

A Collaborative Strategy for the Construction and Graphic Representation of a Cultural Ecosystem Involving Participatory Design in the Academic and Business Context

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Abstract

The main theme of this work is games as tools for promoting empathy, inclusion and teamwork in both academic and professional environments. Our objective is to present the entire process of elaboration of the Cultural Ecosystem derived from the realization of workshops that resorted to a participatory design approach that resulted in the identification of the main themes and subjects that constitute the Cultural Ecosystem derived from the concepts of Misha Titiev. In our methodology, tools and techniques employed during each workshop are described, as well as the results after completing the thematic analysis of the information generated with each partner. The doutoral project has a partnership with: 1) Association of Ludotecas do Porto, which contributed to the aggregation of information on the Social Dimension; 2) the University of Porto's Inclusion Support Nucleus, which contributed information regarding the Physical dimension; and 3) the company Mind Revolution, which has articulations with the University of Porto and contributed to the understanding of the Noological dimension of the Cultural Triangle. We end with a graphic representation of the synthesis of the results, presenting all the themes and their relationships with each dimension, we call Cultural Ecosystem. As for future work, we intend to identify the similar themes generated in each thematic analysis in order to identify the most recurrent problems and use them as a project requirement.

Keywords: Games, Inclusion, Cultural Triangle, Diversity, Participatory Design

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1 - Introduction

People of foreign nationalities end up facing challenges related to social inclusion when they arrive in a new country where they chose to continue their studies or start a new professional journey.

Among the challenges, in our society, insensitivity to the existence of other socioeconomic groups still prevails, what Cortesão (2012) calls 'cultural color blindness', the inability to see the other colors of the 'cultural rainbow'. This cultural rainbow concerns the inclusion of culturally different people, and according to Bleumers et al. (2012) explain that the concept of social inclusion has gradually replaced the concept of social exclusion. In short, social inclusion refers to a state of reintegration and participation in response to mechanisms of social exclusion, as social inclusion attempts to identify processes that cause deprivation and exclusion (Bleumers et al., 2012).

In order to understand the issues that are linked to social inclusion and cultural diversity, we developed a participatory methodological strategy that aims to obtain feedback and insights from partners through workshops and thus, subsequently, obtain a visual representation of the concepts that, in the opinion of the participants, make more sense to integrate what Titiev calls the Cultural Triangle.

As partners we have the NAI is the Support Center for Inclusion (NAI) of the University of Porto, which has a vast repertoire of R&D projects related to accessibility and inclusion in the context of the university. ANILUPA is the Associação de Ludotecas do Porto (ALP) and this institution contributed to the aggregation of information on Social Dimension and validation of games and gamified activities in disadvantaged social contexts. And Mind Revolution, a company in conjunction with the University of Porto, in the training context for teachers and researchers, can benefit from its experience in business contexts.

Section 2 presents a general understanding of culture and the definition of the dimensions used as a basis according to Titiev (1992). Section 3 describes the methodological steps and tools used as strategies to jointly define the Cultural Triangle with the project partners. In section 4 we have the results obtained during the workshops and ending this article with the conclusions obtained after the test and the elaboration of the graphic representation of the Cultural Ecosystem.

2 - About culture

It seems strange to say that culture does not exist, but Hofstede (2002) states exactly that: culture does not exist. He explains that everything turns out to be elements to explain and predict human behavior, in this case, Lacerda (2011) states that culture only makes sense if there is the collective.

Souza (2008) says that to explain the concept of culture, the metaphor of the iceberg is usually used, because everything we see related to culture is nothing more than a visible surface, making it difficult to imagine and conceive what is below the water level. Trompenaars and Turner (1997) say that culture is like gravity, you don't fully experience it until you jump two meters into the air. They argue that our culture is like water to a fish, we only discover its need when we are no longer in it. In this metaphorical reasoning they say

that culture comes in layers like an onion, and to understand it we have to peel each layer until we reach its center.

Hofstede (1983) states that when we are in a country that is culturally different from ours, it is common for people to not to try to understand what both have in common but what we is different. In this case, Trompenaars and Turner (1997) explain that the first contact of an individual with a new culture corresponds to more concrete elements, consisting of the outer layer of the culture at a more explicit level. This level is about the observable reality of language, food, buildings, fashion and art. As one deepens his/her knowledge of the new culture, s/he moves onto what Trompenaars and Turner (1997) call the middle layer, where the norms and values of a culture are found, i.e. what society considers as right and wrong as well as what it considers good or bad. At the heart of these layers is what Trompenaars and Turner (1997) call the core, where the assumptions about the existence of culture and everything that composes it are found.

2.1 - The dimensions of the Cultural Triangle

Hofstede (1983) promoted research to develop a terminology to describe cultures. In his research, developed while working in a multinational company, he collected more than 116.000 questionnaires made with the employees of the company he worked for. As a result, Hofstede described what he called the four dimensions of national cultures, namely: (1) Individualism/Collectivism; (2) Power Distance; (3) Resistance to Uncertainty and (4) Male/Female. Hofstede (2002) states that the aim of his study of organizational culture was to identify values that differentiate organizations within the same country rather than similar organizations across nations.

Although Titiev (1992) has used a triangle as a way of visually representing culture, he explains that this representation, called the Biocultural Triangle, can have all the same sides in a phase and have different sides in certain circumstances, as not every form of life of a society is framed within a triangle, that is, various geometric shapes can be used as a visual representation. The (Figure 1) shows the graphic representation of Titiev's Biocultural Triangle (1992).

