

CYAD

Investiga

2019 –
2020

Division of Sciences
and Arts for Design

Universidad
Autónoma
Metropolitana



Casa abierta al tiempo Azcapotzalco

Universidad Autónoma Metropolitana

Dr. Eduardo Abel Peñalosa Castro
Rector General

Dr. José Antonio De los Reyes Heredia
Secretario General

Unidad Azcapotzalco

Dr. Óscar Lozano Carrillo
Rector de Unidad

Dra. María de Lourdes Delgado Núñez
Secretaria de Unidad

Dr. Marco Vinicio Ferruzca Navarro
Director de la División de CyAD

Mtro. Salvador Ulises Islas Barajas
Secretario Académico

CYAD INVESTIGA
Sciences and Arts for Design

CyAD Investiga Index.....	4
Introduction.....	5
Department of Evaluation of Design in Time.....	6
Department of Research and Knowledge of Design.....	17
Department of Environment.....	21
Department of Development Processes and Techniques.....	25

Index Department

Department of Evaluation of Design in Time

- Area of Architecture and International Urbanism
- Area of Urban Studies
- Area of History of Design
- Area of Design Semiotics
- Education and Design Group
- Innovation I+DI and Development Group
- Sustainable Community Group

Department of Research and Knowledge of Design

- Design Analysis and Prospective Area
- Design and Habitat Area
- Learning in the Community Habitat Group
- Archeopoetics and Prospective Visualistic Study Group (EAP and VP)
- Image Theory Group
- Design and Technologic Interaction Group

Department of the Environment Bioclimatic Architecture Area Landscape

- Architecture Area
- Artificial Environment and Design Factors Area
- Natural Environment and Design Factors Area
- Color Research Group
- Environment and Recreation Group Art Group
- Art Group

Department of Development Processes and Techniques

- Management and Design Technology Area
- New Technologies Area
- Acoustic Design and Analysis Area
- Drawign: Creation and Teaching Group
- Form, Expression and Design Technology Group
- GROPUS Group
- Educative Innovation Design Group
- Creative Paraphernalia Group
- Technology and Design in Building Group
- Light Structures Laboratory Group
- Educational Materials and Media Group

Introduction

Research in the Division of Sciences and Arts for Design is a fundamental activity for the generation of knowledge, support for teaching activities and attention to problems that occur in the University environment.

The conditions of social distancing, established since March 2020, have affected the normal performance of academic activities. However, in most cases, the professors of our division have responded responsibly to the challenges we face as a society and have continued with the activities of teaching, research and preservation and dissemination of culture.

As a mechanism for disseminating the research work carried out by teachers during 2019-2020, through groups, areas and other organizational figures, this catalog of projects presents a synthesis of the different topics and processes to address relevant problems with a design perspective.

Throughout the past four years, the CyAD Investiga catalog has been published, considering that it constitutes an instrument to encourage the dissemination of research within and outside the University. In addition, the project has been exhibited in physical form and on this occasion, in digital format through the internet.

All these works are the result of the joint effort of teachers, and professors, groups, areas and department heads. I would like to acknowledge all of you and invite you to continue working with the conviction that the contributions of the *Casa Abierta al Tiempo* are of great importance to our country.

Dr. Marco Vinicio Ferruzca Navarro
Dean

Department of Evaluation of Design in Time

Dr. Luis Soto Walls
swlj@azc.uam.mx
53189179

Dra. Elizabeth Espinosa Dorantes
Area of Architecture and International Urbanism
e_espinosad@hotmail.com

Dra. María Esther Sánchez Martínez
Area of Urban Studies
mesm@azc.uam.mx

Dr. Luis Carlos Herrera Gutiérrez de Velasco
Area of History of Design
lcherrera@azc.uam.mx

Mtra. Norma Patiño Navarro
Area of Design Semiotics
normapatinonavarro@yahoo.com.mx

Mtra. Sara Elena Viveros Ramírez
Sustainable Community Group
sevr@azc.uam.mx

Mtro. Miguel Hirata Kitahara
Education and Design Group
eva_uam@outlook.es

Mtro Víctor Javier Rocha Castro
Innovation I+ID and Development Group
vjrs@azc.uam.mx



N-414

PROCESSES AND MODELS OF FORMATION AND TRANSFORMATION OF THE METROPOLITAN SPACE IN LATIN AMERICA

PALABRAS CLAVE: METROPOLIS, FORMACIÓN METROPOLITANA, EXPANSIÓN URBANA, MODELOS METROPOLITANOS.
KEY WORDS: METROPOLIS, METROPOLITAN FORMATION, URBAN EXPANSION, METROPOLITAN MODELS.

ABSTRACT:

The research project examines a series of metropolis in Latin America, which have presented, at specific times, dynamics of growth and transformation, becoming metropolis of different size and characteristics, since consolidated and national capitals to fledgling metropolis. Through comparative analysis of study cases will can identify the basic characteristics of the process of formation and consolidation of these metropolis, expressed in forms of expansion, transformation of its structure and urban morphology in the time. Explanatory models of its urban organization and processes of metropolitan forming will be developed.

OBJECTIVE:

Through the study of relevant cases, it is intended to deepen the processes of formation and metropolitan consolidation in Latin America in the period 1970-2010, through its forms of expansion.

CONTRIBUTIONS TO THE FIELD OF DESIGN

Explanatory models of urban organization and the processes of formation and metropolitan consolidation in Latin America be developed. In this way it provides elements of analysis in the urgent discussion of urban policy reform and



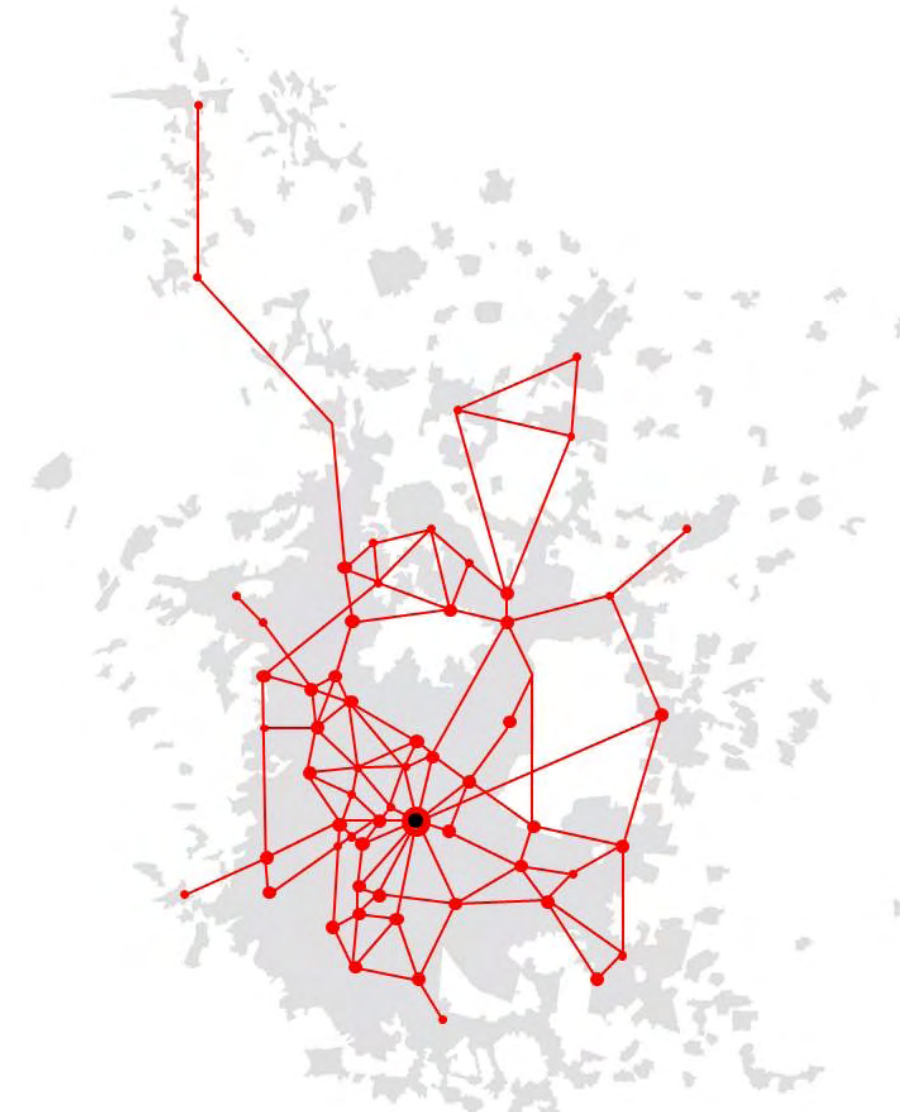
Sergio Padilla Galicia
ORCID 0000-0002-5313-1392



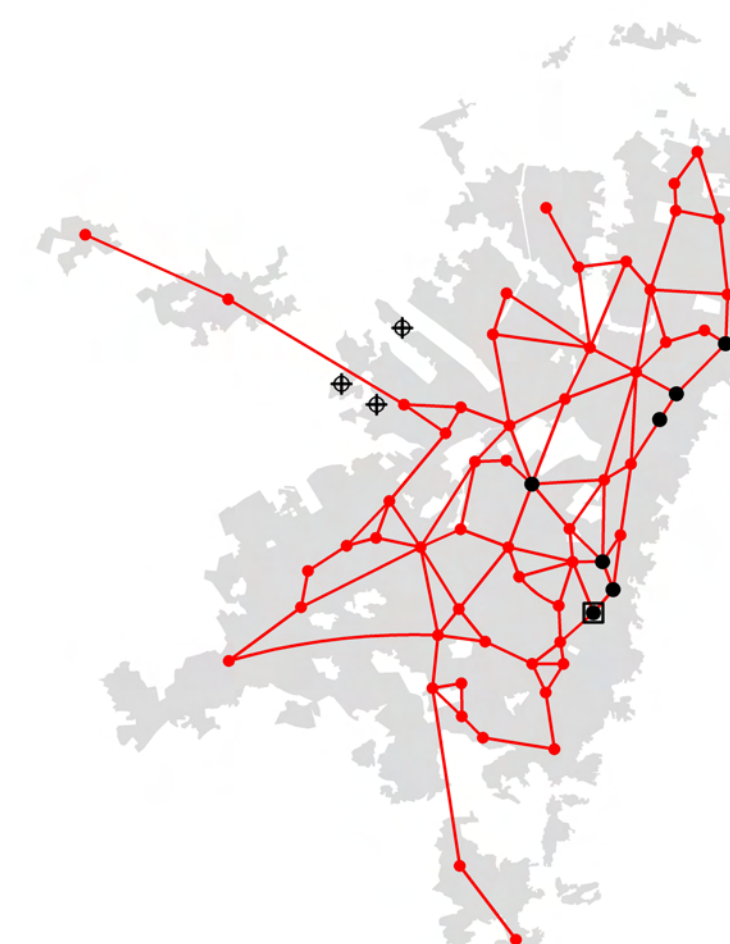
Maruja Redondo Gómez



Elizabeth Espinosa Dorantes



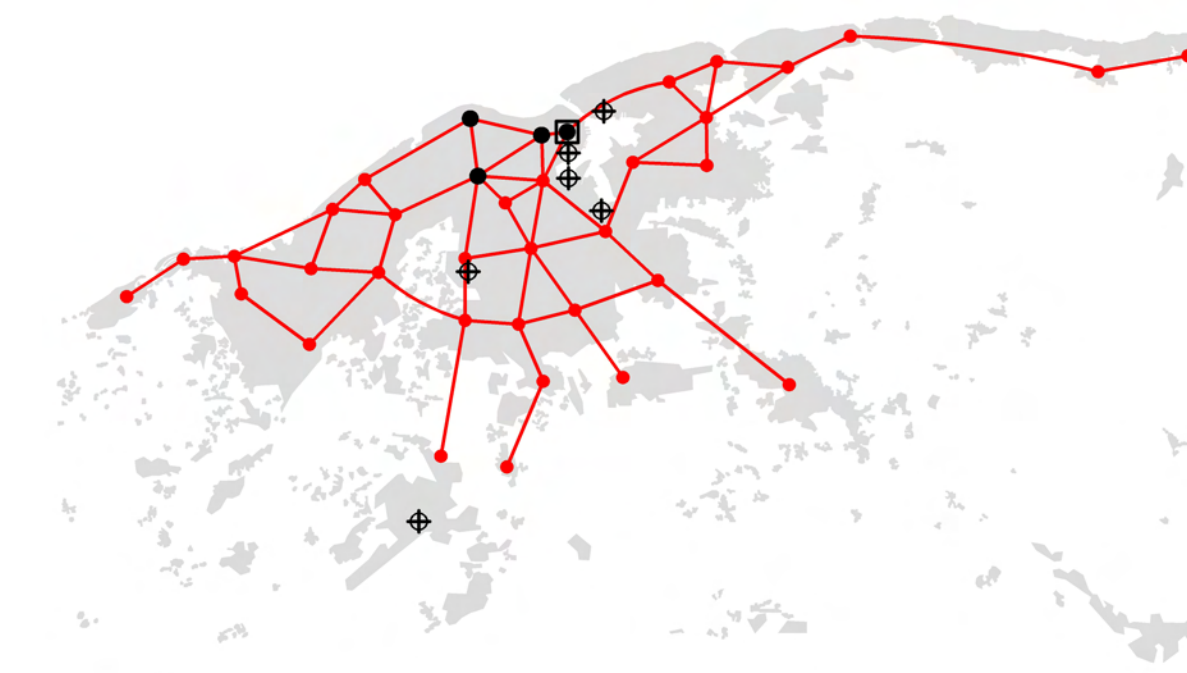
CIUDAD DE MEXICO. Elaboración propia.



BOGOTÁ, COLOMBIA. Elaboración propia

RESEARCH ADVANCES IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

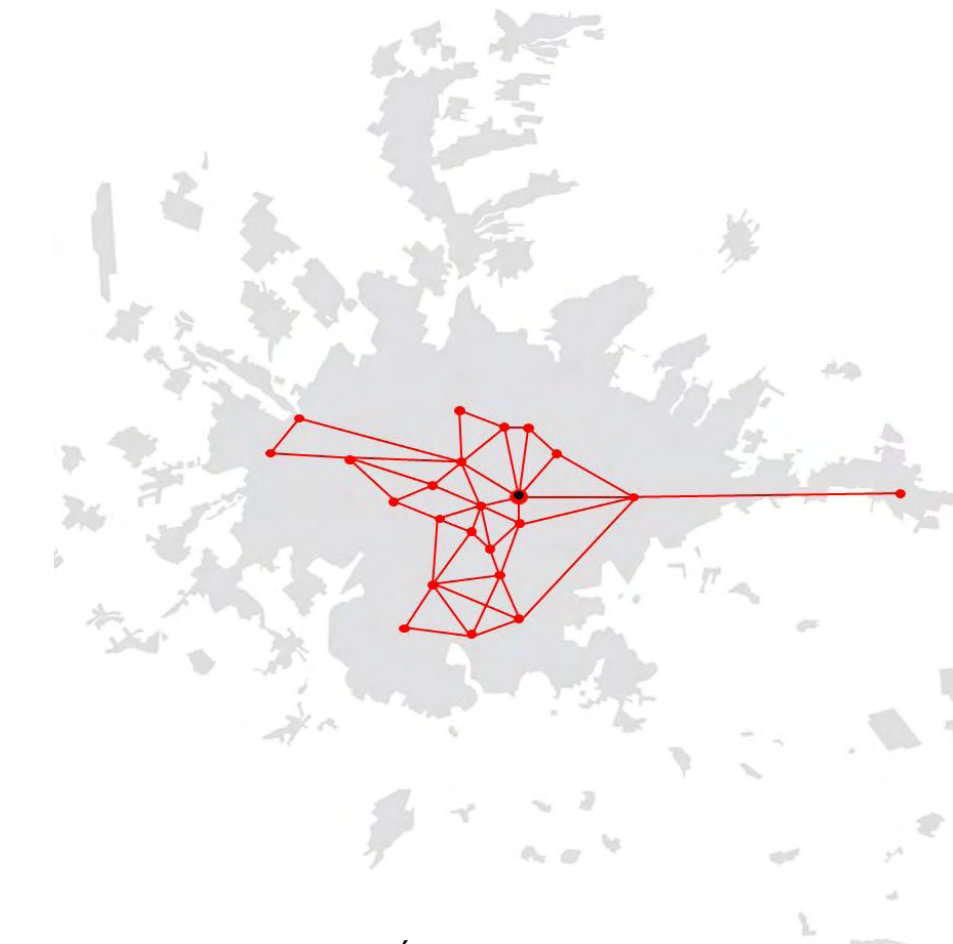
- Integration of diachronic analyses for the following case studies, provided by external specialists: Mexico City, Puebla and Veracruz (Mexico); Bogota and Cartagena de Indias (Colombia); La Paz (Bolivia), Havana (Cuba); Rosario (Argentina), Guayaquil (Ecuador) expressed in texts and research reports
- Integration of basic data for the period and each case study.
- Own elaboration of thematic mapping for each study case
- Presentation of results in specialized events: Colloquiums and research seminars.



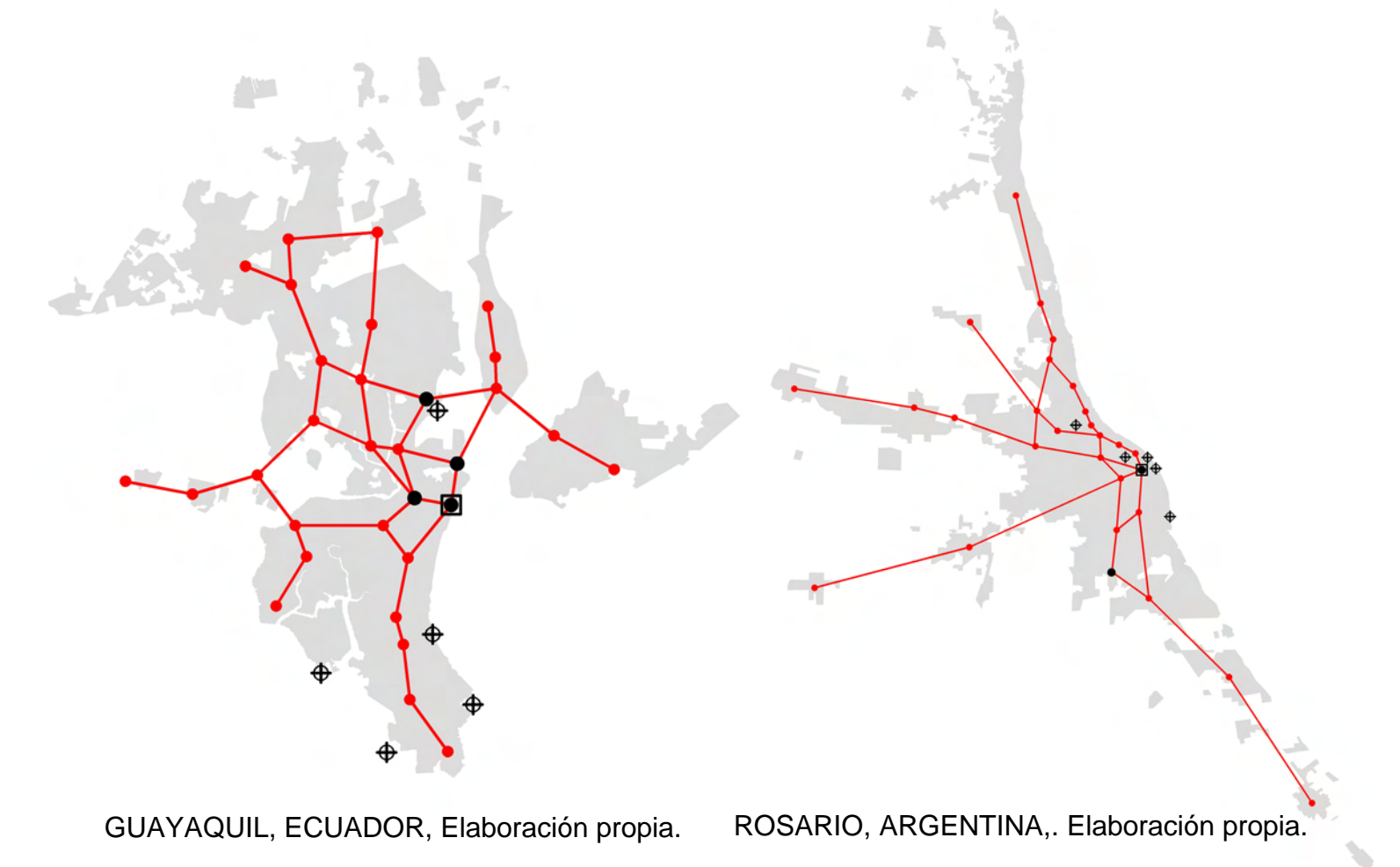
LA HABANA, CUBA. Elaboración propia.



LA PAZ, BOLIVIA . Elaboración propia.



PUEBLA, MÉXICO. Elaboración propia.



GUAYAQUIL, ECUADOR, Elaboración propia. ROSARIO, ARGENTINA., Elaboración propia.



CARTAGENA, COLOMBIA. Elaboración propia. VERACRUZ, MÉXICO. Elaboración propia.

LINKING TO SOCIETY/ OR RELATIONSHIP WITH NATIONAL PRIORITY PROBLEMS

The work suggests that there are many trends of urban growth in the Latin American region, very similar in the 1970s and 1980s, as well as some clearly new features over the past two decades. Some of the old and inherited trends are continued urban expansion and spatial fragmentation, the phenomenon of spatial growth, being much faster than population growth and, consequently, a decrease in the population density of metropolitan areas. In addition, high socio-spatial segregation and large-scale destruction of agriculture and environmental resources. On the other hand, some important new features of urban growth and development are also indicated: a decrease migration to the cities that has significantly reduced demographic pressure in cities in the region; a modernized and globalized urban economy, in which culture, information and specialized services are replacing traditional activities; and in general, some consolidation of urban agglomerations.



N-435

TOWARD A PEDAGOGY OF PLACE. PUBLIC SPACE AS SCENERY OF TEACHING AND LEARNING

KEY WORDS: COMMON SPACES AND URBAN SCENERY, (SPATIAL) APPROPRIATION, TEACHING AND SOCIAL LEARNING
PALABRAS CLAVES: ESPACIOS COMUNES Y ESCENARIOS URBANOS, APROPIACIÓN (ESPACIAL), ENSEÑANZA Y APRENDIZAJE SOCIAL

ABSTRACT

The transformation of public space into semi-public or privatized commercial spaces led to a reconsideration of the role of public space as teaching and learning scenario. Such an educational project of public space results in the idea of a pedagogy of place.

OBJECTIVES

- Define the public space as an "urban scenery" of teaching and learning. In this place of encounter and citizenship, appropriation is promoted as a specific learning process.
- Carry out comparative studies of cases with similar urban characteristics between public and private located in France, Germany and Mexico.

RESUMEN

La transformación del espacio público en espacios semi-públicos o espacios comerciales privatizados llevó a una reconsideración del papel del espacio público como escenario de enseñanza y aprendizaje. Un tal proyecto educativo del espacio público resulta en la idea de una pedagogía del lugar.

OBJETIVOS

- Definir el espacio público como un "escenario urbano" de enseñanza y aprendizaje. En este lugar de encuentro y de la ciudadanía se promueve la apropiación como un proceso específico de aprendizaje.
- Realizar estudios comparativos de casos con características urbanas similares entre lo público y lo privado ubicados en Francia, Alemania y México.

PROGRESS 2020

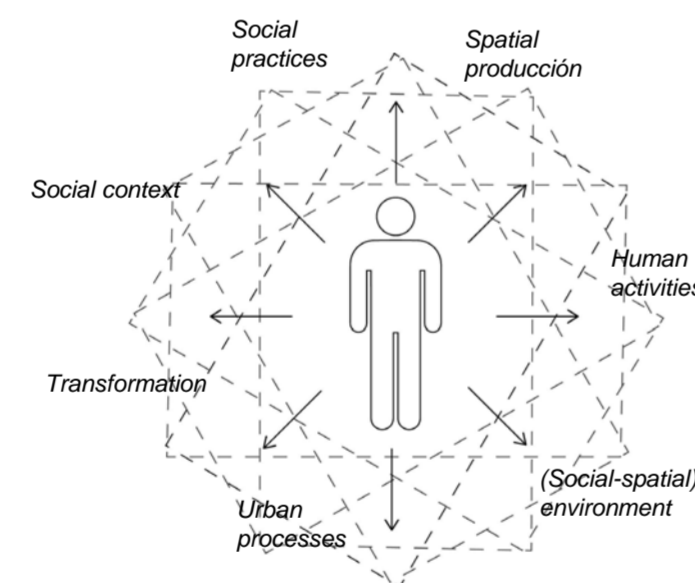
- Supportive readings and thematic update, in order to develop and enhance the theoretical framework, as well as build and expand the thematic bibliographic collection.
- Field studies of common good cases in the capitals of France and Germany Paris and Berlin, studying satellite images and three-dimensional models available, as well as comments and evaluations that appear on social networks.
- Development of an urban intervention interpreted as a method, understanding public space as a means to construct ideas about citizenship and belonging to the city.
- Presentation in different specialized events of the project progress.



DR. CHRISTOF A. GÖBEL
ORCID: 0000-0001-6298-5261



DRA. ELIZABETH ESPINOSA DORANTES



Case studies

Mexico City

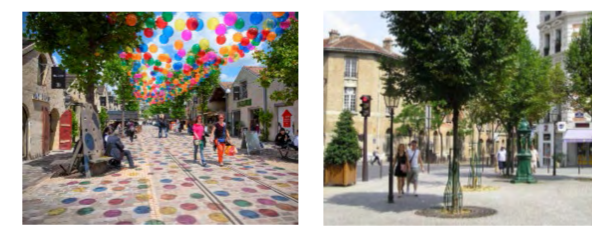


PARTICIPATION WITH THE REFLECTION "PUBLIC SPACE VS PRIVATE SPACE"



POSTER. COURTESY OF JUAN CARLOS MANSUR (PHILOKALIA)

Paris, France



SQUARE IN THE CROSSING ROADS ALÉSIA/TOMBE-ISSOIRE. PHOTOGRAPHY: ANTOINE FLEURY

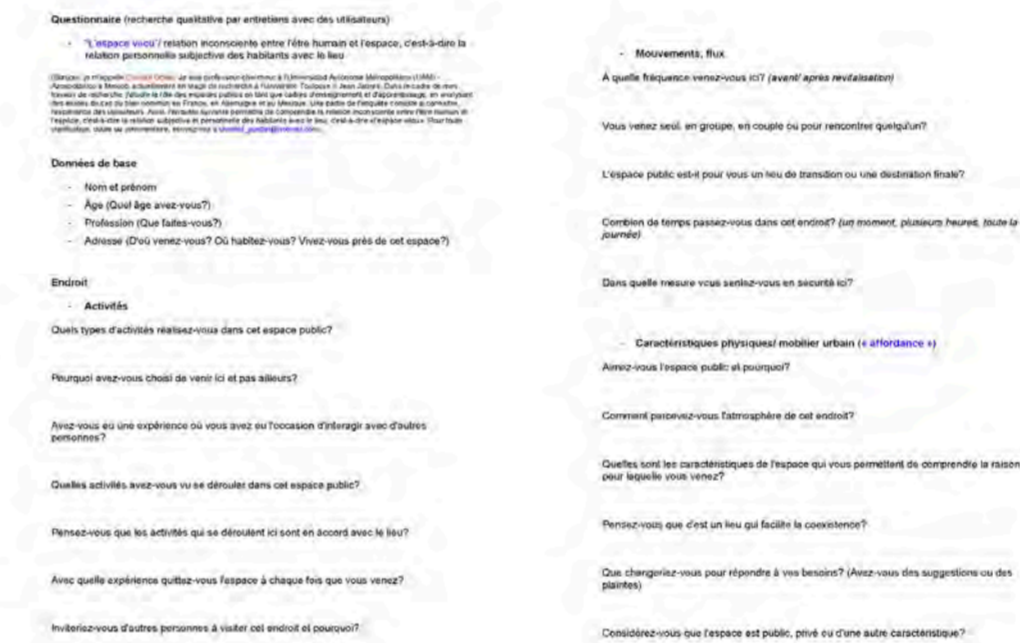
Berlin, Germany



METHODOLOGY

The objective of this research is based on the analysis of the question which possibilities do contemporary spatial and social realities offer for the appropriation of common spaces and how do they influence the role of these spaces as teaching and social learning scenarios? This means, to what extent is the function of urban public space as a place for teaching and learning social competencies threatened by public privatization, and which remedies and instruments are available for planners in order to stimulate architectural and material suggestions.

It is worth mentioning that the field studies of cases of the common good in the European metropolis Paris and Berlin, with the "dense" observations and the completion of questionnaires, initially planned for spring/ summer 2020, have unfortunately been postponed due to the coronavirus pandemic and will be recovered as soon as the situation allows. However, in the interim intensive research has been carried out via the Internet, using the new media as an alternative to study.



QUESTIONNAIRE (IN FRENCH). OWN PRODUCTION



WEB OPINIONS: 4.3/ 5. [HTTPS://WWW.FACEBOOK.COM](https://www.facebook.com)

OBJECTS

- 1 Shop
- 2 Restaurant
- 3 Supermarket
- 4 Cinema
- 5 Hotel
- 6 Bercy Park
- 7 Café
- 8 Parking lot
- 9 Subway
- 10 Museum



ACTIVITIES

- Shop
- Eat
- Drink
- Relax
- Go to the cinema
- Transit
- Parking



MOVEMENT



OBJECTS, ACTIVITIES, MOVEMENT. OWN PRODUCTION

SOCIAL IMPACT OF THE PROJECT

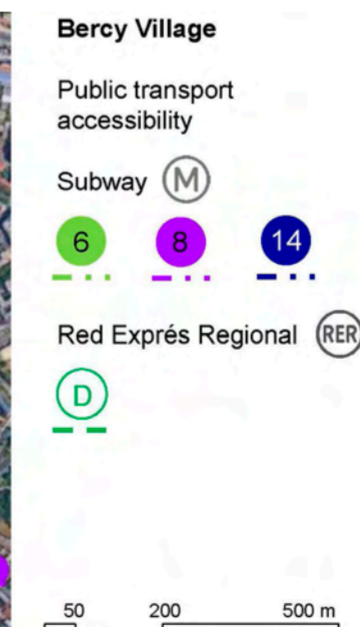
We must think of the city, and of the public space in particular, as places of teaching and learning, whose key to construction lies in spatial appropriation. Therefore, the importance of the project is to contribute to the theoretical and practical discussion of recognizing the meaning of civic opinions, since cities are not only built by planners and urbanists, but also by their inhabitants. Consequently, the public administration should promote the creation of "spaces of possibility", with the intention of establishing situations for appropriation and thus providing opportunities for learning. Likewise, the work implies a plea for lifelong learning, in schools, universities, and also in public spaces, as well as an invitation to get out into the streets, benefiting from "urban sceneries" and appropriating these.



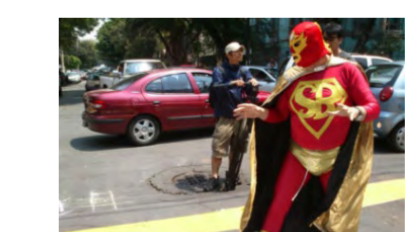
COUR SAINT-ÉMILION. [HTTPS://WWW.PARISZIGZAG.FR](https://www.pariszigzag.fr)



IMITATION OF THE PUBLIC. [HTTPS://WWW.PARISINFO.COM](https://www.parisinfo.com)



URBAN SUPERHEROS OF MEXICO. [HTTP://LANGUES.AC-DIJON.FR](http://langues.ac-dijon.fr)



"SUPERBARRIO GÓMEZ". [HTTPS://WWW.BBC.COM](https://www.bbc.com)



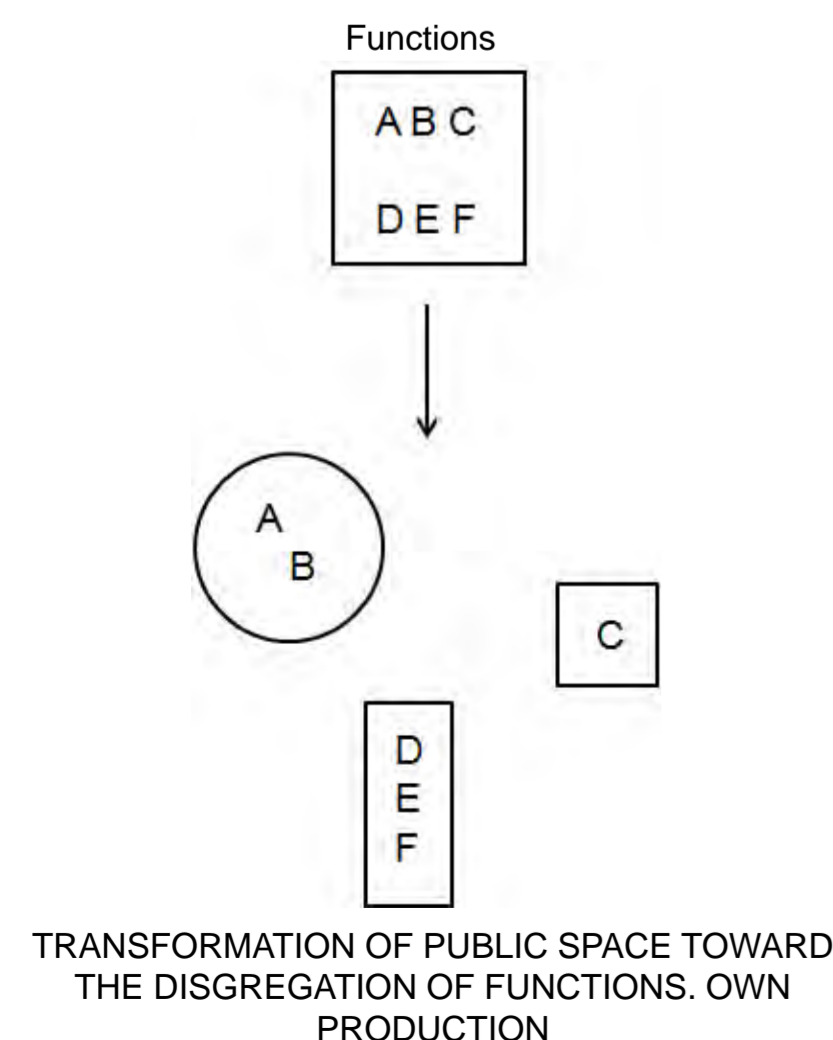
"SANTO LUGAR" IN BERCY VILLAGE. OWN ELABORATION

SOURCES OR REFERENCES

- DRECHSEL, PIA (2010) PUBLIC DESIGN INTERVENTIONS. EINGRIFFE IN DEN ÖFFENTLICHEN RAUM. RESEARCH PROPOSAL I. MASTER OF EUROPEAN DESIGN (MEDES), KÖLN INTERNATIONAL SCHOOL OF DESIGN (KISD)
- FLEURY, ANTOINE (2010) PUBLIC/ PRIVÉ: LE (RE)DISTRIBUTION DES RÔLES DANS LA PRODUCTION DES ESPACES PUBLICS A PARIS ET A BERLIN. METROPOLES, 8, TOULOUSE
- GARRIDO PEREIRA, MARCELO (2005) EL ESPACIO POR APRENDER, EL MISMO QUE ENSEÑAR: LAS URGENCIAS DE LA EDUCACIÓN GEOGRÁFICA, CAD. CEDES. CAMPINAS, 25 (66), MAY/ AUGUST 2005, PP. 137-163

GÖBEL, CHRISTOF (2019) APRENDIZAJE SOCIAL EN ESPACIOS PÚBLICOS, CDMX/ SOCIAL LEARNING IN PUBLIC SPACES, MEXICO CITY, UAM-AZCAPOTZALCO, MEXICO CITY

PATRICIA, PURICE (2009) PRIVATISIERUNG ÖFFENTLICHER RÄUME. STRUKTUREN UND ENTWICKLUNGSTENDENZEN, BACHELORARBEIT, INSTITUT FÜR ÖFFENTLICHE DIENSTLEISTUNGEN UND TOURISMUS (IDT-HSG), UNIVERSITÄT ST. GALLEN: HOCHSCHULE FÜR WIRTSCHAFTS-, RECHTS- UND SOZIALWISSENSCHAFTEN





N-452

EVALUATION OF URBAN DESIGN SOLUTIONS IN LATIN AMERICAN, EUROPEAN AND ASIAN CITIES.

Key words: Urban Design, Urban Renewal.

ABSTRACT:

The project scope is specifically in urban renewal in the cities and its public space. In the traditional cities, the public space is the one that gives identity and character to the cities, the one that allows to recognize it and to live it, in urban sites: natural, cultural and patrimonial.

Nevertheless the management of government through the urban regulations norm, and projects in the decade of 80s, could not prevent neither to correct the constant damage in many districts. This has deteriorated the quality of life the security and the environment dramatically. In the 90s the market, with important investment in malls and in private urban actions (called gated communities) introduces changes in the traditional public urban space conceived as a private space, as a space of public use.

Nevertheless the treatment of the every day public space as a space for social integration, with strong citizen participation, multiplies the actions and the diversity of solutions improving the environmental quality of the set.

Our goal is to evaluate experiences in the daily life in the City Public Space in order to ameliorate the quality of life in our designs to serve the people efficiently understanding the culture, the socioeconomic and the site.

OBJECTIVES:

- Through experimenting relevant world wide examples, good and bad ones in the acupuncture (it is a theory of urban ecologism) urban interventions, that consider the cities alike living organism that breathe, and to point out specific areas that need to be repaired (urban renewal).
- The experimentations directed to the goal of improving the quality of human life in the public spaces of the cities.

CONTRIBUTIONS TO THE DESIGN FIELD

To achieve designs aimed at improving the quality of life of the inhabitants of the city through the design of urban renewal projects, which this requires, in the public spaces of these cities being better prepared, by the experience of solutions carried out by different realizations taking into account the successes and mistakes in the urban design, in order to take from these experiences the positive avoiding the errors, the negative, all this through a design that answers to the requirements of spaces for coexistence and responds to socioeconomic needs. Feeding on the experience, among others, that they have had and on the results that cities have obtained and that have earned recognition, in the equivalent of the Pritzker of architecture, the "Lee Kuan Yew City Prize" award that is awarded every year to the best solutions.

In response that has been given to the different cities (Bilbao and Medellín among others) in which great economic and cultural differences can be perceived and that have deserved the tribute to the outstanding contributions for the creation of vibrant, habitable and sustainable urban communities throughout the world.



