalanffy, 1968).

The emergence of this awareness can be explained by a process in which past practices were inadequate, social problems requiring urgent solutions were fed by increasing crises and the need for *the new* and thus the need to refer to scientific methods became a necessity. In parallel with the change in production systems with the industrial revolution and the transition to globalisation, the identification and diagnosis of problems with all their components in a comprehensive context has become the main focus of the problem-solving process. Eventually, this approach brought the concept of *context* to the center of design problematic. The need for a new cross-scale approach has emerged in design education, which was once associated with only arts and crafts and should be evaluated together with different fields of specialization (Giedion, 1959).

The inadequacy of a single point of view in defining the problem and developing proposals for solution in the field of design, reveals the necessity of new approaches in education at the end of the 19th century. Beginning in the early 1920s, the shift from the arts and crafts movement based education system of the early Chicago School in the United States to a model supported by functional utility and knowledge gained from laboratory experience can be cited as an example (Jaffee, 2005, p. 42). Similarly, it is claimed that the strong development of the *Ecole Polythecnique* system in France from the beginning of the 19th century, alongside the classical *Beaux-Art* education, arose from the need to produce urgent solutions to the problems encountered in contemporary practice, in the sense of bringing together life and design. (Giedion, 1959, p. 211). The fact that the attempts to *search for the new* gained strength and increased after the First World War which were stimulated by economic and political crises, reveals the view that design is a tool that is questioned again especially in times of crisis. Giedion (1959, p. 291) defines this period as *infected atmosphere* and attributes the differentiation that emerged in design in two basic conditions. These were the abandonment of historical methods and the adoption of the principle of fitness for purpose in creativity. The salvation of the city from the individual citizen to the society and building to the urban structure

took a new breath in Germany at the beginning of the 20th century with the innovative design model brought by Bauhaus, bringing all disciplines together for the human needs.

The new crisis that started with the Second World War and the design approach that developed afterwards, by introducing new rational methods, proposes a systematic city that is distinguished with precise lines where people can live faster while accelerating production processes (Le Corbusier, 1927). Against this crisis of *standardisation*, it is possible to see models such as the Doorn Manifesto of 1954, which proposes different design approaches to achieve liveable urban areas and to reunite people, cities and nature with all their differences (Mumford, 2002, p.239). It is understood that the efforts of the reformist, innovative approach, which continued with TEAM 10 in the continuation of the Doorn Manifesto, addressing the design problem together, starting from the individual to the urban scale, could not prevent the space from becoming an object of consumption (Urry, 2016, p.104). As an example of this, it is possible to read the meeting of the city with the automobile, starting from the design object, through the way it affects the city, the individual, the society and its interaction with the social, political and economic context (Sheller and Urry, 2000). It is not surprising that a linear design approach was adopted to find solutions to the crisis of demand hunger encouraged by the economic system of the consumer society, while the real crisis of hunger, which has no material equivalent, was ignored. Therefore, it is possible to define the basic method of the design process in this economic boom period as the transformation of the idea into a design product within a basic approach that extends from analysis, synthesis, projection, concept design and production.

Design process carried out with such a limited analytical evaluation may also have lack off creative dimension and visionary perspective (Cross, 2004). However, it should not be ignored that the search for alternative solutions brought to the design process by temporary economic-based problems such as the oil crisis in the 1970s has enabled approaches that we define today as nature-based solutions or passive architecture (Wright, 1978). Similarly, collective architecture or place-making practices, the integration of participatory methods from planning to architecture, or the search for alternative transportation solutions have become tools of a design approach that seeks new ways to overcome the crisis of consumer society.

Based on these arguments, it is possible to say that starting from the 19th century, the design process was shaped by social conditions and crises that radically changed the production of space. it is seen that in the presence of crises that develop within defined contexts, it is accelerated to adapt to the current situation or to produce solutions to mitigate the effects of the crisis. Such a determination shows that crises that can be reduced to defined problems are effective in creating new methods that strengthen the design process until today.