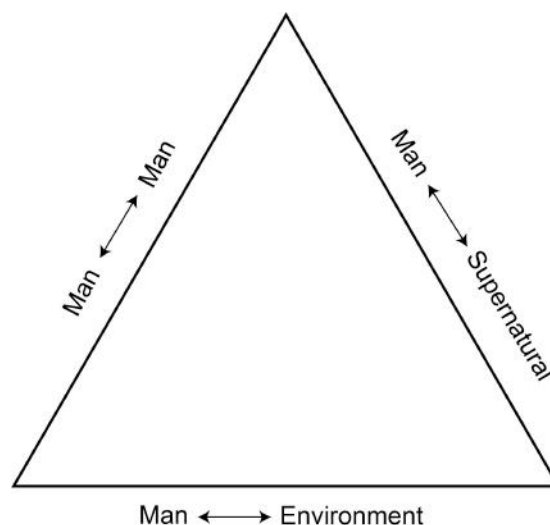


Figure 1: Biocultural Triangle adapted from Titiev (1992)

To better understand what are these three cultural relationships proposed in the Biocultural Triangle by Titiev (1992) and their relationship with the doctoral project, other words are used for each side of the triangle that are more related to the idea of the general proposal of the project.

For the man/man relationship, the term Social Dimension is used because this relationship, our interpretation, corresponds precisely to the contact between man and man, his relationship with other people, his affection and feelings.

The Physical Dimension refers to man's relationship with his physical environment, its rules, whether business, leisure or educational, it is the social inclusion of man in the environment. Examples of this relationship are the food we eat, the way we feed ourselves, our dwellings used by primitive man to house food and furniture being the clearest reflection of man's relationship with his environment (Titiev, 1992).

The Noological Dimension is the relationship between man and his spirit, his beliefs and ideologies, his cultural heritage, which corresponds to the supernatural concept used by Titiev (1992).

3 - Materials and methods

3.1 - Methods and tools used in workshops with partners

To accomplish our main objective, we devised a five-phase plan, following a participatory design methodology, as shown in (Figure 2).

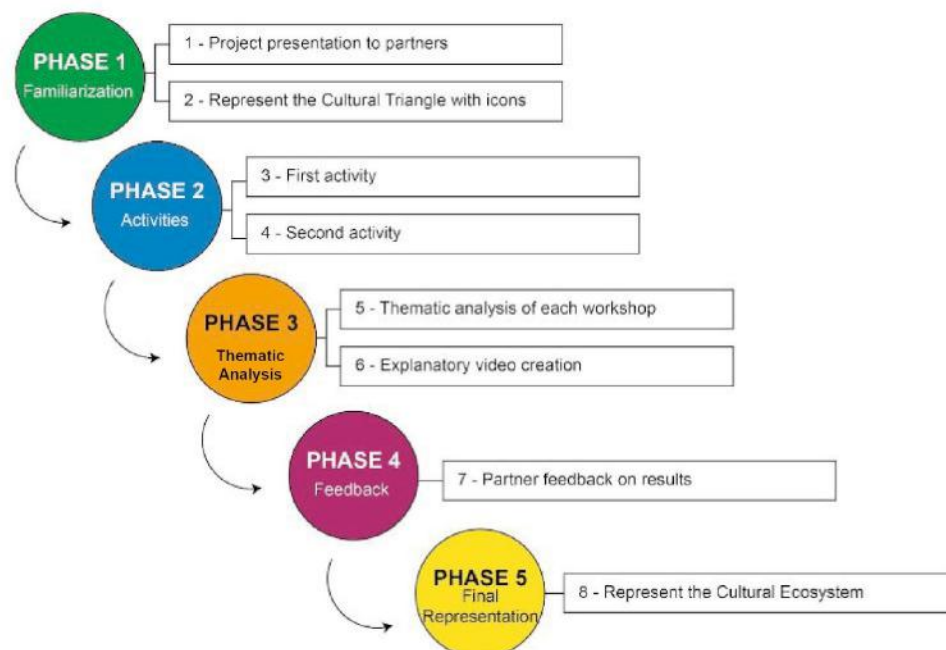


Figure 2: Methodology divided into five phases

In the first phase, familiarization, we present the objectives of the project and the context in which we operate so that partners understand what the work is and how they can contribute. The second phase corresponds to the activities carried out, in which we explain each activity

to the partners and what they should do in each one, being that in the first activity the partners must suggest words to compose the Cultural Triangle and in the second activity they must choose words already suggested. The third phase is focused on the thematic analysis of the results obtained in each of the proposed activities. We analyze the information obtained during the workshops and later share it with the partners. The fourth phase is focused on understanding the feedback from partners in relation to the results obtained in the activities, realizing if the information corresponds to the scenario in which they operate. Finally, phase 5 corresponds to the representation of the cultural triangle of the project that we have concluded, what we call its cultural ecosystem.

3.2 - Description of activities

For the activities proposed in the workshops, the collaborative platform Miro was used, which made it possible to work with participants remotely for security reasons due to COVID-19. As part of the methodological strategy, a short presentation on the context of the project was prepared so that each participant understood why they were at the workshop. This presentation lasted approximately 15 minutes and later, the participants were invited to access Miro.

For participants to better understand the concept of the Cultural Triangle, it was created within the platform using existing icons on the platform itself. The objective was to represent the meaning of each dimension of the Cultural Triangle through an icon that had the closest visual to the concept of the dimension. Thus, it would facilitate the understanding of the Cultural Triangle for the participants after the short presentation. The (Figure 3) displays this graphic representation of the project's Cultural Triangle using the icons.

