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Co-learning: An open pedagogy for creative arts education

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ABSTRACT

This PhD dissertation is framed at the crossroads of design, creative process and education. My contribution revolves around how design-based learning methods— open design and design ethnography in particular—can foster an interactive educational mindset that expands the academic learning context outside of the school. This research is twofold: first, my aim is to contribute to educational innovation in the field of creative arts through design-based learning methods. Second, I explore the possibilities that open design and design ethnography can bring to formal education in the field of creative arts education by introducing embodiment as an interdisciplinary perspective.

Starting with design-based learning methods, this research develops the concept of co-learning. Later, I focus on developing and testing a co-learning pedagogical model that engages students, educators and researchers in a learning process based on co-creativity, self-experimentation and openness toward the unknown through the embodiment. Thus, in this model, the classroom's walls are blurred, and the learning process emerges on a continuum alongside "real life," open to the social and the public space with a bodily knowing approach. Then, I provide the open protocol as a guide for teachers in performing arts or to expand this model to other educational creative fields. Co-learning emerges in this dissertation as a teaching and learning pedagogy that relies on experimentation among peers. Thus, co-learning is transformative for students and educators, even as the process of academic learning itself is continuously transformed.

This thesis is part of an Industrial Doctorate Program, as a collaborative effort with a University Centre for Performing Arts in Barcelona, Spain. Then, the main proposal of this research has been to provide an educational innovation framework applied in the field of performing arts education by extending open design principles and design ethnography methods to formal education in the creative arts. To do so, I relied on design principles (horizontality, collaboration, open knowledge, sharing, and learning by doing) that are related to the values of open culture within the digital culture framework. Basically, open design implies the development of forms of co-creation where the final output is directly related to the needs of the community involved in the process, rather than a

product for an external stakeholder or private company. Then, I considered open design as the core element for developing the co-learning method as based on collaborative education.

However, I also built the theoretical underpinnings of co-learning, as conceptualized in this dissertation, through an interdisciplinary approach that considers education as a social practice and ethnography as essential to design experimentation and structured reflection. This interdisciplinary approach allowed me to understand learning as a social process in a community and as an embodied practice, where people pursue shared goals and develop skills, competencies, meanings, values and social identities collaboratively. The dialogue between design and anthropology provided me the conceptual tools and methodologies, allowing me to conduct this research honestly and reflectively.

As I will show in this dissertation, ethnography is incorporated and experienced as part of the co-learning process itself, and it is also at the core of the research methodology through which the pedagogical method is tested, data is collected, theoretical and analytical reflection is built, and personal and collective lessons are taken. Throughout this dissertation, the role of ethnography has been a reflexive method for interaction, meaning formation and interdisciplinary intervention. Thus, design anthropology, and ethnography in particular, emerged as conceptual and methodological tools due to the way they advanced my theory of co-learning.

The need to develop a design-based pedagogy for creative arts learning grew out of my own applied experiences as a designer and educator, researcher and facilitator. I spent over a decade creating and teaching courses in collaborative learning performance and design, in different design schools through Europe and internationally. Here, I propose to explore how open design concepts can be implemented on a continuum in formal and non-formal education. First, I described the current design education landscape, focusing in particular on co-creation. From this exploratory phase, I develop a theoretical framework for an open design-based teaching methodology as part of a set of experimental methods for creative arts education that I named co-learning as the core of this dissertation contribution.

Then, I implemented this methodology in an educational setting by creating a teaching-learning workshop format. In this empirical phase, I relay in participatory action-research, conducting a workshop, "The Polyphonic City", in a Performative Arts School in Barcelona during November-December 2017. This workshop allowed me to experiment with co-learning methodology in a performing arts school, to test my model and my working hypothesis. Later, I

present the results of this experience and how it responds to my research questions, to finally develop the co-learning principles, skills and competencies. Thus, my hope is that the research outcomes will contribute to the long-term integration of co-learning and its set of skills and competencies will be incorporated into the curricula of creative arts education, as well as in other fields in higher education.

Finally, open design as the platform for co-learning, by co-creating and sharing, contributes to an innovative shift to develop teaching-learning pedagogies that open the formal educational framework to the public space as performative embodied behavior. Through embodiment we connect the learning process with the collective creativity, design social intervention and the world. It is expected that the co-learning pedagogy explored here will be a useful tool to open up educational innovation available to other fields beyond the creative arts. We need to rethink education in a future that is becoming more and more complex through the imbrication of learning with the digital technologies and the Artificial Intelligence. Thus I hope that open design-based learning practice will contribute to educative innovation for citizenship and democracy. After all, the learning process is, above all, a transformative experience and it means that it is also a way to actively transform the world in which we live.

RESUMEN

Esta tesis doctoral se enmarca en la encrucijada entre el diseño, el proceso creativo y la educación en las artes performativas. Mi contribución gira en torno a cómo los métodos de aprendizaje basados en el diseño (diseño abierto y etnografía del diseño en particular) pueden fomentar una mentalidad educativa interactiva que expande el contexto de aprendizaje académico fuera de la escuela. Esta investigación tiene un doble objetivo: En primer lugar, contribuir a la innovación educativa en el campo de las artes creativas a través de métodos de aprendizaje basados en el diseño. En segundo lugar, explorar las posibilidades que el diseño abierto y la etnografía del diseño pueden aportar a la educación formal en el campo de la educación artística y creativa al introducir una perspectiva interdisciplinaria basada en el aprender haciendo de forma colaborativa.