Shanghai, China. Picture: Guillermo Díaz Arellano



Shanghai, China. Picture: Guillermo Díaz Arellano

RESEARCH PROGRESS IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

- Fieldwork documenting relevant cases in selected cities: Tokyo, Kyoto, Shanghai, Beijing, Xian, London, Liverpool, York, Edinburgh, Glasgow, Inverness, Dundee, Aberdeen, Genoa, Dublin and Belfast. It includes interviews with experts and relevant characters in the case studies.
- Documentation and compilation of bibliographic, photographic and cartographic material of the case studies. Research report writing.
- Realization of diaporamas (slide show): The Terracotta Warriors. The Great Wall of China, The Imperial Palace, The Temple of Heaven and The Forbidden City, which support the UEAs: Trends in contemporary architecture and sculpture and Architecture and City.



Tokio, Japón. Picture: Guillermo Díaz Arellano



Tokio, Japón. Picture: Guillermo Díaz Arellano



Tokio, Japón. Picture: Guillermo Díaz Arellano



Shanghái, China. Picture: Guillermo Díaz Arellano

LINK WITH THE COMPANY / OR RELATIONSHIP WITH NATIONAL PRIORITY PROBLEMS

- Determine the importance of heritage architecture and urban events not only as drivers of tourism, but as a sustainable source of work, roots and identity for citizens.
- The strengthening of the creative and cultural industries as generators economic and social well-being for a wide layer of the population.
- The existence of public space as an element that favors the encounter and exchange of ideas, that invites its appropriation by the population, that encourages the rediscovery of the city, its places, its history and that contributes identity to the citizens.
- The intervention of decadent or abandoned areas of the city that require "urban acupuncture".
- Smart, alternative urban mobility.
- The relationship with the environment and the context, which increases the urban sustainability and reduce the ecological footprint.
- The connection of the city with the territory, with the region, with the world.

SOURCES OR REFERENCES:

- Autores varios. JAPAN IN ARCHITECTURE. Genealogies of its transformation. Mori Art Museum, Tolyo. 2018
- Reem Koolhaas and Hans Ulrich Obrist. 2011. PROJECT JAPAN. Metabolism Talks... TASCHEN España, 2011.
- Michael Knight Dany Chan. SHANGHAI. Art of the City. Asian Art Museum. San Francisco. 2010

SOURCES OR REFERENCES:

- Peter Hibbard. THE BUND. Shanghai China Faces West. Odyssey Books and Guides. 2008
- Annik La Farge. ON THE HIGH LINE. Exploring America's most original urban park. Thames & Hudson. 2014



DR. GUILLERMO DÍAZ ARELLANO
ORCID: 0000-0003-1934-7066



Theory and Praxis in Contemporary Urbanism

CONTEMPORARY URBAN DEVELOPMENT, PRAXIS OF URBAN PLANNING, URBAN TRANSFORMATION
URBANISMO CONTEMPORANERO, PRAXIS DE LA PLANIFICACION, TRANSFORMACION URBANA

Abstract

The new urban ideas are implemented in public policies and various projects that are inserted in the New Urban Agenda, the 2030 Agenda for Sustainable Development and the (17) principles of Sustainable Development, which reflect the articulation of regional urban planning and link of different dynamics that will shape the territory, among them the processes of evolution and transformation of the physical space and the types of urban infrastructure that are developed in the contemporary city.

Objective:

Deepen the processes inherent to the development and practices of urbanism and architecture in the context of the theory and praxis of contemporary urbanism, in order to identify new concepts about the city and analyze approaches, ideas and solutions adopted, in order to identify the trends, processes, themes, policies and strategies necessary for a successful urban planning practice.

Resumen

Las nuevas ideas urbanísticas se instrumentan en políticas públicas y diversos proyectos que se insertan en la Nueva Agenda Urbana, la Agenda para el Desarrollo Sostenible 2030 y los (17) principios de Desarrollo Sostenible, las cuales reflejan la articulación de la planeación urbano regional y el vínculo de distintas dinámicas que configuraran el territorio, entre ellos los procesos de evolución y transformación del espacio físico y los tipos de infraestructura urbana que se desarrollan en la ciudad contemporánea.

Objetivo:

Profundizar en los procesos inherentes al desarrollo y prácticas del urbanismo y de la arquitectura en el contexto de la teoría y praxis del urbanismo contemporáneo, con la finalidad de identificar los nuevos conceptos sobre la ciudad y analizar planteamientos, ideas y soluciones adoptadas, con el fin de identificar las tendencias, procesos, temáticas, políticas y estrategias necesarias para una práctica exitosa del urbanismo.

Avances 2020

Based on thematic axes of urban planning, sustainability and innovation were identified as general principles of organization of an online research platform, deploying 6 specific principles and identifying 71 urban requirements to be considered.

This conceptual identification of attributes, allowed to establish the structure of the research platform where, as sections and with a small thematic description, strategies and projects will be presented for the successful transformation of the physical space of contemporary cities (this last section is under construction).



Elizabeth Espinosa Dorantes
ORCID 0000-0002-3198-5135



Maruja Redondo Gómez



Sergio Padilla Galicia



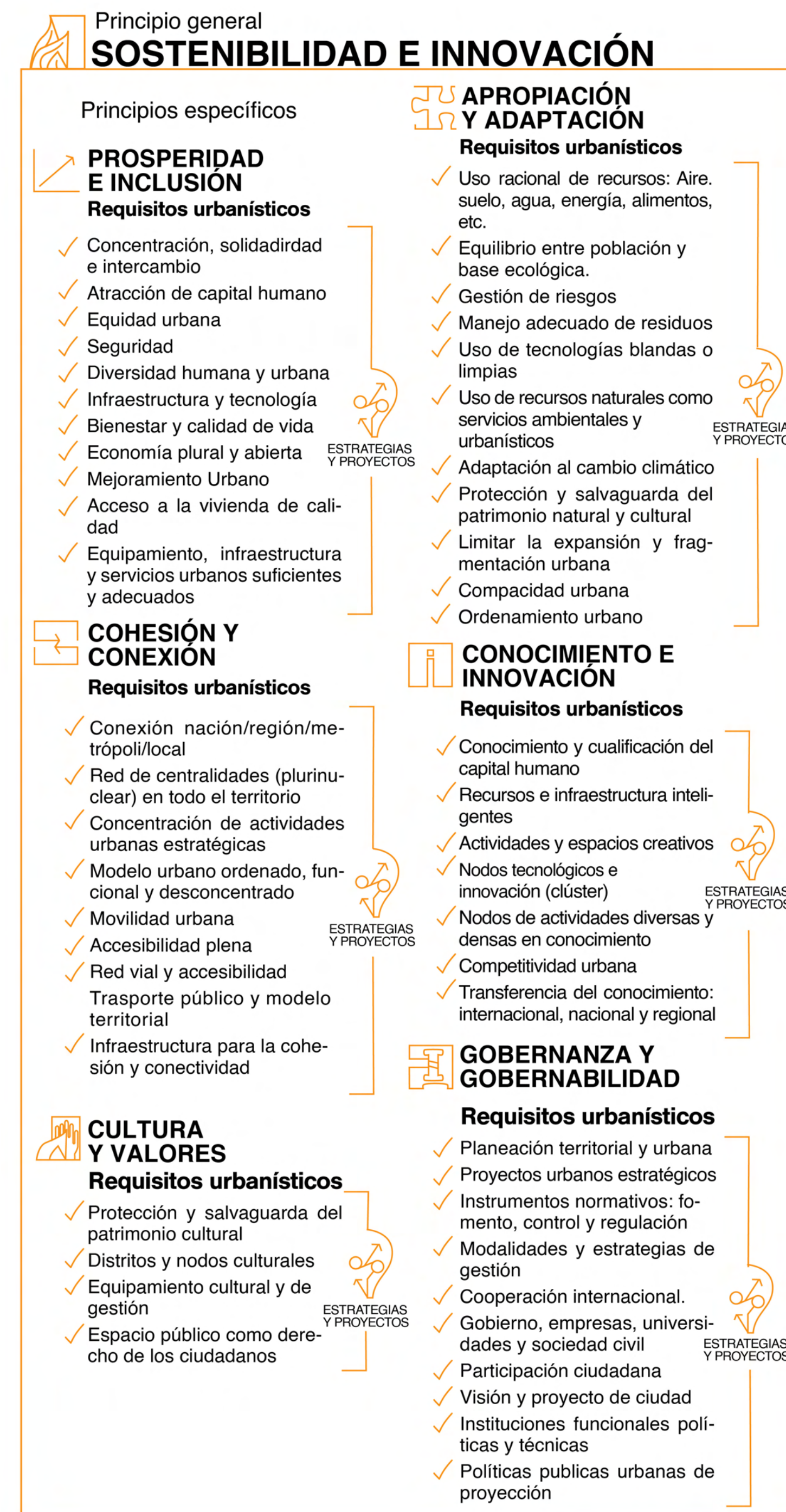
Access covers to the research platform (<http://aau.org.mx/index.cfm>)

Methodology

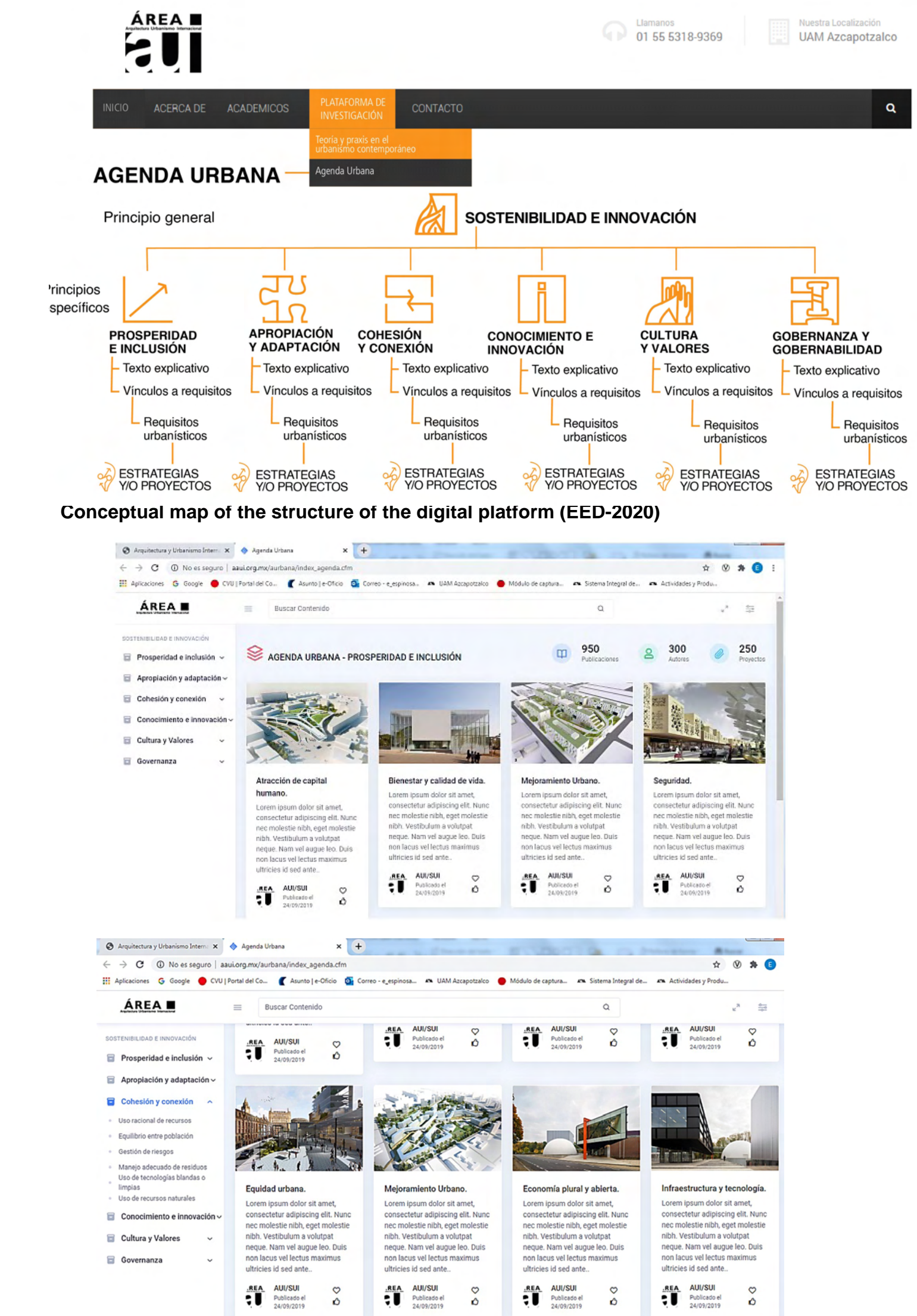
For the development of research, 3 main questions were asked:

1. What are the concepts relating to urban intervention that allow the occupation of the territory in terms of equity, efficiency and habitability conditions?
2. What relationships are required to be established to understand the urban project as a comprehensive instrument of intervention in urban space and to define new purposes and guidelines applicable to the contemporary city?
3. What are the strategies that require interdisciplinary arrangements to control expansion?

Based on these questions, various experiences were identified and compiled in cities and specific cases of urban planning, architecture and sustainability.



Conceptual map of the structure of the digital platform (EED-2020)



Access covers to specific principles. (<http://aau.org.mx/index.cfm>)

Social impact of the project

The project is supported by the consideration and discussion of the New Urban Agenda, approved by the United Nations at the Conference on Housing and Sustainable Urban Development (Habitat III), which supports the planning processes of contemporary cities, to reorient their design, financing and development scheme, in addition to their administration and management.

For this reason, it seeks to document the relevant architectural urban interventions at the local and international level and to detail, with a disciplinary approach, their conceptual, methodological and technical specificities. The project is also relevant for the training process of professionals to acquire tools that allow them to understand the implications of building design and its relationship with different components, scenarios and actors during the disciplinary practice of urbanism and architecture, which involves formulating and developing instruments for the design of more sustainable territories and therefore the construction of buildings under an efficiency character.

Bibliography

- Verdaguer Viana-Cárdenas Carlos, (2017); Después de Hábitat III: aproximación a un análisis crítico de la Nueva Agenda Urbana; Revista Ciudad y Territorio. Estudios Territoriales (CyTET) Vol. LI. Cuarta época N° 202; Ministerio de Fomento; España.
- Hernández Partal, Sonia (2017); Hábitat III: la Nueva Agenda Urbana; Revista Ciudad y Territorio. Estudios Territoriales (CyTET) Vol. XLIX. Cuarta época N° 191; Ministerio de Fomento; España.
- Martí Carlos (2016); Agenda Urbana; para el siglo XXI; La ruta hacia Hábitat III. Quito 2016; Ciudad Sostenible; ONU Hábitat.
- Neilo, Oriol (1996); Los confines de la ciudad sin confines. Estructura urbana y límites administrativos en la ciudad difusa; Barcelona España www.cccb.es
- De Santiago Rodríguez Eduardo; (2017); El pacto de Ámsterdam y la Agenda Urbana de la Unión Europea; Revista Ciudad y Territorio. Estudios Territoriales (CyTET) Vol. XLIX. Cuarta época N° 191; Ministerio de Fomento; España.
- ONU Hábitat (2016); Proyecto de documento final de la Conferencia de las Naciones Unidas sobre la Vivienda y el Desarrollo Urbano Sostenible (Hábitat III); Nota de la Secretaría



Visual composition in virtual learning (e-learning)

Visualization, composition, learning

In distance education through virtual courses, the transmission of knowledge no longer falls directly on the teacher's method of presentation, but on the way of presenting information to students. In the e-learning modality, the didactic resources are in charge of transmitting the information to the students, using the advantages that ICTs offer us. However, it is important to consider that most of the information is presented visually and that such materials must be capable of acting autonomously and independently.

The **objective** of this project is to identify the gestation, development and transformation mechanisms of applied visual languages and their implications within the strategies of semiotics in design applied to virtual learning.

Aiming at the development of an instructional proposal on what can be understood as visual "good composition", based on the postulates of the Gestalt School and its followers, as a didactic resource model using visual composition strategies, to improve virtual learning.

The advance of this project has been the theoretical compilation on the postulates that help us to define good visual composition from the syntax of visual language. The study of a formal syntax clarifies the relationships between the conceptual elements of a visual composition, moving from pure intuition to managing the structuring of a grammar of forms, facilitating the generation of visual codes and creating conventions that will facilitate intercommunication between the elements, members of a society, as in the case of traffic signs and those used in new media among many others.

There have been many attempts to create a visual language syntax and it is possible to say that almost all of them have been based on the perceptual organization principles of the Gestalt Theory, which, it is worth mentioning, although more than half a century of its proposals are still the basis for the study and teaching of design and the plastic arts.

Technology by itself is not an educational activity, nor does it improve learning skills, it only serves as an instrument to achieve an end.



Fig. 1 Circle Limit I, M.C. Escher 1958. Source: <https://www.wikiart.org/es/m-c-escher/circle-limit-i>, retrieved on 09/20/2020.



Dra. María Teresa Olalde Ramos
Responsible
ORCID 0000-0002-2853-6515



Mtro. Jonathan Adán Ríos Flores
Collaborator

Babot, (2003):

“Knowledge is not transmitted, neither through the Internet, nor in any other way. Information is easily transmitted, but knowledge is built by each individual through their own experience ”(p. 96).

Dondis (1992) says that:

In the Gestalt theory of perception, Prägnanz's law calls "good" (regular, symmetric and simple) that psychological organization in which these conditions prevail. In this case, the adjective "good" is not desirable, or even descriptive, considering the intended meaning: a more exact definition would be less emotionally provocative, simpler, less complicated, all of which describe the state reached visually by means of bilateral symmetry (p.45).

Kepes (1976) opines that:

In the same way that in nature there is a tendency to find in each formation the most economical surface unit, also in visual organization there is a tendency to find the most economical spatial unit in the ordering of optical differences (p.69).

De Sausmarez (1995) refers to visual coherence as the basis of organization in a "good" composition, which can only be perceived through sensitivity and Villafaña (2003) says that composition is the total organization of the background and figures, so for it to be a "good" composition the arrangement of these elements must be well structured.

Taking into account that, in virtual education, the didactic materials used have to act autonomously and independently, as this is an asynchronous and distance educational process, it is essential to consider the visual presentation of information as an important didactic strategy in the learning achievement. From which some questions arise such as:

Does the good visual presentation of the information favor the autonomy of the didactic materials for virtual learning?

Does a better perception of the information favor the interpretation and understanding of it, supporting in a more forceful way the achievement of learning?

Does the good visual composition in the presentation of the information improve the efficiency in the interpretation and understanding of it, which favors the achievement of learning?

What are the perceptual organization principles that help create good visual composition?

From a conceptual approach to the theoretical study of visual composition and new trends in semiotics, it seeks to enrich the concept of visual language syntax, its influence on the interpretation and understanding of information and its impact on virtual learning.

Using a process of analysis of the cognitive processes applied in virtual learning, verify the importance of the visualization of information in the interpretation of the correct meaning in a visual message and how good visual composition can favor the interpretation of information, improving learning .

Dondis (1992):

The composition process is the most important step in solving the visual problem. The results of compositional decisions mark the purpose and meaning of the visual statement and have strong implications for what the viewer receives (p.33).

Lupton et al. (2016) says that:

Balance is, in fact, a highly valued commodity in our culture and it is not surprising, therefore, that our implicit and intuitive relationship with it has prepared us to perceive its presence (or absence) in everything we see, hear, we smell, taste and touch (p.49).

Villafaña (2003), says:

The effect of totality has a lot to do with balance, [...] When an image obtains the balance between all its elements, and these lose their autonomy in favor of the iconic synthesis, it acquires a value of permanence that, above all, in the case of the isolated image is easily perceptible. Again, this fact depends largely on the simplicity of the structure that supports the composition. (p. 181)

Kepes (1976) says that:

[...] Any optical differentiation of a graphic surface generates a sense of space. A typographic design, the scribbles on paper, the colored dots on a canvas, [...] are alike spatial expressions by virtue of the process by which the eye organizes its visible differences, not a totality. "The eye especially demands integrity," says Goethe. Internal forces act to restore balance after each disturbance coming from outside (p.35 and 49).

Today's society demands that all social dynamics, including educational ones, revolve around the use of technological, theoretical, ethical and conceptual resources according to the time in which we live. In this sense, the academic field is at a crucial moment in terms of rethinking the way in which it is taught and learned. In the field of design, as in other disciplines, e-learning is essential to experience another way of learning, where the development of teaching materials and resources is essential for educational achievement and has become a challenge for designers. of graphic communication.

With an investigation like this one seeks to achieve contributions to the areas of knowledge involved, as in this case to the design and visualization of information, where the definitions of communication and visual language, where you can reach a detailed description of the Gestalt theory on visual perception, as well as its synthetic and illustrated presentation, which may well be a theoretical compendium that when trying to define the concept of good visual composition from the position of different authors, as well as the synthetic and illustrated description of various aspects of the syntax of visual language, is an enriching contribution to the semiotics of design in the visualization of information.

Arnheim, R. (1972). Art and Visual Perception (5th ed.). Buenos Aires: Editorial EUDEBA.
Avgerinou, M. D. (2001). Toward a Cohesive Theory of Visual Literacy. (O. University, Ed.) Journal of Visual Literacy, 30 (2), 1-19.
Aznar Casanova, J. (s.f.). Psychology of Visual Perception. (F. d. UB, Producer, & University of Barcelona)
Babot, I. (2003). e-learning, corporate learning. Barcelona: Ediciones Gestión 2000, SA.
Costa, J. (1998). The schematic. View the information. Barcelona: Paidós.
Costa, J. (2003). Design for the eyes (1st. ed.). La Paz, Bolivia: Grupo Editorial Design.
Dantzi, C. M. (1994). Visual design: introduction to the visual arts. Mexico: Editorial Trillas.
De la Torre and Rizo, G. (1992). The Language of graphic symbols. Mexico: Editorial Limusa.
De Sausmarez, M. (1995). Basic Design. Dynamic of visual form in Plastic Arts., Mexico: Editorial Gustavo Gili.
Dondis, D. A. (1992). The syntax of the image. Introduction to the visual alphabet (10th ed.). Mexico: G. Gili Editions.
Kandinsky, V. (1999). Point and Line to Plane. Barcelona, Spain: Ediciones Allaya, S.A.
Kanizsa, G. (1986). Grammar of Vision. Perception and thinking. Buenos Aires: Paidós Ibérica Editions.
Kepes, G. (1976). The Language of Vision. Buenos Aires: Infinite Editions.
Koffka, K. (1922). Perception: An introduction to the Gestalt-theorie. Psychological Bulletin, 19, 531-585.
Kuppers, H. (1980). Fundamentals of the Theory of Colors. Barcelona, Spain: Editorial Gustavo Gili, S.A.
Leborg, C. (2013). Visual grammar. Barcelona: Editorial Gustavo Gili.

Lupton, E. & (2016). Graphic Design, new fundamentals. Barcelona, Spain: Editorial Gustavo Gili.
Lupton, E., & Miller, J. A. (1994). The abc of the bauhaus and design theory. Mexico: G. Gili Editions.
Maitin, M. W. (1996). Sensation and Perception. New York: Prentice Hall.
Mckim, R. H. (1972). Experiences in visual thinking. USA: Stanford University Books Publishing Co.
Moholy-Nagy, L. (2008). The New Vision (5th ed.). Buenos Aires: Infinite Editions.
Moszkowicz, J. (2011). Gestaly and Graphic Design: an exploration of the therapeutic effects of visual organization. [electronic version] Design Topics, 27 (4).
Munari, B. (1985). Design and visual communication. Barcelona: Editorial Gustavo Gili, S.A. de C.V.
Rainer, W. (1998). Bauhaus Pedagogy (Essay version). (B. Bas Álvarez, Ed.) Spain: Editorial Alianza, S.A.
Rodas, I. D., and Vanni, E. (1998). Introductory aspects of Design. Basic analysis of the form. Mexico: Aurea Editores.
Scott, R. G. (1994). Design fundamentals. Buenos Aires: Editorial Victor Leru. of Extremadura.
Villafaña G., (2003). Visual education: basic knowledge for design. Mexico: Editorial Trillas.
Wick, R. (1998). The pedagogy of the Bauhaus. Madrid: Editorial Alliance.
Wilemwn, R. E. (1980). Exercises in Visual Thinking. U.S.A.: Editorial Library of Congress.
Wong, W. (1981). Fundamentals of bi and three-dimensional design. Barcelona: Editorial Gustavo Gili.
Wong, W. (1987). Principles of Color Design. Barcelona: Editorial Gustavo Gili.



N-456

Design as a Teaching-Learning Process Based on the Production and Creation of Art

Concept, Vinculation, Art.

SUMMARY:

The present research has revealed the importance of implementing efficiently the Conceptualization Process exercised by the artist, during the first quarters (I to III) of the careers at the Design UEA's, as a factor that shall support the strengthening of the academic level of our students, as well as the efficient linkage of the General Core with the Basic Core of the bachelor degrees of our Division. Furthermore, this process shall also firm up the identity of our Division, being Art the element that was set up in order to integrate the Forth Area of Knowledge: the Science and Arts Division for Design and, with its implementation, retrieve an essential part of the General Model of the Design Process.

GENERAL OBJECTIVE:

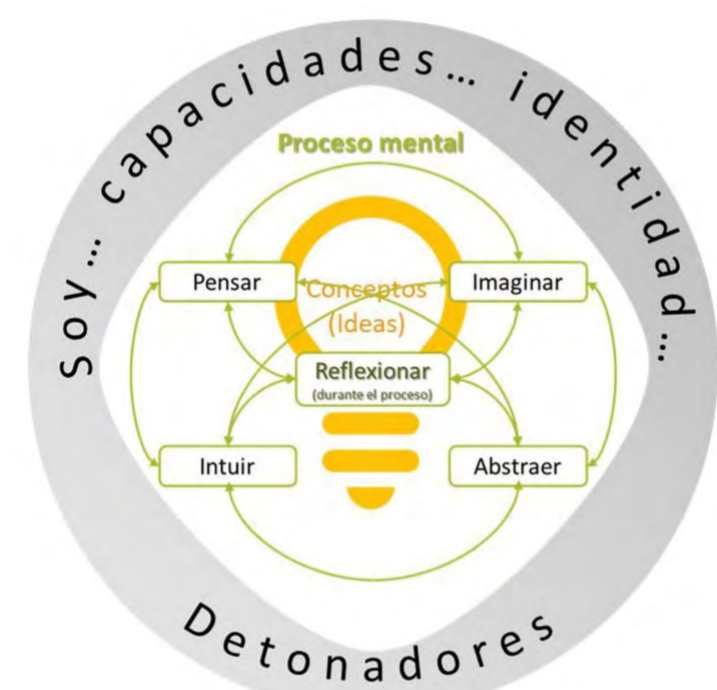
To exercise within the Design Making, a diverse teaching – learning process which, based in the creation and making process of the Art, also boosts a new academic vision.



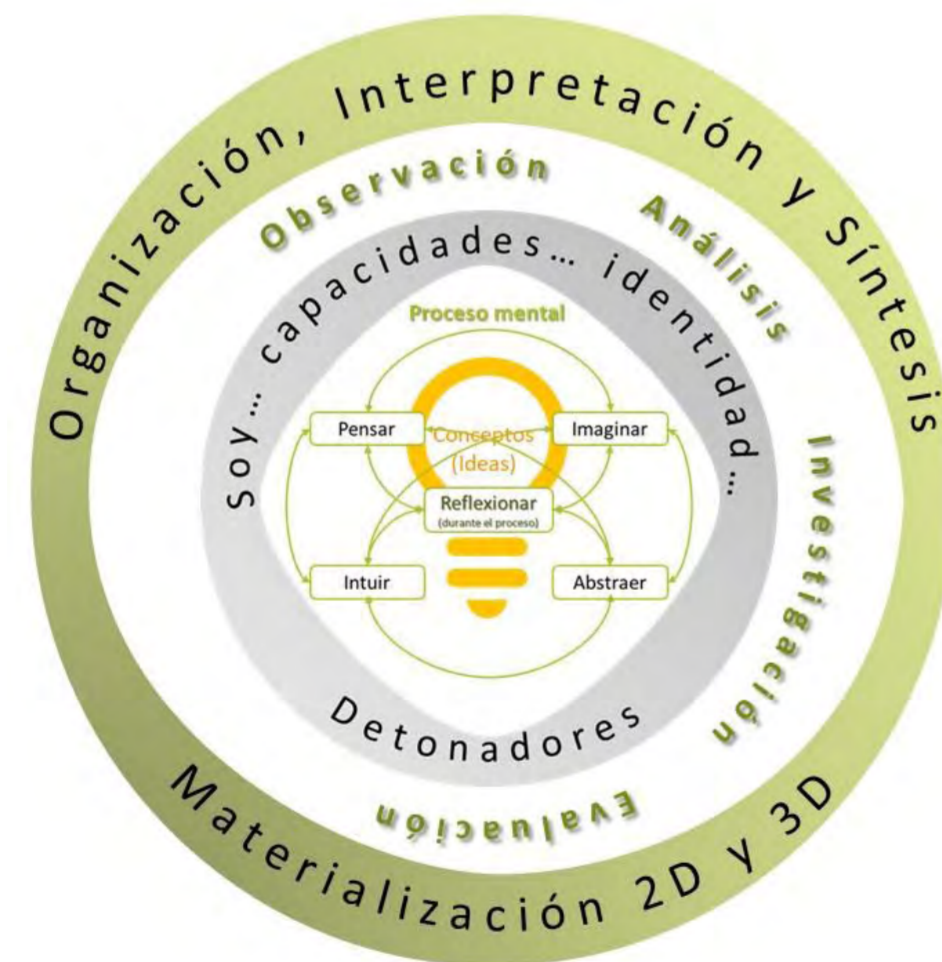
DCG. Laura Elvira Serratos Zavala
ORCID: <https://orcid.org/0000-0001-8525-6651>



Arq. Olga Margarita Gutiérrez Trapero
ORCID: <https://orcid.org/0000-0002-2516-6459>



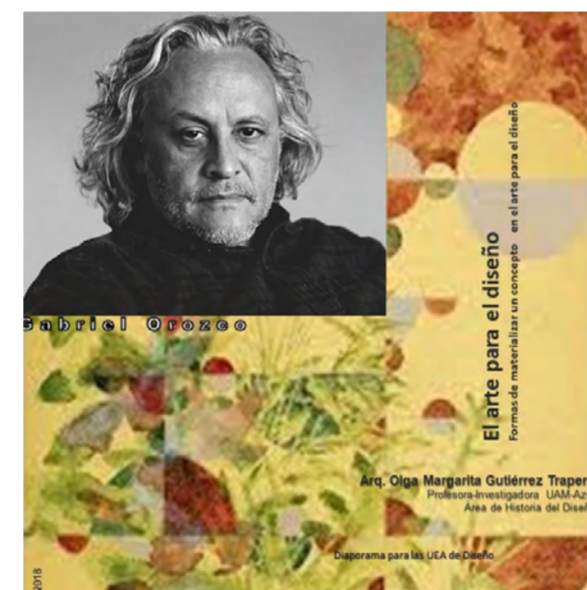
Artist Conceptualization Process Cell



Designer Conceptualization Process Cell

CONTRIBUTIONS TO THE DESIGN FIELD

- Promote the Hypothesis stage that marks the General Model of the Design Process for the General Core, through the Conceptualization Process of Art, to achieve its effective linkage with the Basic Core and the Design Process of each of the CyAD bachelor's degrees.
- Promote the bi and the three-dimensional union, being this is the real compositional process in design, increasing each quarter the degree of complexity.
- Strengthen the identity of the CyAD Division through the conceptualization process, which is intended to be implemented in the TG, for training students that are capable of proposing innovative ideas, pondering the act of creating over the technological domain.



Front Cover of Teaching Materials focused on Art and the Conceptualization Process

RESEARCH PROGRESS AND PRODUCTS ACHIEVED DURING 2018-2019

2018

• Participation in the 1st Colloquium for Design Education in Society 5.0 S 5.0 Technology Society where the Human Being may Shine. From May 2 to 4. "A Design Making aligned to Society 5.0". May 2. Delivery of article for its publication.

• Participation in the Teaching Seminar: The Theory, Basis for the Teaching-Learning of Design. From October 15 to 19. "Linkages between the basics of the General Core and the Industrial Design". October 15.

2019

• Approval of the Social Service Project "The Conceptualization Process of Design based on Art". Project approved in the Ordinary Session 565 of the XLIV CyAD Divisional Council held on July 11. Key assigned: 565/11 and ACA D001770.

• Participation in the Seminar Self-Criticism. September 11 and 12. "The General Core and its linkage with the Basic Core". September 12.

• Participation in the XI Inter-Institutional Colloquium of History & Design. October 9. "The influence of the Bauhaus preliminary courses in the Design UEA's of the General Core of the CyAD Division, 1919-2019".

Field Work and Others

Conducting interviews with artists and designers

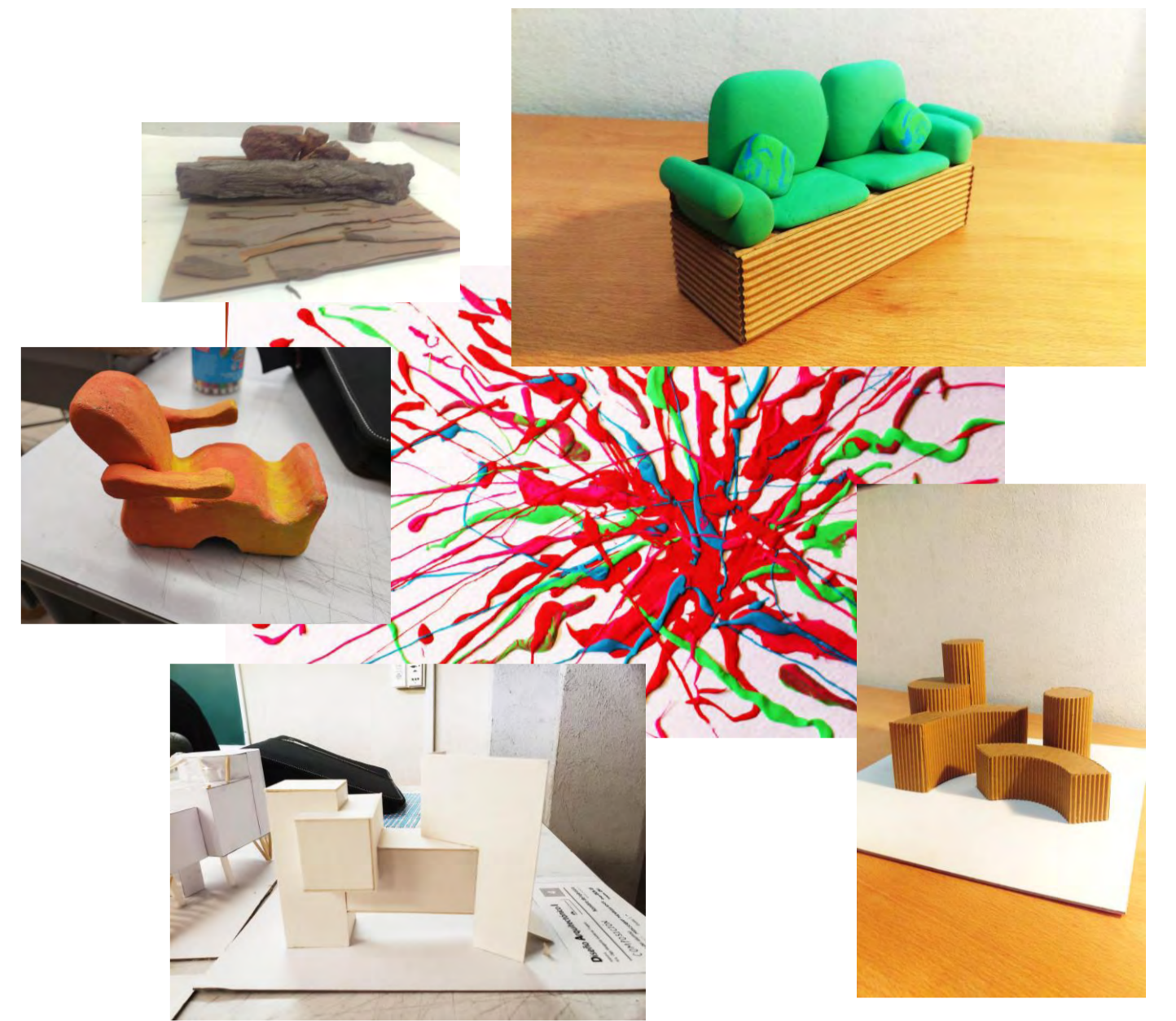
- Survey addressed to students and professors of the CyAD Division
- Survey addressed to students and artist professors of "La Esmeralda"
- Carrying out pilot exercises
- Research on the General Model of the Design Process (MGPD)
- Research about the Bauhaus
- Production of didactic material (slide shows) on diverse artists, museums and subjects related to Art.
- Elaboration of a Comparative Catalog between the exercises of the Bauhaus preliminary course and those carried out in the CyAD Design Workshops, quarters I to III.



Front Cover of Teaching Materials focused on Art and the Conceptualization Process

Interviews

- Betsabé Romero, Plastic Artist
- Prof. Claudia de Valle Romero, Graphic Designer Creativity Specialist
- Rosalba Crotte Carillo, Graphic Designer, Branding Specialist
- Dr. Ma. Teresa Oejo Cázares, Founding Professor of the CyAD Division.
- Dr. Emilio Martínez de Velásco, Founding Professor of the CyAD Division.



Works carried out starting from the experimentation of the Conceptualization Process based on Art

LINKAGE WITH SOCIETY

Given the need to forge an identity and a more human Design in our CyAD Division, the present project proposes to implement a conceptualization process based on Art for its future and effective application in the classroom, impacting the level of professionalization of our graduates for the benefit of today's society, by proposing as well innovative ideas in accordance to its needs.

Pilot tests with students of the first quarters of the CyAD Division Careers



Surveys

- Escuela Nacional de Pintura, Escultura y Grabado (National School of Painting, Sculpture and Engraving) La Esmeralda. Acknowledgement to the Plastic Artist Priscilla Vallejo, Head of Academic Extension.
- Universidad Autónoma Metropolitana, Azcapotzalco Campus. Teachers and Students of the CyAD Division



N-412

History and type appreciation as fundamental aspects in learning typography

PALABRAS CLAVE: Tipografía, aprendizaje y sensibilización
Typography, learning and appreciation

ABSTRACT

The change of production and typesetting technology, due to the advance in the computer design and composition, influence typography learning as a main element in the design of graphic communication, in such a way that many of the of the graphic designers use typography mechanically, with little or no knowledge of their history, classification, design and also, without feeling on how to apply it to the intentional significance of graphics and audiovisual messages that are produced for.

Due to this problem, we think that through the history and classification of the typography learning and the development of type appreciation through the use and practice with mobile type, the application of the typography in communication design will improve.

Also, this project pretends the possibility of expanding the use of mobile type and the printing press to generate typographical expressions in visual art and the development of books as artistic expression, through historical analysis, exercises of composition and printing press.