On the other hand, in a situation such as the climate crisis, which poses a threat on a global scale and whose unpredictable effects cannot be reduced to defined problems, the design methods we have implemented until today can be considered inadequate. Distinction between *time ahead* and *upcoming prospects* conveys an important caution. *Time ahead* conveys a chronological sequence and linear flow of phenomenon mostly about a predictable near future, while *upcoming prospects* includes problems of distant future that are the focus of this paper such as certain outcomes conditional to significant societal events, natural hazards or public action plans (Ghimire, 2018). What we expect from design today is not only to produce solutions to current problems or the needs of today or the near future, but also to produce solutions to the unpredictable context that awaits us in the distant future.

3. The Need for A Tool to Predict the New Future Context

In the early 1970s, teams working in the technological field developed ideas on how methods such as operations research and systems analysis could be transferred to find solutions to urban problems. In this period, innovative methods were introduced to address the newly encountered *wicked problems* (Rittel and Webber, 1973) in social, technological and scientific fields within a systems approach (Skaburskis, 2008).

The definition of wicked problems also coincides with the *infected atmosphere* used by Giedion (1959) to describe the crisis where the design process has failed to produce innovative solutions. Today, wicked problems are recognised as the global problems emerging with the climate change, the parameters of which we cannot yet define precisely, but the consequences of which we may face in the short, medium and long term (IPCC, 2018). The consequences of problems such as overpopulation, urbanisation in the process of sudden spatial transformation, change of coastal areas, lack of biodiversity, transformation of agricultural lands, urban heat island effect can be listed as wicked problems (Neil, 2020). The main challenge is to identify wicked problems for which conventional solutions are insufficient in the framework of an unknown future context and in the presence of new complex problems, including issues that were not on the agenda of the last century. The systems thinking approach of looking at the wicked problems through patterns, provides important guidelines for holistically envisioning the contextual relations of the future. Senge (1990) defines systems thinking as the discipline of seeing the whole and emphasises that it is a framework for understanding interrelationships rather than singular elements, an approach to recognising patterns of relational change rather than momentary static fixations. According to Senge, an intuitive intelligence is needed to deal with complexity. While the intuitive side of problem solving is neglected in conventional educational theories, the role given to intuition by the systems thinking approach has the potential to make a significant difference.

The tendency towards the approach of interdisciplinarity in the design process can be considered as a result of the need to discuss the adaptation and interaction of changing space typologies in different time uses and contexts, and to consider different scenarios in the presence of uncertainties. Criticizing the design approach of the past, reveals that thinking across scales and establishing connections in the part-whole relationship cannot be reduced to a single point of view or a specific profession. When complex systems such as urban space are subject to design, it is recognized that interdisciplinary, participatory, holistic approaches that are open to discussion and questioning as much as possible require interdisciplinary, participatory and holistic approaches. The existence of program requirements in the accreditation of architecture schools, which state that the criteria for the evaluation of the social, economic, ecological, technical, artistic and cultural dimensions of design all in harmony, shows today's tendency towards a multidimensional and interdisciplinary approach to design education (UNESCO-UIA, 2023).

Despite of this tendency, in the field of education, the existence of tools that will enable different fields of expertise to work together in order to produce creative solutions by comprehending the complexity of the problems, uncertainties and the complex structure of the city as a whole is questionable. It can be said that the plan and project production processes applied today are limited within the problem and potential orientated design process, which is developed on a very linear and rational cause and result relationship to serve the current production and consumption systems coming from the legacy of the modern period.

