FROM SOLID SPACES TO LIQUID SPACES: NEW ECOLOGIES OF MUSICAL PRACTICES

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Abstract

Purpose: In recent years, the interest in creating new educational spaces has increased substantially, aiming to influence the methods of learning of our students and to adopt new educational strategies. This article highlights the importance of the atmosphere when remodeling musical practices. Methodologically, when transforming a space, we do not only have to improve the physical architectures but also the pedagogical ones, as well as keeping the practices consistent with these changes. The MUSICLAB CR-209 "Sound laboratory" have been built in Valencia (Spain). This is a hybrid space designed especially for collaborative projects -teachers, artists, students and researchers- in which sound is treated as an element or raw material that can be molded and adapted to what each project demands.

Methodology: The method used in our research was participatory action research. In order to submit the LAB to judgment, three artistic actions were designed and developed.

Results: In this paper, the results showed the main strengths and weaknesses in the design of the space MUSICLAB CR-209 related to the synergies generated through musical practices: the connections established at an interpersonal level, the methodologies and artistic actions developed, the participation and the coordination between the different participants agents. The weaknesses found are related, not so much related to the space itself, but rather to the lack of experiences such as the one described. In this sense, certain barriers and resistances have had to be overcome by all the actors involved.

Implications: In conclusion, we close with a positive vision and we think that this is a novelty experience that stand out for their creativity in the development of contemporary languages and highlight the importance the atmosphere in the educational processes. Our ultimate aim is to provide a proposal that might inspire music and artistic educators when building a new school model more in line with the demands of society s. XXI.

Keywords: Sound laboratory, educational spaces, sound creation, contemporary languages, pedagogical architectures.

INTRODUCTION

Today we know that the learning processes of our students respond to approaches distant from pure data storage and mechanical means. Each individual responds in a different way, according to their cognitive and emotional processes and their understanding of the world. As Pardo (2015, p.112) states: "Learning is a different personal process in each individual."

For this reason, any space used for teaching and learning shouldn't be monofunctional, but capable of being adapted to the needs of each learner. The most natural way to learn is by interacting with their peers. In the XXI century, we need to conceive the classroom as an educational space prepared for meetings, learning, and individuality.

However, sometimes the classrooms turn out to be static places or containers (Bingler, 1995), closer to what Augé (1993) would define as a non-place, transitory and in which there is hardly any interpersonal communication. It's for this reason that promoting spaces enriched by sharing experiences with each other and dialoguing contributes to the learning that takes place in a thousand different ways.

The concept of the LAB as a place of experimentation defends the full transformation of the physical classrooms, betting for classrooms capable of generating new realities (Mokhtar, 2015). These spaces play an important role in the transformation of musical practices, linking their physical transformation to pedagogical changes and generating methods consistent with these transformations.

We understand space as the third element along with teachers and students in educational processes. The LABS are hybrid places made to support exchange between students, specialist teachers, resident artists/musicians, and researchers. This flow of participants implies a constant renewal of the proposals that are carried out there. In recent years, interest in the creation of LABs has increased and, because of it, two sound laboratories have been developed in Spain in different educational contexts: Compulsory Secondary Education -MUSICLAB CR-209 of the Institute of Secondary Education Arabista Ribera de Carcaixent (Valencia).

In both LABs sound is treated as an element or raw material that can be molded and adapted to the demands of each project. We bet on a concept proposed by Pardo (2014) in which the sound flows within these living spaces that contribute to this flow in continuous transformation. The actors and inhabitants of these spaces have corroborated through different artistic practices the need to migrate towards pedagogical models based on collaborative learning and using strategies that offer tools and methods for sound treatment more in tune with our time (Alcázar, 2010; Amann, 2016).

We try to move away from practices centered on an education of pure content and low relevance, as explained above; therefore, we seek a type of education that's generated between equals and from a much more transversal position among the actors involved in the act of learning. It is from this multidisciplinary perspective that we can undertake projects in which music, literature, visual and plastic arts or scenic arts coexist together and where technology is an essential tool. Projects that are designed in an integrating way, escaping, thus, from its use from a purely instrumental vision. On the contrary, we conceive technology as an element at the service of ideas and collaborative work, as an extension of the work of the body and the mind, that is, we opt to make it almost invisible in order to make its presence fit into the fabric of the artistic hybridity that is intended. In this text, we focus the focus on the work developed in one of these two LABs, specifically the -MUSICLAB CR-209 of the Secondary Education Institute Arabista Ribera de Carcaixent (Valencia) -.