A partir de los métodos de aprendizaje basados en el diseño, esta investigación desarrolla el concepto de co-aprendizaje. La idea es desarrollar y probar un modelo pedagógico de co-aprendizaje que involucre a estudiantes, educadores e investigadores en un proceso de aprendizaje basado en la co-creatividad, la auto-experimentación y la apertura hacia lo desconocido a través de la realización práctica de actividades basadas en la experiencia y la corporalidad. Por lo tanto, en este modelo, las paredes del aula difuminan y el proceso de aprendizaje emerge en un continuo junto con la "vida real", abierta al espacio social y público con un enfoque en el conocimiento corporal. Como resultado aplicado de esta tesis proporciono un conjunto de ayudas pedagógica: Unos principios guía y un protocolo abierto como instrumento para los profesores de artes escénicas o para expandir este modelo a otros campos creativos educativos. El aprendizaje conjunto surge en esta investigación como una pedagogía de enseñanza y aprendizaje que se basa en la experimentación entre pares. Por lo tanto, el aprendizaje conjunto es transformador para estudiantes y educadores, teniendo en cuenta que el proceso de aprendizaje académico en sí mismo está en continua transformación.

Esta tesis se inscribe como parte de un Programa de Doctorado Industrial, y por tanto, la principal propuesta de esta investigación ha sido proporcionar un marco de innovación educativa en el campo de la educación en artes escénicas que sirva de apoyo para el grado universitario en artes transformativas de un centro de enseñanza en Barcelona, España.

Para extender los principios de diseño abierto y los métodos de diseño etnográfico a la educación formal en las artes creativas me basé en principios de diseño abierto (horizontalidad, colaboración, conocimiento abierto, compartir y aprender haciendo) que están relacionados con los valores de la cultura abierta y los movimientos de creadores de software libre, dentro del marco de la cultura digital. Básicamente, el diseño abierto implica el desarrollo de formas de co-creación donde el resultado final está directamente relacionado con las necesidades de la comunidad involucrada en el proceso, en lugar de un producto para un actor externo o una empresa privada. De este modo, consideré el diseño abierto y la etnografía en el diseño como elementos centrales para desarrollar el método de aprendizaje conjunto basado en una educación participativa.

Construí los fundamentos teóricos del co-aprendizaje, como se conceptualiza en esta tesis, a través de un enfoque interdisciplinario que considera la educación como una práctica social y la etnografía como esencial para la experimentación del diseño y la reflexión estructurada.

Este enfoque interdisciplinario me permitió entender el aprendizaje como un proceso social que tiene lugar en una comunidad de práctica y como una experiencia corporzalizada, donde las personas persiguen objetivos compartidos y desarrollan habilidades, competencias, significados, valores e identidades sociales en colaboración. El diálogo entre diseño y etnografía me proporcionó las herramientas y metodologías conceptuales para realizar esta investigación de manera honesta y reflexiva.

Como mostraré en esta tesis, la etnografía se incorpora y se experimenta como parte del proceso de co-aprendizaje en sí, y también es el núcleo de la metodología de investigación a través de la cual se pone a prueba este método pedagógico, se recopilan datos, y se realiza una reflexión teórica y analítica. A lo largo de esta investigación, el papel de la etnografía ha sido polivalente, ya que se ha utilizado como parte del modelo pedagógico y como método de investigación sobre el mismo, valorando especialmente su carácter reflexivo para la interacción, la formación de significado y la intervención interdisciplinaria.

Así, la etnografía y la etnografía implicada en el diseño en particular, surgieron como herramientas conceptuales y metodológicas que me permitieron avanzar en la construcción del marco teórico y metodológico para el co-aprendizaje. La necesidad de desarrollar una pedagogía basada en el diseño para el aprendizaje creativo surgió de mis propias experiencias aplicadas como diseñadora y educadora, investigadora y facilitadora. Esta tesis se alimenta también de más de una década creando y enseñando cursos de diseño

participativo y abierto en diferentes escuelas de diseño en Europa e internacionalmente.

Aquí, propongo explorar cómo los conceptos de diseño abierto pueden implementarse en un continuo entre al aula y la vida cotidiana. A lo largo de los distintos capítulos, primero, describo el panorama actual de la educación del diseño y de las artes creativas en general, centrándome luego en particular en el concepto de co-creación. A partir de esta fase exploratoria, desarrollo un marco teórico para una metodología de enseñanza abierta basada en el diseño como parte de un conjunto de métodos experimentales para la educación artística creativa que denominé co-aprendizaje y que configura el núcleo de esta contribución.

Implementé esta metodología en un entorno educativo creando un formato de taller participativo. En esta fase empírica, realizo una investigación-acción participativa, en la que colaboran estudiantes y profesores de un centro de enseñanza universitaria en artes durante noviembre y diciembre de 2017. El taller "La ciudad polifónica" es un entorno ideal para experimentar con la metodología de co-aprendizaje para poner a prueba mi modelo y mis hipótesis de trabajo. En esta tesis presento los resultados y hallazgos de esta experiencia, y cómo responde a mis objetivos y preguntas de investigación, para finalmente desarrollar los principios, habilidades y competencias de este modelo de aprendizaje conjunto. Por lo tanto, espero que los resultados de esta investigación contribuyan a la integración a largo plazo de estas formas de aprendizaje colaborativo y que su conjunto de habilidades y competencias se incorporen a los planes de estudio de la educación artística, así como en otros campos de la educación superior.