Considering these current remarks and the approaches to the design problem defined from the beginning of the 20th century to the present day, it is possible to see that we are facing a different urban phenomenon and the problems it brings. Although the components that constitute the multiple structural layers and form of the city have changed slightly since the modern period of 1950's, it is seen that the scale relationship, socio-economic and political factors that constitute the parametric structure of this complex system have changed on a local and global scale. Especially the increase in the speed and accessibility of information flow compared to previous periods has brought a different dimension in reading and understanding this complex structure. While obtaining and synthesising the information needed from this complex pool of data requires the development of new areas of expertise in relation to the field of planning and design, it also shows that no single voice in the field of planning and design can be authorised to project ideas for the new context of the future. Consequently, this has led to a new wave of complexity-oriented urban science (Lepri et al., 2015). Especially in the field of planning and design education, it is becoming increasingly important how these data can be evaluated.

4. Scenario Building and Storytelling as The Unifying Tool for Interdisciplinary Studies

Based on the problems and potentials defined at section two and three, it is understood that the starting point of the design idea in complex systems such as cities is not the subject-object relationship based on a single problem, but the dilemma of finding a way in a chaotic situation. While dilemma often draws an unpredictable, ambiguous future, the design team consisting of different expertise are expected to produce creative thinking system in order to deal with today's complex set of problems.

Contemporary approaches suggest that planning and design processes should be evaluated in a multi-layered and interdisciplinary or even transdisciplinary structure, in the interaction of complex systems with the natural and artificial environment, and by considering the changing human perception (Gallotti, Sacco, & Domenico, 2021). Among these dimensions, perhaps the most striking emphasis is the difficulty of human perception to perceive this complex structure. Therefore, the need for conceptual tools to abstract this complex structure is particularly important. Today, as the climate crisis being a part of our daily lives, it is understood that the future predictions or plans and projects put forward by conventional methods are insufficient. Although the priority is to find resilient city solutions and to mitigate the impacts of climate change for developing short, medium, and long-term interventions, on the other hand the scenarios of adaptation to the new facts and new contexts for a future proof city needs to be considered. From this point of view, it is thought that the scenario building method (Chermack, 2011; Kahn and Wiener, 1967; Martelli, 2014) can be re-considered and developed in the field of planning and design education and can be evaluated as a tool to create a mutual platform that will bring together students dealing with urban space at different scales.

The philosopher and futurist Gaston Berger, with his discourse *la prospective*, is mentioned to have used the concept of scenario not only as a tool for imagining but also as a tool for understanding the future and making long-term predictions (Martelli, 2014). The concept of scenario building, which has found a wide implementation area today, was defined as a series of hypothetical events that aim to focus our attention on decision-making processes and was developed by Kahn and Wiener (1967). Urry (2016, p.97) states that *scenario workshops* play a role in determining the events and processes that are expected to occur at the chosen time of the defined scenario, and that future alternatives can be evaluated in the light of scientific data based on yesterday and today's information. In this sense, according to Urry, scenario building

enables the creation of a characterisation of the economy or society for a future time in the light of known trends, the main sources of change and possible patterns of economic and social life.

At present, scenario building tools are used in a wide range of perspectives, especially in the field of planning and design, from the development of country and regional development strategies to urban design and architecture (UN-Habitat, 2023; Merrie *et al*., 2018; Abou Jaoude *et al*, 2022). Considering these implementations, it is important to note that scenario building tools are actually considered as learning tools, as they are used to develop alternative proposals about the future context. This emphasises the importance of using this tool in the field of education (Berkhout *et al*., 2002; Brown and Castellazzi, 2014).

Among the actual scenario building tools that can be applied with multiple participants from different disciplines, the quad matrix (2x2 prediction matrix) created in the x and y coordinate plane with concepts representing extreme case oppositions finds a widespread implementation area. Although this tool is considered inadequate because it only allows the discussion of four alternative future scenarios, it is preferred as a practical application tool for short-term workshops for the development of design ideas. In order to establish the basic concepts to be discussed on the matrix, a preliminary study is required to identify future uncertainties and trends. This process can be developed through group discussions and debates and considered as a broad platform where the participation process can be conducted. While defining concepts of extreme cases to be placed on the matrix, the discussion of trends and uncertainties through political, economic, social and technological data constitutes the infrastructure for the development of scenarios with scientific data.