NEW SPACES FOR THE MUSICAL PRACTICES OF THE S. XXI: THE COHERENCE BETWEEN DESIGN AND PEDAGOGIES

However, beyond the design of liquid and changing spaces that adapt to the practices, we must be aware of the necessary changes in the design of methodologies that will give coherence to these practices.

For this, the teachers have to migrate towards a concept of mentors or architects of learning environments where the interaction between students and faculty facilitates and enhances the construction of knowledge in a shared and collaborative way. The laboratories that we use to exemplify our proposal have been designed taking into account different spaces of work and, above all, relocating the figure of the teacher, who is no longer the central part of the LAB, breaking the hierarchy and enhancing the horizontality in the relationships between teachers and students. In this sense, each practice allows different roles to be assumed by students and much more enriching work dynamics to be established. Each student has the opportunity to work from different perspectives, abandoning a passive role since it's expected that in these spaces, learning implies action. In this type of classes, students do not limit themselves to receiving information in a unidirectional way teacher-student, but the generation and production of information happens in a multidirectional way to be later shared and subjected to a continuous debate. Each space designed in the MUSICLAB CR-209 allows us to work with the raw material, the sound, in a different way producing relevant and significant knowledge. Since we develop complex actions that generate other problems, we require a multi-focus capability to search for the optimal solutions. As Rittel & Webber (1973) suggests, in complex problems there are no true or false answers, but good or bad solutions. We attempt to maximize space diversification and the continuous transformation demanded by new practices. We point out that the space MUSICLAB CR- 209 encompasses, in turn, three types of spaces that are detailed below and that make up the specific pedagogical context:

Digital Space

As Prakash (2014) states, decentralized and distributed technology promotes different learning opportunities that would be impossible if computers were all locked in the computer classroom (p.103). Our LAB has work desks designed to encourage collaborative work in groups of 6 people. Each table is equipped with a MAC Mini computer with different VST libraries (Virtual Studio Technology) and sound editing and mastering software, with the possibility of working independently from the other tables thanks to a headphone system for each table. In addition, this system is connected to a digital table that collects all signals and allows the external hearing of one, several or all computers at the same time. In this way, the joint audition on the work carried out by the students is enhanced by continuously improving the debate.

In this space, greater operability is sought in smaller groups where the most important thing is collaboration and experimentation oriented towards the transformation of sound. This is adapted to different projects that arise in each quarter as a learning format that emphasizes the freedom of action so that students do not do the same, or at the same time in order to offer a variety of options to address the same problem, from different perspectives. In this line of freedom of action, the use of their own mobile devices or another type of technology is favored and promoted, favoring the BYOD (Bring Your Own Device) philosophy and DIY (Do it yourself).

Analog Space

Within the analog space, observation and discovery of objects understood as sound objects is preferred. It's a space where learning is reinforced from a touching approach since each object is subjected to different acoustic tests in order to extract its sound. The peculiarities of each material are observed, they are subjected to tests that range from bizarre and alternative ways of making them sound to recording with different types of microphones in varying positions.

In an operating board, students have at their disposal a wide range of microphones and effect pedals in order to discover, observe and analyze new sounds from the explored object.

Experimental Space

In the LAB a large piano harp hangs from the wall, the sound it produces is very versatile and alterable as if it were a version of the piano prepared by Cage. In this space, different sound sensors are tested in different positions: resonance box, strings...

All this is connected to a computer through an interface, allowing the creation of sound libraries or to continue with larger experimental processes in a continuous search for sounds that captivate the attention of the students, either for their novelty or for its acoustic peculiarities.

The original idea for these three spaces was to establish links between them, but also, to allow students to develop different competencies through diverse activities within the same practice, attending to their interests in a more personalized way.