RESUMEN

Al tecnificarse la producción y composición tipográfica, por los grandes adelantos en el diseño y composición con el uso de la computadora, tanto para su uso en la composición de textos para su uso editorial, como los diferentes géneros del diseño gráfico, el aprendizaje de la tipografía como elemento principal en el diseño de la comunicación gráfica, se empezó a empobrecer a punto de que la mayoría de los egresados de diseño gráfico utilizan la tipografía de manera mecánica, con muy poco o nulo conocimiento de su historia, su clasificación, su diseño y

de manera alarmante, sin sentirla y aplicarla para que realmente se logre la significación intencional de los mensajes, gráficos y audiovisuales que producen.

Por este motivo se ve la necesidad de buscar la sensibilización al conocimiento y uso de la tipografía, tanto en el ámbito editorial como en titulares y la señalética. También, en este proyecto, se ve la posibilidad de ampliar el uso de los tipos móviles y la imprenta para generar expresiones tipográficas en el arte plástico y en la elaboración de libros como expresión plástica, a través del análisis histórico, ejercicios y prácticas de composición e impresión en imprenta

OBJECTIVES

The general objective of this project is:

Improve the learning of typography for its application in art and design through the reflection of the historical development of typography, the design of typographic fonts for texts and the approach to typographic composition with mobile type and printing, through sensitization and application exercises with types of metal and wood.

The specific objectives are:

- Study and analysis of the historical development of typography.
- Analysis and development of methods for the design of typographic fonts for text.
- Analysis and development of exercises to raise awareness of typography through composition and printing with mobile types.

RESEARCH ADVANCES IN 2018-2019 AND GENERATED RESEARCH PRODUCTS

Proposal for a new typography classification:

The Herrera Neve Typography Classification was already published in the book of the Area of History of Design as "The union between history and anatomy of the type to generate a new classification of typography."

Historical Development of the letter and typography: Paper and publication in the VIII Inter-institutional Colloquium of History and Design in the printing press.

Identity, image and typography: Paper and publication in the Ninth Inter-Institutional Colloquium of History and Identity Design

Legibility Opinion of the Universe 65 Bold typeface, to be read at a distance of 20 m, at gas station signs positioned at a floor height of between 3 and 6 meters. Project for a Law Firm representing the British Petroleum Fuel Sales Corporate.

Typography, letter and proportion: Article and presentation on the principles of proportion as well as the classical proportion of humanistic letters, from which the proportions of humanist typography were taken.



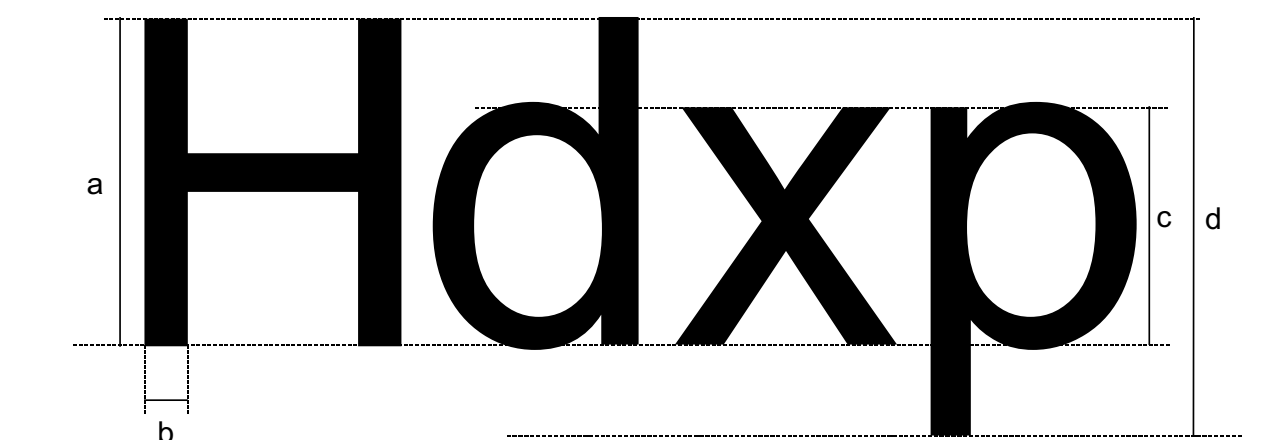
Preparation of the printing press presentation with movable types and zinc-engraved, as a part of the research project called "The Identity and Image of Typography"



BINDING OR SOCIAL IMPACT

Legibility Opinion of the Universe family typefaces in its 65 Bold variant, to be read at a distance of 20 meters, at gas station signs positioned at a floor height of between 3 and 6 meters. Project requested by a Law Firm for a new gas station concessionaire, The British Petroleum.

Calculation of the height of the letter in centimeters of the Universe Family in the Bold 65 variant to read at 20 m. away, from a moving vehicle, based on ergonomic studies.



Se requieren las medidas en mm de las letras de los letreros.
a.- altura de las mayúsculas
b.- ancho del trazo vertical de la mayúscula
c.- altura de las vocales o de la "x"
d.- altura de las minúsculas

También es importante saber que diseño de fuente tipográfica se utilizó para los mismos



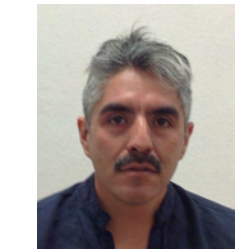
Dr. Luis Carlos Herrera Gutiérrez de Velasco
orcid.org/0000-0002-5030-4219



Mtro. Manuel Martín Clavé Almeida



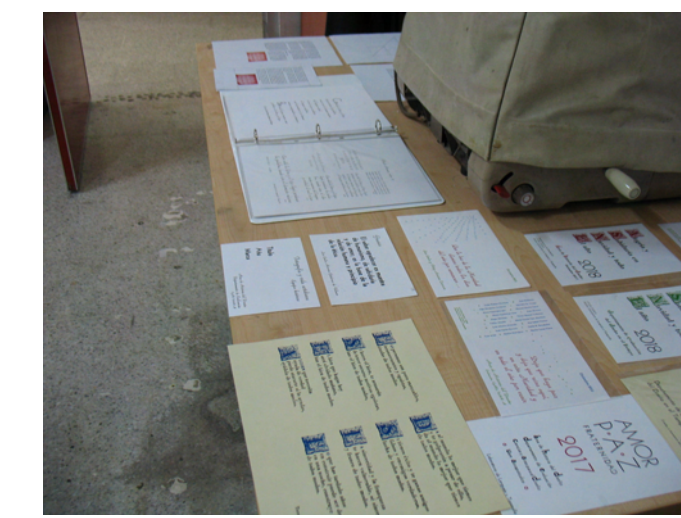
Dra. Luisa Martínez Leal



DG. Juan Moreno Rodríguez



Técnico Antonio Leyva Arriaga



Images of teaching to students and teachers and development of projects in the language and typography laboratory

Bibliography

- Cabañas, A. y Jiménez, M.G. (1992). *Gótica popular mexicana*. Cholula.
- De Buen, J. (2000). *Manual de diseño editorial*. México D.F.: Santillana.
- De Buen, J. (2000). *Manual de diseño editorial*. México D.F.: Santillana.
- Haley, A. (1990). *ABC's of type*. New York: Watson-Guptill.
- Herrera, L. (1993). *Ergonomía en el Diseño Gráfico*. México D.F. UNAM.
- Herrera, L y Neve, G. (2005). *Una propuesta sobre la clasificación de la tipografía*. en *MM1 en año de diseñarte*, No. 7. México D.F. UAM A.
- Martin, E. (1970). *La composición en las artes gráficas*. Tomo I, Barcelona: Don Bosco.
- Martinez de Sousa, J. (1987). *Pequeña historia del libro*. Barcelona: Labor.



Development of innovative classroom strategies (teaching development) including, monitoring, monitoring and evaluation.

desarrollo, estrategias, didáctico
development, strategies, didactic

SUMMARY AND OBJECTIVES IN SPANISH

La raíz del aumento en la movilidad estudiantil y los convenios inter-institucionales, las aulas de clase se han vuelto cada vez más multiculturales y cotidianas en la impartición de la docencia de las escuelas de educación profesional, con lo cual se plantean nuevas demandas para el desarrollo de estrategias transformadoras que aporten al modelo de formación profesional por competencias, en este caso a las competencias inter-culturales.

La competencia inter-cultural es considerada parte integrante de la capacidad comunicativa, herramienta fundamental de interacción, negociación e intercambio de significados y experiencias. Desde este punto de vista el profesional competente inter-culturalmente, es aquel que tiene la habilidad de inter-actuar con otros, ya sea de forma directa o virtual aceptando otras perspectivas y percepciones del mundo.

Objetivo General:

Diagnosticar el sistema de factores socioculturales y conductuales que permitan detectar requerimientos para la construcción de una competencia intercultural específica, de tipo comunicativa, en el contacto bicultural personal y entre la(s) cultura(s) del alumno y el proceso comunicativo objeto de estudio.

Objetivos Específicos:

1. Diseñar una asignatura intercultural y la estrategia pedagógica que permita generar experiencias y con ellas identificar elementos asociados.
2. Diseñar, aplicar, evaluar y monitorear la didáctica basada en la experiencia de la interculturalidad.
3. Vincular la asignatura con al menos dos Universidades extranjeras que tengan la Licenciatura de Diseño Gráfico a través de plataformas de comunicación para su desarrollo.



Ricardo Rafael Aguilar Quesadas
Correo: aqrr@azc.uam.mx
ORCID: 0000-0002-4143-4556



Sara Elena Viveros Ramirez
Correo: sarevi66@gmail.com

SUMMARY AND OBJECTIVES

As a result of the increase in student mobility and inter-institutional agreements, classrooms have become increasingly multicultural and everyday in the teaching of professional education schools, which raises new demands for development of transformative strategies that contribute to the vocational training model by competencies, in this case to inter-cultural competencies.

Inter-cultural competence is considered an integral part of the communicative capacity, a fundamental tool for interaction, negotiation and exchange of meanings and experiences. From this point of view, the inter-culturally competent professional is the one who has the ability to interact with others, either directly or virtually, accepting other perspectives and perceptions of the world.

General objective:

Diagnose the system of sociocultural and behavioral factors that allow the detection of requirements for the construction of a specific intercultural competence, of a communicative type, in personal bicultural contact and between the student's culture (s) and the communicative process under study.

Specific objectives:

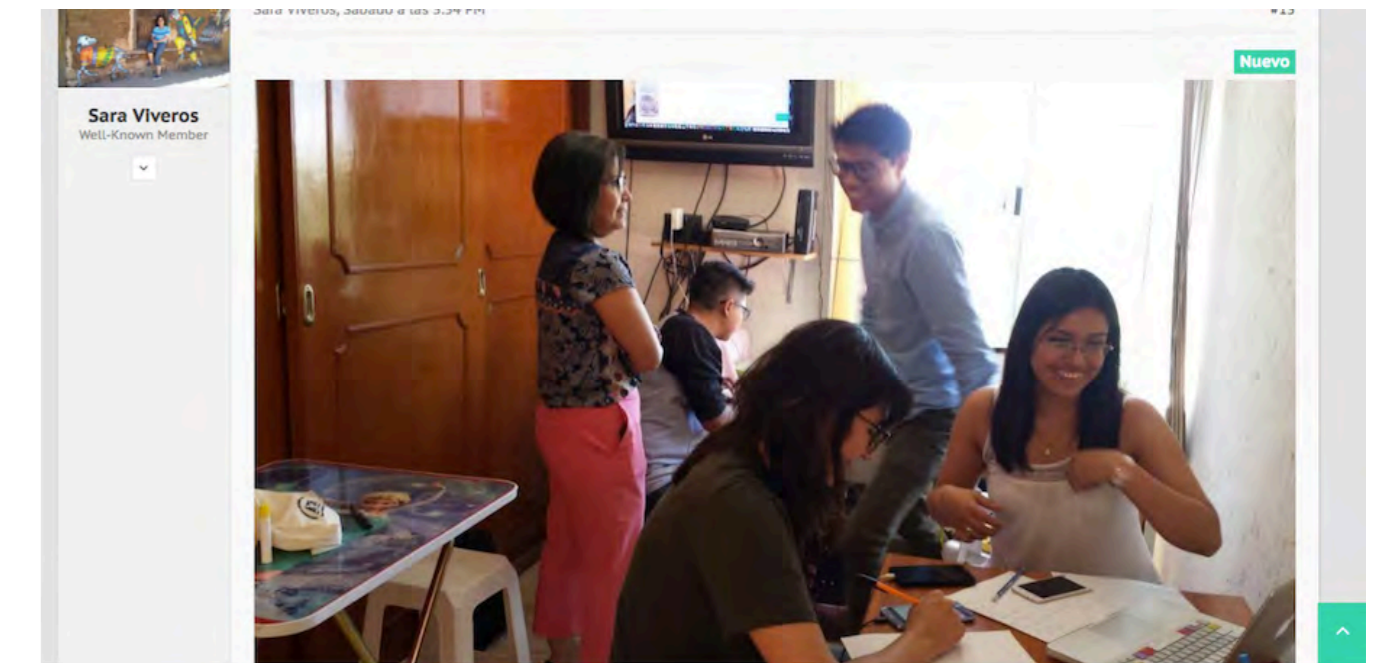
1. Design an intercultural subject and pedagogical strategy to generate experiences and identify associated elements with them.
2. Design, apply, evaluate and monitor the didactics based on the experience of interculturality.
3. Link the subject with at least two foreign universities that have a Bachelor of Graphic Design through communication platforms for their development.

CONTRIBUTIONS TO THE FIELD OF DESIGN

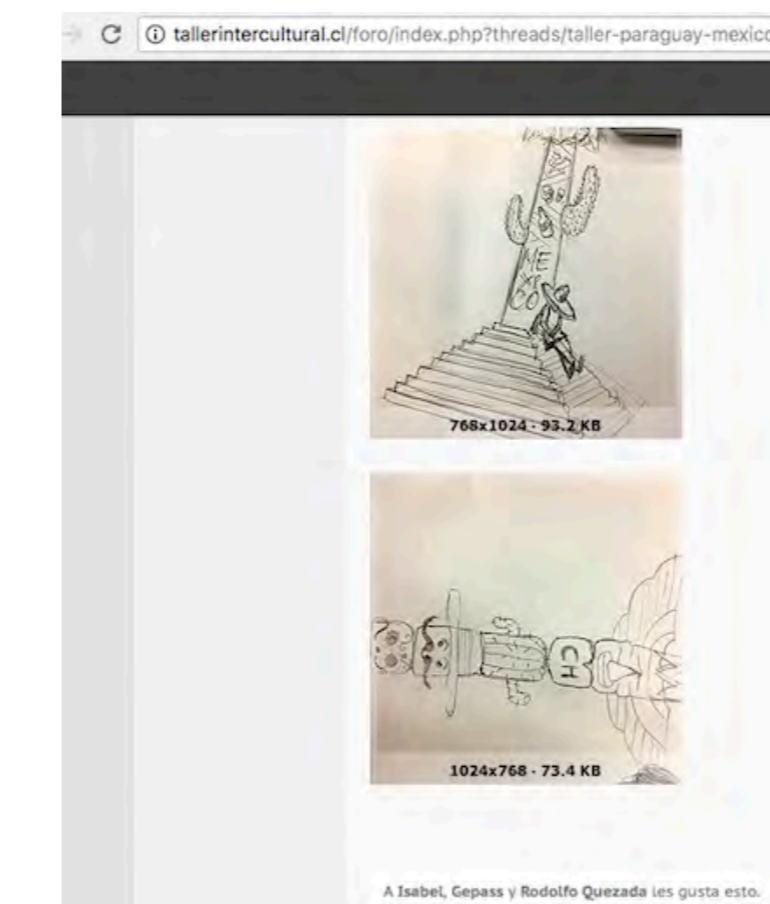
In the so-called Intersaberes project, intercultural management is conceived as a practice of mediation and translation between knowledge coming from different cultures, which encompass both professional and community functions of dialogue and negotiation in often asymmetric situations and which are expressed in knowledge and skills (intercultural management as professional competence) we can also take it back to the design field, where it is more plural and global every day, having the need to have designers who are not only able to provide graphical solutions to the needs of the same design but who have an intercultural knowledge that allows them to give those solutions to works of the same design according to needs and characteristics specific to each region and country where it is applied.

ADVANCES IN RESEARCH IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

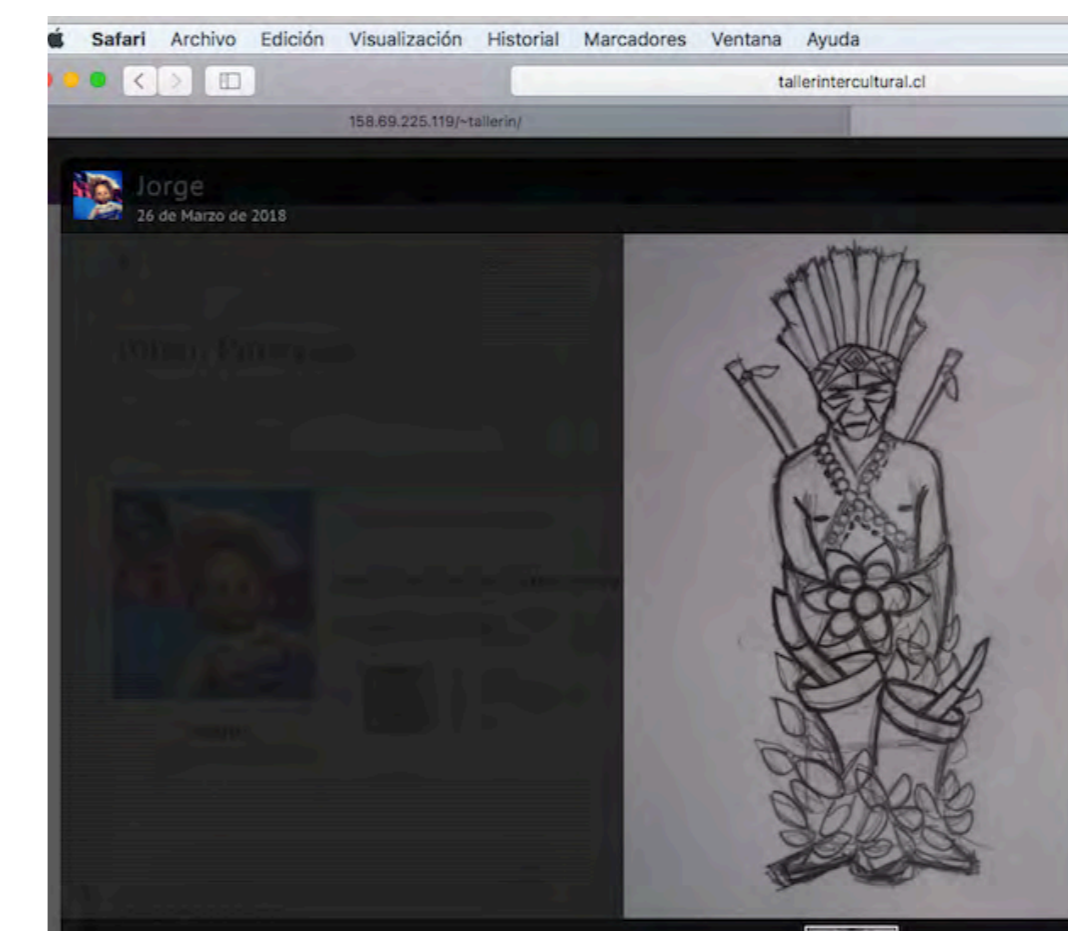
This year the research reached the second stage, where the online workshop was developed where a design project with specific needs and characteristics was proposed so that students from different universities and different countries could solve the same but from the particular perspective of each country. The workshop as such was developed during the month of August (holiday time for us) but of school activities for the other 3 South American countries participating. Within the workshop was raised the need to design a Totem that identifies and is representative; each of the participating countries taking into account their culture, customs and traditions, to be exhibited in a garden of a cosmopolitan city like London, measures were specified although in fact these are somewhat relative, the important thing of the proposal is properly the design.



Students of the UAM Azcapotzalco, making Totem design proposals for Chile and Paraguay



Totem design proposals for Mexico by students of the University of Playa Ancha de Chile



Totem design proposal for Paraguay by students of the Universidad Autónoma Metropolitana Azcapotzalco



International Pacific Design Seminar, Concepción, Chile

ASSOCIATION WITH SOCIETY/ OR RELATIONSHIP WITH NATIONAL PRIORITY ISSUES

The social linkage or impact generated by this research is that it fosters communicative bridges that allow meaningful encounters in cultural diversity. The teaching of interculturalism fosters contacts and interactions, taking into account experiences, knowledge and interests, promoting dynamics of inclusion, in processes of socialization, learning and coexistence.

FUENTES O REFERENCIAS

Aneas, M. A. (2003). Competencias interculturales transversales en la empresa. Modelo para la detección de necesidades. Barcelona, España: Universidad de Barcelona.

Angeli, F. (1997). Competencias transversales y desarrollo organizacional. Metodología e instrumentos de trabajo. Roma, Italia: ISFOL.

Ayup, J. (2003). Estrategias Interculturales como factor de éxito en las negociaciones de un mercado globalizado. México: Universidad Autónoma de Tamaulipas.

Banco Mundial. (1997). Perspectivas de la economía global y el desarrollo de las naciones. Washington, EEUU: Banco Mundial.

Castell, M. (2007). La sociedad red. Una visión global. España: Alianza.

Casanova, M. (2007). La gestión de la diversidad es el gran reto del siglo XXI.



N-416

Design in sustainability applied to projects in favor of the preservation of the environment

diseño, proyecto, sustentabilidad
design, project, sustainability

SUMMARY AND OBJECTIVES IN ENGLISH

Progress has been made in developing the contents and characteristics of the first design to be studied, the Conscious Design, which should be considered for the creation and design of a sustainable project. Conscious Design is not only related to the design project but its importance lies with the designer. The designer of the Graphic Communication must be aware and responsible, and take into account the need of the circumstances of the design and satisfy them in an appropriate way, that their design is necessary, inclusive and especially to take into account its consequences.

General Objective.

To identify the different types of design involved in the implementation of sustainable projects, with a view to obtaining results that support the preservation of the environment and thus an improvement in the quality of life of users.

CONTRIBUTIONS TO THE FIELD OF DESIGN

The contribution is that Conscious Design can be applied to all disciplines of design, considering the ethics and responsibility of the designer, the consequences of design without losing social innovation and technology, and includes a discourse of sustainability by caring about social, environmental, cultural and in some way also economic benefits. Conscious design is a coherent design, with its own identity, that defines that and who it represents, adapts to the needs and values of the customer, harmonizes with aesthetics and functionality with energy efficiency, sustainability and ecology. This design also refers to commitment, not only with the customer but with the environment.



Mtra. Sara Elena Viveros Ramírez
ORCID 0000-0002-1481-8925



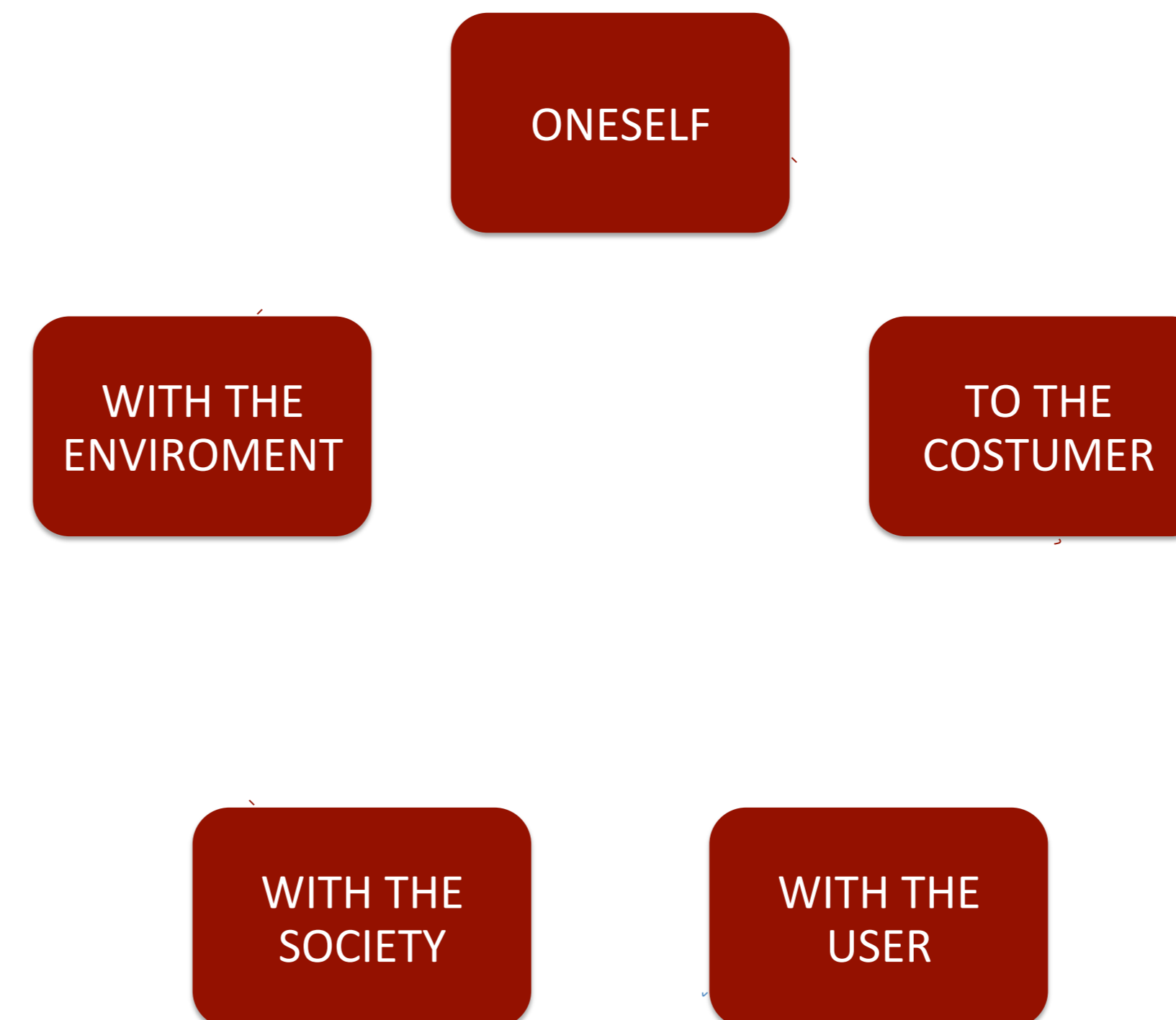
Mtro. Ricardo Aguilar Quesadas
Participante

ADVANCES IN RESEARCH IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

From this research begins the study of the different designs involved in the realization of a sustainable project. So far, research has been done on Conscious Design, which not only relates to the design project but also its importance lies with the designer. The study of Conscious Design contemplates the perspective of the designer, in such a way that it involves the study of ethics, where the designer must be committed through his professional exercise, offering a quality service, taking into account that it must design with and for the people who make up that society. So far the research has a progress of 60%.



Conscious Design: imagotipo design for the Capula Tenure, Michoacán.



ASSOCIATION WITH SOCIETY/ OR RELATIONSHIP WITH NATIONAL PRIORITY PROBLEMS

This research project seeks that the design students have the theoretical-methodological bases to realize a sustainable project; and will be able to achieve this by considering at all times the four designs proposed: Conscious Design, social and for the other, Sustainable Design and Participatory Design. The sustainable projects developed by our students must consider first hand the social benefit, and sometimes an economic improvement, but an environmental improvement must always be sought. As teachers we must be committed and aware that students must consider the consequences of their projects at all times. Design is an act that should bring a benefit, it is to design with and for a user.

FUENTES O REFERENCIAS

Cortina, A. (2000). "presentación, el sentido de las profesiones", en A.Cortina y J. Conill, 10 Palabras clave en ética de las profesiones, Verbo Divino, Navarra, España, 2000.

Pelta R. (2007) Diseñar con la gente. Barcelona: Disseny Crític.

Rueda Puente, O. y Luis Lisa, M. Coordinadores. (2013). La importancia de la sustentabilidad en pro del desarrollo comunitario. México, Jorale editores.

Thackara, J. (2013). Diseñando para un mundo complejo. Acciones para lograr la sustentabilidad. (1ra. Edición). México, Editorial Designio.

Tiburcio, C. (2015). La sociedad red del siglo XXI y el diseño gráfico: formación y ejercicio profesional de los diseñadores. (1ra. Edición). Puebla, México: Universidad Iberoamericana, Puebla.

FUENTES O REFERENCIAS

Cupchan, L.; Fromm, S.; González, F. (2007). La conducta ética del diseñador gráfico. Universidad de Buenos Aires, Facultad de Arquitectura y Urbanismo, Argentina.

Fascara, J. (2000). Diseño gráfico y comunicación. (7ma. Edición.). Buenos Aires, Argentina: Ediciones Infinito.

García Dora Elvira, (2012) Ética, profesión y ciudadanía, ed. Porrúa, México

Mañach, Antoni. Diseño y ética: una relación para mejorar el mundo. www.esdi.es/content/pdf/article-toni-manach.pdf.



N-430

The ways in which sustainability is perceived from cultural references within the UAM Azcapotzalco Design Community

Sustentabilidad Sustainability Referentes Culturales Cultural References Diseño Design

SUMMARY AND OBJETIVES

The concept of sustainability is confusing for some and wrong for others. Since its appearance, this term has been resigned. The intention of the research is to define what is understood by sustainability, in order to give it a correct application in the field of design.

General Objective:

Determine the different ways in which sustainability is perceived within our university community and generate a possible new concept, resignified of what sustainability should be today to be taken as the foundation in our student's design projects.

PROGRESS IN 2020

The definition of the basic terminology applicable to the project was completed.

The information gathered from the application of the 450 surveys of the project was analyzed and graphs were drawn up to interpret the results derived from the investigation.

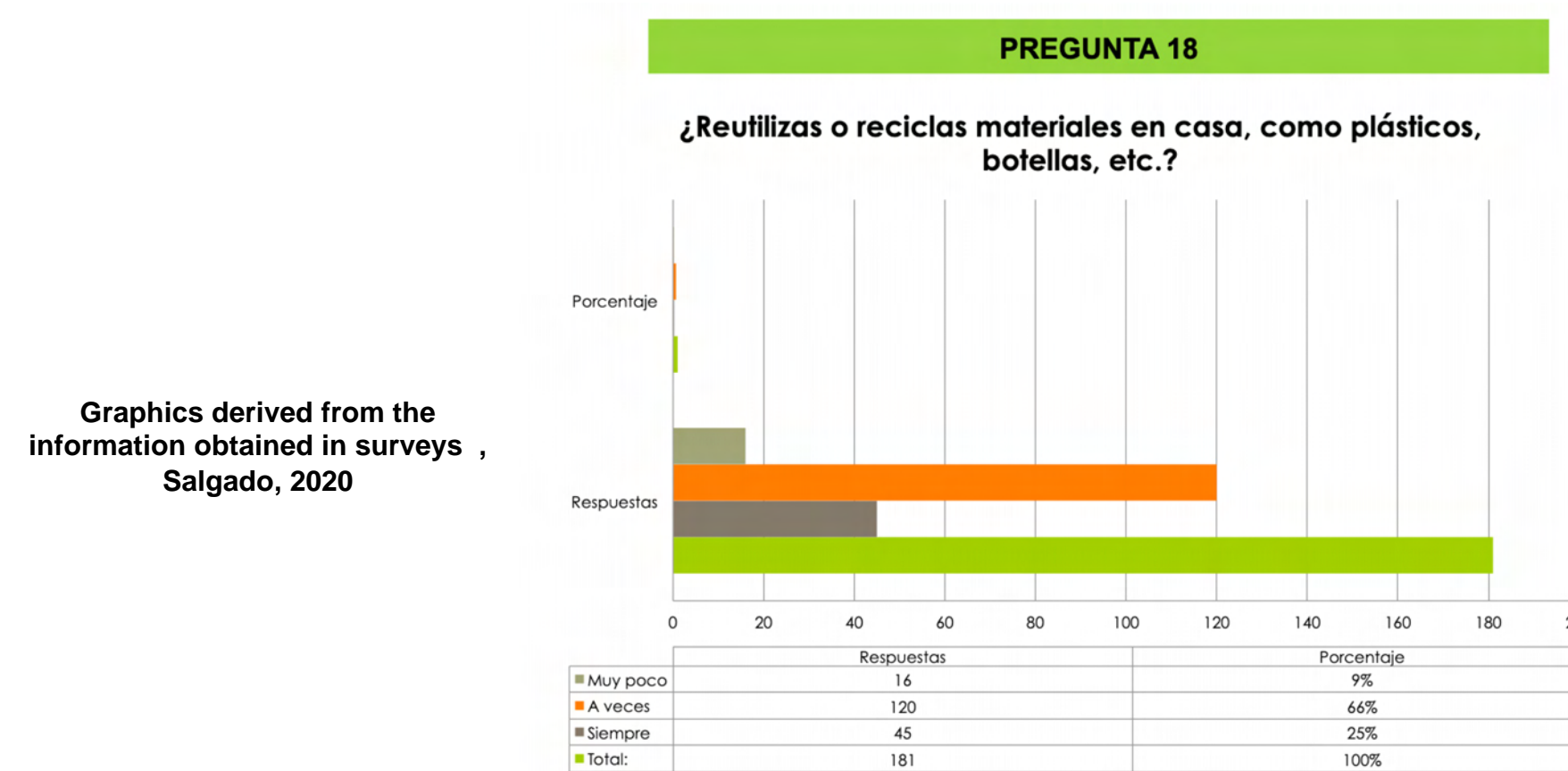
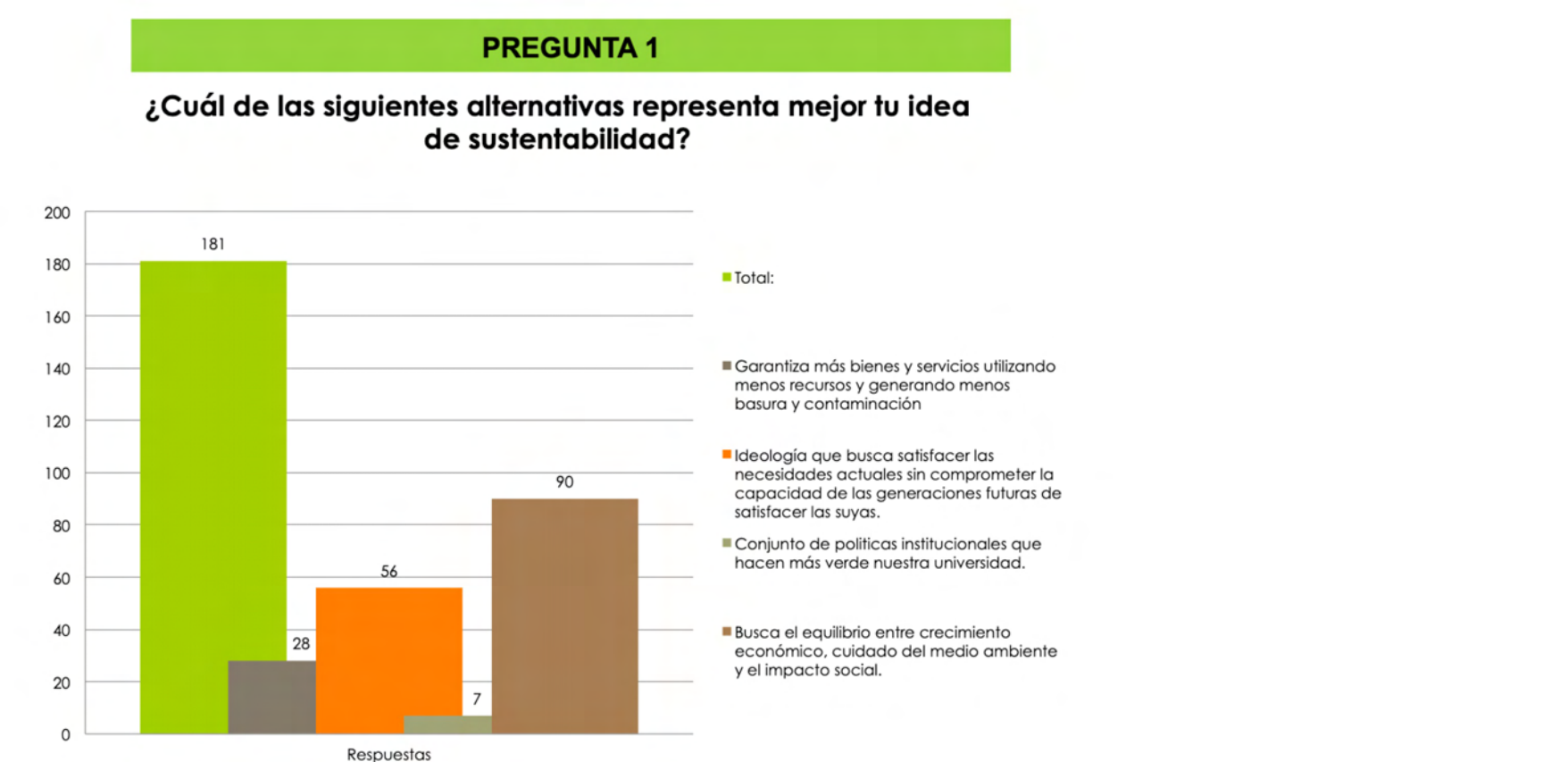
The preparation of the Sustainability Manual for the Sustainable Community Research Group began.