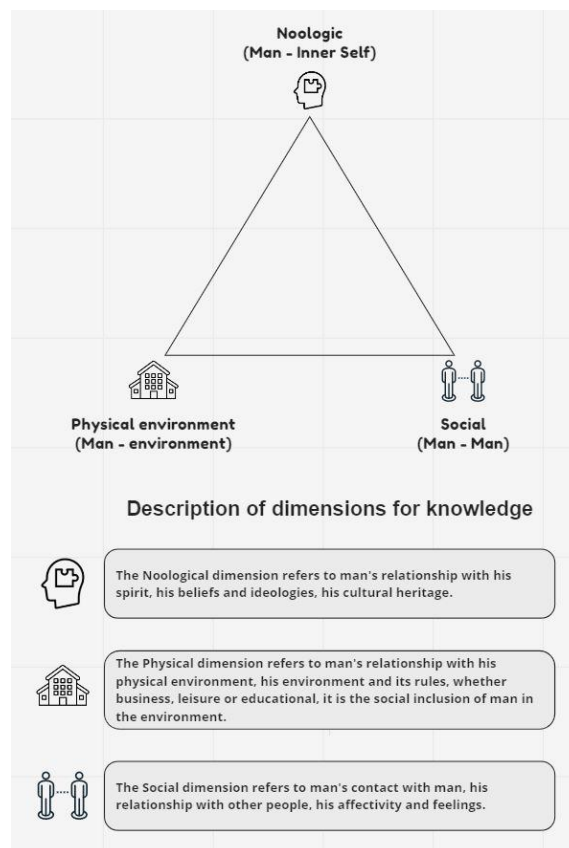


Figure 3: Cultural Triangle and its graphic representation

With the permission of the participants, the workshops were recorded to later serve as support for analyzing the results. The first proposed activity aimed to collect suggestions for new words (concepts) that made sense to the participants to compose the Cultural Triangle. For this, post-its were used and through the Insights sorting method by Kumar (2013), the participants should propose words that were associated with the activities and the scenario in which they worked professionally. According to Kumar, the Insights sorting method provides the identification of relationships between the generated insights, grouping them to discover patterns. Along with it, the Observations to insights method, also by Kumar (2013) was employed.

After suggesting words, participants were encouraged to choose at least three posts and place them at one end of the Cultural Triangle. Participants had 30 minutes to conclude the first activity. When time was up, they had to justify why they had suggested the words in the post-its and why they positioned them in a certain place in the Cultural Triangle.

The second activity aimed to understand which words previously suggested by the researcher of this work would be chosen to compose the Cultural Triangle. These words corresponded to the themes that were identified at the beginning of the doctoral project from the literature review carried out initially. For this activity, the card classification technique by Hanington and Martin (2012) was used, as it comprises exploring how participants relate words to each other. Participants had 20 minutes to complete this second activity. They were asked to justify why they chose a certain word and why they positioned it in a certain place in the Cultural Triangle.

The two activities are similar in terms of objectives, however, in the first, participants should suggest new words, as in the second, the words were previously written in the post-its. In order not to have any kind of influence on the participants related to word suggestion, we put as the first activity the participants should suggest new words, in this way any kind of influence by a word previously presented in the posts would be avoided.

After the completion of the two activities, a thematic analysis of the information placed in the triangles was carried out in order to identify and understand why each word was placed in certain places in the Cultural triangle. Then, with the words identified after the thematic analysis, an explanatory video was prepared and sent to the partners in order to justify the reason for the positioning of each word in the Cultural Triangle so that they could give feedback on what was created from your suggestions during the activities. With these concepts and themes, a representation of what would be the cultural triangle of the project was generated, taking into account the partners' suggestions.

4 – Results

4.1 - Workshop with NAI partner

In total, three workshops were held, one for each project partner. The (Figure 4) presents the final result of the first activity carried out with NAI.

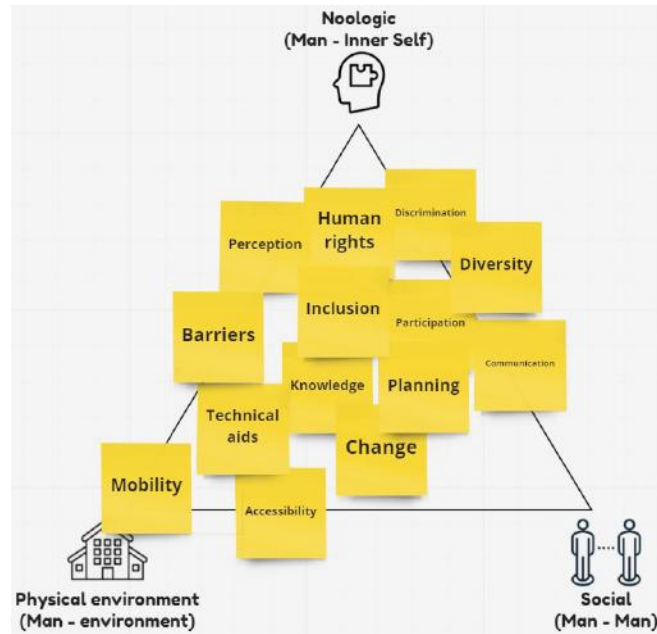


Figure 4: Final result of the first activity with NAI

Observing the representation of the triangle with the words chosen by NAI, we notice that there is a cluster of words positioned between the central part and the axis involving Physical Dimension and Noological Dimension. One may suppose that this outcome may be the result of the participant being used to work on a daily basis with accessibility in physical environments.

We can also observe that the words discrimination, diversity and human rights were positioned very close to Noological Dimension. According to the participant's explanation, discrimination can be experienced in several ways and is related with people's way of thinking, of seeing the world. Planning was placed at the center, along with inclusion, because for the participant, planning refers to something more operational that has influence from the three dimensions of the Cultural Triangle.

The (Figure 5) displays the Cultural Triangle with the words corresponding to the second activity, in which the participant should choose and place at least three words that make the best sense.