It is important to remember while developing scenario building tools that scenarios are stories about the future and should be presented as a narrative (Martelli, 2014). When Calvino's (1978) Invisible Cities is considered, it is possible to see that the abstraction technique and power of narratives have always been used as a valuable tool to conceptualise, represent and communicate the complexity of urban environments (Mukhija, 2015). In addition to Calvino's storytelling through text, it is also possible to see examples of how this approach can be used in the design process of storytelling through visualisation. In the context of the standardisation brought about by modernism, it can be said that the Archigram team (Cook, 1999), which questioned the urban space in the 1960s and emerged with a new manifesto, used the method of designing and transferring through storytelling, going beyond the strict architectural language and making the idea of design a source of inspiration for different disciplines. The competition, which brought together the experiences on sustainable and liveable urban development and aimed to project Metro Manila's future vision of the city by 2050, is an example of thinking, designing and communicating through storytelling in the current period (Manila Bulletin, 2020). Espinosa's work titled *Broken But Still Beautiful*, which won the grand prize, is noteworthy for narrating the urban context of the future through storytelling in a part-whole relationship.

When the changing perception of design in the historical process, its interaction with crises and interdisciplinary dimension are evaluated, it is seen that the utilization of scenario building and storytelling together can be evaluated as a tool to produce potential solutions to the new wicked problems we face with climate change. It shows that scenario building and storytelling have the potential to be developed as a tool that will enable the evaluation of the environment in a part-whole relationship and the creation of interdisciplinary collaborations, starting from the upper scale context in which all design fields from urban to architecture, and industrial design are involved. This holistic approach does not aim to uniformise and standardise cross-scale

approaches, as has been experienced in the historical process, but to foresee the conditions for a common future context that prioritises diversity and to encourage the development of different creative solutions to wicked problems.

It is argued that crises are the driving force for the development of innovative approaches in the design process. However, it is seen that the innovative pursuits that emerge in the aftermath of crises develop manifestos that form their basic discourse by first conceptualizing and questioning past and present trends. It is noteworthy that these manifestos use storytelling tools to convey how they transform the space for the future and to develop the idea of design. Although scenario development and storytelling tools seem to be communication tools, the idea that they can also be used as design development tools stands out as a potential model to be developed.

5. Construction of the Ideathon

In this framework, the combined use of scenario building and storytelling approach was tested through a workshop focusing on the coastal areas of Istanbul for the year 2100 and aiming to re-think the urban context when the sea level rises through different scenarios. Thus, the theme of the workshop was selected as *Sea Level Rise Due to Climate Change* as it is a contemporary theme with a multi-layered data set in terms of future projections in various fields. Based on this approach, the aim of the workshop is to develop design methodology in the presence of wicked problems and new crises and to test the use of innovative tools in the field of education as a supportive element of the design process.

5.1. Methodology and Work Structure

The workshop was organised in an ideathon format, bringing together different disciplines and creating an atmosphere of an idea marathon. The structure of the workshop has been developed to combine the process of performance-based scenario building with the process of stimulating creativity, generating different future ideas based on analytical data and developing design thinking through storytelling. The use of scenario building and storytelling tools, proposed as the main tools of the Ideathon, were utilised to allow participants to develop holistic and multi-layered approaches through quick thinking and high concentration. The scenario building tool, involving of a basic 2x2 prediction matrix, was used to present extreme opposite conditions and thus develop ideas about four alternative future scenarios to be used in the workshop. The groups to be formed by the students were asked to build their original scenarios by choosing one of these four conceptual frameworks.