The space as a whole has been designed to tend to different environments; for this, although the place has large windows with direct and natural light several types of alternative lighting were taken into account. First of all, a neutral white led light, without flickering like fluorescent tubes, creating a clean and well-lit environment. This type of light is combined with warmer LED lights, which offer a more relaxed environment that invites reflection.

It should also be noted that versatility is an element to take into account when designing space and to make use of alternatives according to needs. That is why all the tables, through a removable structure, can be moved to convert the MUSICLAB CR-209 into a totally transparent and open space prepared for movement activities or debates or large group presentations. As Vecchi (2013) states, spaces are an element that we perceive strongly, as well as its inhabitants and their possible relationships with the environment and with others. The environments are always windows open to new ideas (p.144). For this matter, Prakash (2014) demands to design the spaces -studies, workshops or laboratories-, according to the educational needs of the students, to facilitate both individual and cooperative work, always from an interdisciplinary perspective. According to the philosophy proposed by the design studio of Rosan Bosch, the goal is not to create beautiful spaces, but spaces that contribute to change. And what's more powerful, spaces that can be considered "the third teacher", according to Calvo (2016) when talking about the school of the 21st century.

Figure 1: Different spaces in the MUSICLAB CR-209.

RESEARCH DESIGN

This research is proposed as an exploratory study with the purpose of investigating the strengths and weaknesses that can be detected in the design of the MUSICLAB CR-209 space in relation to the creative practices developed in the "Musicas con mucho cuento" proposal.

We start off with the following questions:

- How does the MUSICLAB CR-209 space meet the expectations for the development of transformative, creative and multidisciplinary practices?
- Can emergent elements throughout the creative process be considered important when trying to transform the class?
- Are the proposed methodologies coherent with the possibilities offered by the space?

The sample selected for the study consisted of:

- 20 students of the first and second cycle of Secondary Education and Highschool of the Secondary School Arabista Ribera de Carcaixent (València)
- 22/25 students of Early Childhood Education (School of Infant and Primary Education) CEIP Vicent Rius de Canals (Valencia).
- 5 professors: 1 Secondary Education Plastic and Visual Education teacher, 1 Secondary Education Music Teacher, 1 Early Childhood Education teacher, 1 Primary Education Teacher (from the Valencian Community Centers), 2 Fashion Design Professors (School of Design of Alcoy).

- 3 researchers from the field of Music Didactics (University of Cantabria, University of the Balearic Islands, Teacher Training Center, Department of Education (Valencia).
- 2 external artists invited: 1 artist in residence as a sound creator and 1 writer.

As a strategy, we have chosen to use participatory action research (Alberich, 2008, Chevalier & Buckles, 2013, Folgueiras & Sabariego, 2015). According to Alberich, (2008, p.139) this can be understood as "a method of study and action that seeks to obtain reliable and useful results to improve collective situations, basing research on the participation of the groups themselves to investigate, so that they go from being an "object" of study to a protagonist of the research. "

In order to submit the LAB to judgment, on the part of the participating researchers, three artistic actions were designed and developed over a period of three months (January-March 2018), at a rate of one action per month. All of them were developed in the MUSICLAB CR-209 space.

RESULTS OF ARTISTIC ACTIONS

This section describes the overall process of the three actions, with special emphasis on the steps taken and the results obtained.

The artistic Action 1 refers to the prototyping of "Músicas con mucho cuento". Artistic Action 2 describes the encounter "El Hervidero", describing the design tactics developed. Lastly, Artistic Action 3 is linked to the performative action and staging of the project "Músicas con mucho cuento".

Action 1: Prototyping a multidisciplinary creative practice: "Músicas con mucho cuento"

"Músicas con mucho cuento" is a multidisciplinary project that brings together the areas of music and plastic and visual education together thanks to an external writer. This project is framed within the actions planned in a larger project entitled València Music Art Magnets. It is a citizen art project counting with the collaboration of young artists that help the realization and production of each of the proposed actions, as well as the help of experts in different artistic fields and researchers.

In this experience we propose to provoke friction between different artistic disciplines, to deepen in contemporary languages and, in the case of other curricular disciplines, to offer an artistic fit within a framework of transdisciplinary collaboration.