RESPONSABLE: Mtro. RAMIRO SALGADO MENESES
ORCID: 0000-0003-0311-2801



COLLABORATOR: Mtro. Julio Ernesto Suárez Santacruz



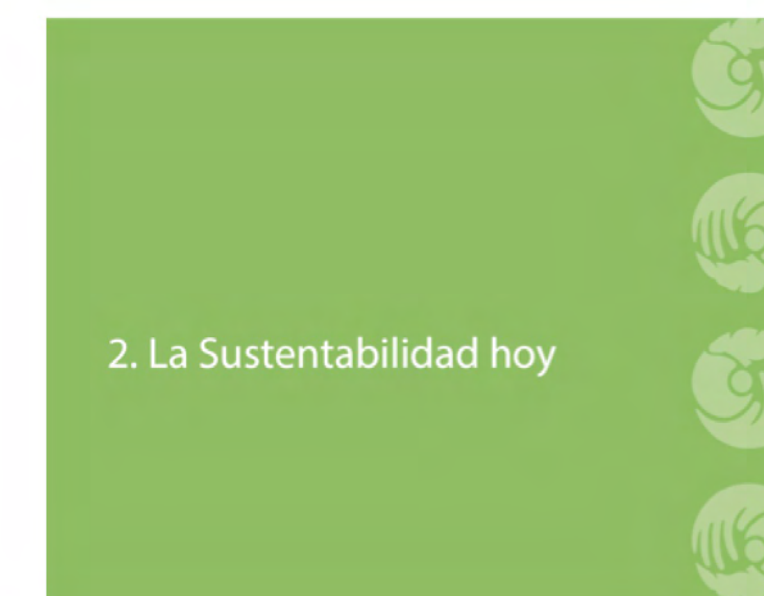
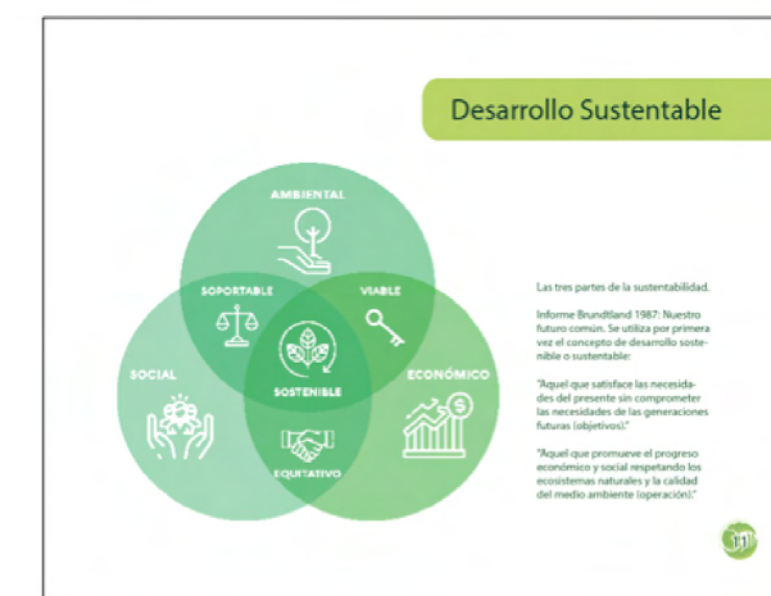
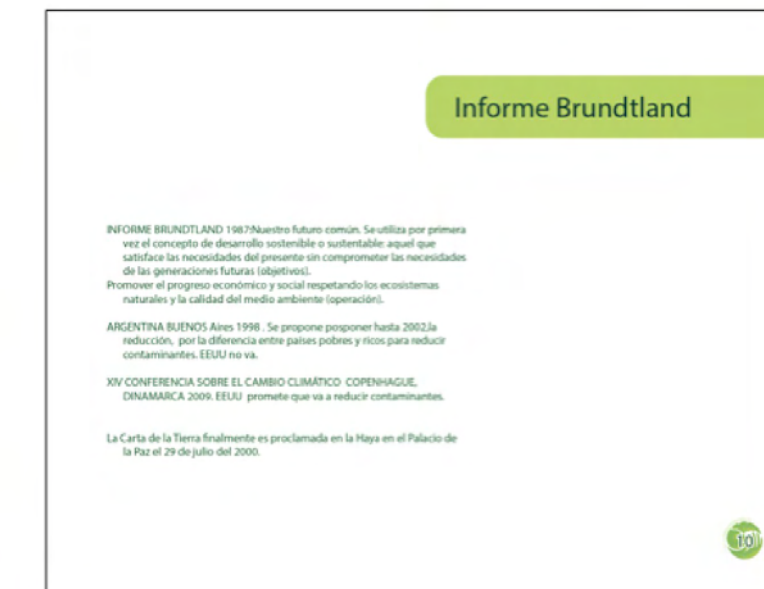
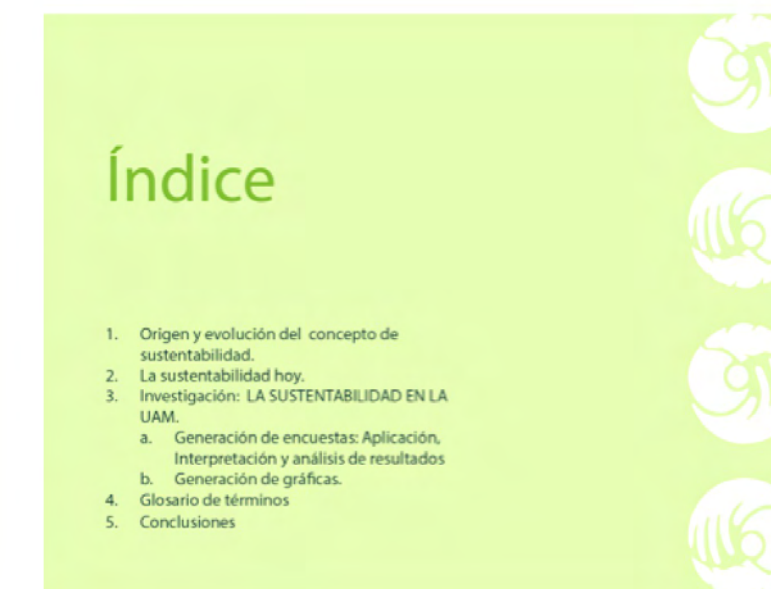
Graphics derived from the information obtained in surveys, Salgado, 2020

METHODOLOGY

- **Research questions or problem:**
 - How is sustainability perceived within the CyAD Azcapotzalco Community?
 - Is sustainability a solution for some problems in our daily life?
 - Is sustainability a fashion or a reality?
- **Investigation process:**
 1. Definition of the idea to investigate.
 2. Formulating the research problem.
 3. Elaboration of the theoretical framework
 4. Definition of the investigation as Exploratory.
 5. Establishment of hypotheses.
 6. Definition of the design suitable for the investigation as Non-Experimental.
 7. Data collection and encoding
 8. Analysis of data
 9. Results presentation.



UAM AZCAPOTZALCO, Salgado, 2019



Sustainability Manual pages, Salgado 2020

SOCIAL IMPACT OF THE PROJECT

Not only in our university, but also in society, the number of areas interested in understanding and using in a real way the principles of sustainability for their application in daily projects of our daily life is increasing.

In the area of graphic design, little by little more knowledge of this topic has been obtained, but a total understanding of the topic is still needed among teachers and students in order to satisfactorily solve the realization of sustainable projects.

The intention of the project and the manual is to disseminate the subject in a concise and useful way, and at the same time create awareness of its importance in the development of projects that truly include the three axes of sustainability: the environmental part, the economic part and the Social.

SOURCES OR REFERENCES

- Castro Álvarez Ulises. (2008) Economy of Mexico and Sustainable Development. México, D. F. Global Local Ibero-American Academic Network.
- Barkin David. (1998) Wealth, Poverty and Sustainable Development. Mexico DF. Editorial Jus and Center for Ecology and Development
- García Parra Brenda. (2008). Ecodesign. New tool for sustainability. Mexico DF. Editorial Designio, S. A. de C.V.
- Foladori Guillermo and Pierri Estades Naina. (2008) Sustainability? Disagreements about sustainable development. Mexico DF.

FUENTES O REFERENCIAS

Department of Research and Knowledge of Design

Mtra. Sandra Luz Molina Mata
samm@azc.uam.mx
53 18 91 74

Dr. Ignacio Aceves Jiménez
Design Analysis and Prospective Area
ajji@azc.uam.mx

Mtro. Rubén Sahagún Angulo
Design and Habitat Area
sahagun@azc.uam.mx

Dra. Georgina Ramírez Sandoval
Learning in the Community Habitat Group
rsg@azc.uam.mx

Prof. Roberto Real de León
Archeoetics and Prospective Visualistic Study Group
robertorealdeleon@azc.uam.mx

Dra. Itzel Sainz González
Design and Technologic Interaction Group
misg@azc.uam.mx

DCG Dulce Castro Val
Image Theory Group
dmcv@azc.uam.mx



THE AESTHETIC DISCOURSE OF THE CITY AND VISUAL RHETORIC.

City, visual discourse, aesthetics, visual rhetoric.

SUMMARY AND OBJECTIVES IN ENGLISH

Abstract
 This project aims to understand the phenomenon of the city as an aesthetic discourse in which there is a visual rhetoric from the mechanisms of meaning of the image to a methodical and precise analysis of the creator of images, their elements and devices, in relation to the word, eloquence and ideas. When an image is a metaphor, why is it paradox or reluctance? How is the image a text? The research aims to answer these questions and open others.

Research Objective:
 To explore the links between aesthetic studies of the image with argumentative resources in visual messages and discourse. Not only with the disciplines of humanities and philosophy, art, cinema, literature and aesthetics but especially in its relationship with the operation of interdiscipline in the other fields of design investigated in the Division of Sciences and Arts for Design.

PROGRESS TO 2020

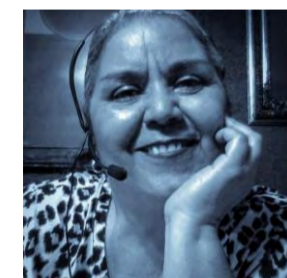
Participation in the organization of the Seminar: Approaches and fables of semiotics with the design and the arts. Seminar elaborated in a joint way with the Area of Investigation of Semiotics of the Department of Evaluation, the Academic Body Aesthetic Narrative Art and City of PRODEP and the Academic Body of Scenic Arts of the Popular Faculty of Fine Arts of the University Michoacana of San Nicolás de Hidalgo.

Presentation of the lectures at the Seminar: Approaches and fables of semiotics with design and the arts:
 1. Implicit City and
 2. The scenography in the cinema as a semiotic discursive practice. City, politics and aesthetic categories in the cinema of poverty.

Elaboration of the article: The city of love. The aesthetic practice of producing the image of the urban environment through photography for the book "Love, body and design from intertextuality". Department of Evaluation of Design in Time UAM Azcapotzalco Unit.

Publication of the article: Resistance from Art As a cultural practice in the city in the UAEMEX's El ornitorrinco Tachado magazine.

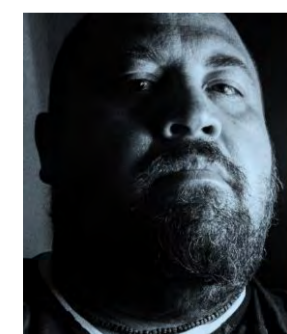
Presentation and approval for publication in the magazine Cuestión de diseño of the text The logic of the city: sensation, body, territories and desecrations on the run



RESPONSIBLE:
 Ph.D. OLIVIA FRAGOSO
 SUSUNAGA
 ORCID: 0000-0001-8030-6349



COLABORATOR:
 Ph.D. NICOLÁS AMOROSO
 BOELCKE



COLABORATOR:
 Mtr. RICARDO RUÍZ SALINAS.



Photo. Nicolás Amoroso. Crossed Cities.

METHODOLOGY

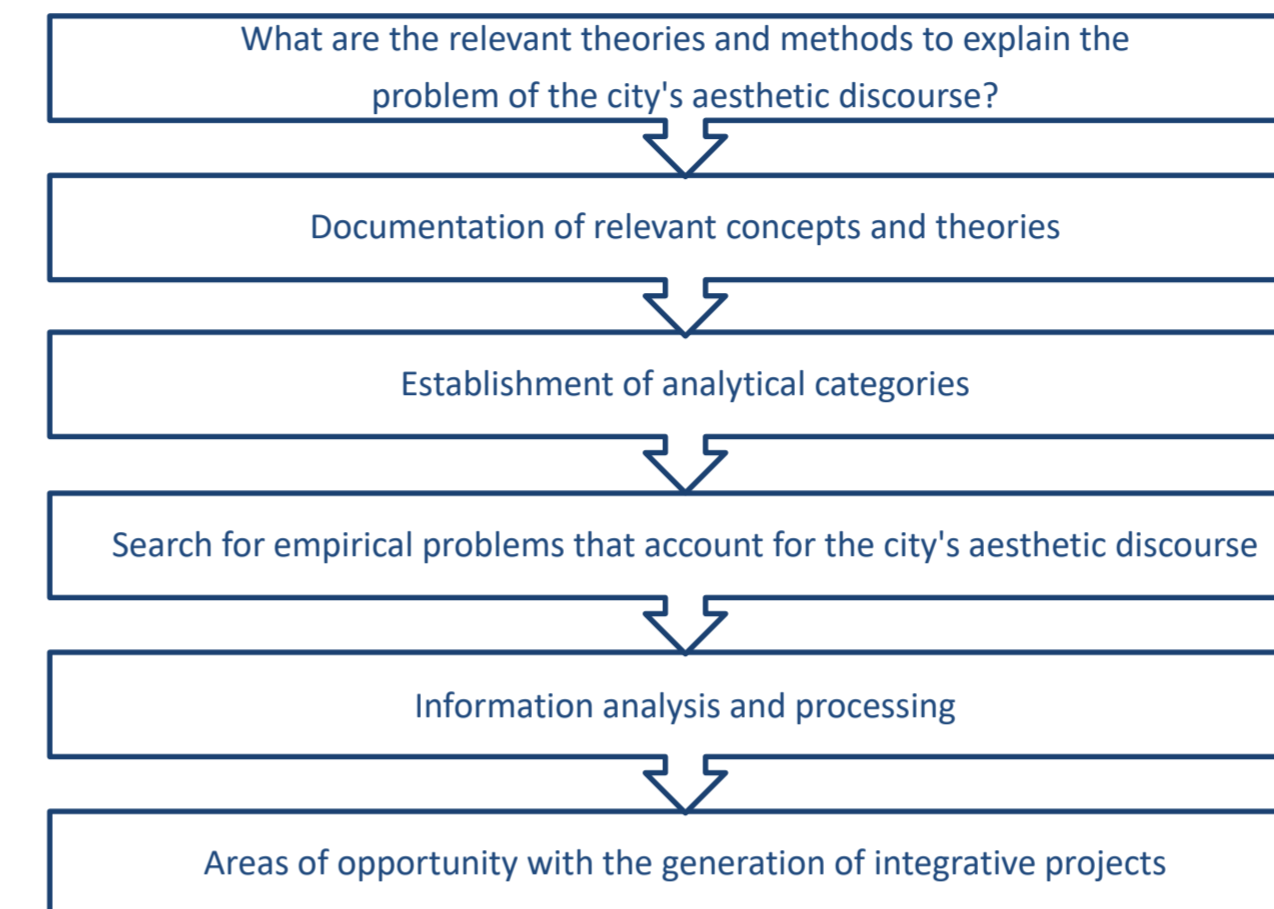


Photo. Ricardo Ruiz, Behind the Mask of the Pandemic.



Photo. Olivia Fragoso, Images of pandemic dystopia.

PROJECT'S SOCIAL IMPACT

The project has as its background the work of teaching, research and in the professional field of the project members. This means, in addition to group work in the teaching of subjects related to the aesthetic discourse of the city and visual rhetoric, a series of works and participations in congresses and lectures both nationally and internationally that show the existing concern about the aesthetic discourse of the city and the visual rhetoric implicit in this process.

This project is linked to the Academic Body Aesthetic Narrative Art and City of PRODEP. The city is an object of study that undoubtedly means a concern for all the inhabitants of the world. The population has changed from being mostly urban to being city-dwellers. From this perspective, we agree on the need to review the situation of the city's aesthetic discourse and visual rhetoric, taking advantage of lived experiences to establish bridges that lead to the generation of ideas that serve to solve social problems with which the object of study is related from the field of design.

Arnheim, R (1996). El pensamiento visual. Paidós, Barcelona.
 Bal, M. (2016) Tiempos trastornados: análisis, historias y políticas de la mirada. Madrid: Akal.
 Baricco, A. (2007) Los bárbaros. Ensayo sobre la mutación. Anagrama.
 Barthes, R. (2009) Lo obvio y lo obtuso. Paidós.
 Benjamin, W (1936). La obra de arte en la época de su reproductibilidad técnica, en Discursos interrumpidos I. Taurus, Madrid.
 Beristáin, H. (2006) Diccionario de retórica y poética. México; Porrúa.
 Brea, J. L. (2007) Cultura Ram. Mutaciones de la cultura en la era de su distribución electrónica. Barcelona: Gedisa.
 Castells, M. (2009). Comunicación y poder. Madrid: Alianza Editorial.
 Castells, M. (2006) La sociedad en red: una visión global. Madrid: Alianza.
 Danto, A. C. (2005) El abuso de la belleza: la estética y el concepto del arte. Barcelona; México: Paidós.

Fontcuberta, J. (2012) La cámara de Pandora. La fotografía después de la fotografía. Barcelona: Gustavo Gili.
 Fontcuberta, J. (2016) La furia de las imágenes. Barcelona Galaxia Gutenberg.
 Freedberg, D. (2009) El poder de las imágenes. Estudios sobre la historia y la teoría de la respuesta. Madrid: Cátedra.
 Gombrich, E. (2002) Meditaciones sobre un caballo de juguete o las raíces de la forma artística: en Meditaciones sobre un caballo de juguete y otros ensayos. Madrid, Debate.
 Grassi, E. (2015) Retórica como filosofía: la tradición humanista. Barcelona: Anthropos; Fundación Studia Humanitatis.
 Gubern, R (1996). Del bisonte a la realidad Virtual: la escena y el laberinto.; Anagrama, Barcelona.
 Martín Barbero J. La sociedad convertida en espectáculo audiovisual; en "Oficio de cartógrafo". Fondo de cultura económica. 2002



N-450

THEORY OF IMAGE

Theory of the image, visual discourse, visual communication.

SUMMARY AND OBJECTIVES IN ENGLISH

Abstract

The theory of the image is a field in preparation, for this reason from the institutional academic spaces are required to formulate a theoretical and methodological framework from which to understand, analyze, evaluate and develop this phenomenon.

Research Objective:

Reflect on different approaches to the image formulated from different fields of knowledge to develop theoretical principles from which to analyze phenomena of social and cultural reality linked to the theoretical field, its teaching and learning and application in practical cases of design.

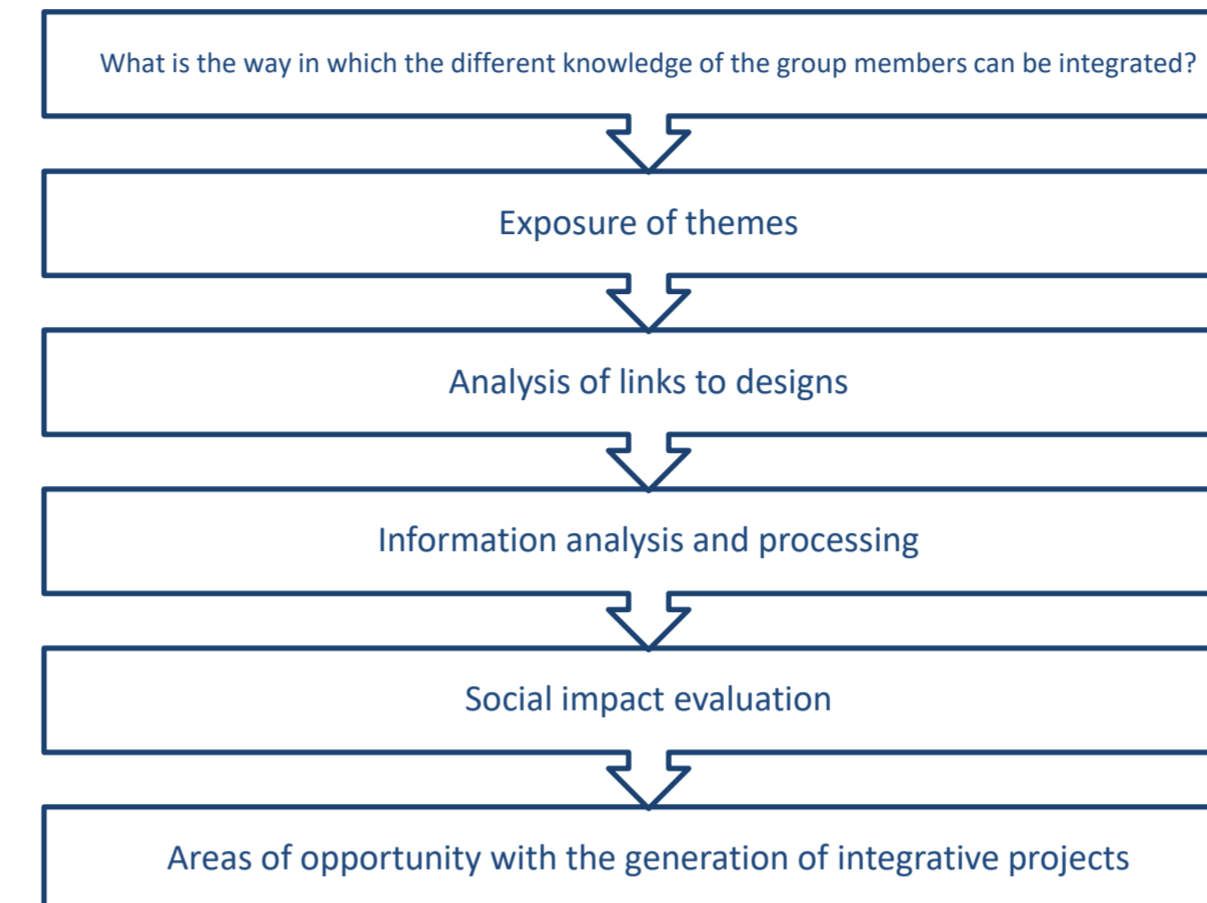
PROGRESS TO 2020

Seminar: Theory and creation of the image, projects, ideas and trajectories Approved in the Ordinary Session 584 of the Forty-fourth Divisional Council held on March 6, 2020 (Agreement 584-4)The seminar allowed to know, to analyze and to evaluate the advances of investigation made by the members of the group of investigation Theory and Creation of the image this event allows to initiate the integration of new programs and projects of work, as well as the adhesion of other participants. Through the presentations made by the speakers, the projects that make up the group were presented; the research trajectories of the participating researchers were explained; ideas related to the generation of new projects and research programs were raised; ideas to formulate a strategic plan for the growth and evolution of the group and its members with the generation of new paths for the development of research were discussed.

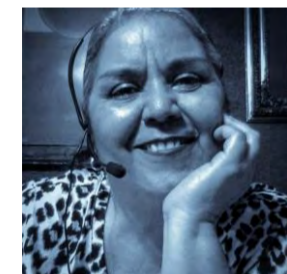
Architectural intervention in the image of the City of Bayamo Cuba.

Participation in congress with the paper: Epistemic positions in the theory of image. Second seminar on sustainability, design and daily life.

METHODOLOGY



Professor Vicente Alejandro Ortega signing agreements for intervention in architectural works in Cuba.



RESPONSIBLE:
PhD. OLIVIA FRAGOSO
SUSUNAGA
ORCID: 0000-0001-8030-6349



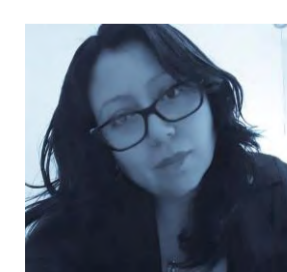
PARTNER:
PhD. FÉLIX BELTRÁN
CONCEPCIÓN.



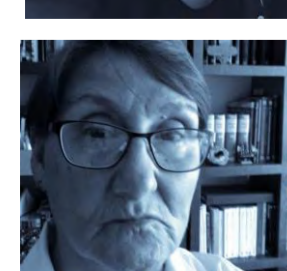
PARTNER:
Mtr. CUAUHTÉMOC
SALGADO BARRERA



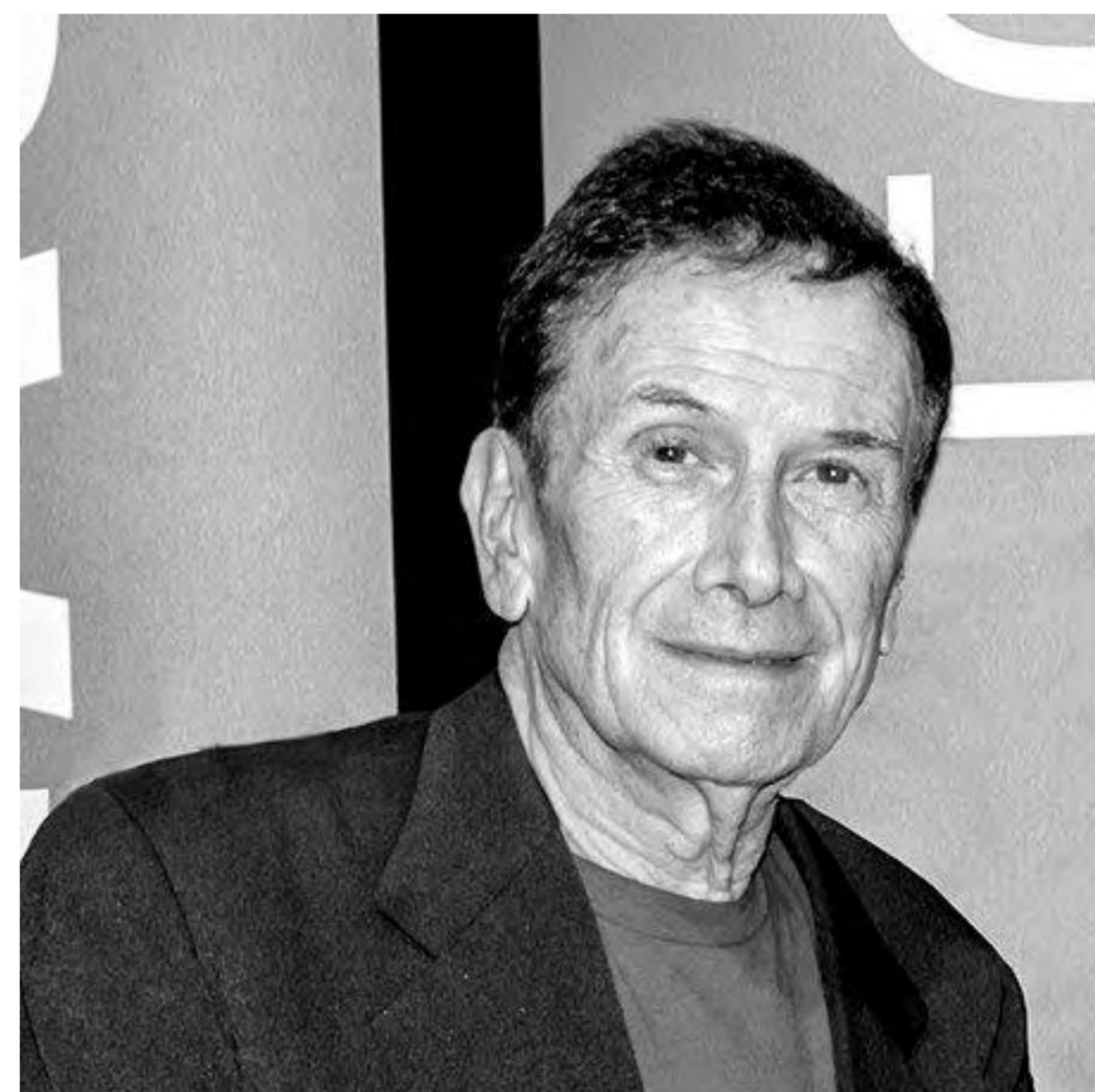
COLLABORATOR:
Arq. VICENTE ALEJANDRO
ORTEGA CEDILLO



COLLABORATOR:
DCG. DULCE MARÍA
CASTRO VAL



COLLABORATOR:
Mtr. LAURA CECILIA
ARZAVE MÁRQUEZ.



Phd. Félix Beltrán In interview. https://www.circulobellasartes.com/wp-content/uploads/2019/11/FB-810x456_c.jpg



Images of pandemic dystopia. Olivia Fragoso.

PROJECT'S SOCIAL IMPACT

It is necessary to recover the experience acquired by the members of the group, especially by the integration of the new members who were part of the project since its integration.

In this sense, the visions that the members of the group have in relation to the way in which they have worked with the Theory of the image at present and the way in which this has been understood from the point of view of architecture, industrial design and graphic communication design are presented. The experience of the new members added to the existing ones allows a reflection on the social needs that impact significantly on the professional activity of design.

SOURCES OR REFERENCES

Arnheim, R (1996). El pensamiento visual. Paidós, Barcelona.
 Bal, M. (2016) Tiempos trastornados: análisis, historias y políticas de la mirada. Madrid: Akal.
 Baricco, A. (2007) Los bárbaros. Ensayo sobre la mutación. Anagrama.
 Barthes, R. (2009) Lo obvio y lo obtuso. Paidós.
 Benjamin, W (1936). La obra de arte en la época de su reproductibilidad técnica, en Discursos interrumpidos I. Taurus, Madrid.
 Beristáin, H. (2006) Diccionario de retórica y poética. México: Porrúa.
 Brea, J. L. (2007) Cultura Ram. Mutaciones de la cultura en la era de su distribución electrónica. Barcelona: Gedisa.
 Castells, M. (2009). Comunicación y poder. Madrid: Alianza Editorial.
 Castells, M. (2006) La sociedad en red: una visión global. Madrid: Alianza.
 Danto, A. C. (2005) El abuso de la belleza: la estética y el concepto del arte. Barcelona; México: Paidós.

SOURCES OR REFERENCES

Fontcuberta, J. (2012) La cámara de Pandora. La fotografía después de la fotografía. Barcelona: Gustavo Gili.
 Fontcuberta, J. (2016) La furia de las imágenes. Barcelona Galaxia Gutenberg.
 Freedberg, D. (2009) El poder de las imágenes. Estudios sobre la historia y la teoría de la respuesta. Madrid: Cátedra.
 Gombrich, E. (2002) Meditaciones sobre un caballo de juguete o las raíces de la forma artística; en Meditaciones sobre un caballo de juguete y otros ensayos. Madrid, Debate.
 Grassi, E. (2015) Retórica como filosofía: la tradición humanista. Barcelona: Anthropos; Fundación Studia Humanitatis.
 Gubern, R (1996). Del bisonte a la realidad Virtual: la escena y el laberinto;. Anagrama, Barcelona.
 Martín Barbero J. La sociedad convertida en espectáculo audiovisual; en "Oficio de cartógrafo". Fondo de cultura económica. 2002



TECHNOLOGY AS A DISCOURSE AND AS A TOOL FOR DESIGN

GRAPHIC DESIGN; TECHNOLOGY; BLENDED LEARNING

SUMMARY AND OBJECTIVES

Technology, thought of in its beginnings as a discipline foreign to design, has been incorporated into it. Here, we seek to understand how its use and progress have been integrated both to its exercise and to the visual messages that are produced.

Objective

At this level of the project, the emphasis is to experiment with different technological resources as tools for teaching design at UAM Azcapotzalco.

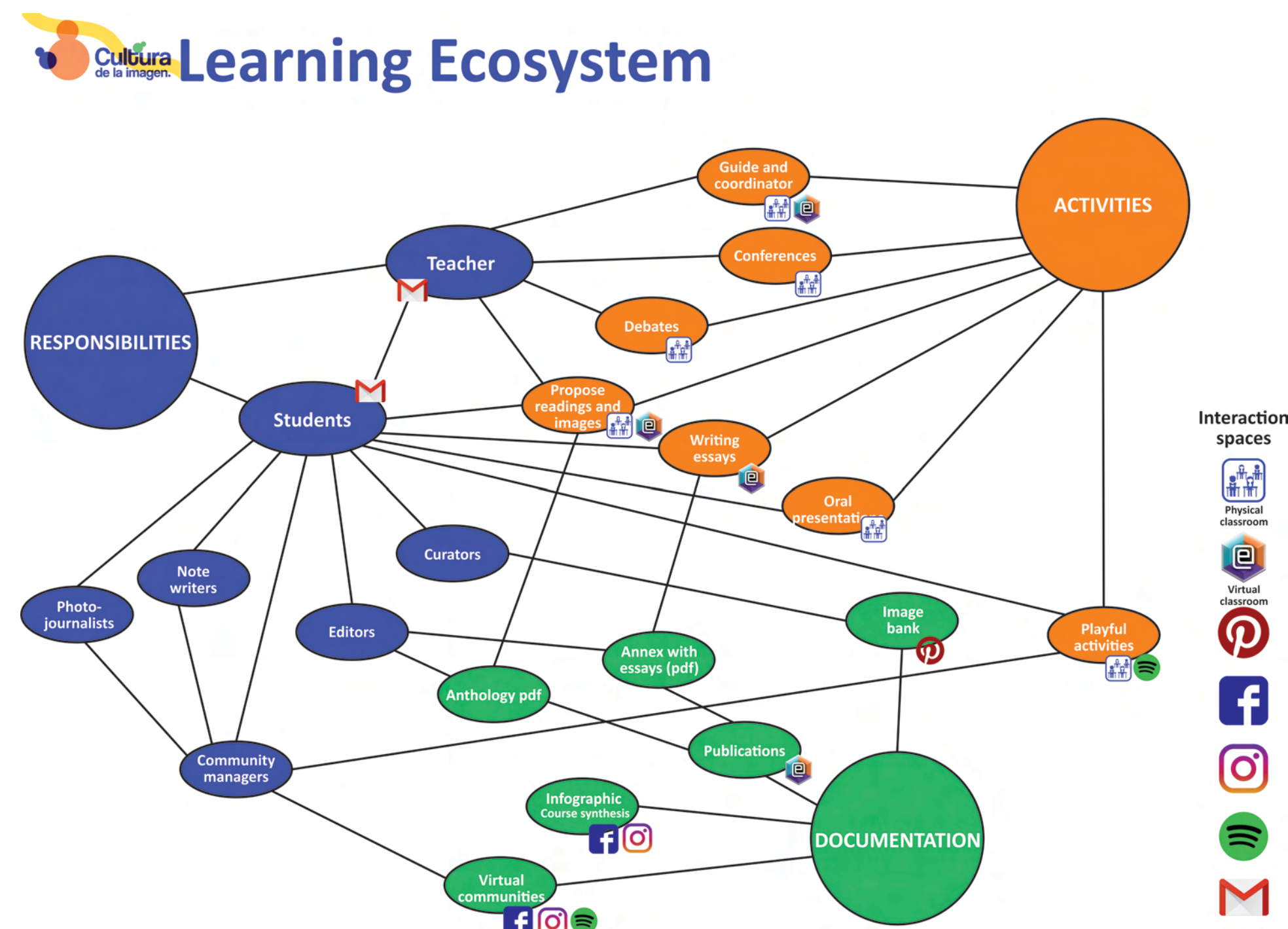
THE RESEARCH'S PROGRESS IN 2018-2020 AND PRODUCTS GENERATED

2019: Detection and analysis of a representative Mexican example of technology as visual discourse: Book *Racrufi : high energy art*, co-edited by UAM-A and Editorial Milenio (Lleida, Catalunya).

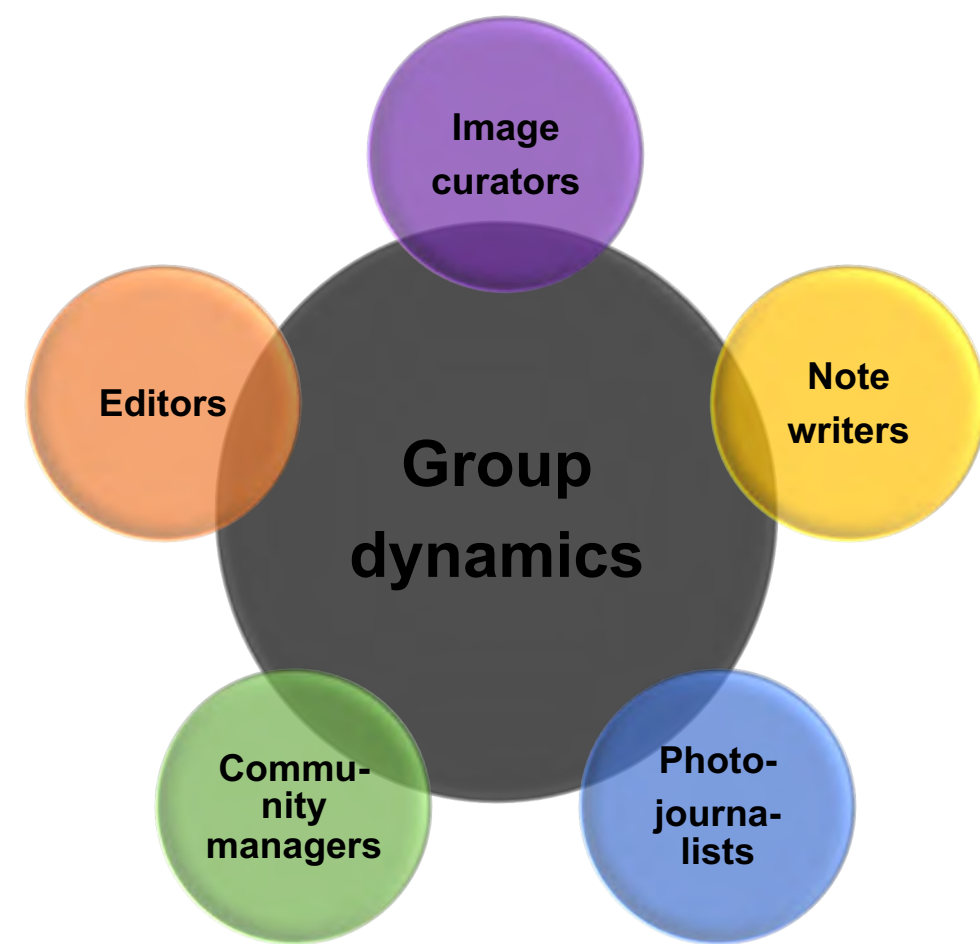
2020: Didactic design through blended learning for the course *Design and Communication VII. Image culture*, from the bachelor's degree in Graphic Communication Design.