Finalmente, reflexiono sobre las posibilidades del diseño abierto como plataforma para el co-aprendizaje; ya que al co-crear y compartir se contribuye a un cambio innovador para el desarrollo de pedagogías de enseñanza-aprendizaje que abran el marco educativo formal al espacio público. A través del diseño abierto conectamos el proceso de aprendizaje con la experiencia y el conocimiento encarnado, la intervención social y nuestro compromiso con el mundo y la vida.

Se espera que la pedagogía de co-aprendizaje explorada aquí sea una herramienta útil no sólo en el campo de las artes, sino que también contribuya a la innovación educativa y que abra caminos también para el futuro en un mundo complejo, en el cuál las tecnologías digitales y la inteligencia artificial plantean nuevos retos. El futuro de la educación depende de nuestra capacidad para desarrollar pedagogías que contribuyan a la formación de ciudadanos críticos y a fortalecer la democracia. La práctica de aprendizaje

basada en el diseño abierto y entre pares responde a esta preocupación última. Después de todo, el proceso de aprendizaje es, sobre todo, una experiencia transformadora y eso significa que también es una forma de transformar activamente el mundo en el que vivimos.

RESUM

Aquesta tesi doctoral s'emmarca en la cruïlla entre el disseny, el procés creatiu i l'educació en les arts performatives. La meva contribució gira entorn a com els mètodes d'aprenentatge basats en el disseny (disseny obert i etnografia de el disseny en particular) poden fomentar una mentalitat educativa interactiva que expandeix el context d'aprenentatge acadèmic fora de l'escola. Aquesta investigació té un doble objectiu: En primer lloc, contribuir a la innovació educativa en el camp de les arts creatives a través de mètodes d'aprenentatge basats en el disseny. En segon lloc, explorar les possibilitats que el disseny obert i l'etnografia de el disseny poden aportar a la formació acadèmica en el camp de l'educació artística i creativa a l'introduir una perspectiva interdisciplinària basada en l'aprendre fent de manera col·laborativa.

A partir dels mètodes d'aprenentatge basats en el disseny, aquesta investigació desenvolupa el concepte de co-aprenentatge. La idea és desenvolupar i provar un model pedagògic de co-aprenentatge que involucri estudiants, educadors i investigadors en un procés d'aprenentatge basat en la co-creativitat, l'auto-experimentació i l'obertura cap al desconegut a través de la realització pràctica de activitats basades en l'experiència i la corporalitat. Per tant, en aquest model, les parets de l'aula difuminen i el procés d'aprenentatge emergeix en un continu conjuntament amb la "vida real", oberta a l'espai social i públic i amb un enfocament en el coneixement corporal. Com a resultat aplicat d'aquesta tesi proporciono un conjunt d'ajudes pedagògiques: Uns principis guia i un protocol obert com a instrument per als professors d'arts escèniques o per expandir aquest model a altres camps creatius educatius. L'aprenentatge conjunt sorgeix en aquesta recerca com una pedagogia d'ensenyament i aprenentatge que es basa en l'experimentació entre pars. Per tant, l'aprenentatge conjunt és transformador per a estudiants i educadors, tenint en compte que el procés d'aprenentatge acadèmic en si mateix està en contínua transformació.

Aquesta tesi s'inscriu com a part d'un programa de doctorat industrial, i per tant, la principal proposta d'aquesta investigació ha estat proporcionar un marc d'innovació educativa en el camp de l'educació en arts escèniques que serveixi de suport per al grau universitari en arts transformatives d'un centre d'ensenyament a Barcelona, Espanya.

Per estendre els principis de disseny obert i els mètodes de disseny etnogràfic a la formació acadèmica en les arts creatives em vaig basar en principis de

disseny obert (horitzontalitat, col·laboració, coneixement obert, compartir i aprendre fent) que estan relacionats amb els valors de la cultura oberta i els moviments de creadors de programari lliure, dins de el marc de la cultura digital. Bàsicament, el disseny obert implica el desenvolupament de formes de co-creació on el resultat final està directament relacionat amb les necessitats de la comunitat involucrada en el procés, en lloc d'un producte per a un actor extern o una empresa privada. D'aquesta manera, vaig considerar el disseny obert i l'etnografia en el disseny com a elements centrals per desenvolupar aquest mètode d'aprenentatge conjunt basat en una educació participativa.

He construït els fonaments teòrics del co-aprenentatge, tal i com es conceptualitza en aquesta tesi, a través d'un enfocament interdisciplinari que considera l'educació com una pràctica social i l'etnografia com a essencial per a l'experimentació de el disseny i la reflexió estructurada. Aquest enfocament interdisciplinari em va permetre entendre l'aprenentatge com un procés social que té lloc en una comunitat de pràctica i com una experiència de coneixement encarnat, on les persones persegueixen objectius compartits i desenvolupen habilitats, competències, significats, valors i identitats socials en col·laboració. El diàleg entre disseny i etnografia em va proporcionar les eines i metodologies conceptuals per realitzar aquesta recerca de manera honesta i reflexiva.

Com mostraré en aquesta tesi, l'etnografia s'incorpora i s'experimenta com a part del procés de co-aprenentatge en si, i també és el nucli de la metodologia d'investigació a través de la qual es posa a prova aquest mètode pedagògic, es recopilen dades , i es realitza una reflexió teòrica i analítica. Al llarg d'aquesta investigació, el paper de l'etnografia ha estat polivalent, ja que s'ha utilitzat com a part de el model pedagògic i com a mètode d'investigació sobre el mateix, valorant especialment el seu caràcter reflexiu per a la interacció, la formació de significat i la intervenció interdisciplinària.