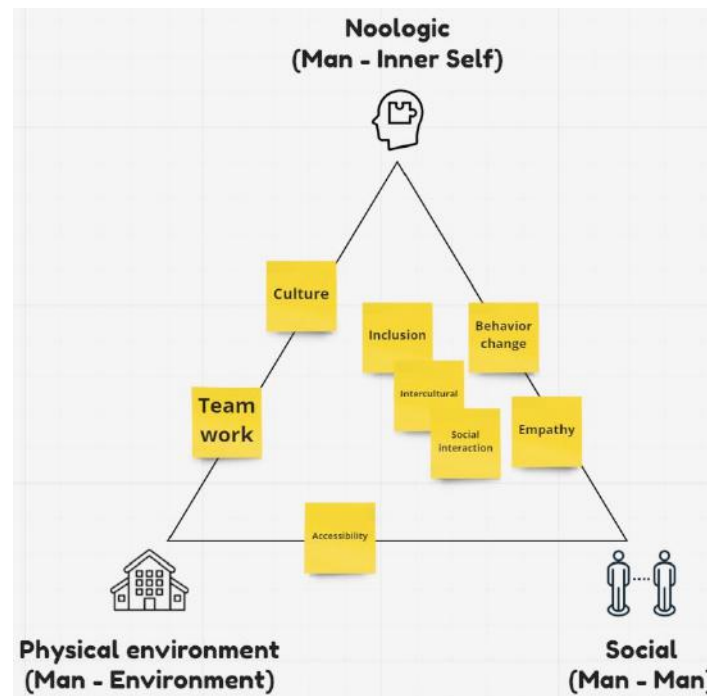


Figure 5: Cultural Triangle of the second activity with NAI

As in the first activity, the participant placed the word inclusion in the center of the triangle for the same previously reported reason. According to their explanation, social inclusion is related to Noological Dimension and Social Dimension, and although it can be influenced by Physical Dimension, it is essentially Social. The word empathy was placed closer to Social Dimension while the word behavior change is closer to Noological Dimension. As the participant explained, the change in behavior has more to do with inner enlightenment. When analyzing the positioning of the words in the triangle proposed by the participant, it is clear that there is now a cluster of words between the Social Dimension and Noological Dimension axis, as it is interpreted that many words according to the participant's understanding have more relationship between the two dimensions than with Physical Dimension.

After completing these two activities, a thematic analysis of the participant's discourse was carried out. Related to the first activity, five themes were found, namely: understanding, inclusion, obstacles, autonomy, and behavior change. In the second activity, four themes were found: existence of being, individualism, dissimilarity, and acceptance. With the themes identified, a new Cultural Triangle was generated, now with the themes found during the thematic analysis and participant feedback, as can be seen in (Figure 6).

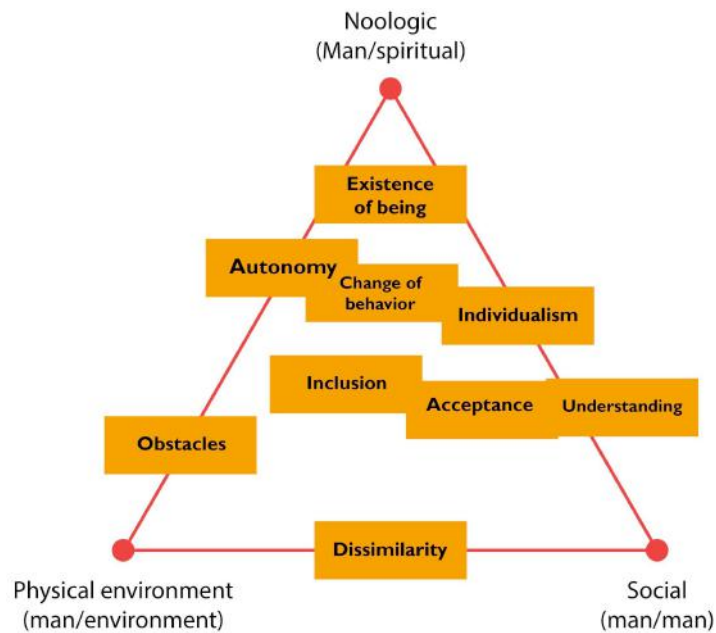


Figure 6: NAI Cultural Triangle after thematic analysis

The word obstacles was placed very close to Physical Dimension because it is understood that many problems mentioned by the participant are problems related to the physical environment. Autonomy was positioned close to Noological Dimension because it is understood that it is something connected to the human being and the person feels capable of doing anything without help. The word inclusion, as the participant had suggested during the activities, was placed in the center of the triangle because it has influence in all dimensions. Behavior change was positioned close to Noological Dimension on the axis with Social Dimension because it is concluded that if there is a change in the social scenario, there must first be a change in people's way of thinking. The word understanding was placed on the same axis as behavior change, however, closer to Social Dimension because it is perceived that it must occur not only in one person, but in several people.

Dissimilarity was placed at the center of the axis between Physical Dimension and Social Dimension because it is understood that there is both physical and social dissimilarity in society. The word acceptance is close to Social Dimension due to the logic that a person must be accepted by the group and not just by one person. Individualism, on the other hand, was placed at the center of the axis between Noological Dimension and Social Dimension because it is an obstacle that must first be fought internally so that collectivism can exist in the future. The existence of the being was placed close to Noological Dimension because it is a feeling of the person feeling present within a group, evoking the idea that I exist within a society.

4.2 - ANILUPA partner workshop

The second workshop was carried out with ANILUPA, featuring two participants. The (Figure 7) presents the final result of the first activity.