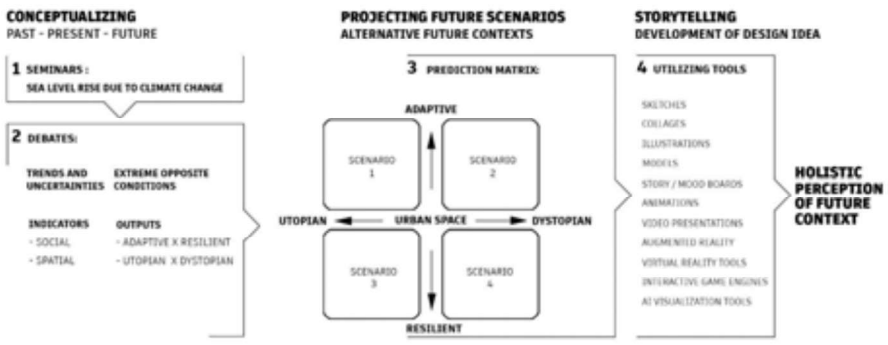

Figure 1. Methodologic approach to integrate scenario building and storytelling tools into the design process.

The methodologic approach that framed the workshop was applied in three phases over three days to bring participants together on a common platform and integrate scenario building and storytelling tools into the design process to create a holistic perception of the future context (Figure 1). These three phases were defined as *conceptualizing* the past, present and future, *projecting future scenarios* as alternative contexts and *storytelling* as development process of the design idea. The fourth day, which includes the jury evaluations and the closing panel, can be considered as the final phase that reveals the outcomes of the work.

The establishment of common conceptual structure for the discussion of the future context is important for the evaluation of the workshop outcomes. Therefore, there is a need to identify and conceptualize the variables that drive collective thinking in a short-term workshop with participants from different disciplines. The professional diversity of invited lecturers for seminars, jury members for evaluations and mentors to guide idea projects is as important as the diversity of participants in ensuring interdisciplinarity. In this way, different scenario proposals based on technical and scientific data can be developed, different storytelling tools can be introduced, and the final products can be evaluated equally. Therefore, experts from different fields of expertise in planning, design and art have been invited to participate to the workshop. On the other hand, student participants who will produce idea projects were invited through an open call to all undergraduate and graduate students who produce ideas related to urban space. Submissions evaluated according to the applicants' motivation letters, workshop experiences and other areas of interest. The Ideathon was attended by 27 students from the fields of architecture, urban planning, urban design, interior design, photography, painting, software engineering, sociology, graphic design, public administration, computer engineering, from various institutions. Mentors to assist the student groups during the workshop and jury members to evaluate the final products were selected from the fields of urban planning, urban design, visual arts and entrepreneurship, writing, stage design and scenic arts, and public administration.

5.2. Flow

On the first day, the first two phases of the Idethon process were addressed. In order to establish basic mutual understandings, debates on trends and uncertainties related to effects of sea level rise have been guided through political, economic, social and technological indicators. Since the workshop is a spatial inquiry and an inter-scaled study in the context of urban design, these multiple data set used in scenario building was categorized in two groups as *spatial and social indicators*.

After the thematic lectures and debates, lecturers and mentors highlighted the following concepts that emerged from all discussions, which were then used to identify extreme conditions for scenario building. These concepts can be grouped under the following headings.

- Adaptation
- Climate crisis and crisis response
- Planktonic approach
- Scenario building
- Balance

- Harmony
- Utopia
- Dystopia
- Sustainability
- User-centered design

The two main pairs of opposing concepts to be developed on the 2x2 prediction matrix were selected as a result of the clustering made in accordance with the connections established between the concepts.

- Adaptive and Resilient
- Utopian and Dystopian

The second day involved the scenario development phase. In this phase, four different future scenarios defined by the selected extreme condition concept were identified to form the 2x2 prediction matrix. Each group was asked to develop one of the four different future scenarios: Adaptive dystopian, resilient dystopian, adaptive utopian or resilient dystopian urban contexts. With the support of mentors, 8 groups of 2 to 5 students, decided which concepts in the scenario building matrix would intersect to envision the urban space of the future. Accordingly, they chose a coastal area on the Bosphorus and started to envision how the spatial and social qualities of this area would be shaped within the scope of the future scenarios they chose. This phase stands out as the phase where the part-whole relationship was questioned, supported by brainstorming, discussions and sketching. It is also the phase where storytelling tools suitable for narration were selected.