MARÍA ITZEL SAINZ GONZÁLEZ
orcid.org/0000-0002-6380-3682



RHIZOMATIC DIAGRAM OF THE LEARNING ECOSYSTEM. SOURCE: SELF MADE



STUDENTS WITH DIVERSE ROLES, CHOSEN BY THEMSELVES THROUGH AUCTION. SOURCE: SELF MADE

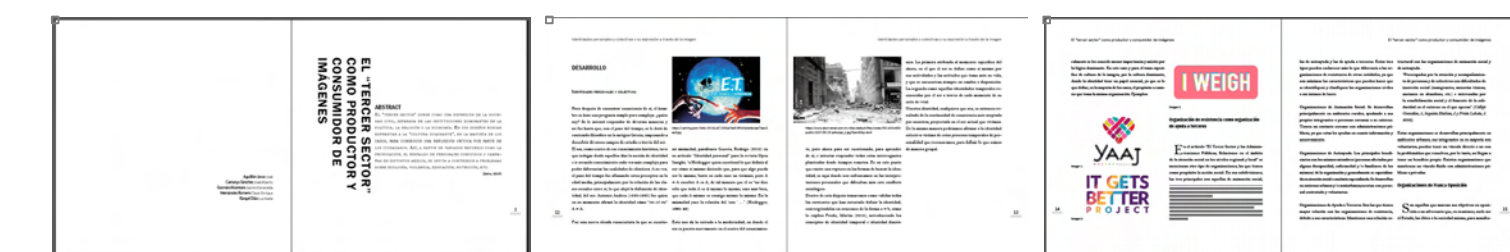
METHODOLOGY

Some of the questions that this research seeks to answer are:

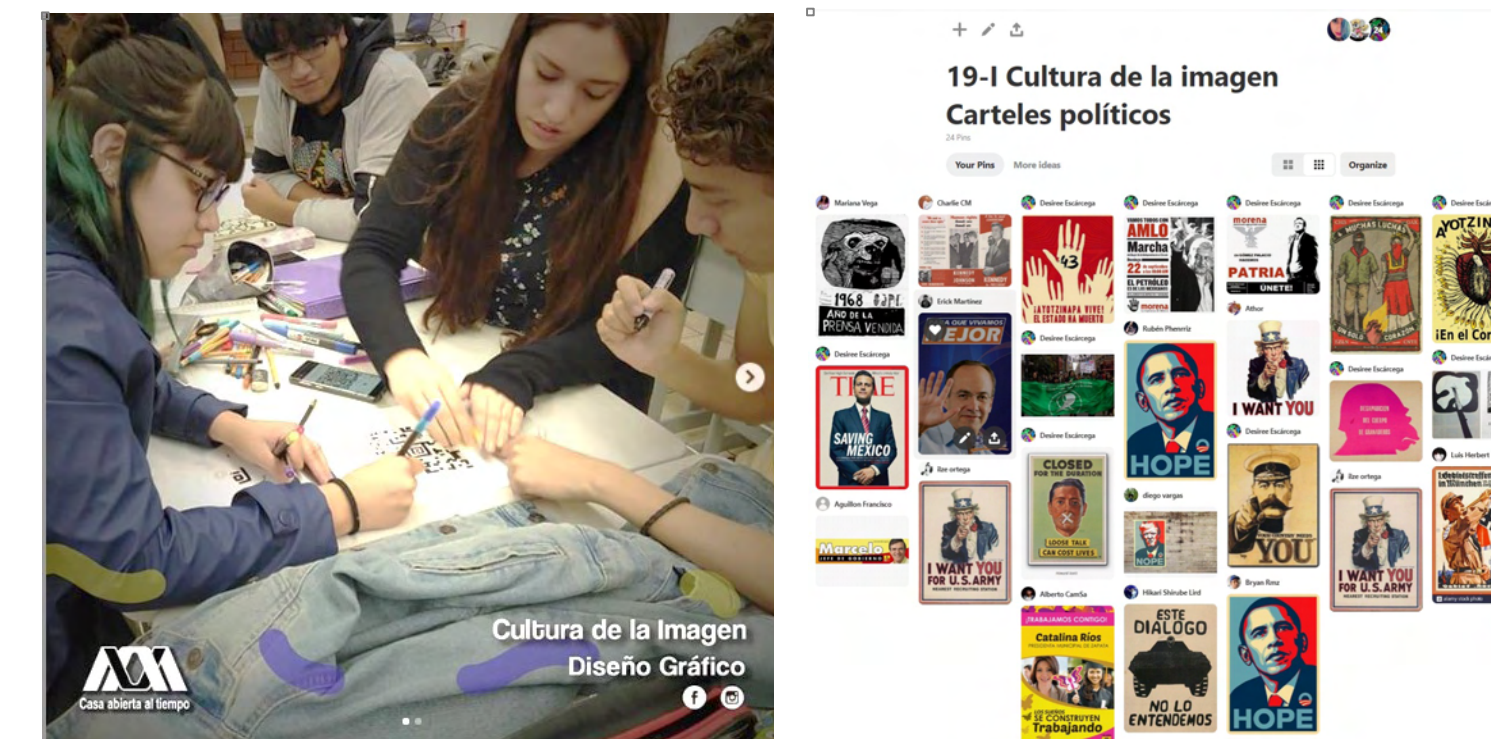
- What about technology is useful for the visual message, and what is just an expensive or useless ornament?
- How do design students get into technology and incorporate technology into their designs?

The progress reported here relates to the second. The process followed for the didactic design involved:

- Documentary research on the relevance of ICT skills for design learning and technological learning ecosystems.
- Didactic design for the course *Design and Communication VII. Image culture*. Starting from a blended learning scheme, shared responsibilities, diverse activities, documentation of activities and materials, and different interaction resources.
- Implementation of the previous design.
- Evaluation of the learning-teaching experience.
- Drafting of the didactic script incorporating the previous evaluation (phase in process).



EXAMPLE OF THE WORK GENERATED AS A RESULT OF THE EXPERIENCE: ANTHOLOGY OF REFERENCE TEXTS, FINAL INFOGRAPHS AND ANNEX WITH ESSAYS WRITTEN BY THE STUDENTS. SOURCE: HOMEWORKS AND PUBLICATIONS GENERATED BY THE TEACHER AND THE GROUP.



EXAMPLE OF TECHNOLOGICAL INTERACTION SPACES USED: PHYSICAL CLASSROOM, PINTEREST, CONFERENCES AND PROFILES ON SOCIAL NETWORKS SUCH AS FACEBOOK AND SPOTIFY. SOURCE: SCREENSHOTS OF THE SPACES GENERATED BY THE GROUP.

SOCIAL IMPACT OF THIS PROJECT

"In the labor market, it is not evident that ICT by themselves will displace designers who are well prepared, however, those who use ICT better will displace those who do not use them" (Torres, 2019). This statement highlights the importance of students developing their competencies in information and communication technologies beyond the use of specific programs in their discipline. In this project, the incorporation of ICT into the learning-teaching processes seeks, at the same time, to use these resources to strengthen certain soft skills: oral expression, written expression, teamwork and leadership, among others. They are essential for designers to be able to successfully insert themselves in the work field of their choice.

The proposed learning ecosystem works on its development through different activities, beyond the specific syllabus of this course, which takes place at the end of the third year of the undergraduate degree, with the purpose that students are better prepared to integrate into the professional environment.

SOURCES
 García-Holgado, A., & García-Peñalvo, F. J. (2017). Definición de ecosistemas de aprendizaje independientes de plataforma. Servicio de Publicaciones Universidad de Salamanca, 668-673. Retrieved from: <https://repositorio.grial.eu/handle/grial/1024>
 García-Peñalvo, F. J. (2016). En clave de innovación educativa. Construyendo el nuevo ecosistema de aprendizaje. GRIAL repository. Retrieved from: <https://repositorio.grial.eu/handle/grial/689>
 Nguyen Manh, H., & Nguyen Hoai, N. (2013). On the Procedural Structure of Learning Ecosystem Toward Competency Learning Model. Social Science Research Network: SSRN, (53), 113-117. Retrieved from: <https://bit.ly/3kTYJZ3>

SOURCES
 Reyna, J. (2011). Digital Teaching and Learning Ecosystem (DTLE): A Theoretical Approach for Online Learning Environments. Proceedings ascilite Hobart, 1083-1088. Retrieved from: https://www.researchgate.net/publication/267685382_Digital_Teaching_and_Learning_Ecosystem_DTLE_A_Theoretical_Approach_for_Online_Learning_Environments
 Torres, F. (2019). Competencias TIC para diseñadores de la comunicación gráfica. Universidad Autónoma Metropolitana. Retrieved from: <https://colicdco.com/tesis-doctoral/>

Department of the Environment

Mtro. Luis Yoshi Ando Ashijara
lyaa@azc.uam.mx
53 18 91 87

Mtra Gloria Castorena Espinosa
Bioclimatic Architecture Area
gmce@acz.uam.mx

Mtra. Karla María Hinojosa de la Garza
Landscape Architecture Area
arqkarlahinojosa@gmail.com

Mtra. Haydee Jiménez Seade
Artificial Environmental Factors and Design Area
h_seade@yahoo.com.mx

Mtra. Alma Olivia León Valle
Natural Environmental Factors and Design Area
aolv@azc.uam.mx

Dr. Rodrigo Ramírez Ramírez
Color Research Group
xurod@yahoo.com

Mtra. Ma. de Lourdes Sandoval Martiñón
Environment and Recreation Group
smm@azc.uam.mx

Dr. Nicolás Amoroso Boelcke
Art Group
naab@azc.uam.mx



IDENTIFICATION OF VARIABLES IN CHROMATIC PERCEPTION TO EVALUATE CATEGORICAL DIFFERENCES AND IDENTIFY DEFICIENCIES AND DEFECTS IN COLOR VISION

COLOR PERCEPTION, HUE DISCRIMINATION, COLOR TEST, CHROMATIC VISION

There are several tests to detect color vision abnormalities and to assess a person's level of color discrimination. For this project carried out in the Color Laboratory we support on an anomalousoscope, tests Farnsworth 100 Test, Farnsworth D15 and Roth 28 Color Test.

Determine whether designers and members of the community have any deficiencies and/or defects in chromatic perception that may affect their professional performance and that need to be taken into account.

Identify variables and categorize them by matching groups or dissonant ones, to obtain data by association according to sex, age, some particular condition, in addition to detecting improvements or affections, among other factors, and knowing how color is perceived in these groups, detecting possible problems.



ALMA OLIVIA LEON VALLE
ORCID 0000-0001-5999-4853



GABRIEL DE LA CRUZ
FLORES ZAMORA



Color Laboratory in Research Center of CAD Division. Showing results from Farnsworth Hue Test to a design student.

CONTRIBUTIONS TO THE FIELD OF DESIGN

Designers carry out projects to be used by certain groups of people, usually studies are carried out to know them according to characteristics such as interests, cultural and socioeconomic level, ages among other things, but rarely we take into account groups of people who have some special condition related to a different color vision than that considered normal (trichromatism). Being conscious of the existence of these millions of people who move between us, raises awareness of how they see and thus work with different chromatics in projects where information is coded only through color, such as city maps, signs, emergency signals, didactic materials for childrens, among others.

RESEARCH ADVANCES IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

Chromatic discrimination tests have been conducted on more than 500 students of Architecture, Graphic Communication Design and Industrial Design. Some tests have been applied to students from other UAM divisions and professors. Some matches have been identified in confusion areas in groups of men and women. Two publications of articles are being prepared this year to disseminate the project's experiences and results.

LINKING TO SOCIETY/ OR RELATIONSHIP WITH NATIONAL PRIORITY PROBLEMS

According to specialists of the Mexican Social Security Institute (2008), in Mexico, at least two million men and about fifty thousand women are dichromat, a condition that prevents some activities or professions such as: aviator pilot, doctor or nurse, biologist, army positions, public or school transport drivers, police officer, firefighter, graphic designer or artist, among others. Dichromatic color vision better known as Daltonism is the most common color vision disorder, however, there are other color defects that disrupts people's daily life. Subjects with one or none active photoreceptors, having a monochromat vision and also individuals with abnormal trichromat vision, who despite possessing the three types of cones sensitive to different wavelengths, one of them has a poor functional activity, a condition more common than color blindness. That is why, when testing, to detect both dichromat and anomalous trichromat vision (weakness in one of the cones), in addition to knowing the statistics, and assessing the level of each condition, some alternative solution can be offered by testing special lens for dichromatic vision.



A design student carrying out the Farnsworth 100 Hue Test to evaluate her tonal discrimination level.



REFERENCE LIST AND BIBLIOGRAPHY

Berns, Roy S. (2000) *Principles of color technology*. EUA: John Wiley & Sons Inc.
Gegenfurtner, K. R., & Kiper, D. C. (2003). *Color vision*. Annual Review of Neuroscience, 26, 181. Consultado en <http://www.color-blindness.com/color-blind-essentials/>, 20/06/15.
Neitz, M., & Neitz, J. (2011). *The genetics of normal and defective color vision*. Vision Research, consultado en <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3075382/>

Neitz, Jay, Joseph Carroll and Neitz, Maureen (2015) *Colour vision. Almost reason enough for having eyes*, consultado en <http://www.neitzvision.com/images/CV-ReasonForEyes.pdf>, vol. 00, 20/06/15.
Sanz, Juan Carlos. (2009) *Lenguaje del color*. España: H. Blume
El Universal. "En México, más de dos millones de hombres padecen daltonismo". El Universal. 10/03/2008. Web 11-11-2019. <<https://archivo.eluniversal.com.mx/articulos/46010.html>>



N-421

Project for the Normal Experimental School in Huajuapán de León, Oaxaca, Stage 1.

Key words:
MASTER PLAN, SPACES FOR LEISURE AND EDUCATION, QUALITY OF LIFE

SUMMARY AND OBJECTIVES

Given the need to expand the facilities for the teaching of higher education of the ENEH, NORMAL EXPERIMENTAL SCHOOL OF HUAJUAPAN, Oaxaca, the authorities of that school sought advice and an academic exchange with the Architecture Career of the UAM-A . The general approach in stage 1 is to elaborate a MASTER PLAN, where the design of the spaces also serves to satisfy recreational needs for the surrounding population.

CONTRIBUTIONS TO THE DESIGN FIELD

Promote the link between research, teaching and its theoretical-practical application in the field of architectural design, by generating a link with an educational institution located in another region of the country and developing an urban-architectural and landscape project for the expansion of the Normal Experimental School in Huajuapán de León in the state of Oaxaca with the requirements and needs of the inhabitants of the region.

RESEARCH PROGRESS IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

Based on the meetings held with the authorities of the Normal School, the general approaches to elaborate the general requirements program and the MASTER PLAN of the project were discussed. A presentation on the project was presented at the V Continental IAKS LAC Congress The design and management of sports and recreational facilities, held from October 10 to 12, 2018 in Buenos Aires, Argentina.

Presentation of the project at the V International Community Recreation Meeting held from March 13 to 16, 2019 in Huajuapán de León, Oaxaca. Participation in the IOC / IPC / IAKS Architecture and design award for students and young professionals 2019. Innovative sports, leisure and recreational facilities. The project has been notified as a winner of the Silver Medal, and the prize will be received at the gala ceremony on November 5 in Cologne, Germany.



Participation in V Continental Congress IAKS LAC, Buenos Aires, Argentina. October 2018.



Participation in the V Community Recreation Congress, Huajuapán de León. March 2019.



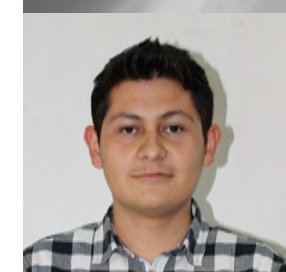
MARIA DE LOURDES SANDOVAL MARTIÑON
ORCID: <https://orcid.org/0000-0003-0165-1449>



Dilcia Sofia Martínez García



Diego Magadán Silva



Jorge Ramírez Rivera



Estefanía Medina Duarte



Paola Andrea Ríos Camacho



FIRST PROPOSAL OF MASTER PLAN. Author photo, I-B Architecture Workshop project, Dilcia Sofia Martínez Student.

LINK WITH SOCIETY / OR RELATIONSHIP WITH NATIONAL PRIORITY PROBLEMS

In the development of the project, it seeks to express values of solidarity, respect for the environment and sense of belonging and identity, to be in tune with the guidelines of the curricula of our Division: "Train professionals who make designs for production or improvement of the spaces used by man in his daily activities, trained for interdisciplinary work, through a process that allows visualizing architectural problems, proposing solutions, developing projects and supervising their material realization, based on the investigation of social needs relevant in our country ..", objectives within which the search for good environmental practices that will be reflected in the Master Plan project is framed.

FUENTES O REFERENCIAS

V Encuentro de Recreación comunitaria. Disponible en: https://www.facebook.com/profile.php?id=100010470997911&sk=media_set&set=a.802040583488301&type=3

CPAU | Consejo Profesional de Arquitectura y Urbanismo. IAKS LAC | V CONGRESO CONTINENTAL El Diseño y la Gestión en las Instalaciones Deportivas y Recreativas. Disponible en: <https://www.facebook.com/cpauorg/photos/iaks-lac-v-congreso-continental-el-dise%C3%B1o-y-la-gesti%C3%B3n-en-las-instalaciones-depo/1755349684500421/>

FUENTES O REFERENCIAS

IOC IPC IAKS 2019 Architecture and Design Award for Students and Young Professionals for innovative ideas, designs and concepts for sports, leisure and recreational facilities. Disponible en: <https://iaks.sport/students-award>



N-468

GEOGRAPHICAL MARKINGS FOR THE ENVIRONMENTAL EDUCATION

ART, ENVIRONMENTAL EDUCATION, TROPIC OF CANCER, GEOGRAPHICAL MARKINGS, SOLSTICE.

SUMMARY AND OBJECTIVES IN ENGLISH

Geographical markings represent natural phenomena that can be powerful sensitive signs in caring for the environment.

Practically linking artistic and design proposals with notions of non-formal environmental education.

Experimenting conceptually and formally with sculptural shapes that refer to simple astronomical phenomena in geography.

SUMMARY AND OBJECTIVES

Geographical markings represent natural phenomena that can be powerful sensitive signs in caring for the environment.

Practically linking artistic and design proposals with notions of non-formal environmental education.

Experimenting conceptually and formally with sculptural shapes that refer to simple astronomical phenomena in geography.

PROGRESS TO 2020

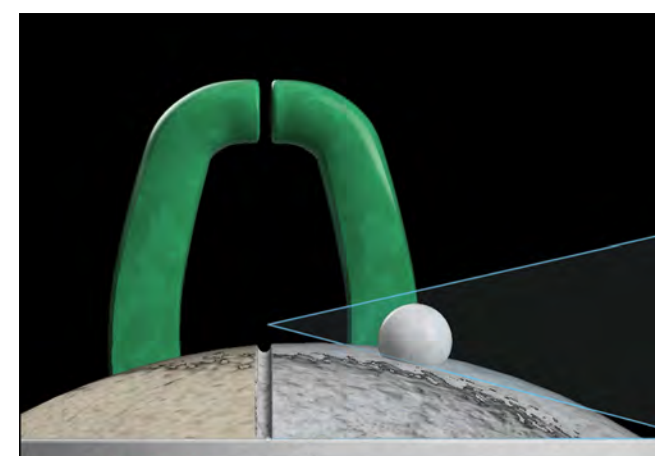
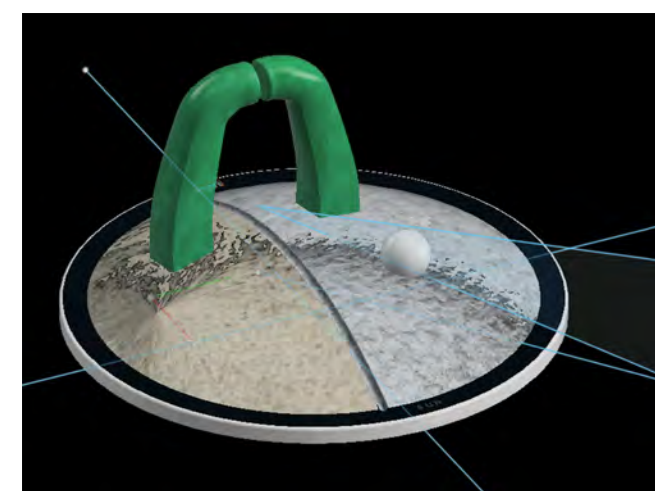
- It is proposed that the best understanding of the planetary habitat, particularly of the population of cities, passes through observation and knowledge of the environment.
- The urgency of action in the face of inevitable changes in the environment makes it necessary to raise awareness guided by alternative proposals for environmental education.
- The ancestral vestiges and knowledge are milestones of relevant cultural importance that should be a guide to a new awareness about the care of nature.



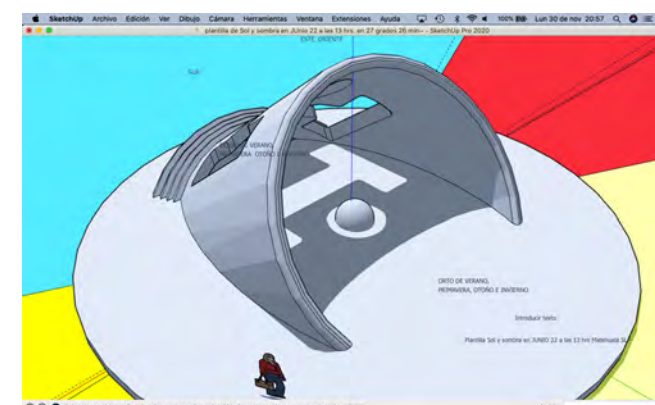
MAURICIO BENITO GUERRERO ALARCÓN

ORCID <http://orcid.org/0000-0003-1940-8615>

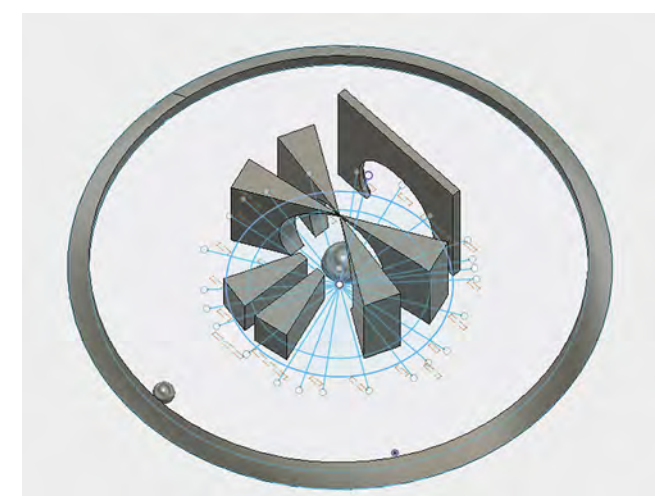
mail: mgart@azc.uam.mx



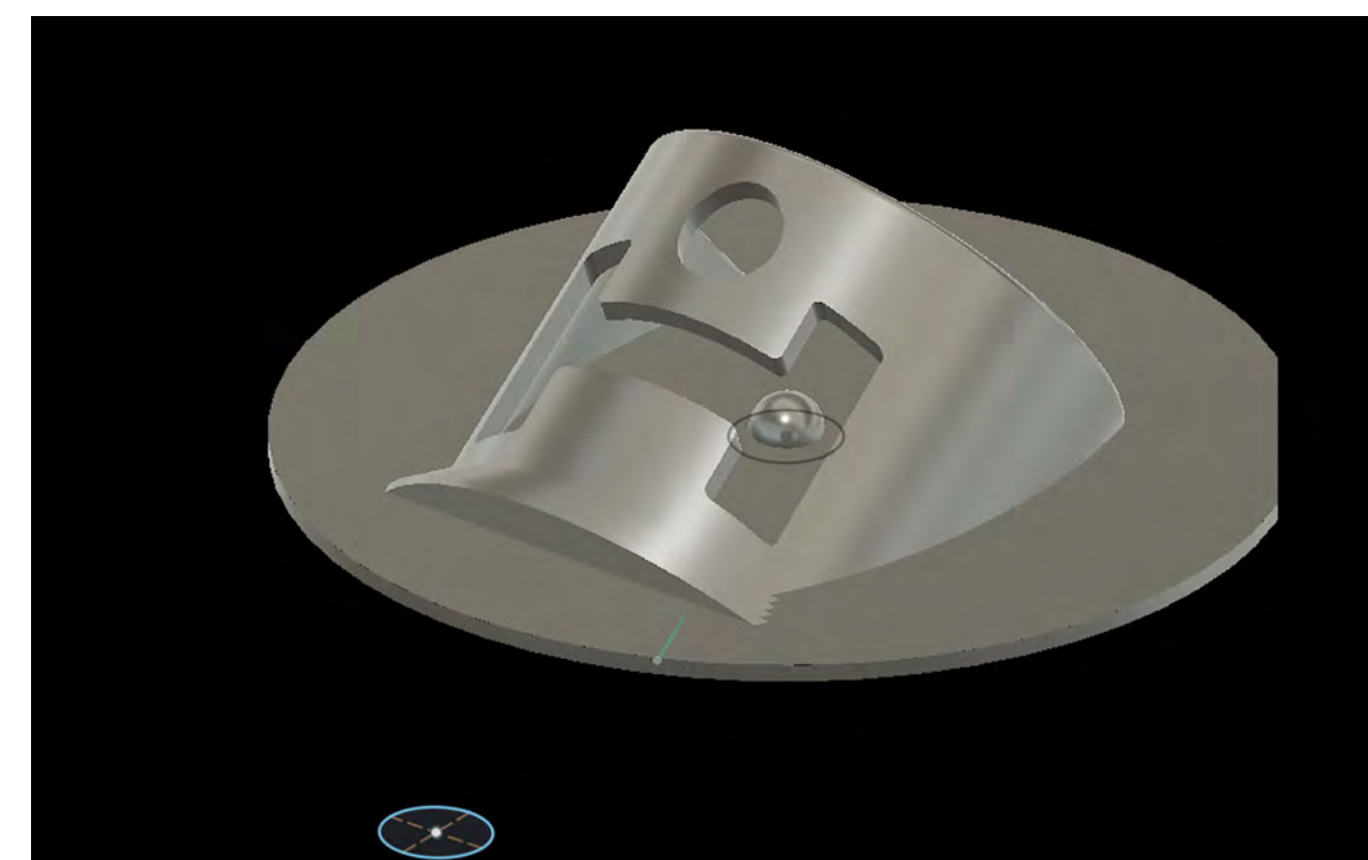
Brand model No.1, for specific site.



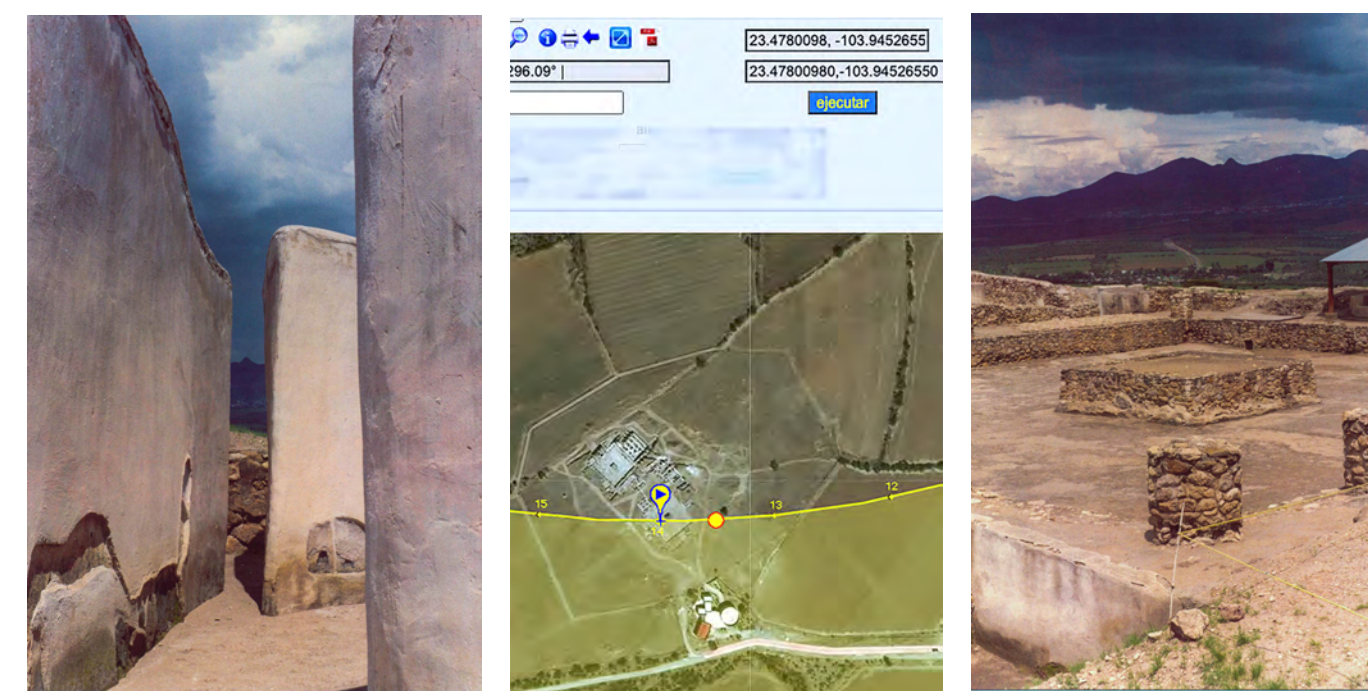
Brand model No.2, for specific site.



Brand model No.3, for specific site.



Brand model No.2, for specific site..



Two views of the archaeological zone of Chalchihuites, Zacatecas, oriented with the sunset at the equinoxes and solstices. Own photographs and solar calculation from SunEarthTools.com

Sketches of marks in 3D modeling for the crossing sites of the parallel 23° 27' N with the roads. The design is oriented to apparent solar movement with equinoxes and solstices.

METHODOLOGY

The ostensible environmental damage that is particularly perceived in cities raises some questions:

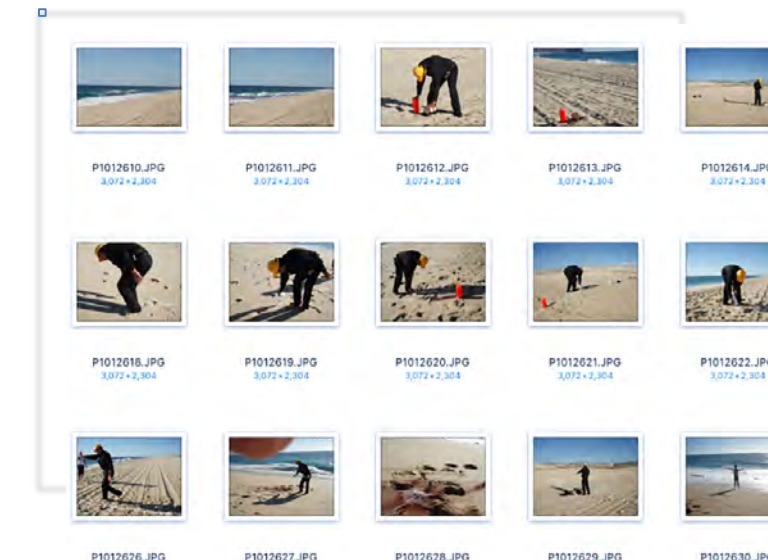
- What significance does the line of the parallel known as the Tropic of Cancer have in ancient civilizations and what does it have today?
- Can the observation of the stars or the Sun generate the awareness that humanity currently requires to care for its habitat?
- In the current era of technological advances, does it have any value for human beings to know or recognize their location in the cosmos?

Research process:

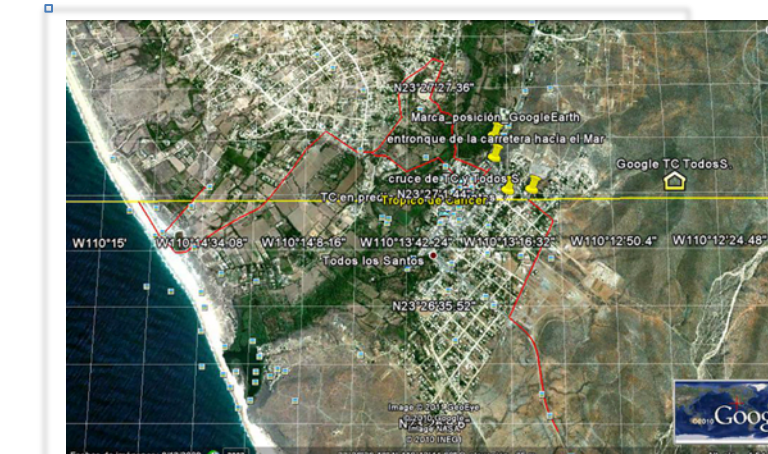
- Geographical markings for environmental education. It is a project that due to its magnitude has been for several years conformed with field work, collecting images of specific sites -where there is a crossroads or highway- with the parallel or imaginary mark of the Tropic of Cancer in Mexico.
- Documentary research is oriented to the knowledge of archaeological remains and ancient celebrations on the occasion of the movement of stars such as the Sun, Moon or Venus has been a main occupation of the subject.
- For the correct arrangement of marker objects and their realization, a precise calculation of the apparent movement of the Sun has been required by means of specialized software and 3D design.



Marks at parallel 23° 27' N in San Luis Potosí (left) and Tamaulipas (right) at the summer solstice (see cast shadows). Own photographic shots.



Marks at Tropic of Cancer with the coast of the Pacific Ocean and the city of Todos los Santos, Baja California Sur.



Marks on road No. 45, in Zacatecas.



Marks at parallel 23° 27' N in Baja California Sur (left) and Zacatecas (right). Own photographic shots and satellite map from GoogleEarth.com

SOCIAL IMPACT OF THE PROJECT

The most recent indicators of environmental deterioration and institutional efforts worldwide to lessen the effects of climate change contrast with the results.

In optimistic statements, they offer to meet targets that pale against current indices.

Among the immediate actions is the probable implementation of artistic environmental education that manages to awaken social awareness through initiatives that draw alternative horizons.

Actions that recover original knowledge and lead us to conceptualize nature as a non-economic but sensitive and vital good for our generation and those to come.

Although the project is aimed at all audiences, it focuses on the inhabitants of cities, who are increasingly numerous and are less aware of the impact of their carbon footprint on the environment due to urban lifestyle.

The marking of the imaginary line where the Sun meets at the Summer solstice in its apparent transit through our country is the pretext to make the perceiving public reflect that this phenomenon - less and less conscious today - among our ancestors was worth representing. through a ritual celebration of the *Tlachco* or rubber ball game.

SOURCES OR REFERENCES:

Barbosa, A. Educación y Arte para la sustentabilidad. (2015). Juan Pablos Editor, Cuernavaca, Mexico.

Beebe, Mary Livinstone (2001) LANDMARKS. University of California, San Diego Rizzoli International Publication, NY.

García Chavez, José Roberto y Victor Fuentes Freixanet (2000). Arquitectura y medio ambiente en la Ciudad de México. Universidad Autónoma Metropolitana, México, D.F.

Guerrero Alarcón M. B., (2014), El conocimiento del medio ambiente a través de las propuestas artísticas y de diseño. UAM.

Guerrero Alarcón M. (1996), Las Aves migratorias en la Nube serpiente, UNAM, 1996

Guerrero Alarcón, Mauricio, et al (2019) El juego de la sustentabilidad en Culture And Environment, Brill/ Sense, p. 269., Leiden/ Netherlands

Klein, Naomi (2015), Esto lo cambia todo, Paidós, Estado y sociedad., Buenos Aires, 2015,

Luperti, (2003), Rigi Luperti, Jorge. Juegos ecológicos, 2003.

Maclean, Alex S. (2003) La fotografía del territorio, Ed. Gustavo Gili, Barcelona,

Centro Nacional de Educación Ambiental, 2000

Programa de conservación y manejo áreas naturales protegidas, 2006, Parque Nacional El Chico, Comisión Nacional de Áreas Naturales Protegidas, Gobierno Federal, EUM. (2006).

SEMARNAT, (2006). Estrategia de educación ambiental para la sustentabilidad en México, Centro de educación y capacitación para el desarrollo sustentable, CECADESU.

SEMARNAT, (2014), Consumo sustentable: un enfoque integral. Global Education Monitoring, Planet Education for Environmental Sustainability and Green Growth, UNESCO, (2016).

Mapas de GOOGLE EARTH, tomas de 2018.

Uriarte, María Teresa. (2016) El Juego de Pelota Mesoamericano, Temas eternos Nuevas aproximaciones, Ed UNAM, México, pp.352., ISBN 978-607-02-7591-3

Casab Rueda, Ulises. (1992) El juego de la Bola de Hule, México Antiguo, ed. SEP, Comisión Nacional del Deporte, México, 405 pp.

El Juego de Pelota en Mesoamérica, Fundación Cultural Armella Spitalier, <http://www.fundacionarmella.com> Video documental No. 31, 40 min. 2006, ISBN 978-968-9342-00-7.

Department of
Development
Processes and
Techniques

Dr. Edwing Almeida
Calderón
eaac@azc.uam.mx
53189186

Dr. Jorge Rodríguez Martínez
Management and Design Technology Area
rmj@azc.uam.mx

Mtro. Carlos Angulo Álvarez
New Technologies Area
caa@azc.uam.mx

Dr. Fausto E. Rodríguez Manzo
Acoustic Design and Analysis Area
rfme@azc.uam.mx

Dr. Gabriel Salazar Contreras
Drawing: Creation and Teaching Group
gabriels@azc.uam.mx

Mtra. Guadalupe Rosas Marín
Form, Expression and Design Technology Group
roma@azc.uam.mx

Mtro. Gerardo Roberto Linares Correa
GROPUS Group
grp@azc.uam.mx

Mtra. Elvia Palacios Barrera
Educative Innovation Design Group
epb@azc.uam.mx

Mtro. Daniel Casarrubias Castrejón
Educational materials and Media Group
dcc@azc.uam.mx

Mtro. Jaime Vielma Moreno
Creative Paraphernalia Group
jaimevielma4@gmail.com

Mtro. Alejandro Viramontes Muciño
Technology and Design in Buildings Group
vira@azc.uam.mx

Mtra. Ma. Teresa Bernal Arciniega
Light Structures Laboratory group
charquis1@hotmail.com



N-459

GENERAL AND UPDATED VISION OF THE QUALITY AND DESIGN THEME AND RELATED DISCIPLINES

KEYWORDS: QUALITY, PRODUCTION SYSTEMS, PRODUCTION CELLS

Quality is an attribute that consumers demand and expect from the products and services they acquire, that comply with the current standards, and for companies is a differentiation element. The production systems have evolved from craft methods to the mass production. This work focuses on the lean production system, which is also known as JIT, TPS or LPS, its origins go back to the period after World War II, a period of great need, scarcity, and a battle against any type of waste. It is a flexible system that may respond to changes in demand. The production aspects are highlighted and how the designer may be involved, having the worker in mind, to improve his working conditions and to optimize the company's productivity. Some case studies are presented in manufacturing and in fast-food restaurants. The JIT is a "pull system" that is based on manufacturing cells, composed of ergonomically-designed work stations and multi-skilled workers.