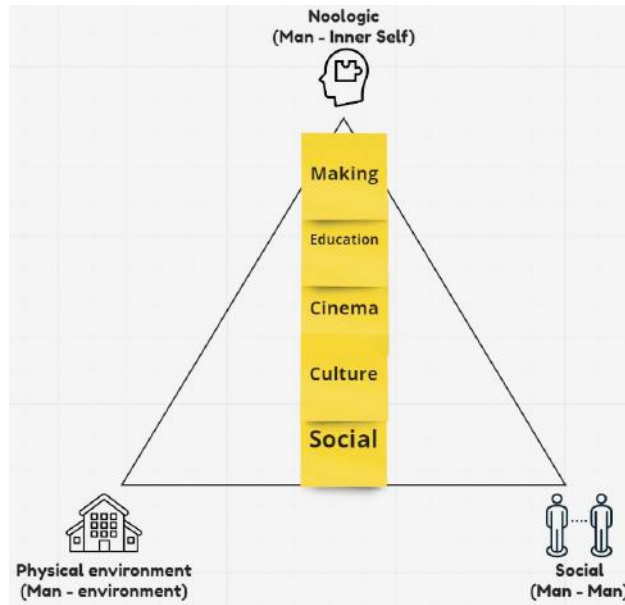


Figure 7: Cultural Triangle generated in the first activity with ANILUPA

Among the words proposed by the participants, the word cinema was placed at the center of the Cultural Triangle, because according to their explanation, cinema is the center of ANULUPA's activities and has a strong connection with all dimensions of the Cultural Triangle. The word creation was positioned very close to Noological Dimension because, according to the participants, creation has a strong connection with the diversity of content that can be produced, showing a strong connection with the person's inner self. The word social was placed just below the word culture, where in the triangle it represents the basis of all other words, where everything is interconnected and the social being the basis of everything. Note that the participants grouped the words in the center, placing them one on top of the other like a pillar. According to the participants, the social word ends up supporting all the others according to their context of action. After completing the first activity, as in the workshop held with NAI, the participants were invited to complete the second activity, as shown in (Figure 8).

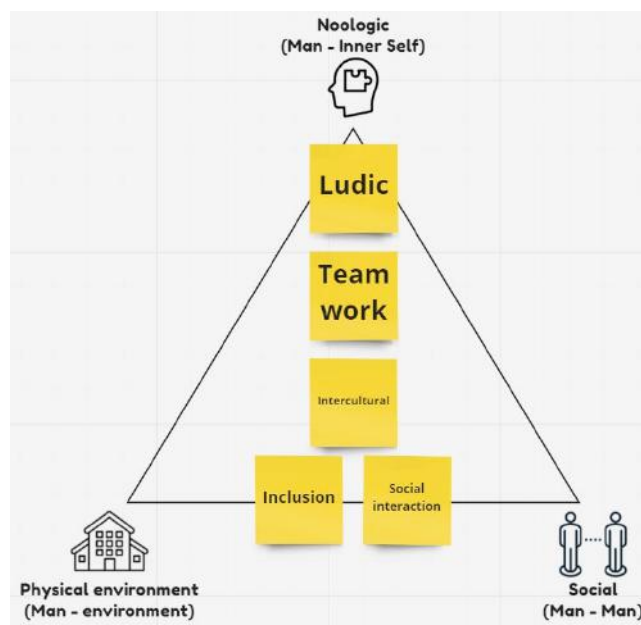


Figure 8: Cultural Triangle generated in the second activity with ANILUPA

In this new representation, the word teamwork was placed by the participants at the center of the triangle for the reason that it has a connection with all three dimensions and that the work that the participants carry out is exclusively in a team. The word inclusion was placed close to the axis between Physical Dimension and Social Dimension as it represents the appreciation of any public, fostering the relationship between people and including everyone in the same social group. Composing the base, the word social interaction was placed next to the word inclusion because it has a strong relationship between the two, because according to the participants' reports, social interaction in their work context has the sense of the person developing their projects and sharing them with others, sharing experiences and developing new cultural identities.

After completing the thematic analysis of the results of the two activities completed by the NAI partner, of the participant's speech related to the justifications of the first activity, 7 themes were found: Opportunity to learn; Different social contexts; Exhibition of ideas; Obstacles, Community; Ability, and Valorization of the human being. In the second activity, 7 themes were found, namely: Collective work; Idealization; Adversities; Flexibility; Satisfaction; Conviviality and Sharing. With the themes identified, a new Cultural Triangle, now featuring these themes can be seen in (Figure 9).

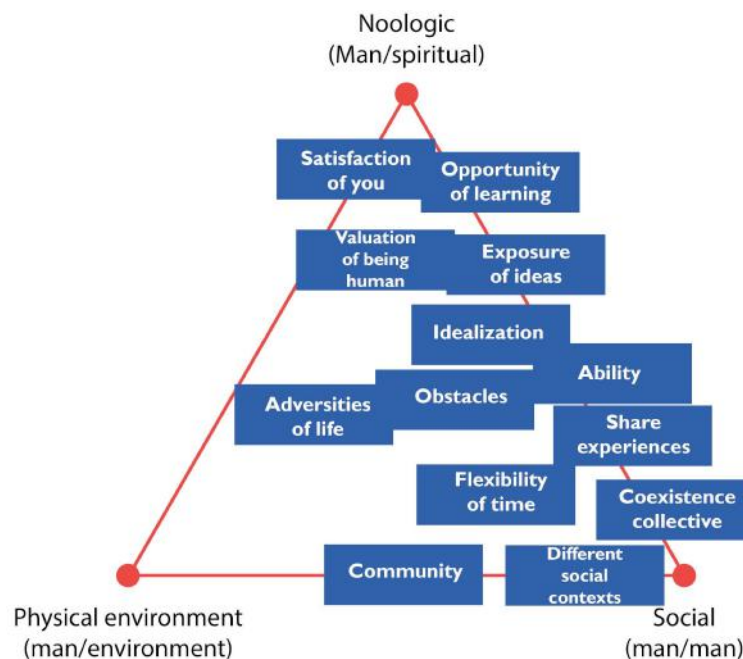


Figure 9: NAI Cultural Triangle after thematic analysis

The word opportunity to learn was placed very close to Noological Dimension along the axis with Social Dimension because seen from the author's point of view that it is a person's personal satisfaction in being able to acquire new knowledge. The word valorization of the human being was placed in the center next to Noological Dimension, as it is perceived from the author's that it has a connection with the way of being of the human being by people, where it has influence in all three dimensions. The word exposition of ideas was positioned on the axis between Noological Dimension and Social Dimension being closer to Social Dimension because from the author's, it is understood that exposing your ideas is also exposing your opinion within a society. The word skill was placed at the center of the Noological Dimension and Social Dimension axis because it is a human capacity that can be transmitted from one person to another. The word obstacles was placed more at the center of

the triangle to understand that there are not only physical obstacles but also social and psychological ones.