The third day involves the use of storytelling as a tool for developing the design idea. The groups were directed to narrate how the scenario they had identified affected the social organization and spatial structure from the individual to the community and society, how it changed and transformed coastal areas, and how these areas could become *liveable urban spaces*. Each group adopted their own narrative tools and defined their proposed *new urban system* in a *part-whole relationship*. It is important for the storytelling to question the proposed fictional context with continuous feedback. In this way, the feedback process needed in the design process is also implemented.

On the fourth day, the completed team works were evaluated by the jury members. The presentations and evaluations were announced through an open call and scheduled to be visible to anyone who wanted to participate online or in person.

5.3. Evaluations

Eight groups made their final presentations in a public session in front of the audience and jury. Presentations finalized with a question and answers session. The jury evaluated the proposed idea projects on the basis of the following five criteria, taking into account their ability to present a holistic and coherent new urban space.

Evaluation criteria of the idea projects:

- Consistency of the constructed idea.
- Scenario built through different perspectives.
- Multi-layered elaboration of the fiction of Istanbul.
- Originality of the idea.

- Quality of the visual presentation.

	CONSISTENCY OF THE CONSTRUCTED IDEA	SCENARIO BUILT THROUGH DIVERS PERSPECTIVES	MULTI-LAYERED ELABORATION OF THE FICTION OF ISTANBUL	ORGINALITY OF THE IDEA	QUALITY OF THE VISUAL PRESENTATION
GROUP 1	●	●	●	●	●
GROUP 2	●	●	●	●	●
GROUP 3	●	●	●	●	●
GROUP 4			●		
GROUP 5		●	●	●	●
GROUP 6	●	●	●		
GROUP 7		●	●	●	●
GROUP 8				●	

Figure 2. Evaluation of the idea projects.

According to the evaluations (Figure 2), 88 percent of the groups built their scenarios considering the perspectives of different disciplines in addition to architecture and planning. The diversity of the workshop offered a perspective that brought together social sciences, art and technology in the design process and made the proposals unique and innovative. The predominance of projects that emphasize how different species can coexist in interaction in urban space, can be considered as a result of this diversity. Generating a common vision from the perspectives of different disciplines increases the comprehensiveness of the design process.

75 percent of the idea projects developed creative ideas to confront wicked problems beyond conventional spatial project proposals. This can be associated with the fact that while developing the story, the proposed solutions evolve along with the narrative, and that all actors, from the individual to the community and all elements interacting with the space, are included and considered in the story. In this way, the problem is no longer just a *structural design* problem.

The relatively low presentation quality of the stories, at 65 percent, can be explained by the inadequate use of scenario tools and the fact that only one day was allocated to narration. The group discussions focused on the production and elaboration of the original scenario so that there was not much time for visualization due to time constraints. This situation shows that more time should be allocated to storytelling in similar workshops, and that rapidly developing artificial intelligence tools should be used more effectively to support design processes. On the other hand, it has also been observed that scenario development and storytelling may potentially risk *becoming an objective* rather than *a tool* to support design thinking. This can be considered similar to the problem of *Rendering Architecture* overwhelming the idea of architectural design. Therefore, it was seen how important the support and guidance of mentors is for establishing a balance in the use of these tools.

As a brief summary of the evaluations, it can be said that the participants were asked to imagine the future with multi-layered aspects of daily life in a limited time and that the program was supported with conceptual and technical lectures to increase creativity. So, the participants worked in a highly concentrated process. The outcomes of Ideathon aim to define the space and its components contextually, rather than using technical norms and standards as in a

conventional workshop. Although the theme of the climate change and the new crises was chosen with reference to a dark future, most of the groups proposed creative solutions and holistic proposals that carry hope for the future. This can be considered as an effect of promoting new inclusive methods, comprehending the problem in the whole context and developing creative ideas first, rather than looking for solutions to singular spatial problems. The components that construct the space and future habitat were proposed in a comprehensive and interrelated manner instead of being analysed in a fragmentary manner. It was observed that all idea project presentations developed a system proposal based on a liveable future. Hence, even if the future is a dystopia, the necessary conditions for adaptation can be achieved and that the power of imagination and holistic thinking by establishing inter-scale relations contribute to the re-establishment of ecological balance on a global scale. Different disciplines have different ways of problem solving. The integration of scenario building and storytelling tools for the development of design ideas has created a platform that brings these differences together to create solutions in a collaborative way.