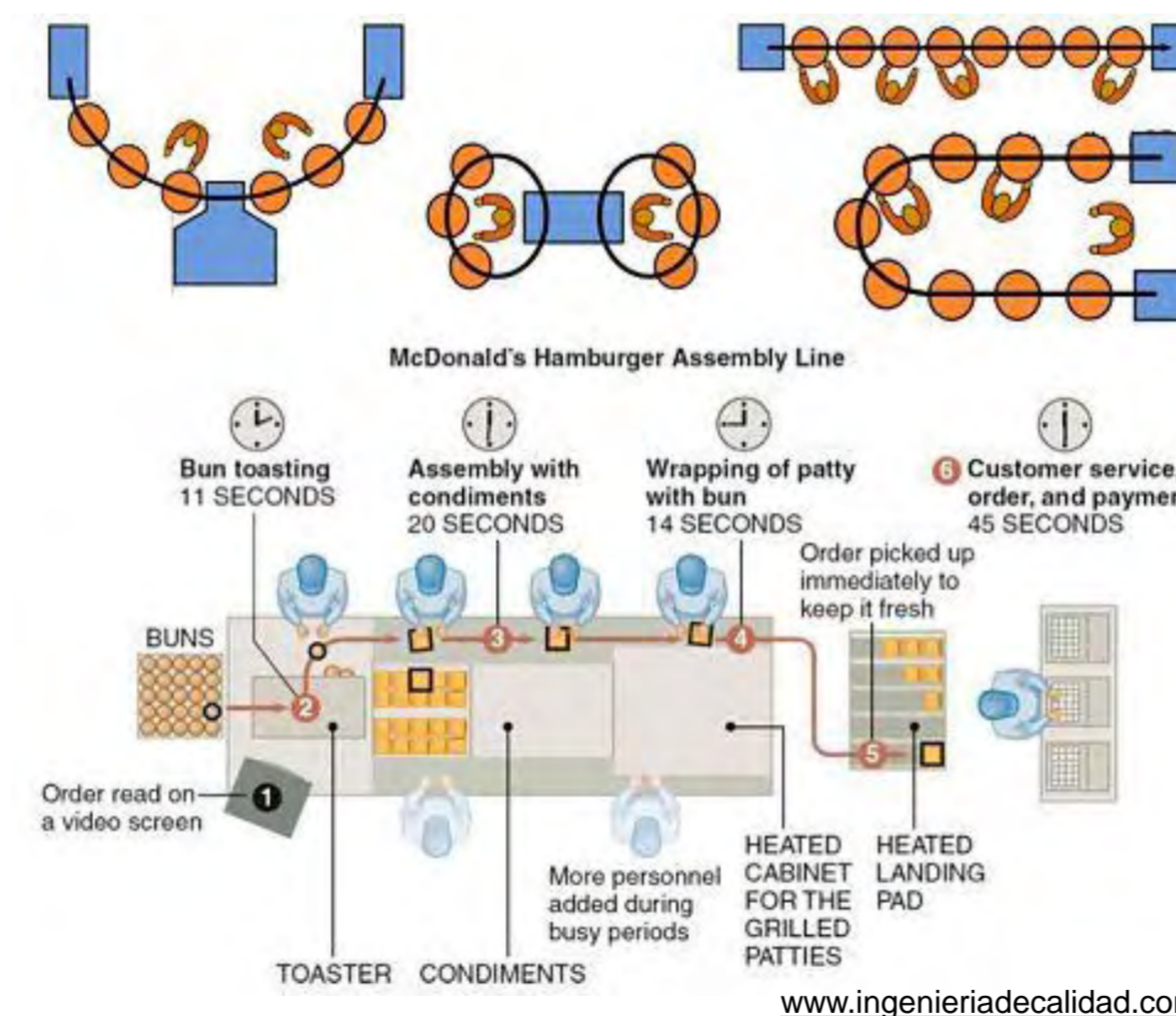
TYPES OF WASTE THAT THE JIT-TPS-LPS SYSTEMS AIM TO ELIMINATE

TYPE OF WASTE	CHARACTERISTICS
1-Overproduction	To produce more than the minimum necessary.
2-Waiting	When time is wasted when one process needs to wait for another to finish.
3-Transportation	Moving a product from one location to another does not create value.
4-Inappropriate Processing	To do more than what the specifications demand.
5-Excessive Inventory	Inventory generates costs of storage and maintenance, and it losses value.
6-Unnecessary Motion	Resources are wasted when the worker needs to walk, bend, or overreach more than necessary
7-Defects	Eliminate the defects going to the source, poka yoke options may be applied.

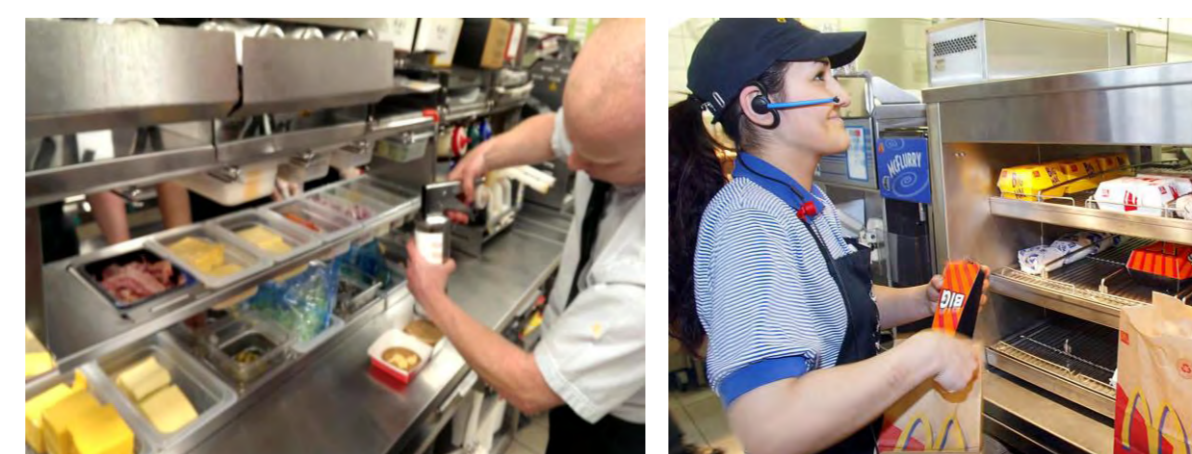
Reference: Ohno (1988)

Production Cell	Work stations conform a production cell	Tools and utensils and design opportunities
<ul style="list-style-type: none"> -The product should be in motion -Small cell -Ergonomic options, that may be adjustable -Economize movements -Standardize procedures and instructions -Cell in the shape of "U", "C", "L". -Open and flexible -Cells should be located next to the proceeding and the succeeding processes 	<ul style="list-style-type: none"> -User centered design. -Use of visual aids -Instructions & procedures -Work should be as easy as possible. -The space and station should be adjustable. -Use foot-rest & arm-rest -Tools with retractable cables. -Use ramps and gravity. -Make it modular and with caster wheels to ease movement. 	<ul style="list-style-type: none"> -Design to achieve efficiency. -Make it easy to clean. -Avoid Sharp corners. -Use color-coded containers. -All parts of the work station must be adjustable. -Use poka-yoke devices to avoid mistakes. -Obtain feedback using light or sounds or stopping mistakes. -Apply DFMA to simplify assembly and manufacturing. -In fast-food restaurants dispensers are used to serve the exact portion.

Reference: Worksmart design systems.



www.ingenieriadecalidad.com



www.coventrytelegraph.net

ADVANCES IN THE RESEARCH PROJECT DURING THE 2018-2019 PERIOD AND GENERATED RESEARCH PRODUCTS

Participation in the 2019 design division book competition for research projects, called University Research Books, with the work titled. "Quality and design. Production systems and opportunity areas", as a product of the Research Project. In 2018 the project obtained the registration number N-459. -A lean manufacturing workshop was delivered, as part of the 2019 Quality Seminar held at UAM-A, it lasted 9 hours, more than 30 people attended. Infographics of this project have been presented at CYAD Investiga (CYAD Research) in 2017 and 2018.



The work station must offer arm-rest and foot-rest, adjustable seat, easy to reach containers, and retractable cables for tools.

To keep tools and fasteners at arms' length, avoiding the need to overreach.



The work instructions and visual aids should be easier to read and understand, and placed in front of the user.



Use color-coded containers, that may be adjustable, and if necessary tilted to facilitate the work to be done.



Find a common ground for the different worker's size to use, avoiding the need to apply automated bands and conveyors, it is better to use gravity.



Instead of automated systems and movable bands use gravity.

Reference: Five steps for ergonomic workstation design, Worksmart systems

THE TOP FAST-FOOD RESTAURANTS WITH AN INTERNATIONAL PRESENCE

36,000 stores in over 100 countries.	38,000 stores. Its the largest fast-food chain in the world	30,000 stores worldwide	14,000 stores in over 85 countries.

The use of trademarks is used for educational and illustrative purposes only.

COMPARING THE JIT/TPS SYSTEM WITH THE FAST-FOOD SYSTEMS ARE USED IN THE KITCHEN

Some of the 9 M's	The JIT/TPS System	Fast food systems used in the kitchen
Man - Mind	Multi-task employees, in charge of maintenance and problem solutions; workers help each other to complete a task.	Multi-task employees, easy to do routines, a trend is to involve the consumer to perform non-paid work.
Machine	Jidoka, automation with a human touch, use of Andon boards, and poka-yoke devices and ejection mechanisms when the work is ready.	The kitchen equipment is designed to save time and effort, to avoid mistakes and to announce with a light and/or sound, when the food is ready.
Method	A pull system, the work is organized in production cells	A pull system, the kitchen layout and equipment is organized as a cell.
Quick change of die in sequence of use	SMED is applied to respond to changes in the demand. Low volumes and high variety. Standardize work procedures and have ready all equipment; for example, dies, should be easy to fasten and unfasten. Search of efficiency by reducing time and cost of preparation	To respond to changes in demand, having flexible workers and equipment. -Have food portions already pre-cut, and in the order that are used. -Use food dispenser with the exact portion that each dish should have. Search of efficiency and reduction of cost and time.

Reference: Author, www.plosin.com, Ohno (1988)

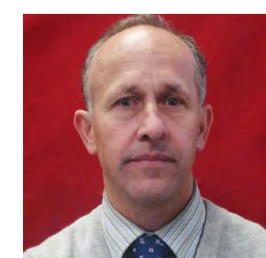
CONNECTIONS WITH SOCIETY AND/OR PROBLEMS AT THE NATIONAL LEVEL

In our daily and work, we judge the quality of the products and services we receive; as consumers we search only for those products and trademarks that satisfy our needs, and even better, for those that exceed our expectations, and comply with the compulsory standards. The master (or "guru") of quality, the late Japanese Kaoru Ishikawa wrote the following definition. "To practice quality is to develop, design, produce and service a quality product which is most economical, most useful and always satisfactory to the consumer".

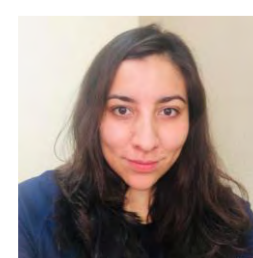
Is the designer's and product engineer's responsibility, to plan quality from the very beginning, it is advisable to apply a holistic approach, that takes into account how to manufacture a product, assemble, use and even discard. The product, should be user-friendly, and inform the user when something goes wrong, and avoid its incorrect use. A product that fails in its use or operation, may be very costly, both for the society and for the consumer that feels disappointed, and who may exert his right of a warranty, or that even may legally demand the company for physical harm or for an accident. A company must try to avoid at all cost, that his product or service fail, as it may not be sold anymore, and its reputation will suffer. In Mexico, PROFECO (Consumer Affairs General Office) is the government's office in charge; in the United States, it is called "recalls", and include diverse federal agencies responsible for consumer products, motor vehicles, boats, cosmetics, or environmental products (www.recalls.gov).

REFERENCES
 Ohno, Taiichi (1988). *Toyota Production System. Beyond large-scale production.* Portland: Productivity Press.
 Rodríguez Martínez, J. (2001a). *Visión General del tema de la Calidad y el Diseño Industrial. Con un Enfoque Japonés.* Ciudad de México: UAM-Azcapotzalco. ISBN: 970-654-080-6, 176 páginas.
 Shingo, S. (1985). *A revolution in manufacturing. The SMED system.* Portland: Productivity Press.
 Villaseñor Contreras, A.; Galindo Cota, E. (2008). *Manual de Lean Manufacturing. Guía Básica.* (2da edición). México: Limusa.
 Womack, J. P.; Jones, D. T.; y Roos, D. (1990). *The Machine that Changed the World.* New York: Rawson Associates.

VIDEOS RELATED TO THE TOPIC
 Video. *Toyota Production System (TPS), o JIT*, https://www.youtube.com/watch?v=X7QNC-yw_2s
 Video. *Toyota Material handling* <https://www.youtube.com/watch?v=P-bDIYWuPtM&t=83s>
 Video. *Production cell with only one operator*, www.youtube.com/watch?v=Dz4xCCPkni0&t=47s
 Video. *Commercial film "The founder" or "Hunger of power", shows how they developed the "Speedy system" to offer a hamburger, since it is requested to be received in just 30 seconds, where it shows the way it works the kitchen, standardization of the menu and design of an efficient layout.* <https://www.youtube.com/watch?v=gKdSGHggEgk>



Dr. Jorge Rodríguez Martínez
ORCID: 0000-0001-5013-6326



Haydee Becerril Marañón
Research Assistant



N-480

PROCESSES AND PROCEDURES FOR THE ORGANIZATION OF ACTIVITIES AND THEIR BEHAVIOR FOR THE CONTINUOUS IMPROVEMENT IN THE ADMINISTRATION AND TECHNOLOGY FOR DESIGN AREA

Keywords: Quality management, improving activities, knowledge - Gestion de la calidad, mejora de actividades, conocimiento

RESUMEN

"Lo que no se mide no se mejora" Consciente de que es más fácil caminar con un proceso o procedimiento de las actividades cualesquiera que sean éstas, para mejorar los sistemas y modelos de aprendizaje e ir optimizando las metodologías y estilos de acuerdo a las generaciones, se interesa adaptar el sistema de calidad a la Academia. **"Pasar la estafeta y no empezar de cero"**. Las actividades que conllevan a este proyecto se orientan con la recopilación visual y de trabajo de 25 años de labor académica, de investigación y difusión de la cultura, donde el diseño, la innovación y la tecnología permiten hacer eficiente los procesos y recursos llegando al objetivo sin dificultad.

ABSTRACT

"What is not measured is not improved" Aware that it is easier to walk through a process or procedure of whatever activities they are, to improve learning systems and models and optimize methodologies and styles according to generations, is interested in adapting the quality system to the Academy. "Pass the post and not start from scratch." The activities that lead to this project are oriented with the visual and work compilation of 25 years of academic work, research and dissemination of culture, where design, innovation and technology allow efficient processes and resources to reach the goal without difficulty.

OBJECTIVES:

1. Design an application that optimizes the development of activities, registering them and evaluating them in a timely manner.
2. Build a model that allows the detection of the needs of the interested public, prioritizing the issues and focusing the interest.
3. Analyze fundraising alternatives to streamline the UAM administrative system as a proposal for the registration of donations and sponsorships.

CONTRIBUTIONS TO DESIGN FIELD

The infrastructure, equipment, tools, media and human resources that the university has in an area of approximately 200 thousand square meters, constitutes a great investment, which must be planned, organized, managed, controlled and aligned under quality standards that propitiate continuous improvement and optimization of the institution's resources.

Inside this frame and highlighting the extracurricular activities that our area organizes, it is of vital importance, to implement processes, procedures, work instructions, records and indicators that facilitate the development, realization and monitoring of them, managing to optimize resources, identifying the topics and speakers and instructors specialized in them, for a constant update, a close link between academia and the different sectors (public and private), as well as the use of relevant information first hand.

DESIGN OF WORK INSTRUCTIONS FOR THE APPLICATION OF PHYSICAL SPACES FOR THE REALIZATION OF ACTIVITIES WITH DIFFERENT FORMATS



Meeting Room (Dept. of Processes and Techniques of Realization)



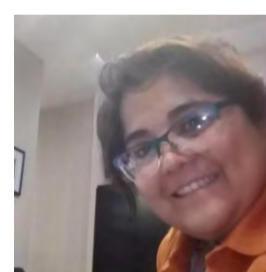
ARTIS Room (exhibitions, conferences and workshops) COSEI



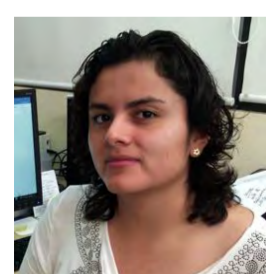
Lobby



Computer Rooms



Mtra. M. Patricia Stevens Ram6rez
ORCID:0000-0002-1478-2256



Arq. Lourdes Ivonne Arellano del Valle
Research Assistant



Haydee Becerril Mara6a6n
Research Assistant



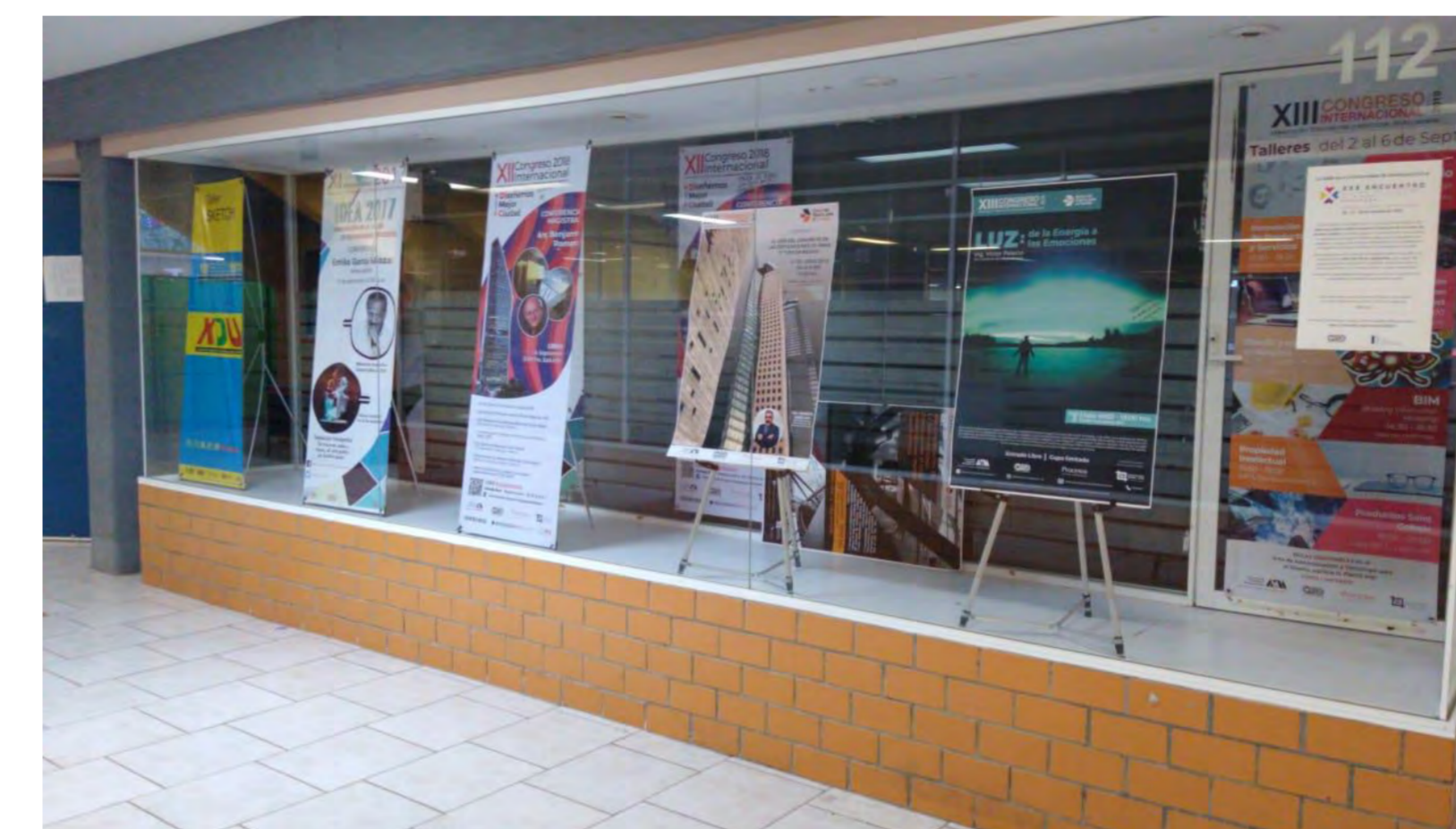
Lic. Mar6a Eugenia Ortega Mar6n
Head of the UAM-Azc Quality Management Office

RESEARCH PROGRESS IN 2018-2019 AND PRODUCTS THAT HAVE BEEN GENERATED

- Formats have been generated that have responded and facilitated the registration of the different actions in the extracurricular organization of the activities of the area, which were carried out from June to September as: scholarship format, evaluation of workshops and courses, format of consultants, request for spaces: for conferences, computer workshops, database of services and suppliers, among others.
- Function check.
- Planning and implementation of the promotion in social networks.

Scholarship Format

Adaptation of Formats for the XIII International Congress of the Area of Administration and Technology for Design



Showcases for Exhibitions



Work Team

REFERENCIAS
Operational documents of the Division of Science and Arts for Design
Executive Report Review by senior management June 2013
http://siiso.azc.uam.mx/revision_directiva/doc_rev_directiva/Informe%20del%20RD%2019%20Junio%202013Term.pdf
Projects and Activities undertaken by the OGC
UNAM Fund Procurement
<http://www.fundacionunam.org.mx/procuracion-de-fondos/>

FUENTES O REFERENCIAS
Guide for the direct measurement of customer satisfaction, Instituto Andaluz de Tecnologia.
Quality Management System Platform
<https://www.siiso.azc.uam.mx>
Quality Management System fundamentals and vocabulary
<http://siiso.azc.uam.mx/Documentos/ISO%209000-2015.pdf>
Quality Management Systems Requirements
<http://siiso.azc.uam.mx/Documentos/ISO%209001-2015.pdf>
Regulations for the award of Works, Goods and Services
<http://siiso.azc.uam.mx/Documentos/RADOBIS.pdf>
Guidelines for Systems and Management auditing
http://siiso.azc.uam.mx/Documentos/ISO_19011_2011%20Espanol.pdf

XIII CONGRESO INTERNACIONAL 2019
ADMINISTRACIÓN Y TECNOLOGÍA PARA LA ARQUITECTURA, DISEÑO E INNOVACIÓN

PROCEDURE FOR PROMOTION AND PUBLICITY OF THE ACTIVITIES SINCE THE IMAGE GENERATION UNTIL ITS APPLICATION IN THE MEDIA

Visi6n del Dise6o ante el Cambio

CONNECTIONS WITH SOCIETY AND/OR PROBLEMS AT THE NATIONAL LEVEL

The good planning, administration, monitoring and control of resources in education, generates opportunities for the actors that participate for a better development and projection of knowledge and learning. Having quality management in university environments allows continuous updating and improvement of processes, and procedures evaluating the results, and proactively responding to the solution of needs. The human resource is fundamental.

Work Instruction Format



N-483 THE BIM METHOD AS A CONTEMPORARY MANAGER OF ARCHITECTURE AND ITS INCIDENCE IN THE ACADEMIA AT UAM AZCAPOTZALCO

CONSTRUCCIÓN, INFORMACIÓN, MODELADO BUILDING, INFORMATION, MODELING

The Universidad Autónoma Metropolitana has joined, in recent months, multiple activities organized by the members who are part of this research project, in different fields of action. To the change and challenge represented to understand design processes, construction and management of building and infrastructure in a way which is completely different to the way that for decades was commonly done. Methodologies such as BIM (Building Information Modelling), LEAN and IPD (Integrated Project Delivery) demand to work in a collaborative and efficient way, to know and apply digital tools for diverse ends, and optimize the processes in the diverse phases that are planned, from the preparation stage, to remodeling, or even the demolition of a construction. Our country demands, starting some years ago, that professionals know of these methodologies, especially in the private sector: just to mention two relevant examples in Mexico City: Torre Reforma and Torre Chapultepec. In the public and academic sectors, the rhythm of adapting to these new methodologies has been slower, that is why it is fundamental that in the short term, decisions need to be taken in favor of implementing at large scale BIM and LEAN methodologies, by adequating study programs in the architecture and civil engineering degrees.

La Universidad Autónoma Metropolitana se ha sumado en los meses recientes mediante multiples actividades realizadas por integrantes de este Proyecto de Investigación y en diferentes campos de acción, al cambio que representa entender los procesos de diseño, construcción y gestión de las edificaciones e infraestructura de una forma completamente diferente a como se ha venido realizando durante las décadas recientes. Metodologías como BIM (Building Information Modeling) LEAN y IPD (Integrated Project Delivery) exigen trabajar de forma colaborativa y eficiente, conocer y aplicar herramientas digitales para diversos fines y optimizar los procesos en las diversas etapas contempladas desde la planeación hasta la renovación o demolición de una edificación. Nuestro país demanda desde hace algunos años de profesionales que conozcan de estas metodologías, particularmente en el sector privado, baste mencionar dos ejemplos relevantes en la Ciudad de México: Torre reforma y Torre Chapultepec. En el sector público el ritmo ha sido más lento y el sector académico no es la excepción, por lo que es fundamental que en el corto plazo se tomen decisiones en favor de la implementación a gran escala de BIM y LEAN en principio, adecuando planes de estudio de las carreras de Arquitectura e Ingeniería Civil en una primera etapa.

The first objective for this project has been fulfilled, this past July 1, 2020, it was approved by UAM's Divisional Council, our proposal for an optional course (UEA), titled "Project management and architectonic realization by using BIM", it covers the BIM methodology and it will be offered, in the next few months, as an option for the architecture students. In this 2020 year, we have turned the COVID-19 pandemic into an opportunity, and we have either organize or take part in BIM Forums, that have placed the name of our UAM university in a number of Ibero-american countries. In the period that covers from April 8, to December 2, we have attended several virtual BIM forums and celebrated 33 work virtual meetings that we have arranged, counting with the relevant attendance of professional, enterprises, institutions, alumni, academics and researchers from 16 different cities from 10 countries. For example, the BIM-LEAN Journey was celebrated on October 21 as part of the activities of the XIV International Congress "Management and Technology for the architecture, design and engineering", organized by our research area with attendees coming from the academic and professional sectors, from countries such as Argentina, Chile, Colombia, Nicaragua, Venezuela, Perú and Spain.



ARQ. MOISÉS BUSTOS ALVAREZ
PROJECT COORDINATOR
ORCID 0000 0001 7929 9524



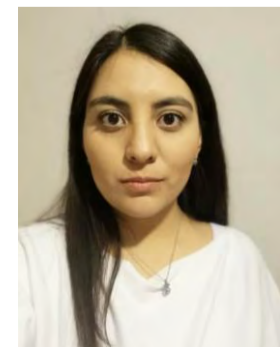
DRA. AURORA MINA POO RUBIO
COLLABORATOR



MTRA. ISAURA LÓPEZ VIVERO
COLLABORATOR



ING. ARQ. TOMÁS E. SOSA PEDROZA
COLLABORATOR



MONTSERRAT LULE RAMÍREZ
SOCIAL SERVICE STUDENT



LUIS A. LEÓN NUÑEZ
SOCIAL SERVICE STUDENT



EPISODE 22 "WOMEN IN BIM" SHARED COORDINATES PODCAST, MARCH 2020
DRA. AURORA M. POO RUBIO AND MTRA. ISAURA E. LÓPEZ VIVERO
IMAGE: <https://i.ytimg.com/>

Laboratorio
Architectural
Representation
Center

"ARC"



PROFESSOR MIGUEL A. PÉREZ SANDOVAL, UAM AZC./ POSTGRADUATE STUDENT
UNIVERSIDAD POLITÉCNICA DE CATALUÑA. INVITED COLLABORATOR. PHOTO BY: NAVARRO I. 2020

During 2019 most of the activities carried out by the project members, formed by academics and students doing their social service with us, were focused on documental research activities. The objective was to understand the international state of the art in implementing BIM methodologies in universities and in the construction sector in other countries, especially in those countries that are a reference, such as the United Kingdom, USA, some oriental countries, and in Latin America, Chile, is a vanguard in the region.

The COVID-19 pandemic and its effects, such as the closing of all educative institutions in Mexico, like our university, seemed at the beginning an important setback for the continuation of the research activities that started the previous year. It was just three weeks before the cancellation of all the face-to-face activities at UAM, that our research group delivered a proposed syllabus for a new course (UEA) for the curricula of the architecture program. Nevertheless, just a few weeks later, we decided to continue with our meetings, a change from the presental to the virtual, this strategy allowed us to interact with alumni, professionals, academics and researchers, not only from Mexico, but from many different countries. Along the past eight months, this group has shared with us their experiences and expertise from the different sectors they represent in their own cities or countries.

During the mentioned period, we have celebrated a total of 33 sessions with academics from the following universities: In México: Universidad Autónoma de Yucatán and Universidad Anáhuac Cancún; in Spain: Universidad Politécnica de Cataluña, Universidad Politécnica de Madrid, and Universidad de Sevilla; in Chile: Universidad UNIACC. In summary, a total of 60 people have attended our weekly meetings, the group is composed by students, academics, professionals, consultants, and business people from 10 different countries and 16 cities.



DELIVERY OF THE PROPOSED STUDY PROGRAM AND OPTIONAL UEA SUBJECT LETTER
"PROJECT MANAGEMENT AND ARCHITECTURAL REALIZATION THROUGH BIM"
FEBRUARY 26th 2020 PHOTO BY: LÓPEZ I. 2020

REFERENCES

- Estrategia para la implementación del modelado de información de la construcción (MIC) en México. Secretaría de Hacienda y Crédito Público, Subsecretaría de Egresos, Unidad de Inversiones, Marzo 2019.
- ISO 19650 Partes 1 y 2
- Comité de Transformación Digital. (2019). Estándar BIM para Proyectos Públicos. Santiago, Chile: Creative Commons.



JORNADA BIM - LEAN
21 DE OCTUBRE 2020
9:00 A 15:00 HRS (cdmx)

REGISTRO <https://congresoadmorytecnoparaeldiseño.azc.uam.mx>

9:00 - 10:20 hrs
El negocio BIM para CEOs...
Desarrolladores, Estudios y Empresas Constructoras.
Ing. Fabian Calcagno, Director Miller & Co., Argentina

10:30 - 11:50 hrs
Panel BIM - LEAN
Arq. María de los Angeles Caripa, B Wise BIM, Chile
Ing. Andrés Bustos Acevedo, Besser Lean, México
Dr. Sergio Álvarez Romero, UADY, México



12:00 - 13:20 hrs
"La experiencia de diseminar BIM en el marco académico y profesional"
Arq. Ignasi Perez Arnal, BIM Academy, España

13:30 - 14:50
"Integración BIM en Ciudades, Municipios y Territorios"
Arq. Héctor Miller, Director Miller&Co., Argentina
Arq. Eduardo de Feo, Director Miller & Co., Argentina



JORNADA BIM - LEAN
XIV INTERNATIONAL CONGRESS "MANAGEMENT AND TECHNOLOGY FOR THE ARCHITECTURE, DESIGN AND ENGINEERING" 2020.
DESIGN: ARQ. MOISÉS BUSTOS

There are regions, countries, and cities, in diverse places in Asia, Europe: United Kingdom, Spain, or in the USA, or Dubai, where the BIM methodology is being implemented with firm steps in consolidating their construction processes. In Latin America, 2020 represents an opportunity for integration, Chile is leading the way through the Plan BIM CORFO, the countries that have responded to this call are: Argentina, Brazil, Colombia, Costa Rica, Mexico, Perú and Uruguay, they have formed a network denominated: "RED BIM GOB LATAM". Some of the fundamental objectives of the implementation of BIM are to plan, develop, build, and operate in an efficient manner infrastructure projects with important budgets. It is also used in the bidding and construction processes making them transparent, and by doing so, reducing one of the most common problems that we have in common: the corruption. Our social service students have shared their knowledge and experiences by delivering courses of Revit® and ArchiCAD®, which are commonly used in architecture, at UAM, in the Azcapotzalco and Xochimilco campuses in Mexico City. The architect Isaura E. López Vivero has delivered several Revit® courses at UAM and a BIM workshop. Dr. Aurora Póo has coordinated the weekly meetings, and the architect Tomás Sosa has contributed with his professional and academic experience in our activities. The person in charge of this project, architect Moisés Bustos was part of the first group of attendees in the e-learning course "Introduction to the BIM Methodology" offered by Plan BIM-CORFO, sponsored by the BID bank. These are some of the results that have been obtained so far, three years ago there was a widespread ignorance on the BIM methodology, we think we have contributed with our dissemination activities to improve this situation.

REFERENCES

- <https://planbim.cl/>
- www.upm.es
- www.upc.edu
- www.us.es



N 484

THE EFFECT OF EARTHQUAKES ON CONTEMPORARY ARCHITECTURAL BUILDINGS AND ANTI-SEISMIC POINT TECHNOLOGY APPLIED FROM THE XXI CENTURY.

KEYWORDS: EARTHQUAKES BUILDINGS HIGH ANTI-SEISM CONSTRUCTION TECHNOLOGIES

RESUMEN Y OBJETIVOS EN INGLÉS

After the earthquakes of 1985 and the signing of NAFTA (North American Free Trade Agreement), the architectural height building has been substantially modified, where regulations, structural and architectural design, along with cutting-edge structuring procedures, had relevant modifications in order to eliminate the harmful effects of the earthquake on the buildings and the urban infrastructure of Mexico City. In addition to these efforts, it is necessary to underline the participation in the last decades of national and foreign companies that developed mechanisms and equipment which are the result of their research related to the same seismic effect in buildings.

OBJECTIVES

Detect and analyze the latest technology applied in the contemporary architectural construction of our country and worldwide, related to the anti-seismic structuring of medium and high-rise buildings and in urban infrastructure works, identifying the new construction procedures, anti-seismic control mechanisms, architectural and structural design methodologies, materials, regulations and execution methods.

CONTRIBUTIONS TO DESIGN FIELD

In the hypotheses raised for the work, the contributions of the research will have repercussions in two important fields for our academic purposes:

THE FIELD OF TEACHING

THE PROFESSIONAL FIELD OF ARCHITECTURE IN MEXICO

Teaching related to the architectural construction UEA's will benefit from the updating of the state of the art of earthquake design, both theoretically and in its applications.

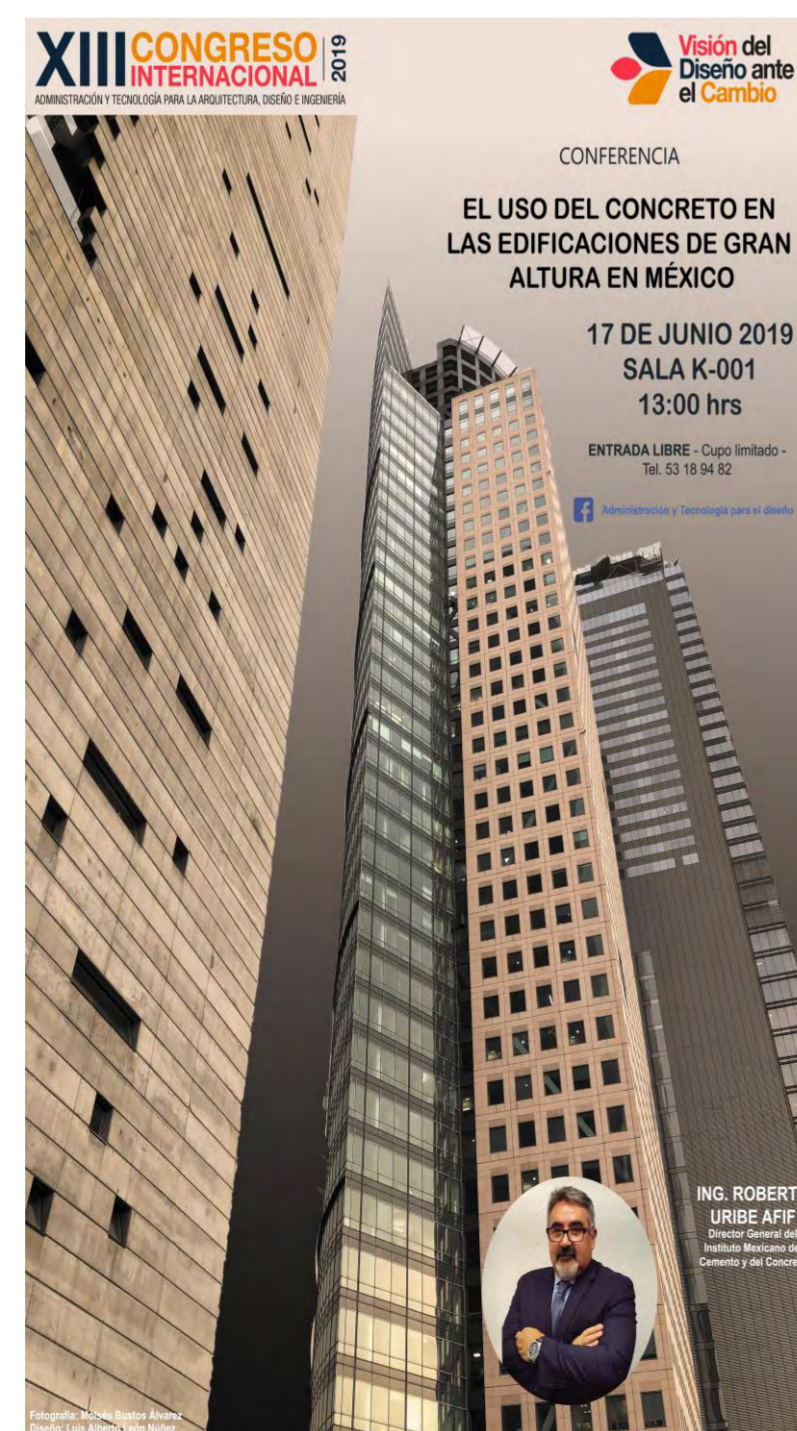
The relationship of the CyAD Division with the professional field of design in Mexico will benefit from a closer approach in anti-seismic issues, through direct contacts with such important companies as MAGEBA, ARUP, QUAKETEK, MAURER or CANDE INGENIEROS, among others.



Ing. Arq. Tomás Enrique Sosa Pedroza
orcid.org/0000-0002-4050-7741



Arq. Moisés Bustos Álvarez



- ACEC New York Diamond Award 2016
 - Building of the year Award, Obras Magazine, 2016
 - XIII National Architecture Biennale: Silver Medal Education category, México
 - Contemporary Mexican Architecture Exhibition in Italy, 2015
 - XII National Biennale: Silver Medal Conservation category, México
 - XI National Architecture Biennale: Silver Medal, Offices Building category, México
 - Teaching Excellency Award, Universidad Iberoamericana, CDMX 2007
- UAM Azcapotzalco
Entrada libre - Registro previo - Tel. 53 18 94 82
Administración y Tecnología para el Diseño

ADVANCES OF THE RESEARCH IN 2018-2019 AND GENERATED RESEARCH PRODUCTS

The progress made to date has been varied, being the following:

PUBLICATIONS

Earthquake analysis of Sept. 19 2017 in Mexico, origins, civil protection actions and consequences. EIMIAA. The Savior. 2018.
Seismic technologies, recent cases of tall buildings, Mexico City. Yearbook Administration and Technology for Design. 2018.UAM Azc.
Structural design in recent skyscrapers of Mexico City. International Congress of Architecture and Design, Tijuana Baja California 2019.