Next to Social Dimension the word different social contexts was placed as it is understood that this dimension has a greater influence, as it is not physical environments but social environments in which the physical environment is included. The word community was positioned in the center between the Physical Dimension and the Social Dimension as it is understood that this word represents society as a whole as well as the place where they live. Very close to Noological Dimension the word personal satisfaction was placed, understanding that it is an internal feeling for overcoming a challenge. The word idealization was placed almost at the center of the triangle, realizing that it is a thought or opinion of a person that is presented to others in a society. The word life adversities is next to obstacles because it represents the challenges that a person can face in all three dimensions.

Next to Social Dimension the word Share experiences was placed, as it is an action to be performed with other people. Also close to Social Dimension the word Flexibility of time was placed, as it is understood that it has an influence on people's lives in the relationship between one person and another. Finally, the word collective coexistence was positioned close to the Social Dimension, as the authors of this work understand that it is in the relationship between one person and another that human bonds develop.

4.3 - Mind Revolution partner workshop

The third workshop was done with Mind Revolution and had one participant. The (Figure 10) shows the final result of the first activity.

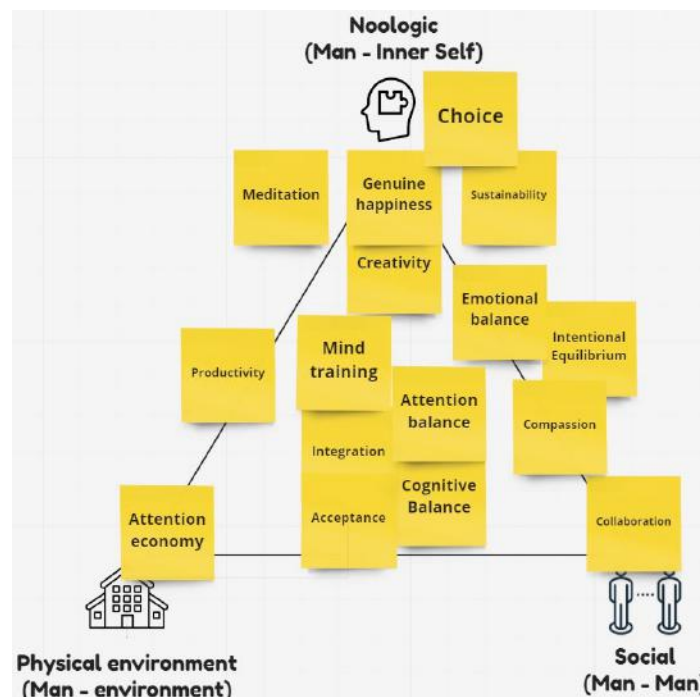


Figure 10: Cultural Triangle after finishing the first activity with Mind Revolution

According to the positioning of the words, it is noted that although there are some words close to Physical Dimension, the vast majority are in a cluster between the center of the triangle and Noological Dimension. As the partner works daily with activities involving a

good performance of the mind, it is understandable the existence and suggestions of words that are linked to Noological Dimension.

Cognitive balance was placed close to the balance of attention because, according to the participant, it is based on the way people understand the functioning of their minds and also on all the things that we perceive and our mind projects externally. Among the proposed words, the word emotional balance was positioned at the center of the axis between Noological Dimension and Social Dimension with the justification that our emotions, although experienced individually, are constantly influencing the relationships we have with other people. In this case, it is clear that the balance of emotions is important in the social relationship between people and that it has a strong influence on Noological Dimension. Another word that caught our attention was the word creativity, which was positioned next to Noological Dimension because it is a more individual expression of how a person expresses himself, how he sees himself and how he manifests it in the world. After completing the first activity, the participant was invited to build the Cultural Triangle referring to the second activity, as shown in (Figure 11).

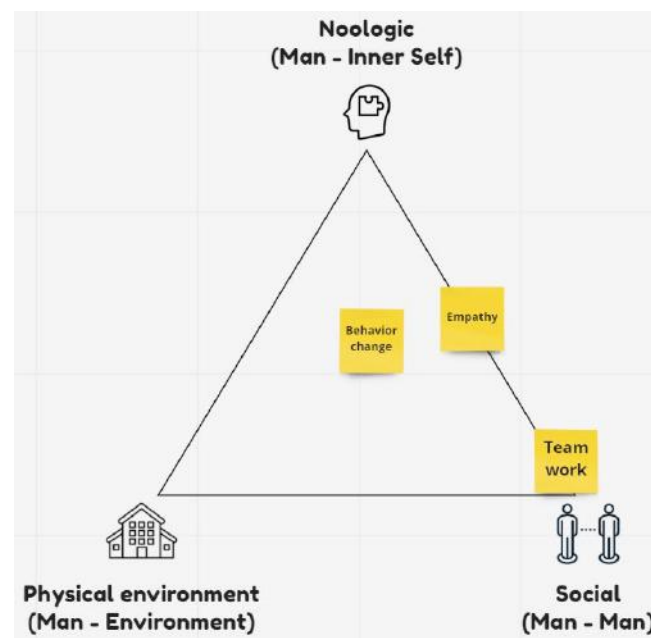


Figure 11: Cultural Triangle after finishing the second activity with Mind Revolution

Among the words chosen to compose the Cultural Triangle, the participant placed behavior change at the center of the triangle, stating that all the work he develops is more focused on an internal change of the person that can change relationships with other people. The word empathy was placed at the center of the axis between Noological Dimension and Social Dimension because according to the participant, empathy is one of the three elements of compassion and is basically what allows us to resonate. Finally, the word teamwork was positioned very close to Social Dimension with the justification that to build more humane, healthier, more compassionate and more altruistic relationships, they will directly influence teamwork, in the professional environment and in other areas. more personal in which people are involved.