The action began with inviting an external artist to participate in it. This literary artist asked the students to produce a series of written texts, stories of multiple styles, from which to create music inspired by them. From dynamics that, in origin, fostered surprise, the writer began his proposal suggesting body movement and play as creative triggers in the students, far from a conception of classical writing prompts initially expected by everybody.

However we weren't surprised by the reactions of the students to the dynamics or games. Barriers and resistance to participate in the game appeared. Not all students participated openly in these imaginative dynamics. And although some students willingly accepted the challenge launched by the writer, there were those who did not finish understanding their role in the project. These are situations that match the problems that usually arise when trying to break a disciplined and parceled thinking so ingrained in our ways of rethinking creative learning. With the purpose of redirecting the project, new strategies were introduced to face the resistances detected in the students.

In this way, and inspired by the games of the "Grammar of fantasy" Rodari (2002) and other dramatic games Boal (1979), the writer developed a game where the students, through a series of dynamics, had to build characters, relationships, stage situations that, little by little, with a strong dose of imagination were turning into short stories, poems or scripts. After collecting different contributions in the form of a literary story, students were offered a collaborative specialization where each group began to search for ways to create content in their fields, that later could be linked to the story. So, this was the moment in which students more affine and comfortable with the literary, began to generate text, students whose role was musical, began to create the sound stories and students interested in visual languages, opted to perform creations in video.

Action 2: "El hervidero", new actors come into play. Design thinking and prototyping.

Once action 1 was completed, we had the need to incorporate other creative and dynamic work processes. Action 2 materialized in a physical encounter in the MUSICLAB CR-209 in which new actors would intervene, in order to contribute ideas that would enrich the possibilities that the space offered. At the meeting, called "El Hervidero", a design was proposed that was debated and widely agreed upon. One of the topics of debate was to test methodologies according to our educational vision. It was decided to use "Design Thinking" or techniques that, in our opinion, would offer the possibility of devising the prototype for the third action as the final result. Design thinking has been recognized as an important approach when dealing with complex problems (Buchanan, 1992). For example, according to Nelson & Stolterman (2003), the design is not intended to solve a problem with a definitive answer, but to create a positive addition to the current situation.
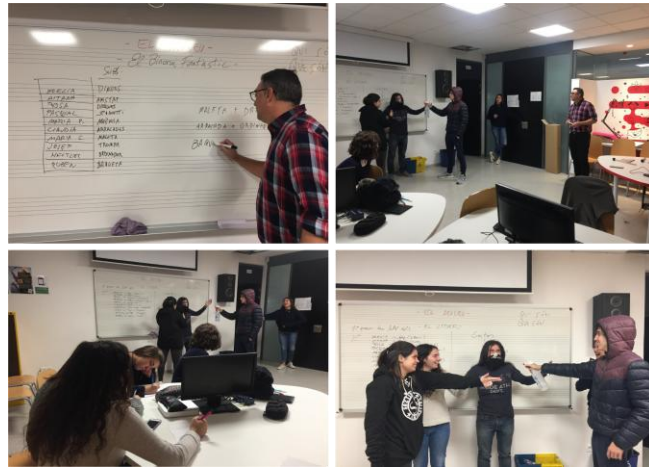
Figure 2: Session of corporal games with the writer and students of Secondary Education.

Regarding "Design Thinking", it should be noted that, although this way of working dates back to the seventies and to businessman Tim Brown, it looked to us as an optimal work methodology because it focuses on the process of design more than the final product (Tischler, 2009; Steinbeck, 2011), it supports the multidisciplinary teams based on collaboration, observation, experimentation and continuous evaluation and, therefore, fit perfectly with everything we wanted to achieve in the meeting.

Within an artistic-educational field, the five phases or steps proposed by the integral model of design thinking were followed: leadership with empathy, resolution of problems by overcoming the traditional vision, coming up with experiments, prototypes and finally drawing conclusions and analyzing the results.

During the first step, we listened attentively and carefully to each other. The ideas of researchers, students, artists and teachers allowed us to understand the experience from different angles, knowing the difficulties, problems of each and being able to put ourselves in the shoes of others. In the second phase, related to the potential complications, they tried to take advantage of the multiple ideas that were being offered in order to work in a more efficient and stabler way. We could do this or that but: What if we do it this way? Or, in that one?