CONFERENCES INVITED TO UAM

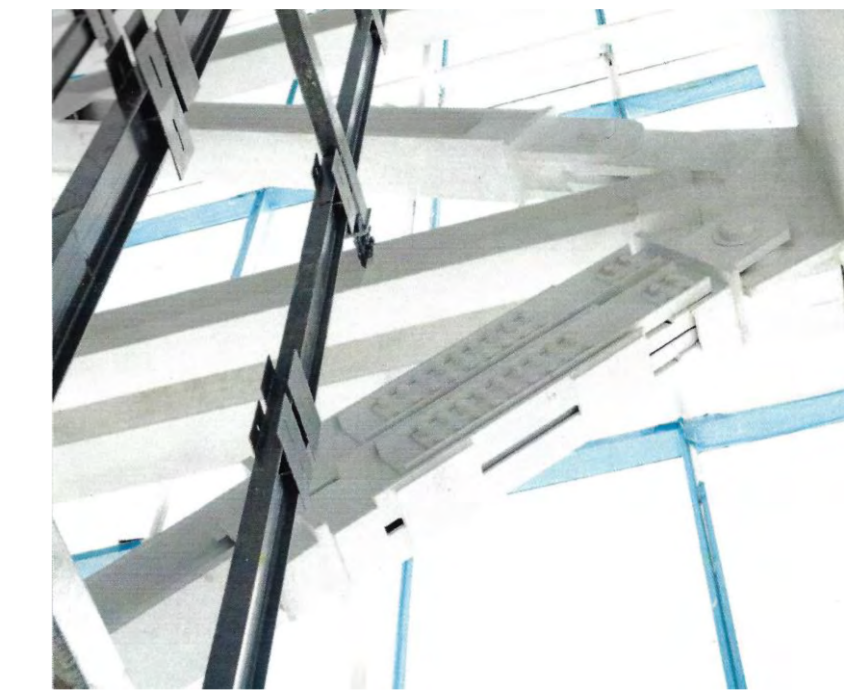
Ing. Roberto Uribe Afif. *The use of concrete in high-rise buildings.*
Dr. Sergio Alcocer. *The earthquakes of sept. from 2017. What did we learn?*
Architect Benjamín Romano. *Architectural structuring. Reforma Tower*
Dr. Amador Terán. *Earthquake-resistant design a humanistic vision*

ASSISTANCE TO CONFERENCES AND COURSES

International Symposium on Construction, Strengthening of Structures and Seismic Engineering. HILTTI, SMIE. CDMX 2019.
Student Symposium of Seismic Engineering. IPM CDMX. 2019

OTHER RESULTS

Notes of normal course
Slide graphics for classes of the UEA's of constructive and structural systems and construction.
Acceptance of the issues of high structuring and anti-seismic constructions in the new Architecture programs at the UEA construction III.



FRICION SINK. QUAKETEK COMPANY



RELATIONSHIP WITH NATIONAL PRIORITY PROBLEMS

Due to the earthquakes of 1985 and 2017 and the commercial treaties with other countries, the Mexican architecture of high buildings has undergone substantial changes in all its processes; modifications in terms of anti-seismic regulations related to the construction of buildings, changes in architectural and structural design methods, application of innovative construction procedures and evolved administration procedures for the design and execution stages in construction.

The proposal of this research work has as its origin the problem that represents the seismic phenomenon in the architectural constructions and its possible repercussions in the Mexican population and is based on the need to document, from an architectural-constructive vision, the state that keeps the Contemporary professional field of Mexican architecture and urban infrastructure in the field of anti-seismic building systems, resilient structures and high-tech mechanisms with insulating and dissipating capabilities.

The period to be analyzed is from the 90's to the present day because it has been a very prolific time of architectural production of high quality buildings and with applications resistant to earthworks, such as Torre Mayor, Bancomer Tower, Reforma Tower, Manacar Tower, Chapultepec Uno Tower, among others.



SEISM INSULATOR. MAGEBA COMPANY PHOTO

REFERENCES

- Normas Técnicas Complementarias para Diseño por Sismo del Reglamento de Construcciones para la Ciudad de México.* 2019
- EXPERIMENTAL DAMPING ON FRAME STRUCTURES EQUIPPED WITH BUCKLING-RESTRAINED (brbs) WORKING WITHIN THEIR LINEAR-ELASTIC RESPONSE . HÉCTOR GUERRERO, ALBERTO ESCOBAR, AMADOR TERAN-GILMORE. JOURNAL HOME PAGE SOIL DYNAMICS AND EARTHQUAKE ENGINEERING. 2018
- RESILIENCE-BASED EARTHQUAKE DESIGN INITIATIVE FOR THE NEXT GENERATION OF BUILDINGS. COMPARATIVE SEISMIC PERFORMANCE OF STEEL FRAMES RETROFITTED WITH BUCKLING-RESTRAINED BRACES THROUGH THE APPLICATION OF FORCE-BASED AND DISPLACEMENT-BASED APPROACHES. . JOURNAL HOME PAGE SOIL DYNAMICS AND EARTHQUAKE ENGINEERING. 2010
- SANTOYO E. OVANDO. (2005). SINTESIS GEOTÉCNICA DE LA CUENCA DEL VALLE DE MÉXICO. MÉXICO. E. EDITORIAL TGC.

ELECTRONIC REFERENCES

- www.sismosmexico.mx
- www.mauerer.eu
- www.quaketek.com
- www.mageba.mx
- www.gerdaucorsa.mx



N-458

SD-67 Determining moments device

PORTABLE DEVICE CALCULATION
CALCULO PROTOTIPO PORTÁTIL

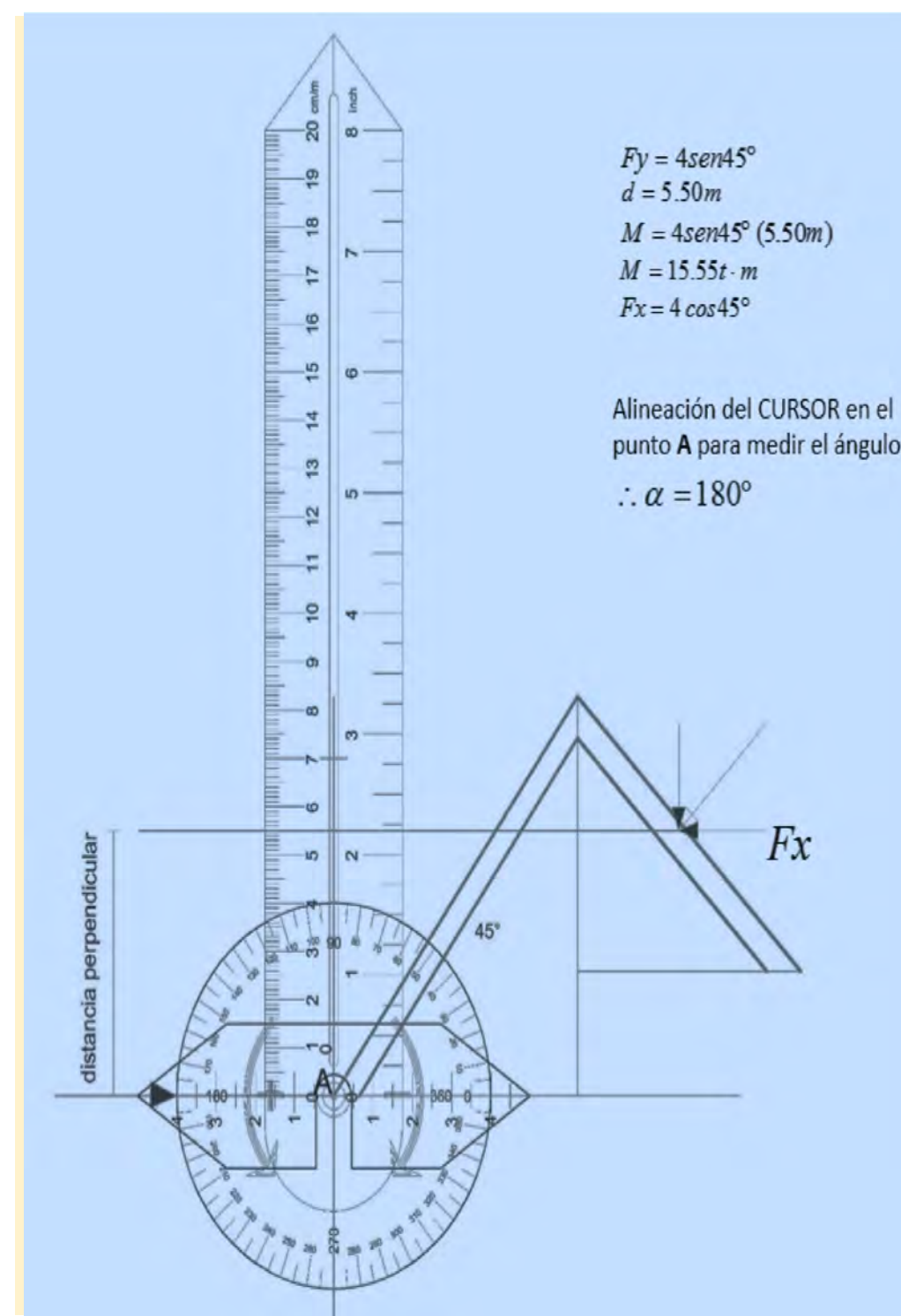
GENERAL OBJECTIVE

In terms of teaching, the project, due to its low cost and easy reproduction, plans to reproduce an N number of times, necessary for students to have an individual prototype and to be able to carry out internships in the class, thus more easily and comprehensively solving the problems raised.

SPECIFIC OBJECTIVE

The objective of this device is to exemplify what happens with the mechanism of rotation of a force with respect to a certain axis in the plane of the structure.

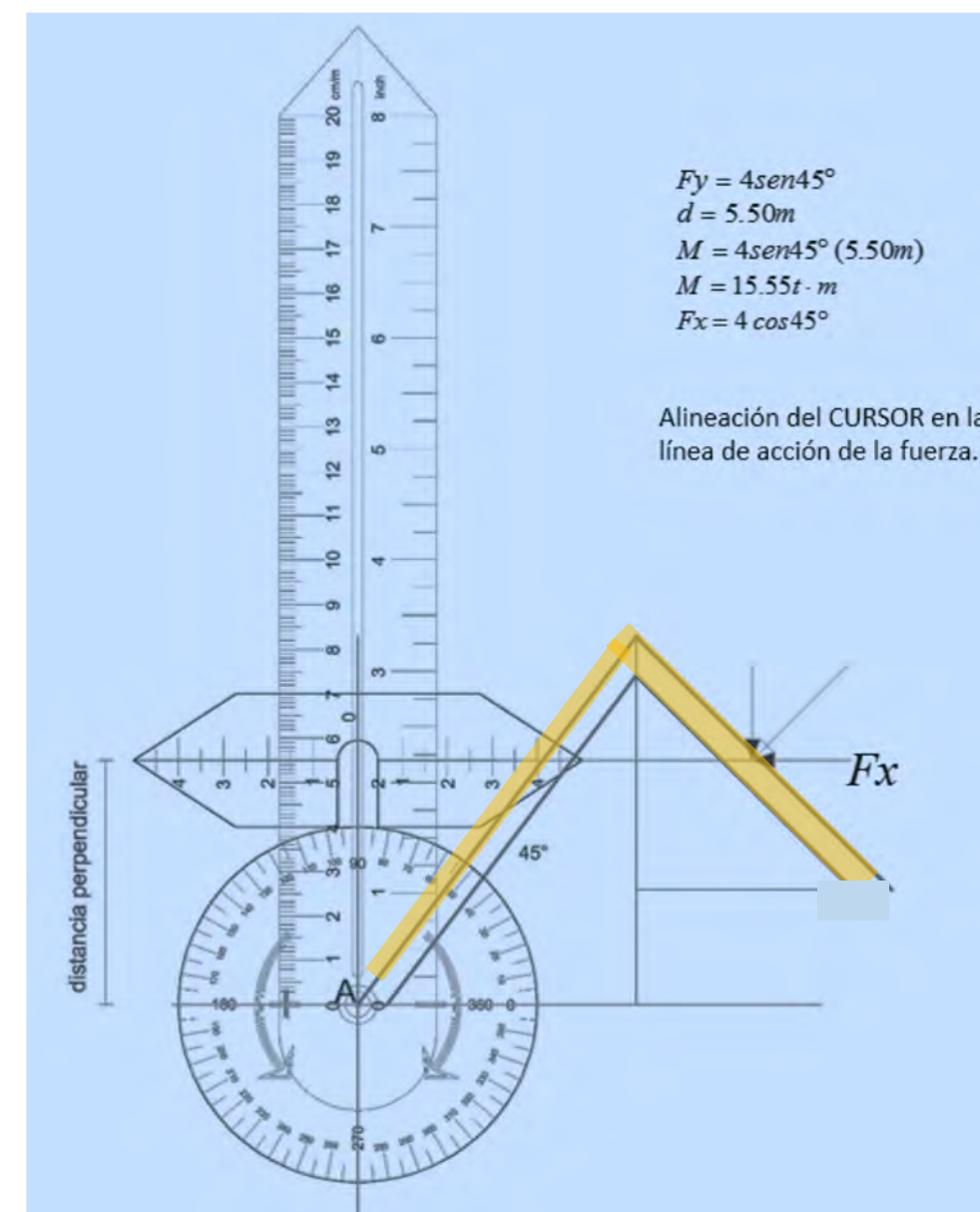
The apparatus was designed to establish the relationship between a force located at a point in the structure, its distance perpendicular to an axis of moments and the way in which it must rotate according to the sense of that force.



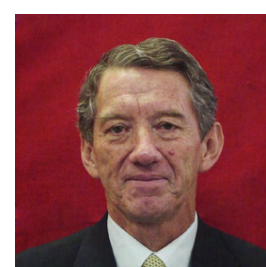
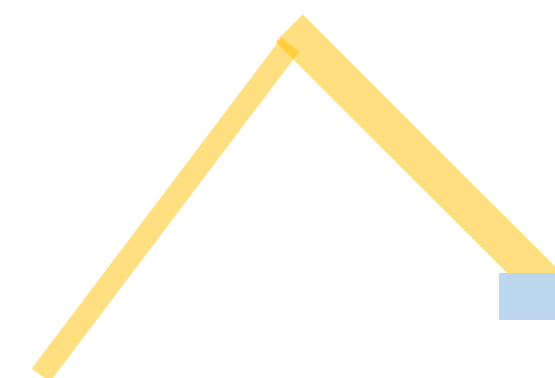
CONTRIBUTIONS TO THE DESIGN FIELD

The incorporation of the SD-67 device into the relevant UEAs practice sessions will make possible its routine and systematic scheduling by meeting the particular needs of each programme and at a reduced cost.

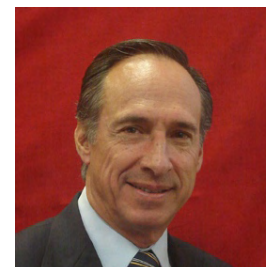
In design terms, the purpose is to use the SD-67 device by each of the students of the UEA where it is required, in order to improve the learning procedure of the problems related to the structural area. Such appliances shall be kept at prestamo momentary, that is, they shall only be taken from Laboratory of Structural Models at the time of the class and returned at the end of the class.



Moment of the Horizontal Component respect to the point "A" (Fx)
DIAGRAM SHOWING THE OPERATION OF THE SD67 DEVICE
DIAGRAMS: Teach. Carlos García Malo Flores



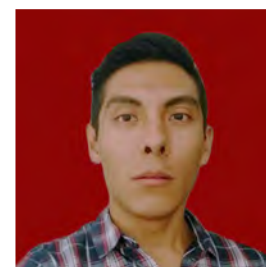
Mtro. Carlos García Malo Flores



Mtro. Carlos Humberto Moreno Tamayo
0000-0001-6024-1234



M. en C. Antonio Abad Sánchez



Ricardo Raúl Jiménez García
Ayudante A

Structural Models Laboratory

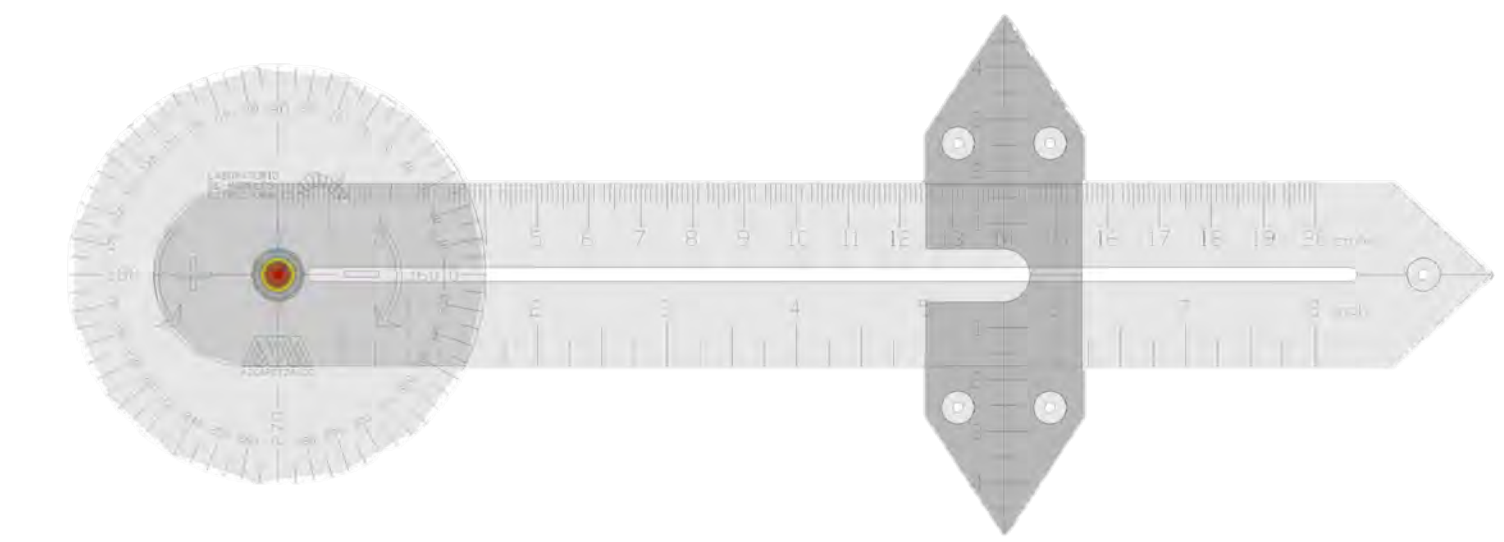
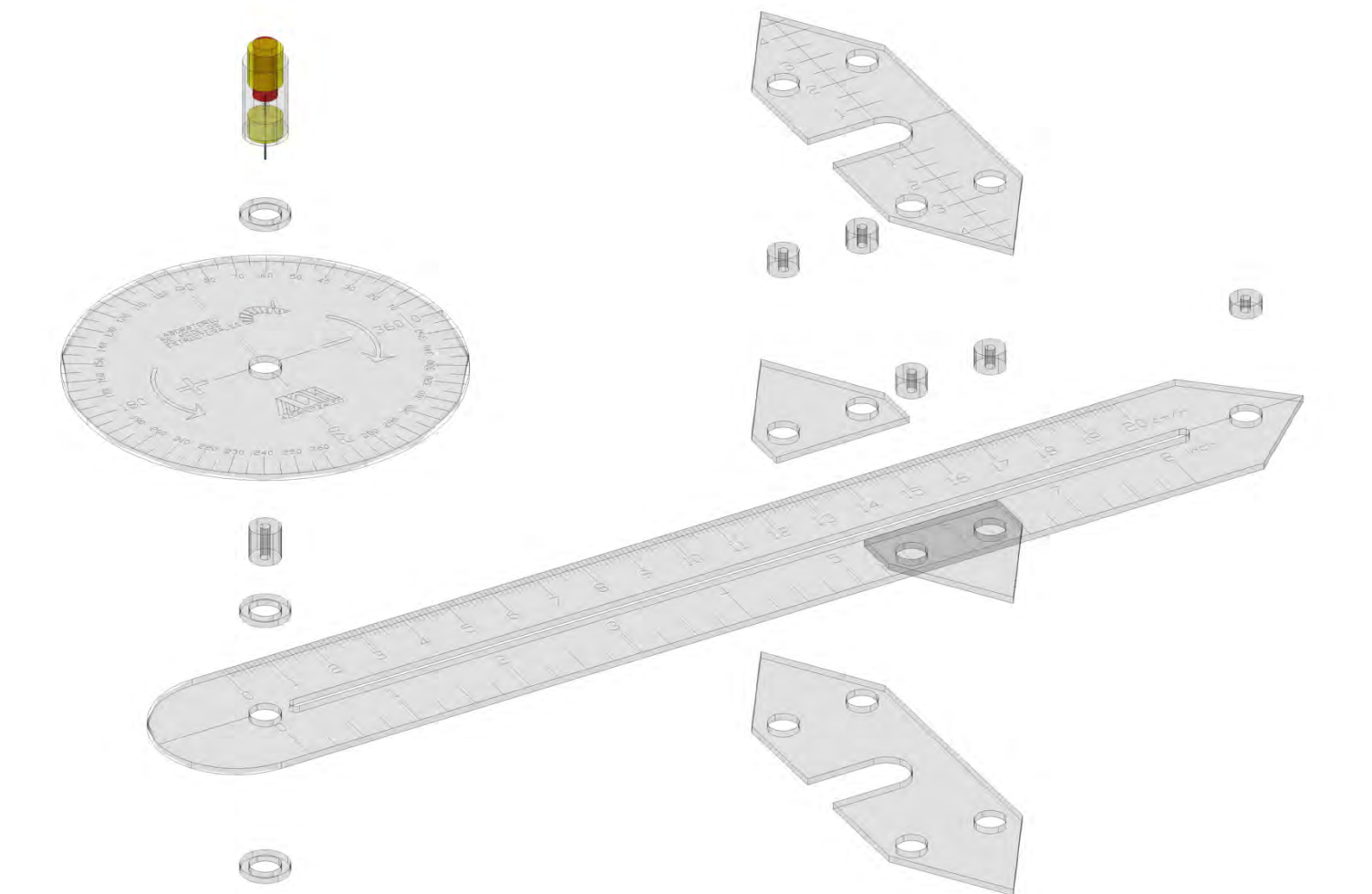
Technology and Design in buildings Group

INVESTIGATION PROGRESS IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

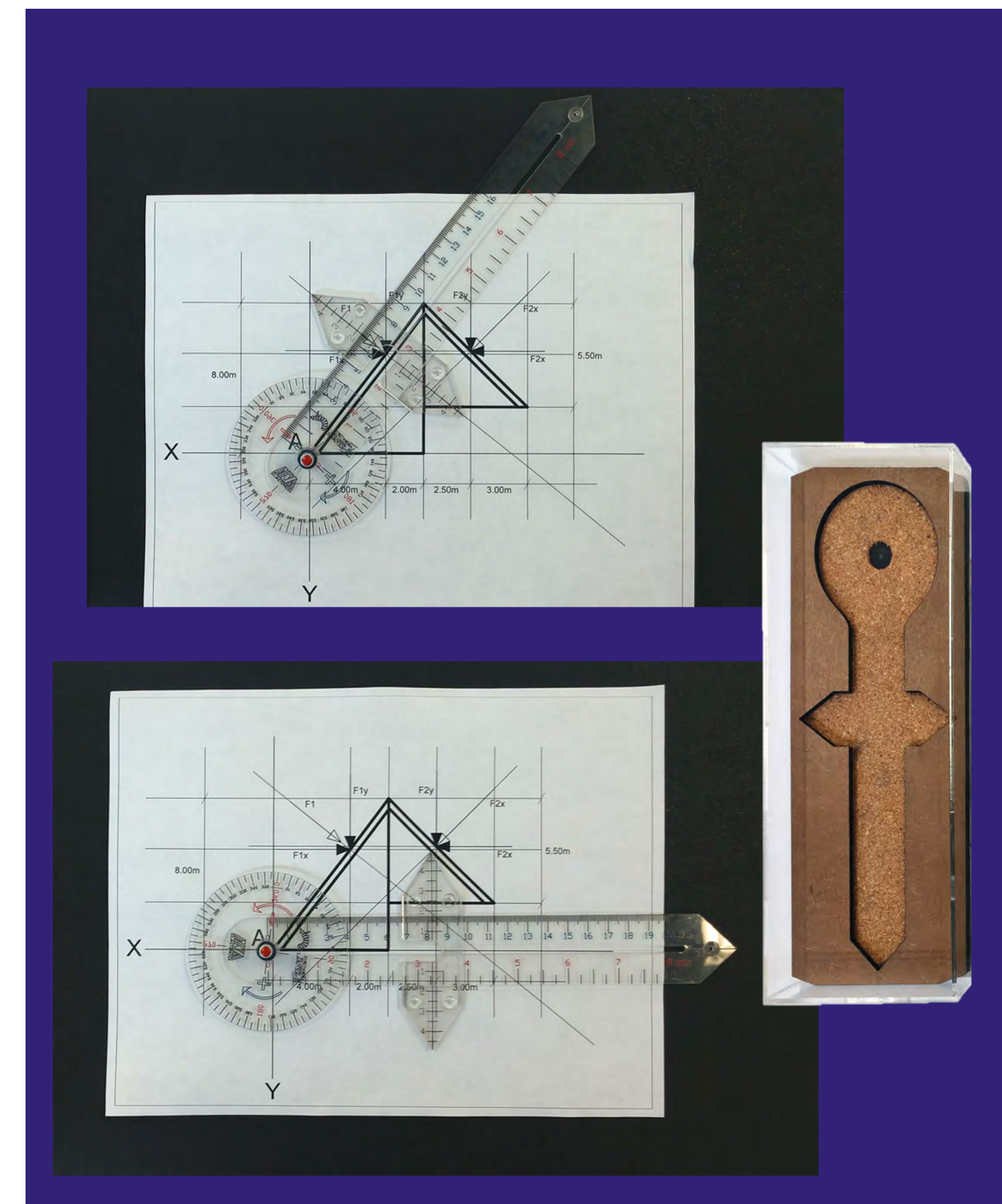
The SD-67 device for determining moments is already in its final stage of elaboration, small details of operation and presentation are currently being resolved, such as the case where it will be protected due to the dimension and material from which it is made.

It is intended to implement in classes from the 19-P quarter, starting mainly with the exclusive use of the teacher in charge of applicable UEAs, showing the students how it works and the carrying out the series productions of the same and that it can be implemented as a working tool in each class to calculate the exercises that are carried out.

This device is part of the new production line of devices of the Structural Models Laboratory whit quantitative focus, which has as purpose the practice with numerical results by the students of architecture.



VIRTUAL CUTTING OF SD-67 DEVICE
DETERMINING MOMENTS DEVICE
MODELING: Ricardo Jiménez



SD-67 DETERMINING MOMENTS DEVICE
PICTURES: Ricardo Jiménez

LINKING WITH SOCIETY / OR RELATIONSHIP TO ISSUES OF NATIONAL PRIORITY

Among others topics of Statics, the concept of the moment of a force is applied in the analysis of the isostatic armors, the arc of three joints and the walls of containment.

As regards the analysis of isostatic and hyperstatic beams,, the concept is used to determine the flexing moments at diferent points of the lenght.

In matters of Material Resistance and Structural Design it is used to obtain the resistance of the sections of reinforced concrete, steel and wood.

BOREIS. A.P. Schmidt, R.J. *Estática*. Thomson Learning.2001.

BEER. Ferdinand. *Estática*. Ed McGraw-Hill. México, 1998. ISBN 978-84-7585-788-6

CASTILLO. José Luis. *Estática para ingenieros y arquitectos*. Ed Trillas. Primera edición 2006. ISBN 9789682474361

CARMONA, Mario de Jesús. *Estática en Arquitectura*. Ed.Trillas. S.A. de C.V. primera edición 1985. ISBN 968-24-1686-8

GARCÍA MALO. Carlos. *Conceptos fundamentales de la estática*. Colección Procesos y técnicas de Realización. Número 80. México. Universidad Autónoma Metropolitana-Azcapotzalco.

GARCÍA MALO. Carlos. *Estática en las estructuras arquitectónicas*. Colección Procesos y técnicas de Realización. Número 79. México. Universidad Autónoma Metropolitana-Azcapotzalco.

ROSENTHAL, Werner. *La Estructura*. Editorial Blume. S.A 1977 Barcelona. ISBN 9788470312205



N-460

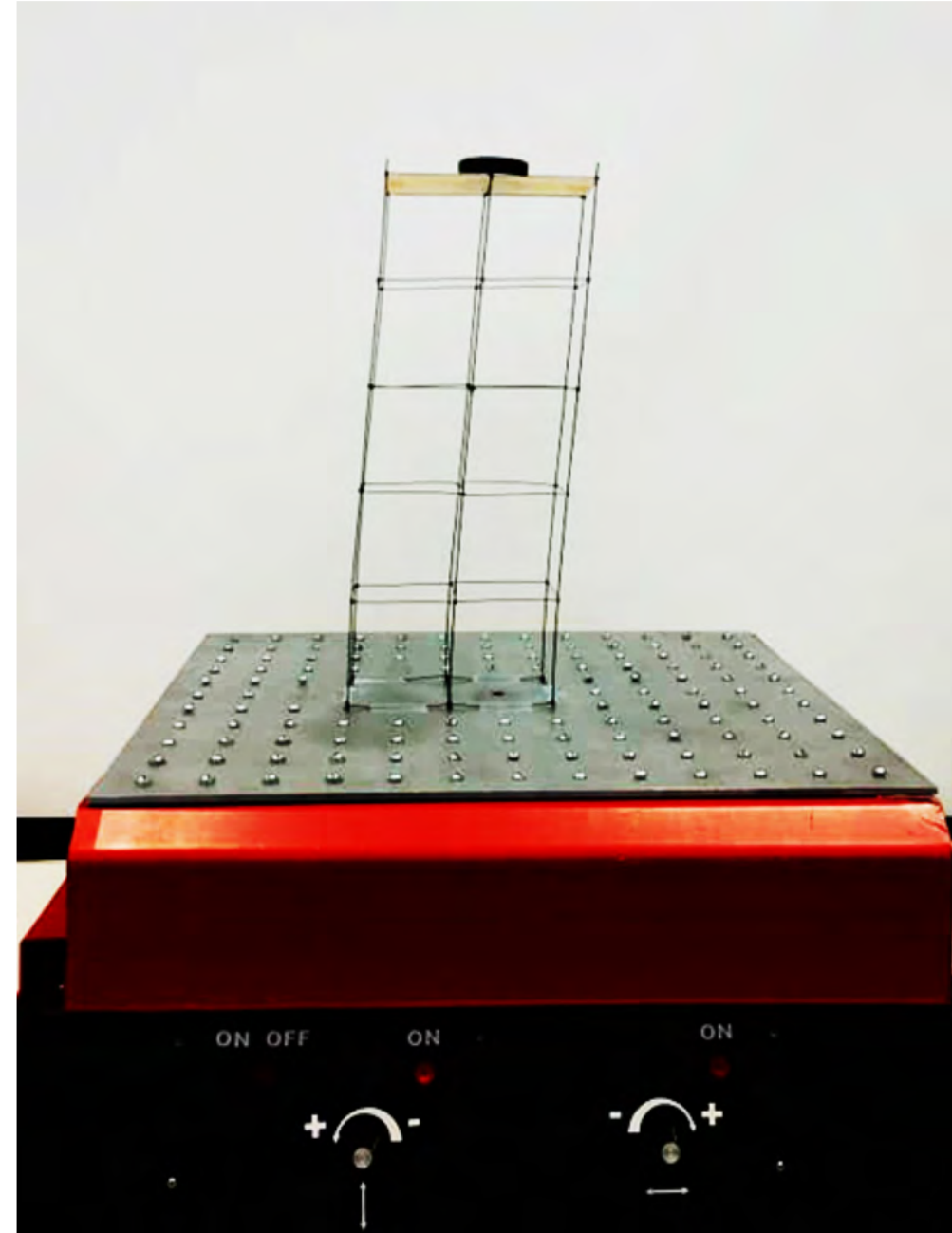
SD-64 Bidirectional movement table

EARTHQUAKE STRUCTURAL BEHAVIOR
COMPORTAMIENTO ESTRUCTURAL SISMO

ABSTRACT

Generally the devices for simulation of earthquakes are designed and produced for a movement in one direction and two senses. We know that earthquakes have complex and apparently erratic trajectories, it is enough to observe in a seismoscope the graphing of their trajectories with a certainly complex trace.

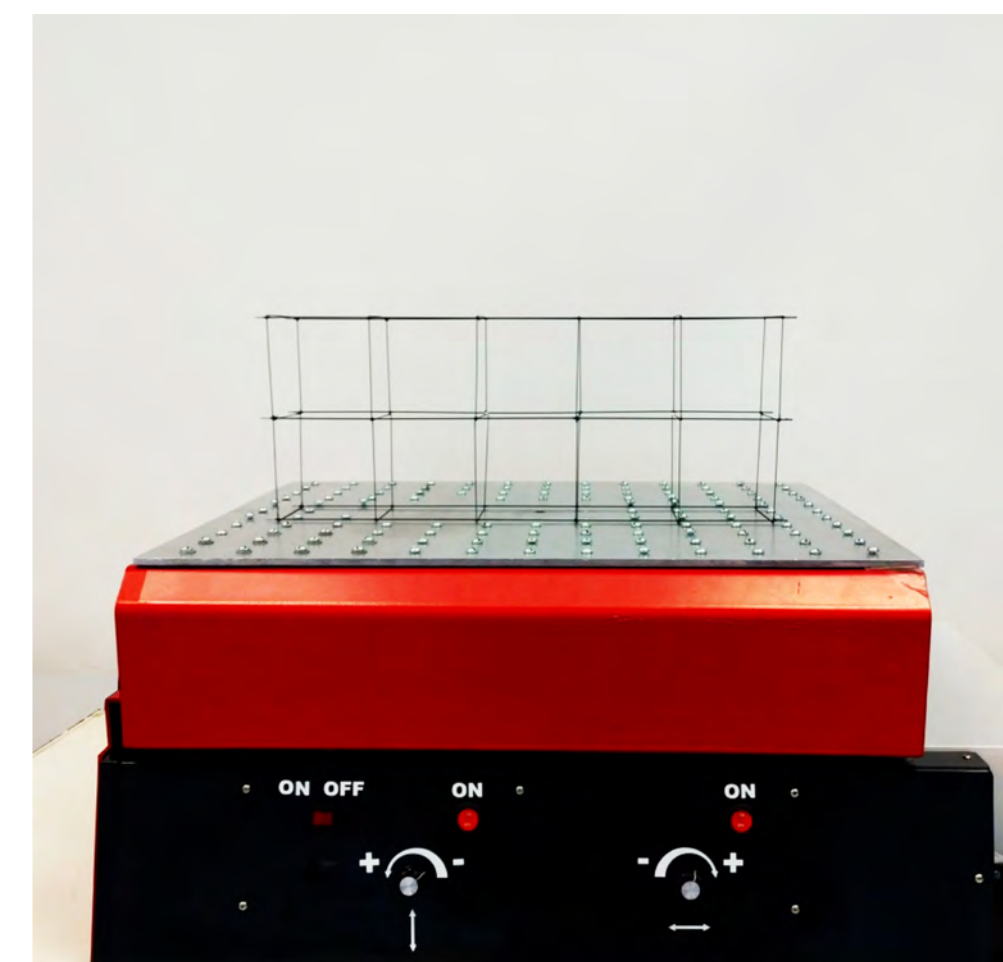
A table with bidirectional movement on transversal axes operated with independent controlled speed mechanisms for each of the two directions would certainly allow a simulation of the phenomenon with greater closeness to reality.



DESIGN FIELD CONTRIBUTIONS

The bidirectional movement table helps students to better understand the behavior of structures at different levels and with different configurations when earthquakes occur. It will have different demountable structures that will show these behaviors.

Besides being able to adapt other types of structures. Having two different shifts at its base (front-rear and right-left), it will define in greater detail the configuration of the building and show the epicenter of an earthquake.