6. Conclusion

The complex problems of today are indicators that we may face more complex problems tomorrow. It can be said that the role and responsibility of the designer and conventional design processes have to change in the presence of an unpredictable future context.

The method proposed in this study aims to improve the process, not the design itself. It enables the definition of a future context that minimizes uncertainties before moving to a design solution. The priority here is to project the future context and, accordingly, the design concept and the set of criteria for solving wicked problems (Figure 3). The hybrid scenario building and storytelling process guides the interdisciplinary design team to abstract the uncertainties of the future and imagine a coherent and holistic urban space through co-creation and conceptualization. In urban design, this hybrid methodology emphasizes the social, political, economic and ecological values of urban space, thus transforming the perception of urban design from a simple relationship of form and function.

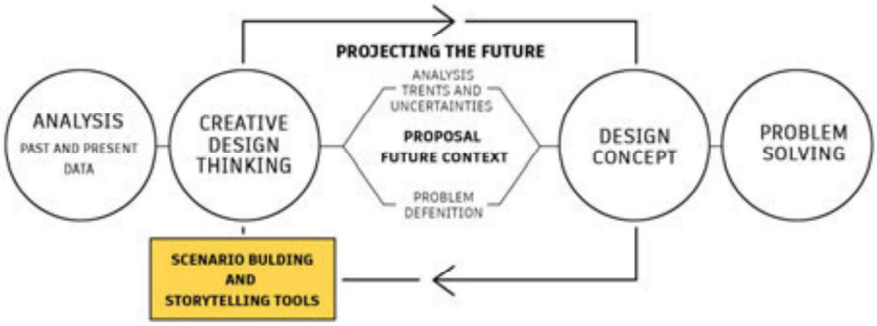

Figure 3. Problem solving process integrated with hybrid use of scenario building and storytelling tools.

The Ideathon format workshop is designed as a meeting, learning and idea generation environment for students from different disciplines to support their education. It aims to provide a creative exercise that emphasizes the diversity of scientific and artistic approaches to design

and a systems approach. Instead of defining a problem through limited analysis and synthesis data in a focused area, it is built on the development of a holistic perspective and creative design thinking that emphasizes understanding the trends and uncertainties at the source of the problem and thus the context of tomorrow.

A general evaluation of the study reveals that today it is increasingly difficult to predict the future in complex systems such as cities, and the negative impacts of constructing urban space through a single discipline or individual expertise. The need for an interdisciplinary perspective in education is clearly seen in order to prevent these difficulties. In professional practice contexts shaped by the conventions of the past, singular project-oriented thinking cannot devote sufficient time and energy to such endeavours of visioning. Similarly, in short university education, practices for vision and strategy development may be limited or there is not enough time to realize the idea of bringing together different disciplines, which is an important tool for achieving this. In order to design the future urban space, there is a need to develop an interdisciplinary and multi-perspective approach, which requires the interaction, exchange and co-creation of the knowledge and experience of different fields of expertise.

As in the experience shared in this paper, it is seen that supportive tools can be developed to close this gap by encouraging mixed studies, such as the hybrid use of scenario building and storytelling tools through short-term workshops. In the development of creative and innovative projects in design education, regardless of their theme and scale, it is important to evaluate them in the interaction of time and space with all their components, from the unit to the whole, from the individual to the society. This method has an important potential to perceive and comprehend the context of the future holistically and to produce solutions in the face of unexpected, wicked problems.

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