"El hervidero" meant keeping a certain distance from the materials generated and introducing a reflective flow that allowed us to emerge and visualize hidden elements, optimize resources and define the final product through a global fit of the proposal. The challenges began, because you had to write, draw, write, speak, rewrite and draw, write, speak, shut up. Succeed and fail, learn everything, experiment with everything. While it's true that in some moments it caused a whirlwind of ideas, puzzles in cascade with texts, music, visual elements, etc., this vast production also caused particular sensations of total instability in the group, as it added a degree of difficulty not being able to see clearly what kind of relationships were being constructed during such an intense process. This feeling of shared chaos was surely an important trigger in the search for strategies that would provide a wide angle vision and give meaning to some difficulties that were not visible at first. When faced with a controlled, predictable, highly structured learning which people are more accustomed to any other type of learning causes mixed reactions within a group, but clearly brings together a creative potential that when channeled and made visible generates other ways of learning much more powerful.

Figure 3: Previous session of work on prototyping, "El Hervidero" with all the actors in action.

This was how the prototype started taking physical form and how the final product was based on the idea that had been the protagonist throughout the whole meeting: the idea of a "process". A perception of the process as a product and of the product as part of the entire performative process. Finally, we were able to offer a closing structure organized in six micro-scenes that logically agglutinated all the materials that had been generated.

Figure 4: Process and the final result of prototyping 6 micro-scenes ".

Previously, in addition to others that emerged during the two days of the meeting; a prototype that marked the end to the gathering and served, likewise, as the point from which to officially commence the project.

Action 3: Performative proposal, staging.

From what happened in "El Hervidero", the work team set out to carry out the resulting prototype in a performative proposal where different educational contexts contributed and were added to what would culminate in a final representation. A collaborative experience from beginning to end under the supervision of teachers but with little directionality, because the important thing was to give a voice to students so they could make their own decisions.

The chosen microscenes were the first and the second, chosen by the students because we thought that might motivate them at the time of materializing them. For the premiere of these two microscenes, we worked with the Infant Education teacher who participated in "El Hervidero" in the performative design. She, in turn, worked with her students based on the consigning of creative proposals derived from each microscene.

The proposal prior to the performance us to connect with the different educational contexts that participated since the start of the project. From this premise, with the staging of "Musicas con mucho cuento", the children had the opportunity to live an aesthetic experience from a constant relationship with art in their social context. Also, an aspect that stirred our interest was to know the stories that children would come up with, from the open, contemporary and creative look of childhood.

It began with an exploratory phase in which the teacher proposed symbolic games (statues, mirrors, machines ...), searching for absurd sounds, gestures, symmetries, displacements, improvisations, practices with lights and shadows ... and a wide series of collaborative dynamics that invited children to express themselves and talk about what this experience meant for them.

All these responses formed a group narrative that would be represented by the narrators themselves, protagonists of these discoveries. After consulting with everyone, they decided to use long white semi-transparent fabrics with which they had played so many times and that caused them well-being and enjoyment, as the principal props they would use on the stage. Without losing contact with the outside, children under the fabrics, could share a space and move around the stage. Also in the scenic representation, they used lights that turned on and off, and moved from one side to another at their own pace, discovering themselves in the middle of the darkness, moving, crawling, illuminating their body parts and encountering one another. Little by little, the performance continued evolving through the beginning of new routes. The children got up little by little, they illuminated other places (walls, the horizon ...) new universes in construction being discovering together, with friends, with their teacher.

The act culminated with the kids resting on those same fabrics as if they were nests where to put the lights that, in a way, represent us, lights of all those teachers who helped us embrace our growth. A great light, giant, firm and immense filled the stage and symbolized everything that they wanted to transmit.