Així, l'etnografia, i l'etnografia implicada en el disseny en particular, van sorgir com a eines conceptuals i metodològiques que em van permetre avançar en la construcció de el marc teòric i metodològic per al co-aprenentatge.

En aquestes pàgines, proposo explorar com els conceptes de disseny obert poden implementar-se en un continu entre a l'aula i la vida quotidiana. Al llarg dels diferents capítols, primer, descric el panorama actual de l'educació de el disseny i de les arts creatives en general, centrant-me després en particular en el concepte de co-creació. A partir d'aquesta fase exploratòria, desenvolupo un marc teòric per a una metodologia d'ensenyament obert basada en el disseny com a part d'un conjunt de mètodes experimentals per a l'educació artística creativa que he denominat co-aprenentatge i que configura el nucli d'aquesta contribució.

Vaig implementar aquesta metodologia en un entorn educatiu creant un format de taller participatiu. En aquesta fase empírica, vaig realitzar una investigació-acció participativa, en la qual col·laboren estudiants i professors d'un centre d'ensenyament universitari en arts durant els mesos de novembre i desembre de 2017. El taller "La ciutat polifònica" és un entorn ideal per experimentar amb la metodologia de co-aprenentatge per posar a prova el meu model i les meves hipòtesis de treball. En aquesta tesi presento els resultats d'aquesta experiència i com respon als meus objectius i preguntes de recerca, per finalment desenvolupar els principis, habilitats i competències d'aquest model d'aprenentatge conjunt. Per tant, espero que els resultats d'aquesta investigació contribueixin a la integració a llarg termini d'aquestes formes d'aprenentatge col·laboratiu i que el seu conjunt d'habilitats i competències puguin incorporar-se als plans d'estudi de l'educació artística, així com en altres camps de l'educació superior.

Finalment, reflexiono sobre les possibilitats de el disseny obert com a plataforma per al co-aprenentatge; ja que al co-crear i compartir es contribueix a un canvi innovador per al desenvolupament de pedagogies d'ensenyament-aprenentatge que obrin el marc educatiu formal a l'espai públic. Mitjançant el disseny obert connectem el procés d'aprenentatge amb l'experiència i el coneixement encarnat, la intervenció social i el nostre compromís amb el món i la vida. S'espera que la pedagogia de co-aprenentatge explorada aquí sigui una eina útil no només en el camp de les arts, sinó que també contribueixi a la innovació educativa i que obri camins per al futur en un món complex, en el qual les tecnologies digitals i la intel·ligència artificial plantegen nous reptes. El futur de l'educació depèn de la nostra capacitat per desenvolupar pedagogies que contribueixin a la formació de ciutadans crítics i a enfortir la democràcia. La pràctica d'aprenentatge basada en el disseny obert i entre pars respon a aquesta preocupació última. Després de tot, el procés d'aprenentatge és, sobretot, una experiència transformadora i això vol dir que també és una forma de transformar activament el món en què vivim.

Acknowledgement

Any innovative approach to a problem inevitably leads to try new pedagogies, methods of research and investigation. Buckminster Fuller said that is the shift needed toward the design of a new paradigm, a new comprehensive mindset.

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With gratitude,
Arianna

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Chapter 1

A state of the art

1.1. Introduction

This applied research develops an open pedagogical framework for learning and teaching in the fields of creative arts, in particular performing arts, in higher education. The co-learning pedagogical method I propose here, arose at the intersection of design, anthropology, and performative arts, and aims to break down class silos by engaging students with the city and its citizens, connecting learning processes with everyday life and social needs and expectations.

This research is completed for the Industrial Doctoral program at the Open University in Catalunya, Spain (UOC) in collaboration with an educational institution in Barcelona, Spain, and has an applied orientation in the field of performative arts education. Thus, the main aim of this research is to contribute to innovation in the field of creative arts higher education by developing an embodied teaching-learning pedagogy that can be implemented in the fields of the creative arts and expanded to other fields.

In this chapter, I'm introducing the theoretical approach of my research, its interdisciplinary character between design, creative arts, and education, and its applied nature. Here I also present the research goals, questions and working hypothesis, and finally, the structure of this dissertation.

1.2. Objectives, hypothesis and research questions

This research links academic research with applied outcomes, opening collaboration between university and social actors and stakeholders. Particularly, this PhD dissertation has applied outcomes based on student self-experimentation and co-creativity, to foster an educational model in the creative arts that expands students' agency by opening the classroom walls to connect formal education with everyday life.

This work responds to a need to develop research in teaching and learning methods in the design field itself (Norman, 2012) as well as in performative arts education (Fleming, Bresler & O'Toole, 2014). In fact, it is only recently that creative arts education has been considered part of the higher education system in Europe; thus, there is a need to expand and enhance pedagogical methods within this new context (Pérez García & Sicilia Camacho, 2011). Only recently has performative arts and design been increasingly upgraded from professional training to the broader context of higher education. In the case of Mediterranean countries, the teaching of design was until recently considered an adaptation of arts and crafts. In Spain, Design and Performative arts are recently formalized as undergraduate and graduate diplomas in university education. Artistic teaching became subject to the full right of the European Higher Education Area in 2010. This means that many design and arts schools have had to adapt to the new academic needs and redesign their learning methodologies accordingly.