After completing the thematic analysis of the results of the two proposed activities a total of 4 themes were found: Being assertive; Stability of mind; Interiority and interpersonal relationship. From the participant's speech referring to the second activity, 3 themes were

identified: Ideological change; Knowing Yourself and Human Connection. The new Cultural Triangle featuring the themes during the thematic analysis and subsequent feedback from the participant can be seen in (Figure 12).

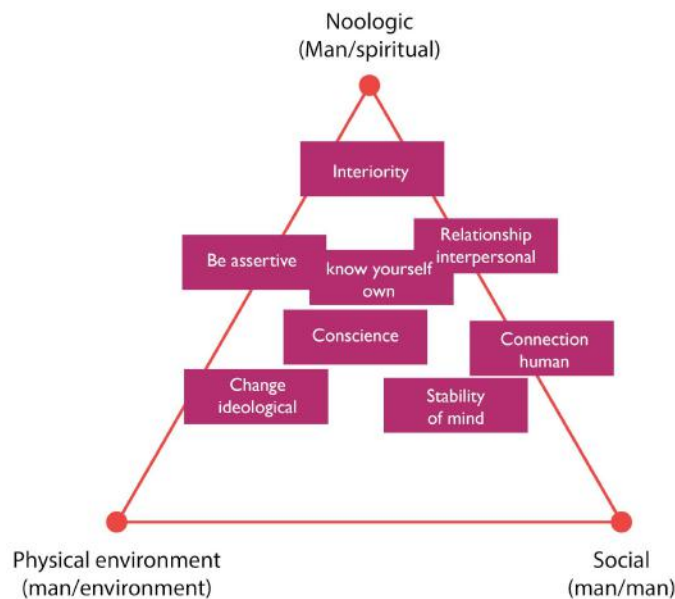


Figure 12: Mind Revolution Cultural Triangle after thematic analysis

The word interiority was positioned very close to Noological Dimension because it is an internal knowledge that is totally psychological. The word interpersonal relationship was placed on the axis between Noological Dimension and Social Dimension because it is understood that it is based on the relationship that a person has with another and is influenced by both dimensions, mainly Noological Dimension due to the way to consider. The word being assertive, on the other hand, was positioned very close to Noological Dimension because it is understood that properly choosing our attitudes in the face of challenges is a process that involves the person's way of thinking.

The word stability of mind was placed in the center of the triangle as it has influence from the three dimensions, and which is the foundation of all other words. The word ideological change was also positioned at the center of the triangle, as it is understood that a different way of thinking can influence the formation of a more balanced mind in all aspects. The word know oneself was placed closer to Noological Dimension due to the fact that internal knowledge is a process that everyone must do in order to later understand other people. Finally, the word human connection was positioned on the axis between Noological Dimension and Social Dimension because it is understood that this process has a social basis and group living, but also depends on people's way of thinking and their relationship with others. society and how connected people are.

4.4 - Final result of the thematic analysis of the workshops

With the final analysis of the discourse of the participants of the three workshops, a graphic representation was elaborated that could simplify which subjects are connected and involved with the doctoral project. For the associations of these connections, the following criteria were used: logic of the meaning of the word, influence of the word on the cultural dimension and proximity of the word to the dimension. With these criteria, we were able to position

each word in the Cultural Triangle according to our interpretation, giving rise to what we call the Cultural Ecosystem. At the end, all the words were joined in a single representation, thus forming the Cultural Ecosystem of the project (Figure 13).