First microscene

The first micro-scene was materialized through short film projected in a theater that in some moments broke the fourth wall and interacted with the scenic performance designed and delivered by the teacher and the students. After this design, we integrated live improvised electronic music with Soundcool (collaborative audiovisual creation system through mobile devices) played by highschool students. Instead of using a paper score or a video guide, as we had done on other occasions, we went a step further and used our own stage performance as a score. In the three scenes that included Soundcool, the students, sitting on the sides of the stage, had to pay attention to some factors of the performance (movement, gestures, position on the stage, interactions ...) and generate or manipulate the sound based on these. The way in which the performance was translated into sound was designed and agreed in the LAB classroom with the teacher of the little children.

This teacher also had three more high school students that would take part in the stage intervention acting as "sculptors" of some statues represented by students, adding a dimension that represented similarities with reality.

Second microscene

This one was inspired by two poems written by a student in tribute to a renowned teacher of the city of Carcaixent (València) shot because of Franco's dictatorship, and a teacher of the institute who had recently passed away, had been a teacher and co-worker of several of the people who participated in this project and had participated and promoted many of the creative projects of the center during the last years.

Starting from this premise, the infant teacher asked her students what the figure of the teacher meant for them, and from their answers, the stories and memories of the teachers, and the poems, the scenic action was designed. We decided that the student author of the poems would recite the first one live, while the kids acted out, with the help of dramatic lights, the appearance and disappearance of the students that the teacher could no longer give class to. All this, with an added musical dimension, through a piece that one of the students of the institute composed on their own, and that we decided in the "hervidero", that it could help represent the timeless history of this professor.

The second poem was represented in a more minimalist and significant way, with a large fabric separating the kids from the public and a light placed behind the kids so their shadows would project themselves on the fabric, allowing the public just to see their outline. We tried to imitate a diffuse candle that was gradually focusing, evoking a memory that shared one of the teachers, which represented very well the essence of the teacher who had recently left us. Meanwhile, in the scenic part, the children represented with blankets and lanterns the discovery of themselves and their classmates as other individuals and as a collective. The synchronicity of this discovery with the candle focusing, represented the figure of the teachers of all the stages as companions in the process of learning, growth, self-discovery and formation of the students. The musical dimension of this action consisted in a soft crescendo of pleasant sound textures that were intertwined, interpreted live by the high school students through Soundcool.

Figure 5: The final performance of the proposal "Músicas con mucho cuento".

DISCUSSION AND CONCLUSIONS

After all we had done to the point, we dared to advance a series of ideas that served as a basis to start a discussion or debate, in our opinion, essential from a teaching perspective, because the subject discussed here highlights the importance of spaces in creative processes and in the acquisition of knowledge, fundamental aspects in the job of any educator.

By trying to answer the three questions raised in this exploratory study, we can conclude that:

The space MUSICLAB CR-209 has fulfilled the initial expectations for the development of creative and multidisciplinary transformative practices. With the drafting work done and the three actions performed we affirm that it has turned out to be, for all the participants, a significant and enriching experience on an artistic, personal and socio-emotional level. We agree with (Ito, 2012) that, in order to favor "anti-discipline", it's necessary to create disruptive spaces and constant creation. Only then, it's possible to have the freedom to connect ideas, concepts, visions that intuitively one would not tend to connect. Therefore, the importance of introducing different actors than the usual ones in the classrooms. Beyond being established as places where students and teachers coexist, this type of proposal allows for new experiences by having unusual actors join in. An example of this could be seen in action 3 when high school students worked together with the little kids. We believe that this has a very significant pedagogical value for the teens since it involves assuming individual and collective responsibilities. It is worth noting that one of these high school students turned out to be fully involved in the production, both during school hours thanks to some of her teachers and after school hours in which we recorded most of the material. Other students of the center participated in the recording and preproduction in a completely voluntary way. Both these and many other experiences show us that when the process of designing educational praxis is open to the students -as seen very often in the artistic field-, there's an interest and natural involvement in this based on positive reinforcements.

The management of the freedom that we could allow high school students to exercise, as was seen in the premiere of Action 3, was thanks to the atmosphere of trust and teamwork that we had built during the last months, another example of shared responsibility. These are all the emerging elements throughout the creative process that can be considered significant and that contribute to a true transformation in creative practices.