In the field of Design, it is interesting to shed a light to the fact that the role of designers has changed dramatically in recent years from a product-centered to a user-centered approach; from design as unidirectional process to co-design, where the user's role is not only to test a product but to become an active part of the design process itself as a co-creator. This shift also has many implications in design education and design research. In fact, co-creation becomes a very prominent concept—as participatory design developed in the 1970s with the intention of increasing industrial production by responding to users' needs (Cross, 2011). However, design education has been following industrial production models, and the potential of co-creation in design education has not been fully explored. Thus, co-creation in higher education has not been fully explored, yet neither in design nor arts education. This research fosters a more holistic conception of learning that opens the school setting up to the city and the world, to connect students to everyday life. In this direction, co-creation is thought of in this dissertation as a learning practice that also contributes a continuum between formal and non-formal education, between design training and people's needs, to engage students with "real" people's aspirations and connect them with the public space by using it as an open classroom.

The research problem is that there is a gap in between academic training and daily life that is experienced by students in higher education and that traditional pedagogical models do not respond properly to current students' needs and their non-formal ways of learning.

The assumption and starting point of this dissertation is the correspondence in between design and learning as a social and cultural practice, as an embodied process of social interaction. Moreover, if design is a social and cultural practice, as well as teaching-learning practices are, both processes can co-evolve and sustain transformative, collaborative and creative teaching-learning experiences as embodied creative practice, in collaboration. The two assumptions lead to understanding co-creative methods as part of a wider

learning practice that can be applied in design as well as in performing arts in higher education as a learning-by-doing methodology.

Thus, the principal working hypothesis is that design methods, in particular open design and design ethnography can help to fill the gap in between academia and daily life in the field of creative arts education. Related hypothesis is that design ethnography will play a crucial role in the teaching and learning process as a way of reflexively connecting students to the world outside the classroom. In addition, I expect that if sensory knowledge is the core of creative arts education, design methods may also introduce and enable new skills and competences through embodiment.

Drawing on these working hypotheses and research problem, the main research questions are:

1. How to promote a pedagogical framework to better support artists-educators and learners, in and outside the class, to link academia and daily life?
2. How design methods can contribute as a learning methodology to foster an educational model that expands the academic learning context outside of the traditional school setting in a more collaboratively and horizontal relationship between students and teachers?
3. How design methods can contribute as a learning methodology to foster an educational model that expands the academic learning context outside of the traditional school setting?
4. How embodiment can favor new skills and competences to foster a continuum of formal and non-formal education in creative arts education, such as performative arts?

And sub-research questions related to the applied nature of this dissertation are:

- Which principles must orient co-creation practices to become an efficient methodology for education in the fields of design, creative and performative arts?
- How can these principles be implemented in a teaching-learning process?
- If the proposal is to design a peer-to-peer learning community, what is the role of the mentors and the contextual members of the community in such learning processes?
- Which are the competencies that students will gain within this methodology?

Accordingly to the research problem, hypotheses and research questions, the main objectives of this research are:

1. To develop a pedagogical methodology that helps to fill the gap in between formal and non-formal education.
2. To innovate in the field of performative arts education by applying design methods.
3. To explore new ways of interdisciplinary in teaching-learning design and creative arts.
4. to explore new skills and competences that design methods can bring to the field of performative arts education through embodied practices.

To answer my research questions and fulfil the objectives I have developed my research plan as follows: During the first phase (2016) I have developed my research project and worked on the theoretical framework. In the second phase (2017-2018) I have unfold the design methods (open design + design ethnography) to be applied in creative arts education as pathways for teaching and learning transformation to develop the co-learning methodology, considering the set of competences and new skills that will be introduced through practice of sensory and body knowledge awareness. Later on, I have designed a workshop, "The Polyphonic City", to implement and test the proposed methodology, introducing ethnographic methods to reflexively follow

and qualitatively evaluate the results of the learning process through the workshop format. Finally, in the third phase (2019) I proceed to sum up the results and give shape to the dissertation.

For developing my theoretical framework that aims to bridge the gap young people experience between formal education and everyday life, I have drawn on theories that connect ways of non-formal learning with formal learning in school contexts and higher education (Sefton-Green, 2006; Conole, 2016). I also have taken into account authors that argue that current digital communication platforms are transforming the way young people relate to knowledge and information seeking, and thus education needs to occur through new ways of socialization (Goffman, 1960; Jenkins, 2018). Thus, I incorporate a range of methodologies to develop a pedagogy that transforms the student-teacher relationship from a top-down lecture-driven model to a horizontal, collaborative co-learning model (Nascimbeni, 2015; Conole, 2016, Ingold, 2019).

This emphasis on collective processes also depends on Umberto Eco's concept of *openness* in the sense of a pedagogical framework that allows multiple interpretations by students and educators (Eco,1977). In contrast, a closed interpretation leads both the students and the educator to one intended interpretation. This openness is very suitable for engaging students in a community, and in knowledge creation and sharing. Open-design based educational methods drive in that direction, as open design takes its inspiration in great part from digital culture, including free software, open source, and maker movements, whose values and principles are mainly defined by horizontality, peer-to-peer collaboration, open knowledge, commons, sharing practices, making and learning by doing (Sanguesa, 2016; Stallman, 2012). Those principles are aligned with young people's digital culture. Open design in this research, as we interpret, implies several forms of co-creation where the final output is co-designed within a community of practice (Wenger,1998), taking into account their needs in its process, rather than to design a product for an external stakeholder or a private company. My aim is to go beyond the academic tradition centered on the transmission of knowledge, towards an

integrative and systemic methodology that links theory and professional practice. The challenge is how to achieve a balance between the professional experience of artists-designers and their educational practice at the university level teaching delivery. One formula is to open a reflection on how professional practice can provide feedback to educational practice and explore what we can also learn from educational practice to enhance students' skills and professional training.