STRUCTURAL PROTOTYPES FOR SD64 DEVICE
PICTURES: M. en C. Antonio Abad



Mtro. Carlos Humberto Moreno
Tamayo
0000-0001-6024-1234



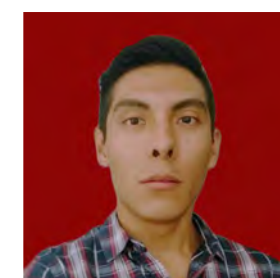
Dr. Amador Terán Gilmore



M. en C. Antonio Abad Sánchez



M. D. Jesús Antonio Hernández
Cadena



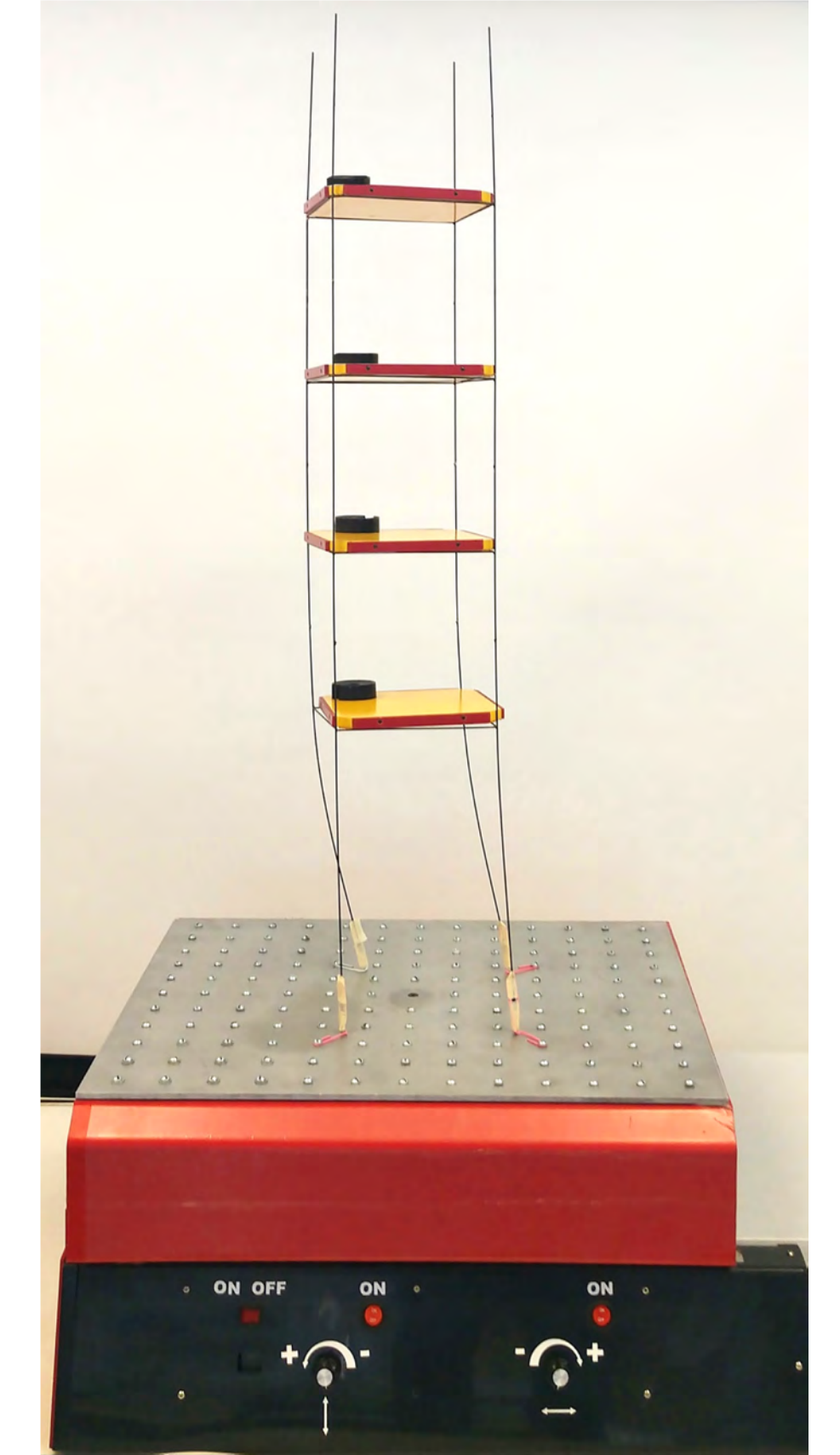
Ricardo Raúl Jiménez García
Ayudante A

INVESTIGATION PROGRESS IN 2018-2019 AND RESEARCH PRODUCTS GENERATED

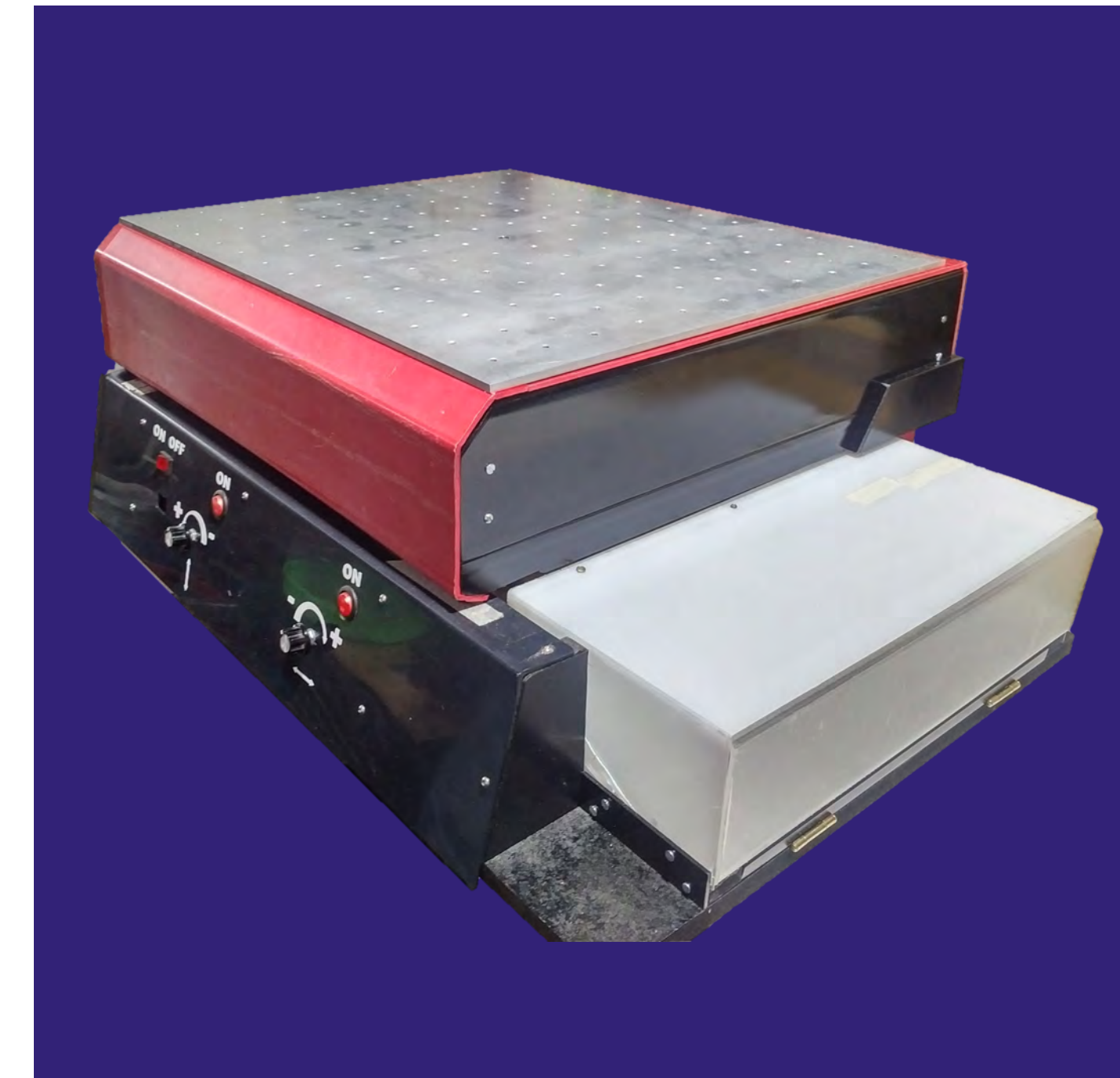
The SD64 device, bidirectional movement table, is already in its final stage of elaboration, being carried out the elaboration of test pieces of structures of various levels and different geometries in its plant, which may be inserted into the multi perforated platform on which it is operated.

Its response to lateral thrusts in two directions shall indicate, in view of the centroid location of the figure, whether or not the geometry adjustment is necessary, the recommended construction joints and the convenience of incorporating diagonal reinforcement elements (windbreaks) to achieve greater stiffness and decrease deformations, as the case may be.

In conjunction with the degrees of Architecture, Civil Engineering and Industrial Design, we work on the production of the specimens mentioned, so that we can begin to dispose of this device in classes.



SD-64 DEVICE
PICTURE: Ricardo Jiménez



SD64 BIDIRECTIONAL MOVEMENT TABLE
PICTURES: M. en D. Antonio Abad Sánchez

LINKING WITH SOCIETY / OR RELATIONSHIP TO ISSUES OF NATIONAL PRIORITY

- Involves students and teachers through the development and testing of structural elements and systems in the teaching-learning process of structures, for the masters in Architecture and Civil Engineering at UAM Azcapotzalco.
- It simulates the action of lateral forces similar to the behavior of earthquake events and their effects on structural models of reduced scale.
- It facilitates the teaching-learning process of basic concepts of static UEAs, Material resistance, Analysis and Structural design.

GUERRERO H, JI T, TERÁN-GILMORE A, ESCOBAR JA. (2018) *Effects of Buckling-Restrained Braces on reinforced concrete precast models subjected to shaking table excitation*. Engineering Structures 163 pp. 294-310.

GUERRERO H, JI T, TERÁN GILMORE A, ESCOBAR JA. (2006). *Experimental studies of a steel frame model with and without buckling-restrained braces*. Revista de Ingeniería Sísmica No. 95 33-52

Investigación/Laboratorios/Paginas/MesaVibradora.aspx

BRU O. D., IVORRA S., BAEZA J., (2013). *Innovación en la docencia de cálculo de estructuras mediante prácticas de laboratorio. Memorias de las III Jornadas Internacionales de Enseñanza de la Ingeniería Estructural de Innovación Educativa*. Valencia, España.

Normas Técnicas Complementarias para el diseño y construcción de estructuras de concreto. (2004). Gaceta Oficial del Distrito Federal, décima cuarta época, Tomo 1, nO. 103-Bis, México, 6 de octubre de 2004.

TURATI V. A., *Prólogo al libro de Moreno, C. et Al.* (2003). Laboratorio de Modelos Estructurales, Procesos y Técnicas de Realización, UAM-A, México. Pp 199



N-472

DESIGN, SOCIETY, ENVIRONMENTALLY RESPONSIBLE

THE PRINCIPLES OF DESIGN AND TECHNOLOGICAL TOOLS, FOR THE IMPULSE OF AN ENVIRONMENTALLY RESPONSIBLE SOCIETY IN THE CURRENT CONTEXT OF THE CITY OF MEXICO

This project seeks to develop a system that, based on the principles of design added to the technological tools, contributed to the generation of an environmentally responsible society, under the principle of personal and community benefit, currently in Mexico City.

Specific objectives

- Design a system that, supported with various resources, strengthens the generation of an environmentally responsible society and that can be replicated in different communities, adapting to their specific needs.
- Take advantage of the capabilities of technology, to facilitate activities resulting from the development of a system for the generation of an environmentally responsible society.

PROGRESS TO 2020

- Contextualization of the population.
- Meeting with citizens: supporting community work.
- Introductory material on the subject
- Presentation of the project to citizens, with a basic introduction to the topic.
- Constitution of the GIAP (Participation Action Research Group).
- Initial survey with a group of community members.
- Establishment of goals to be achieved directly with the community.
- Criteria and strategies for the development of the project, based on the contextualization of the population.



Work meeting with the community (Mejía and collaborators, 2019)



RESPONSIBLE FOR THE PROJECT
BEATRIZ IRENE MEJÍA MODESTO
<https://orcid.org/0000-0002-3571-8106>



PROJECT PARTICIPANT
CARLOS ANGULO ÁLVAREZ



PROJECT PARTICIPANT
MA: GEORGINA VARGAS SERRANO



PROJECT PARTICIPANT
ALDA MARÍA ZIZUMBO ALAMILLA



PROJECT PARTICIPANT
MONTSERRAT P. HERNÁNDEZ GARCÍA

METHODOLOGY

Research problem: Generate a system to contribute to the generation of an environmentally responsible society.

The methodology to be applied is Participatory Action Research (PAR), which is based on a series of practices that include members of a community and implies the participation of the same people involved in the study and action program, as a way of knowing and intervene in social problems. Understanding that the community itself is in charge of defining and directing its needs, conflicts and solutions. It is intended that the development of research and intervention are focused on the participation of its members for the creation of knowledge about themselves and that this knowledge serves for social transformation.

Phases established to carry out the project

- Phase I. Diagnosis of the problem in the selected reality
- Phase II. Construction of the Action Plan
- Phase III. Material Selection, Design and Production
- Phase IV. Implementation of the plan and its respective observation
- Phase V. Reflection and interpretation of results
- Phase VI. Possibly replanning.



Synthetic diagram of the development of the project process (Mejía and collaborators, 2019)



Presentation to the community (Mejía and collaborators, 2020)



SOURCES OR REFERENCES

Acosta, I. (Ed.). (2014) Discurso sobre el diseño, la relación con el entorno natural y la sustentabilidad. México, D.F. México: Universidad Autónoma Metropolitana.

Ezequiel Ander-Egg. (2003) Repensando la investigación- acción- participativa: comentarios, críticas y sugerencias. Buenos Aires, Argentina: Editorial Distribuidora Lumen SRL.

Flores, H y Garduño, A. (2013) Diseño: Factor de desarrollo socialmente sustentable. Conferencia Internacional de Diseño Forma 2013: Diseño para Todos. La Habana, Cuba. Consultada el 21 de mayo del 2020. Recuperado de: https://www.researchgate.net/publication/295909346_Diseño_Factor_de_desarrollo_socialmente_sustentable

Gaitto, J (2018), La función social del diseño o el diseño al servicio social. Universidad de Palermo, Facultad de diseño y comunicación. Cuaderno del Centro de Estudios en Diseño y Comunicación, No.69- Año XIX, Septiembre 2018, Buenos Aires, Argentina. Consultado el 30 de septiembre del 2020. Recuperado de: https://fido.palermo.edu/servicios_dyc/publicacionesdc/cuadernos/detalle_articulo.php?id_libro=663&id_articulo=13897

Programa de las Naciones Unidas para el Medio Ambiente (2005). Manual de Ciudadanía Ambiental Global. Oficina Regional para América Latina y el Caribe (PNUMA/ORPALC). Recuperado de: <https://www.oei.es/historico/decada/portadas/ciudadana.htm>.

Ospina Ramírez, D. A. (2018). Construcción de comunidades colaborativas desde el diseño y el emprendimiento endógeno. Revista EAN, 84, (63 -77). Consultado el 12 de octubre del 2020. Disponible en <https://doi.org/10.21158/01208160.n84.2018.1917>

Problemática

Somos un gran número de habitantes en el planeta.



Problemática

Nos comportamos como una sociedad de consumo



Problemática

Sobreexplotamos los recursos naturales



Problemática

Generamos desechos a un ritmo insostenible para el planeta



Participación de diversos actores para mitigar los daños



Sociedad ambientalmente responsable

Ciudadanos cuidadosos con el medio ambiente



Ejemplos del presentado a la comunidad (Mejía y colaboradores, 2020)

SOCIAL IMPACT OF THE PROJECT

A problem that afflicts humanity today is damage to the environment, and its care is so important that it has been established as one of the pillars of sustainable development.

An environmentally responsible society implies behaviors of citizens that focus on the prevention and mitigation of environmental damage, aware that these have effects on health, the economy, the quality of life and future life. They learn about the problem, learn about it and seek to contribute to the solution based on values such as: commitment, solidarity, responsibility, effort. According to the United Nations Environment Program (2005: 6), a global environmental citizenship implies "a profound change in mentality, concepts and values regarding the environment that lead us to the construction of processes towards sustainability with an informed and responsible social participation".



Energy harvesting for Monitoring Elderly People in Mexico.

Monitoreo, Adultos Mayores, Energía

RESUMEN Y OBJETIVOS

Resumen:
A partir de la propuesta de un Sistema para monitorear Adultos Mayores, surge la necesidad de explorar propuestas para la generación de energía eléctrica por medio de materiales piezo-eléctricos y el movimiento del cuerpo humano. Todo es para resolver la problemática de la alimentación de energía requerida por los dispositivos y reducir la problemática del cambio de batería.

Objetivo: Diseñar un sistema que coseche Energía para el monitoreo adultos mayores, mediante la aplicación de materiales piezo-eléctricos y el movimiento del cuerpo humano.

ABSTRACT:

From the proposal of a System to monitor Older Adults, the need arises to explore proposals for the generation of electrical energy using piezo-electrical materials and the movement of the human body. Everything is to solve the problem of the power supply required by the devices and reduce the problem of battery change.

Objective: Design a system that harvests energy for monitoring older adults, through the application of piezo-electrical materials and the movement of the human body.

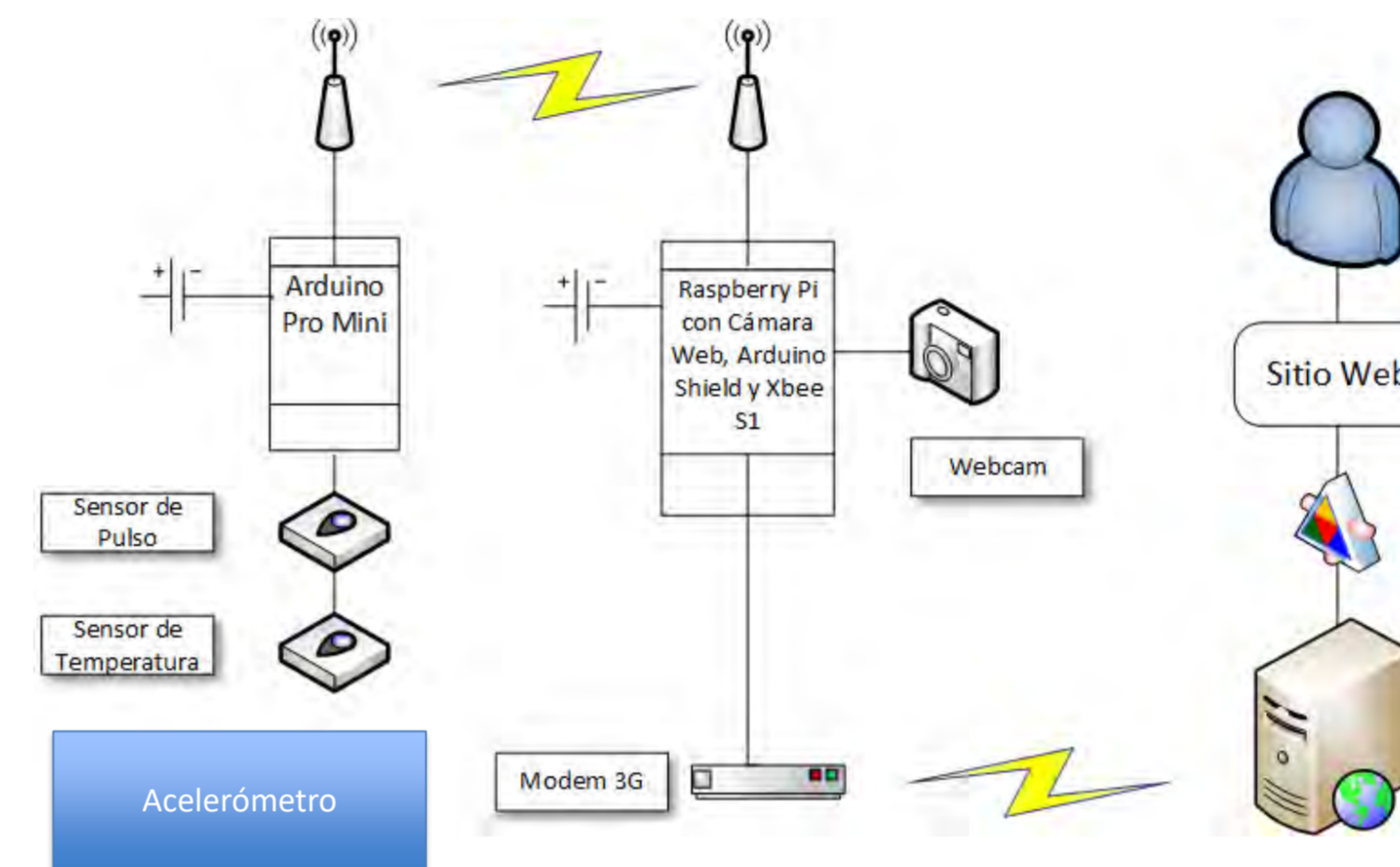
CONTRIBUTIOS TO THE DESIGN FIELD

This research aims to complement the research carried out for the Monitoring of Older Adults in a Depressed state. This Project showed efficient energy supply needs for the System and with ease of application / replacement for the user.

This research will be carried out under the framework of the Sustainable Development objectives, specifically in Health and Welfare for All, Affordable and Non-Pollutant Energy and even in Responsible Production and Consumption. In the same way, it is sought that the User experience (the patient, the doctor and the family-caregiver) be as transparent, usable as possible.

ADVANCES OF THE RESEARCH IN 2018-2019 AND GENERATED RESEARCH PRODUCTS

The research is based on the Project to obtain a PhD degree from the person responsible for it. Where a System for the Monitoring of Older Adults in a Depressive State was developed. The investigation will be resumed and improvements will be sought in which a fall can be detected and if necessary give notice to the family member or doctor.



Existing system to review and include fall detection. The energy harvest method should improve the user experience of the Elderly, Almeida 2018

This Project will be linked to the Academic Body: Design and Education for Design under the Internet of Things Paradigm.

In the same way it is sought to link it with Postgraduate students in Design, specifically in Information Visualization and Product Design and Development.



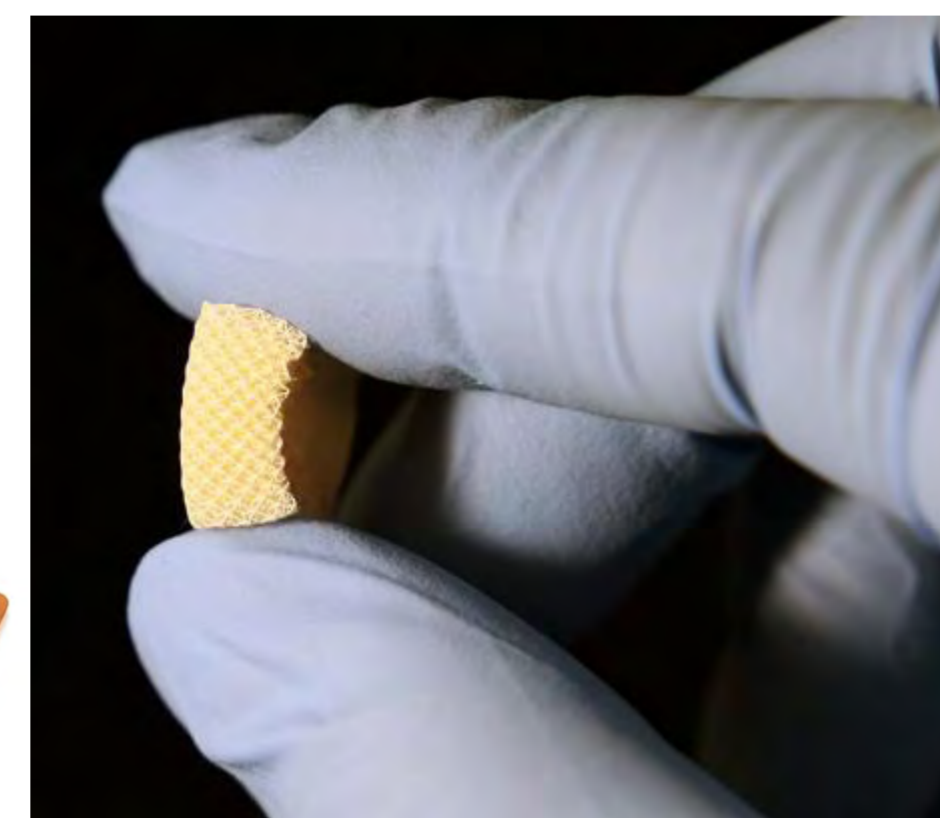
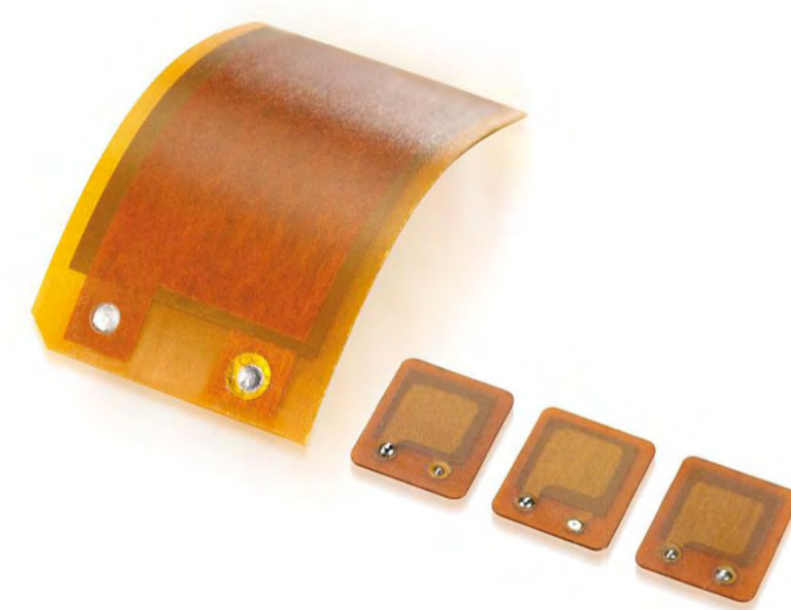
User Experience in the monitoring of Older Adults, Energy Harvest, Almeida 2017



Dr. Edwing Antonio Almeida Calderón
ORCID: 0000-0002-2453-132X



Dra. Marcela E. Buitrón de la Torre
ORCID: 0000-0001-5993-1078



Piezo- electric materials to generate o harvest energy. <http://www.electronica-basica.com/piezoelctrico.html>, <https://impresoras3d.org.es/nuevo-metodo-para-crear-materiales-piezoelctricos-impresos-en-3d/>



Monitoring of older adults with energy harvest so as not to interrupt operation, Almeida 2017

LINK WITH THE COMPANY / O RELATIONSHIP WITH NATIONAL PRIORITY

In Mexico, the structure by age and sex of the population is undergoing significant changes; One of the most important is the beginning of the demographic aging process that is expressed as a relative and absolute increase in the population in advanced ages (INEGI, 2005). For 2009 it was estimated that life expectancy at birth was 75.3 years (INEGI, 2009). Although it is said that age is not a fundamental criterion for measuring aging since there is a threshold of self-perceived or socially assigned old age, in which there are considerable differences such as self-sufficiency, mobility, chronic diseases, etc. According to INEGI "... the population of 60 years of age or older is considered as older adults, in accordance with the criteria adopted in most of the sociodemographic investigations that deal with the subject and in full compliance with the Law on the Rights of older adults who govern in the country "(INEGI, 2005).

INEGI: National Institute of Statistics, Geography and Information This problem involves different aspects, both social, economic, political and even environmental. That is why proposals that improve the quality of life of older adults, family members and that reduce the economic and social impact of caring for an Elderly Adult should be developed.

SOURCES OR REFERENCES

*2010 International Conference on E-Health Networking, Digital Ecosystems and Technologies Face Recognition System to enhance E health. (2010), 195–198.
*Amato, A., Di Martino, B., & Venticinque, S. (2012). A Semantic Framework for Delivery of Context-Aware Ubiquitous Services in Pervasive Environments. 2012 Fourth International Conference on Intelligent Networking and Collaborative Systems, 412–419. doi:10.1109/INCoS.2012.111
*INEGI. (2005). *Los Adultos Mayores en México. Perfil sociodemográfico al Inicio del Siglo XXI* (2005th ed.). México: INEGI.
*INEGI. (2009). *Mujeres y Hombres en México 2009*. (I. I. N. de las Mujeres, Ed.) (13a ed.). México

SOURCES OR REFERENCES

*Catarinucci, L., Colella, R., Esposito, A., Tarricone, L., & Zappatore, M. (2012). RFID sensor-tags feeding a context-aware rule-based healthcare monitoring system. *Journal of Medical Systems*, 36(6), 3435–49. doi:10.1007/s10916-011-9794-y
*e Souza, C. M., & Hidalgo, M. P. L. (2012). World Health Organization 5-item well-being index: validation of the Brazilian Portuguese version. *European Archives of Psychiatry and Clinical Neuroscience*, 262(3), 239–44. doi:10.1007/s00406-011-0255-x



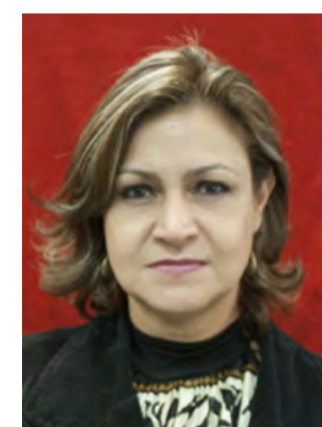
N-457

Semiotic, hermeneutical and image understanding

KEYWORDS: Photography, image, semiotics, hermeneutics.



Dr. Marco Antonio Marín Álvarez
ORCID: 0000-0001-6267-6063



Mtra. Adriana Acero Gutiérrez
ORCID: 0000-0003-4615-6812
Participante



Mtra. Nancy A. Noriega Tovilla
Benemérita Universidad
Autónoma de Puebla (BUAP)
ORCID: 0000-0002-1329-0583
Participante

OVERVIEW AND SPECIFIC OBJETIVES

In the image construction, it is necessary to understand the new techniques associated with the theoretical proposals. The theoretical base of semiotics and hermeneutics is studied in depth by this proposal for Design. We propose a study about the image emerging from the usual classifications contrasted with images associated with new technologies. Finally, a methodology is proposed in which the student explores the technical and psychological design processes derived from the proposed study.

Through different eras, it has been tried to give significance to the visual image using a term recursively known as "the reading of the image". However adhering strictly to the meaning of the reading we have questioned if this process is really carried out as planned, or if instead what is pretended to express is the perception of visual images understood as a process of complex visual and cognitive characteristics.

The objective of this work is to investigate, theorize and propose upon semiotic and hermeneutical bases the comprehension of the innovative sign in the images in its different scenarios.

INVESTIGATION ADVANCES 2020

Book chapter and conference:

Methodologic Reconsideration in the teaching of studio photography (practical case). April 2020 EUMED. Malaga University Spain.

Article

Design of Information: a design approximation centered in the user, a methodological redesign based on Frascara's proposal. Tecnología & Diseño Magazine, UAM. Azcapotzalco.

Article and Conference:

Emotional Design and Human Factors Design as a Tool for Understanding Efficiency in Information Design Process at Medical Documents. July 2020. San Diego, California.

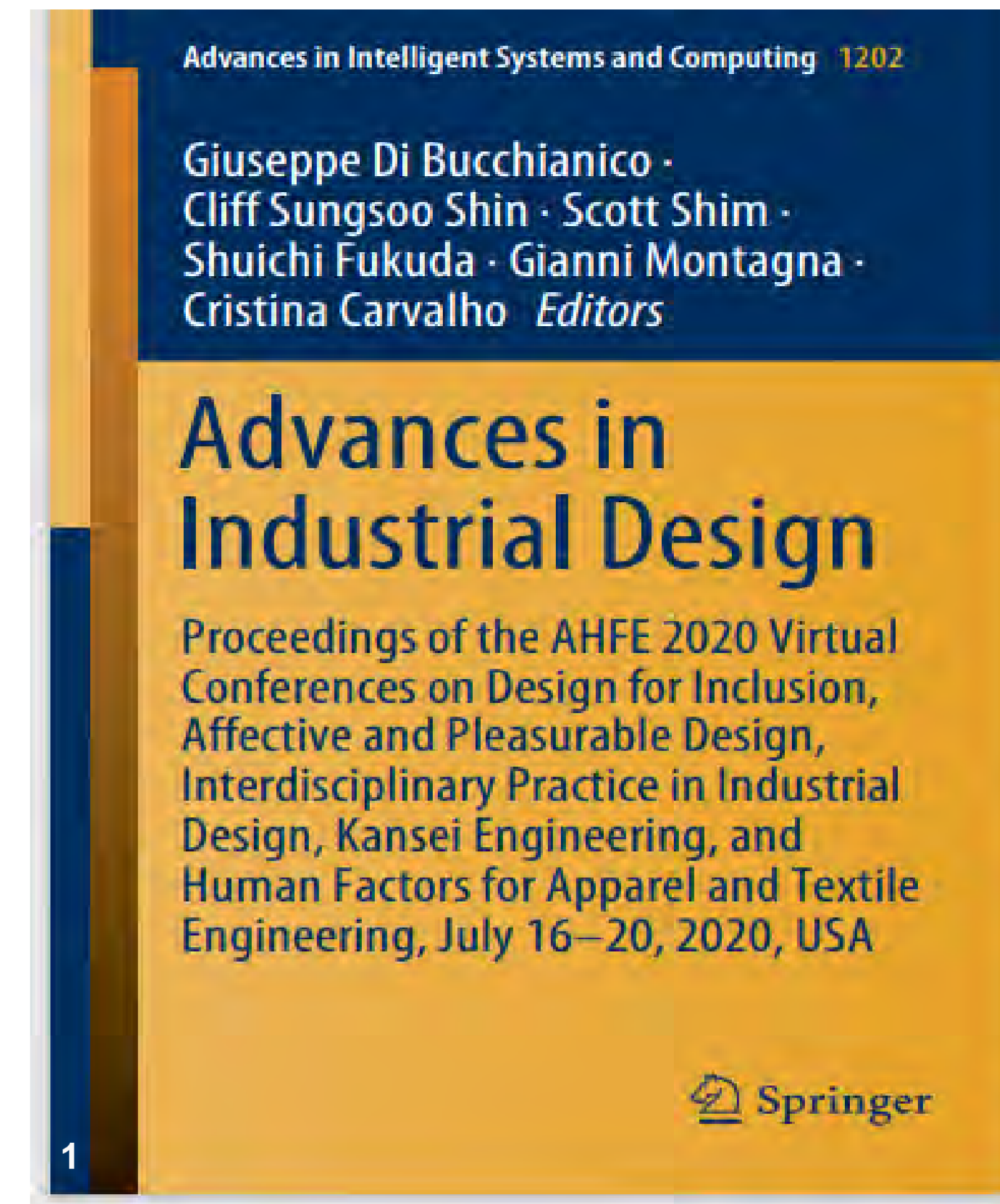
METHODOLOGY

Starting from the analysis of the art state, a theoretical investigation describing the semiotics, hermeneutics and design has been made.

The challenge that any individual establishes to conceptualize time, with its variants of past, present and future, about the encounter and observation of art according to what is established by semiotics and hermeneutics is not an easy task. It demands a mental construction of things and the world in a chaotic way. This flux moves bidirectionally. The tradition is the conceptual centre of this semiotical and hermeneutical passage, which flow permeates time in all directions. In reality, all of this comes from the incidences of personal experience. Lifetime and education that happens inside the scaffolding of the past.

This investigation pretends to go from the hermeneutical and semiotic passage to the past, to the memory as the creative core, to the monumental museological experience and its chronological hypothesis, methodical, classificatory and absolutely legitimated even though it demands construction of history and its effects for which each one is applied to the image itself.

Such as it is established a controversy that happens between the finite of people and an approximate acquisition, not accurate to the past, for in one side, thanks to the tradition that happens to have an enormous past time that overpowers any living being's



Design Schools Judgments value (intuitive and irrational)

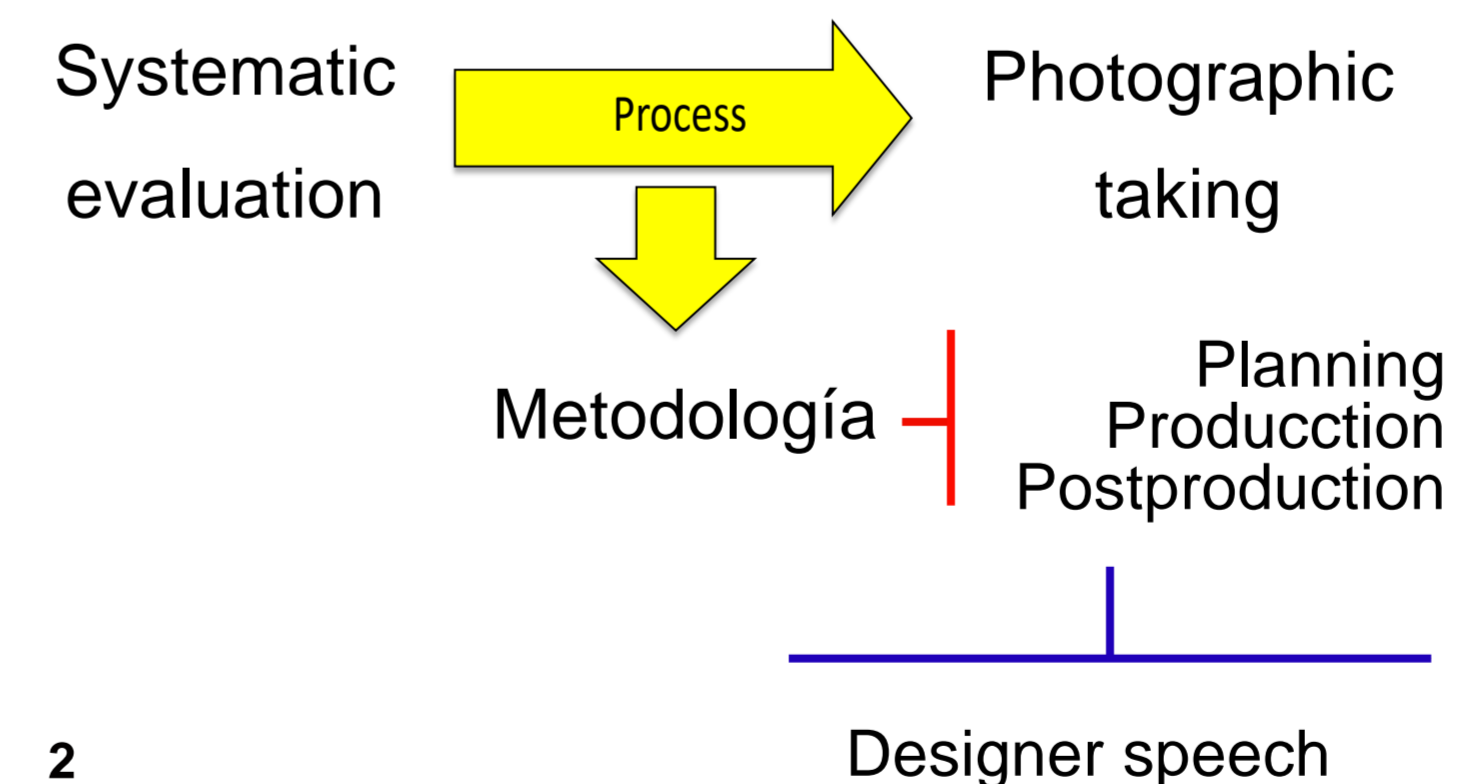


Image 1. Book "Advances in industrial Design", inside which is the chapter Emotional and Human Factors Design as Tool for Understanding Efficiency in Information Design Process at Medical Documents. July 2020. San Diego, California. E.U.

Image 2. Scheme used in the article "Reconsiderations methods in study teaching "(practical case), illustrate the traditional assessment mode and the proposal of how it should be it is in the same document.

lifetime, and on the other hand, people in their turbulent transition of time are themselves immersed in the constant recovery of memory constantly filled with contradictions, imperfections and sometimes deformed always mediated by the scrutiny of remembrance.

Finally, an approximation of the future as seen from hermeneutics and semiotics is made. In this context, the future is observed as an aperture to the conditions of possibility related to mankind understood as a project and this posture is complimented with three alternatives that offer a thematic perspective about the future.

Project's Social Input

This investigation has a close direct relationship with the process of teaching-learning managed by UAM-A, particularly the Arts and Science for Design Division, as well as other schools of graphic design and communications in our country (Mexico).

Alongside, It is linked to the aesthetics of the strange imposed by modern art. An Everchanging environment that produces is the spectator strangeness, emptiness and discomfort that challenges the subject to perform a differed comprehension. In this multiplicity of horizons of sense, Gadamer's hermeneutics that revises the beautiful and the strange becomes alive in order to transcend the weirdness and sublimite.

The present study not only favours learning and construction of knowledge but also constitutes itself into a way in which culture is preserved and enriched. This is because it is not only for students or teachers that study the subject. but for everyone even if they are not scholars as long as they show interest in it.

SOURCES

Foucault, M. (1989) The Order of Things: An Archaeology of the Human Sciences, London: Routledge.

Frayling, C. (1993) Research in Art and Design, London: Royal College of Art.

Gadamer H.G. (1991) La actualidad de lo bello: el arte como juego, símbolo y fiesta. Ed. Paidós Ibérica.

Marín Álvarez, Marco Antonio (2011) Del Haluro de plata al pixel, la transmutación de la imagen. Tesis doctoral. UAM Azcapotzalco.

Merleau-Ponty, M. (1962) Phenomenology of Perception, London: Routledge & Kegan Paul.

Merleau-Ponty, M. (1968) The Visible and the Invisible, Evanston: Northwestern University Press.

Schwab, Michael (2008) Image Automation: Post-Conceptual, Post-Photography and the Deconstruction of the Photographic Image. Tesis doctoral. Disponible en <http://researchonline.rca.ac.uk/309/1/Volume1.pdf> recuperado el 2 de abril de 2013.

The Internet Encyclopedia of Philosophy (2005) Derrida, Jacques. Consultada: Julio 10 2005. En línea: <http://www.iep.utm.edu/d/derrida.htm>