On the contrary, all this does not happen when the motivation is based on negative reinforcements, with demands, requirements and projecting expectations of failure in their development as people if they do not comply with the requirements of external authorities to the individual or collective recipient of learning. It also leads us to believe that the mainstreaming of the arts throughout the curriculum, or in other words, the permeability of other subjects towards artistic thinking, would imply the permeability of these educational practices towards the needs, curiosities, desires, and concerns of the students, which would greatly favor the motivation and involvement that is currently lacking in many classrooms.

But for these ideas to be consolidated, we need to have all teachers betting on a clear pedagogical vision and the need to transform these spaces away from their traditional conception. Regarding this, however, it should also be noted that it's not always easy to accept changes to which we are not accustomed. In fact, the barriers and resistances that arose during the design of "Músicas con mucho cuento" by certain students show their roots in the prevailing pedagogies and strategies in the education system, and the absence of pedagogies focused on musical creation. (Delalande, 1984; Alcázar, 2010).

However, after the initial resistance, it is worth noting the potential of the unexpected ideas that came up in "El Hervidero" and later verified by the participants themselves. We emphasize the sense of full participation that each of the attendees described, especially the students, not used to sharing experiences with so many artists. And in this experience, were the personal learning processes, those that, according to Pardo (2015), distinguish each individual, which, adding to those of the others, allowed to establish the synergies, the nexuses and the interpersonal networks that gave rise to the described results.

The achievement of this type of interdisciplinary artistic proposals brings us closer to a greater understanding and use of learning focused in the processes, placing us in the slow education model (Domènech, 2009) since it gives us a reflective and artisanal character. Creating time and spaces to harmonize the contributions of all the actors participating in the proposal, implies an exercise of acceptance of diversity and the opportunity to take on a collective project, which would not be possible, without taking into account all and each of the voices that make it up. In this aspect, above all, we want to convey the idea of how spaces affect the people who inhabit them and how they have the ability to generate resonances between people and ideas. We can conceive the LAB as an incubator where collaborative and co-creative projects can be developed. Regarding whether the proposed methodologies are coherent with the possibilities offered by the space, we consider that the work developed in "El Hervidero" using the spaces as places for the experimentation. The use of Design Thinking strategies was successful since they allowed us to elaborate a prototype and take it to the stage. Addressing artistic research with a mindset characteristic of design thinking opens the door to more experimental prototypes in which failures are also considered results. Although in the design based on research it's important to be systematic and analytical, some values associated with artistic learning and design traditions such as creativity, chance, and intuition, can also offer valuable information. The idea of making a prototype from design techniques, however, was not a simple task either because the actors involved came from diverse and specialized fields (musicians, designers, teachers, students, writers ...) in which they are not used to think in this way but it was an opportunity for everyone to learn new ways of doing things.

Trying to find the strengths in the design of the space MUSICLAB CR-209, we can affirm that said space:

- Presents an ideal architecture to work in a versatile and adaptable way. It's a place where the analog, the digital and the experimental are present in an integrated way.

- Fosters interpersonal interaction, inviting a participatory, co-creator and horizontal form of work among all those who inhabit it.

- Allows interdisciplinary practices to be carried out as their design is optimal, not only in terms of its physical architecture but also in its pedagogical approach to hybridization research and constant flow between the different sonorous, poetic and visual languages. Scenic and plastic.

- Enables the use of other methodologies where processes matter more than products, as in the case of "design thinking".

Regarding the weaknesses found, we do point out one of them, not so much related to the space itself, but rather to the lack of experiences such as the one described. In this sense, certain barriers and resistances have had to be overcome by all the actors involved: the students, accustomed to more directive practices in more conventional spaces; and the professors and artists, coming from a professional formation in the same line. And consequently, in order to acquire knowledge, we needed debates, consensus and decision making, having to overcome individualism, clashing personalities and different ways of being and thinking.

With the intention of visually synthesizing what is presented in this article, the following graph shows the strengths and weaknesses described, the connections established at an interpersonal level, the methodologies and artistic actions developed, the participation of students, teachers and families and the coordination between the different educational and research agents.