The field of performing arts education enables a set of interdisciplinary practices and multidisciplinary work. Thus, one main goal of this research is to explore the possibilities that open design as an open-ended creative process can bring to formal education in the academic level in order to contribute to fulfill the educational teaching models gap. Moreover, In an increasingly intercultural and interconnected world, this research faces the challenge of many design-educators and artist-educators to develop pedagogical frameworks, new competences and foster educational innovation using the city as open class; promoting a more effective and sustainable curriculum, where diversity and creativity are fully embodied and integrated inside and outside the class; expand the creative process and cultural skills by introducing embodiment to increasing teachers' and students' competencies for doing multidisciplinary work. This approach implies also learning from the landscape, with citizens in an open environment of shared embodied practices in the public space; the streets and squares where we live, learn, and grow up.

Regarding the connection between academia and daily life, in this dissertation I will introduce the concept of "open class". The concept of "open class" (developed in chapter 3) has been proposed and enhanced in this dissertation as I introduced a novelty in the teaching learning format for educational innovation, enabling the constitution of new possibilities to co-learn with others beyond traditional teacher-student dynamics, and to configure new understandings through exploring everyday life as a resource of creativity. According to Pink and Fors (2017), we have seen two dominant strands in traditional debates in the field of learning: one that refers to processes of

teaching people to do things in particular ways; and another that seeks to enable learning processes through life. The first corresponds to "traditional" education, a trend that is also present in design, especially after the introduction of the design thinking (IDEO, 2003), as a way to seek solutions to problems that do not necessarily exist (basically neoliberal and commercial). Then the notion of enabling learning in particular ways, as flipped classroom, STEAM, change the class space, etc. as in the case of the co-learning approach I will develop here, can be seen as an incremental and emergent process based on social interaction.

Thus, my proposal is aligned with such aspirations of transforming the classroom model but also changing the relationship between teachers and students, introducing new models of action and ways of knowledge production. As Kemmis et al. pointed out: "Despite these transformative aspirations, however, classrooms and schools have remained strikingly stable as social forms, still clearly recognizable as the progeny of the late nineteenth century" (Kemmis et al., 2013:1). These authors suggest that for an actual transformation we need to change the practices that reproduce schooling, that is to develop new configurations of relationships, new forms of understanding and new forms of action (Kemmis et al., 2013:1).

Alongside the open class concept, co-creation is another key concept that I have been working on to develop my pedagogical approach (see chapter 2). According to Sanders, co-creation is usually understood as: *"A management initiative or form of economic strategy that brings different parties together (for instance, a company and a group of customers), in order to jointly produce a mutually valued outcome*" (2006: 59). Shifting from the commercial and industrial production approach of co-creation, this research wants to contribute toward co-creation communities, where design is a strategy and a systematic process of collaboration and way of knowledge (Von Hippel, 2005 and Seybold, 2006). From ultra-personalization (Nevitt, 1972) to collaboration and innovation (Gunn, 2013), from observation and interpretation to intervention and co-creation (Otto,2013), this research embraces a horizontal idea of distributed

ownership of knowledge and access of education for all, through an open design-based methodology. Co-learning involves teachers, students and the environment as a co-creative community. They participate in public interest procurement processes, but decide on mutual actions, in a peer-to-peer setting. Thus, we can redraw cultural patterns in order to co-learn from the experience in real contexts as a platform of transformative embodied practices (Johnson, 2012; Wiseman, 2018).

According to Margaret Mead (1998), all existence is situated in the present but the symbolic work, the relation between immaterial and material, happens through design in a present-making context. In this direction, my proposal of co-learning shifts from a participatory experimentation to a co-production of dialogic encounters and correspondences (Ingold, 2020). Then, I understand co-learning as a collaborative process based on interdisciplinary dialogue, where ethnography "is *the conversational dispositive or device"* that encompasses the "*speculative research experiments developed to open dialogue and engagement among researchers"* (Anastassakis and Szaniecki, 2017:138). Then, I will explore the city as a "locus" for learning through design interventions and how it can be applied in arts education.

My aim through these pages is to show that ethnography as a conversational device enables the students to go out of the classroom to engage with people's lives, create narratives and memories embodied that connect them to the world through exploration, inquiry and critical reflection.

As said, for testing my pedagogical framework, I will present a workshop, "The Polyphonic city" designed to adapt and test the co-learning principles in performing arts education at a creative arts school in Barcelona, Spain. In this workshop, we will see how students, teachers, and researchers form a learning community of practice that opens to the city as a source of inspiration, experimentation, dialogue, and artistic intervention. To design it, I also will draw on ten years of experience teaching in the design field and my previous

explorations of the city as open class in different performance workshops and academic courses as interdisciplinary pathways.

As a way to collaborate to integrate students' different skills and knowledges (Nascimbeni, 2015; Gardner, 2011), I understand co-learning as a multidisciplinary research practice of embodiment and experimentation, where students learn by doing through a reflexive process and a shared goal that connects their creativity with the city and citizens' lives. However, the co-learning methodology has also to fulfill the academic requirements and be part of the curriculum system in the creative arts academic context through developing new competencies. Subsequently, this dissertation also aims to contribute to design an educational innovation pedagogical framework by introducing new competences to connect university education with daily life. I hope that this framework adds to a growing body of pedagogical models that go beyond the academic tradition centered on the linear transmission of knowledge, toward an integrative and systemic thinking. Higher education needs to develop knowledge and skills in a culture infused at new levels by investigation, cooperation, connection, and integration (Livingston, 2010).