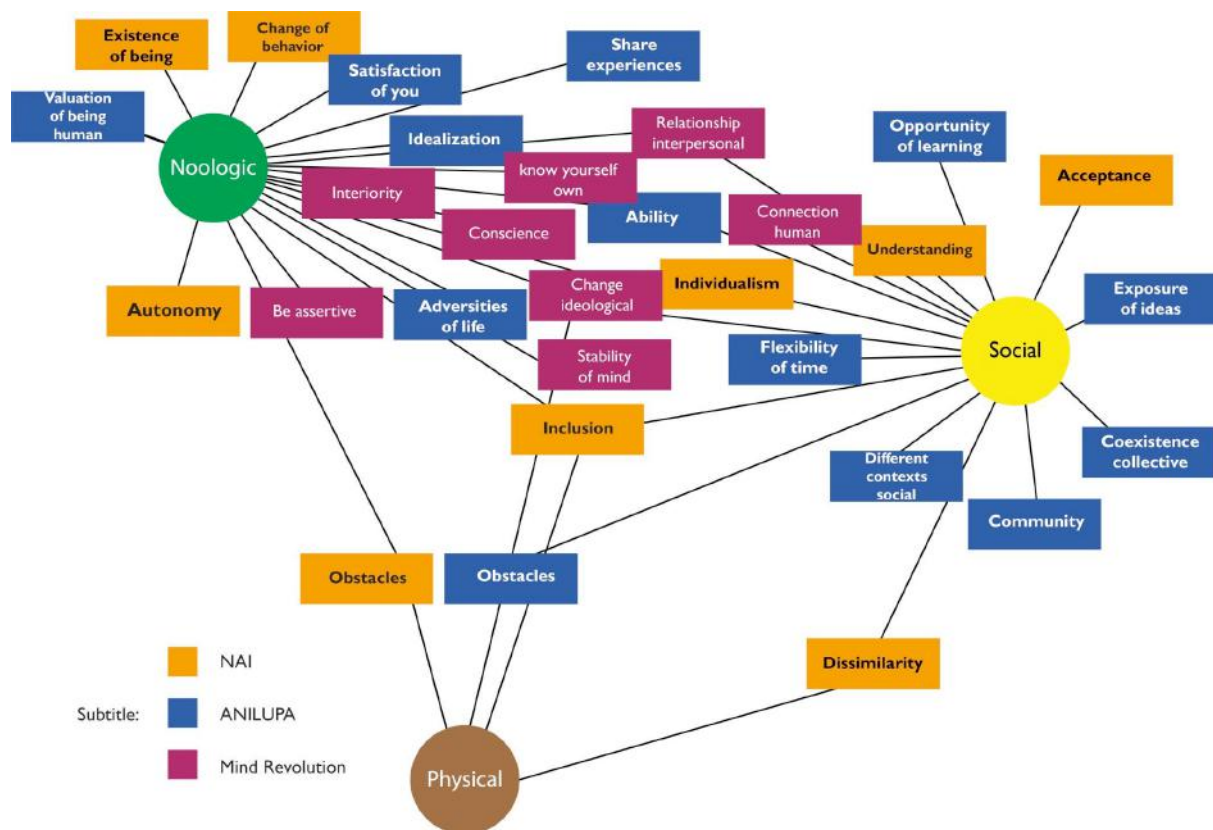


Figure 13: Cultural Ecosystem of the project

In this Ecosystem, we can observe the connections that each word has with each dimension of the triangle, some showing a connection with all dimensions. We also observed that there are larger clusters of words closer to some dimensions than to others, as we can see the lack of words closer to the Physical Dimension. With this graphic representation, we believe it is easier to, in addition to better understanding the words that involve the doctoral project, also facilitate other people to understand which areas are present in the project, such as psychology, well-being and self-knowledge.

5 - Conclusions and future work

The objectives of activity were achieved, obtaining the point of view of each partner in response to the questions of the activities. With each partner's feedback, it was possible to perceive themes and possible paths to be used as project requirements in the development of games or gamified activities, in addition to realizing that there were many other issues linked to the themes identified.

With the final representation of the Cultural Ecosystem, it was noted that there are many themes/words/codes clustered between the Noological Dimension and Social Dimension axis, however, there are few close to Physical Dimension. This raises the question of why there are not so many themes/words/codes next to Physical Dimension interconnecting the other dimensions. It is assumed that the answer to this question may help to better understand some

aspects still nebulous related to the project, such as the few games that work specifically with Physical Dimension.

With this representation, the next step is to elaborate an affinity diagram with the objective of grouping the existing words in the Cultural Ecosystem and then trying to extract possible project requirements that help in the elaboration of games and gamified activities — the next phase of the doctoral project. According to Hanington and Martin (2012) says that affinity diagramming is a process that assists in the organization of information in which data is grouped based on their affinity, forming themes found in the research. The authors complement by stating that affinity diagramming helps to capture perceptions, observations or requirements for the project. For this process, the variation called by Hanington and Martin (2012) of affinity diagramming was used for contextual investigation. The authors complement stating that this variation of affinity diagramming aims to promote a process of interpretation of information considering the meaning of each one.

Themes that share the same similar intent or have some affinity were grouped together resulting in four columns. The affinity diagram works with the logic that instead of grouping themes into predefined categories, a reverse path is made from bottom to top, first grouping specific themes that will give rise to general and more comprehensive themes (Hanington and Martin, 2012). As a nother future work, we intend to clarify these gaps and proceed with the understanding of the themes/words/codes identified and their importance in the following phases of the doctoral project, such as the generation of possible alternatives for games and recreational activities that can work with more emphasis the Physical Dimension.

References

- Bleumers, L., All, A., Ilse, M., Schurmans, D., Looy, J. V., Jacobs, A., Koren, W., Grove, F. de. (2012). *State of Play of Digital Games for Empowerment and Inclusion: A Review of the Literature and Empirical Cases*. Scientific and Technical Research Series.
- Cortesão, L. (2012). Professor: Produtor e/ou Tradutor de Conhecimentos? Trabalhando No Contexto Do Arco-Íris Sociocultural Da Sala de Aula. *Educação & Realidade* 37 (3): 719–35.
- Hanington, B., & Martin, B. (2012). Universal methods of design: 100 ways to research complex problems. In *Develop Innovative Ideas*.
- Hofstede, G. (1983). The Cultural Relativity of Organizational Practices and Theories. *Journal of International Business Studies* 14 (2): 75–89.
- Hofstede, G. (2002). Dimensions Do Not Exist: A Reply to Brendan McSweeney. *Human Relations* 55 (11): 1355–61.
- Kumar, V. (2011). *101 Design Methods: A Structured Approach for Driving Innovation in Your Organization*. John Wiley & Sons, Inc., Hoboken, New Jersey.
- Lacerda, D. P. (2011). Organizational Culture: Synergies and Allergies between Hofstede and Trompenaars. *Revista de Administração Pública* 45 (5): 1285–1301.
- Levi, D. (2012). *Group Dynamics for Teams*. (4th ed.).
- Poupard, M., Mateev, C., Mantelet, F. (2019). Optimizing the Design of a Workspace Using a Participatory Design Method. *Advances in Intelligent Systems and Computing* 824: 944–55.
- Sanders, E. B.N., Brandt, E., Binder, T. (2010). A Framework for Organizing the Tools and Techniques of Participatory Design. *ACM International Conference Proceeding Series*, no. January: 195–98.
- Souza, L. (2008). *Antropologia cultural*. Caderno de Apoio.
- Titiev, M. (1992). *Introdução à antropologia cultural*. Fundação Calouste Gulbenkian. Sétima edição, Lisboa.
- Trompenaars, F., Turner, C. H. (1997). *Riding the Waves of Culture: understanding cultural diversity in business*. Second edition, Nicholas Brealey Publishing Limited, British.

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