In short, we close with a positive vision, since the synergies generated through musical practices in spaces like the MUSICLAB CR-209 have allowed the connection of teachers, artists, students and researchers in projects that stand out for their creativity and development of the contemporary languages in a participatory way. This highlights the importance of the design of these spaces for the construction of a new model of school more in line with the demands of society in the 21st century.
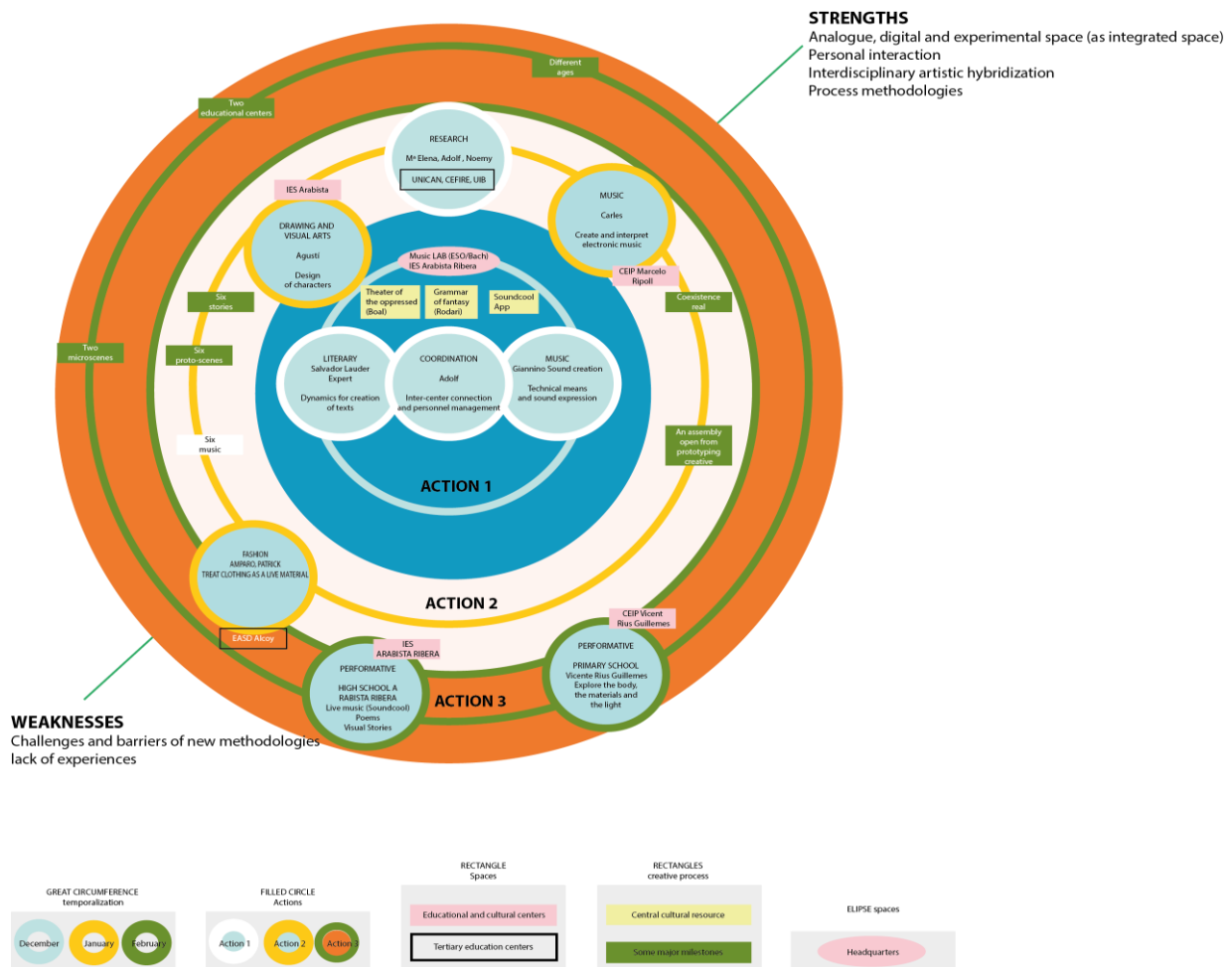

Figure 6: Graphic diagram: interdepartmental relationship and actions developed in the project.

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