Thus, this dissertation aims to give an impulse in performing arts education new attitudes, skills and competencies that foster learning by doing, self-experience, and improving embodied skills related to collaboration, creativity, imagination, experimentation, inquiring, observation, and appreciation. These skills and competencies have not been fully incorporated in the current academic curricula, yet; higher education is in search of new learning models to adapt to the rapid socio-technological changes of our societies including online teaching formats. Because the lives of students have changed, pedagogy too, educators must innovate and build a more responsive and open learning environment.

As a starting point, I propose that the co-learning skills and competencies shall be related to:

- collaborate and share knowledge, fostering students' agency and collaborative learning;
- expand creativity by increasing students' autonomy in seeking for solutions to the challenges of opening the classroom to the city and its inhabitants.
- enhance appreciation to foster student engagement with the "others" in their performative or design creations.
- stimulate empathy and human understanding through embodiment and
- foster students' management of the unknown.

Finally, in this dissertation, co-learning has been conceptualized as a methodology based on a pedagogical framework that:

- enables teachers to act as a catalyst for collaborative teaching-learning experience;
- enhances innovative educational tools for creative arts higher education;
- nurtures students' openness and leads to cultural and social awareness.
- introduces an interdisciplinary approach to the humanities, cultural studies, anthropology, and sociology into the creative arts curricula, not only as a theoretical background, but in the creative practice itself.

Further on, I want to suggest that this innovative pedagogical framework can be useful for exploring future scenarios relevant to other fields of interdisciplinary education, as it is a tool that encourages youth to become responsible citizens in a complex world.

The pedagogical framework that I will unfold through these pages ultimately aims to engage teachers and students, as researchers in collective knowledge production processes within the public space as the *place* for cultural and civic co-production. Encouraging students to engage with societal needs, and people's expectations, feelings, fears and hopes as social, cultural and political agents, makes them more responsive citizens and opens a path for possible transformative actions (Hummels and Freus, 2009).

1.3. Structure of the dissertation

This research is structured in six chapters. In Chapter 1, I introduce the research perspective and aims, describing the objectives, research questions, and working hypothesis, as well as the main conceptual educational framework of this dissertation. Chapter 2 and Chapter 3 are interrelated and compose my theoretical framework. In Chapter 2, I will explore the intersection of creativity, education, arts and design, introducing the educational background and the main concepts in the design field that will contribute to the co-learning methodology formation. After giving a background of the history of design education and current trends and challenges in arts education, I directly explain the concepts of co-creation and co-design in the context of action research methods in design. Then, I present open design as the main framework of my co-learning model and the importance of the idea of the open class as an innovative format in my research. Finally, I reflect about how creativity is understood and its role in formal and non-formal education and its role in design and performative arts as co-learning.

In chapter 3, I present the second part of my theoretical framework. Ethnography is at the core of my dissertation, so I explain its fundamentals and thereafter I describe design ethnography tradition and how it has been adopted as a pedagogical tool and as part of the methodology of my research process. Then, I explain the significance of the city as open class, exploring the city as a "locus" of intervention in the fields of design and the arts.

Chapter 4 is devoted to methodology, as it frames this research in many ways. First, I explain the diverse methodologies that have been interwoven in my research and its interdisciplinary nature between design, arts and the social sciences. I also present the methodological framework of the workshop I

designed to put into practice my pedagogical model of co-learning as part of an action-research process that allowed me to put my hypothesis into action, as well as to answer my research questions. Finally, I reflect upon the ethical aspects that action-research implies and the ethical decisions I have taken.

In chapter 5, I present an ethnographic description of the workshop process of "The Polyphonic City" conducted in the Performing Arts School in Barcelona. How the empirical research I devised to put my co-learning pedagogy into practice was developed and the insights taken from the participant observation contrasted with the interviews. Finally, in chapter 6, I present the research results and main findings that are later on integrated in   the principles of co-learning and the open protocol for the open class participatory workshop. The principles and the protocol are brought to the fore in order to design an educator's guideline. This set of teachers' tools is offered to be implemented and transformed by educators within a creative arts space or in other interdisciplinary settings. As an applied dissertation, I also give recommendations to developed correspondent skills and competences proposed through the pedagogy. To end, I consider how this experimental approach can be further developed and my future research lines taking into account future learning and teaching scenarios and the implications of co-learning in a complex future world.

Chapter 2

In between design, arts education and creative processes

2.1. Design and arts education in theory and practice

In this chapter I explore design theory as it relates to my research goals. I focus especially on the theoretical concepts and methodological principles underpinning design methods as they are used and transformed to become part of the co-learning as a pedagogy that can be applied in performative arts.

The main point of this research is to develop a methodology for teaching and learning that focuses on fulfilling educational and societal needs, developing students' and teachers' senses of appreciation and desire for exploring the possibilities that this model brings to design and arts education. In doing so, the goal is to innovate not only the formal learning process, but also the non-formal aspects integrated into the curricula, creating a continuum of knowledge experience and exploration through creativity and making.

Historical accounts of design tend to address the development of design as aesthetic form (Fuller, 1988) or look for the meaning of the designed artifact

(Dunne, 1999). And biographies of individual designers (e.g. Pevsner, 1960; Sparke, 2010) have stressed the social and cultural impacts of industrial artifact production (e.g. Papanek, 1970; Forty, 1986; Whitley, 1993). Indeed, the theories and discourse of designers (e.g. Margolin, 1989a) focus on how to conceive and frame the meaning of design and the designed artifact.

More recently, however, social scientists have begun to address design as practice, such as the practice of architectural design (Yaneva, 2005, 2009a, 2009b), industrial and product design (Molotch, 2004; Shove, 2007), and the culture of design in general (Julier, 2000). As John Law (2004: 2) reminds us, ethnographic studies of scientific laboratories demonstrate that scientific knowledge, as well as the production of objects, is created through practice and the experimental process. Moreover, ethnographers of science have convincingly argued that such practices are material as well as discursive (e.g. Latour & Woolgar,1986: 45; Latour, 1988b: 63). The same has been argued about design (Suchman, Blomberg, Orr & Trigg, 1999).

Design education has been generally understood as the teaching and learning of how products, services, and environments are developed. It encompasses various disciplines of design, such as concept design, graphic design, user-interface design, web design, packaging design, industrial design, fashion design, information design, interior design, sustainable design, transgenerational design, universal design, and more. Design looks forward, as it is about problem solving. Usually design education is teaching and learning how to apply practical methods to solve new problems or accommodate needs. At least since the first industrial revolution (Khun,1970), design education has been centered in the development of a product, and teaching methodologies have focused on the mastery of material domains and techniques. Recently, as design theory has been implemented in design education, as well as in many fields of professional practice, there has been a rise in new design methods. In this vein, this research emphasizes the immateriality of the design process and the ways in which it creates relationships between people and objects, situating design as a cultural

category and designing as a social practice (Murphy, 2014, Munari, 1980, Latour, 2001).

Currently, there is a need to understand design practice beyond a way of making things. Instead, we need to understand design as a way of thinking about materials and how they apply to people with shared purposes. To do so, one must understand creativity as a collective process, one that goes beyond the notion of individual genius (Hallam and Ingold, 2007). Design practices as ways of collaborative learning focus on innovation through design (Margolin, 1995). In doing so, design must be conceptualized as a process, not only for its material outputs, but as a strategy that goes beyond the product. This conceptualization places value on the act itself of thinking through the processes of making in collaboration with others, to co-create a product, a service, or an experience that is responsive to the social context and people' needs (Munari,1971:2001). Starting from previous research in design-based learning methods (Anderson, 2012), this research is aligned with current trends that see co-design as a tool for youth wellbeing and education (Hagen, Reid, Evans & Tupou Vea, 2018). Thus, this research focuses on exploring how open design and co-creation methods can contribute to the development of ways to teach through design methods that engage skills such as critical thinking, social and political awareness, and appreciation, challenging the current design education models based on individualistic conceptions of creativity that are limited to mastering technical skills, with the creation of products being the ultimate goal.

This research makes a strong claim about the potential of open design and co-creation methods in the development of teaching and learning strategies based on the principles of horizontality, collaboration, open knowledge, common good, sharing, and making and learning by doing. This process is known as co-design, and I have integrated it into my methodology of co-learning to transform current models of formal education, not only in the field of design, but also in the related fields of arts education.

This research promotes the idea that arts learning experiences is a truer test of excellence in arts education more than the production of artistic products. Knowing and embracing that students have a critical role in the learning process changes the emphasis of responsibility and ownership to be shared and bringing all parties -students and teachers- to this understanding may significantly change classroom dynamics (Seidel et al. 2009). Moreover, there is a growing interest in the field of art education on how art schools interact with society, and how arts higher education is preparing the ground for new artists that respond to societal needs (Helguera, 2011). Finally, there is also a concern in introducing research practices in undergraduate courses in arts education and the need to further work in building a diverse and solid ecology of critical artistic research due to the applicability of doctoral study to different artistic practices in contemporary arts education (Wilson & van Ruiten, 2013).

According to Barone and Eisner (2012) arts-based research is born in the academic context where the arts and research must unite. However, art-based educational research studies aim to bring a more in-depth and critical thought. As a growing field of interest, art-based research is becoming an effective approach in every step of the research practice in arts education. It embraces interdisciplinarity with social sciences and the humanities. The proposal of my research is that students create a relationship between art-based research and their artistic practice in the city as the open lab.

In educational contexts, art-based research brings new possibilities for detailed and deep interpretation with new points of view and a new understanding of the nature of design and arts research in general. In this respect, art-based educational research according to Cole and Knowles (2000) has emerged as a rising interdisciplinary field that provides new space for effective interaction and communication among researchers, education professionals, and artists.

Learning in art and design is experiential. We learn most effectively by doing – by active experience, and reflection on that experience. My pedagogical model embraces that we learn through practice, but also through research, and

through reflection on both. Here I align with Gray and Malins (2016) in that "experiential learning relates directly to the theory of constructive learning. Constructivism is based on three key principles; the first being that learning is constructed as a response to each individual's experiences and prior knowledge; the second is that learning occurs through active exploration; and the third principle is that learning occurs within a social context – interaction between learners." (Gray and Malins, 2016:2). Co-learning encourages students to engage in active exploration of the social world in relation to their art practice and in the context of a research based teaching-learning methodology as a way of helping students to engage imaginatively with the research process as explorers of the unknown.

2.2. Co-creation and co-design

Design processes vary between different projects and design fields. Most designers have their own description of the design process, but these often resemble each other. In my pedagogical model, co-creation is central in the learning process because it is activated in the very phase of ideation, where we aim to enable people to learn in the making. For students, co-creation activates their sense of ownership of shared ideas, as well as a sense of belonging to a community of practice. This, in turn, instills a sense of civic collaboration and democratic principles.

Co-creation became popular in the practice of design in the early 1970s, under the diffusion of participatory design methodologies, understood as the involvement of 'users' in the design process, and has become more accepted in mainstream design (Simonsen & Robertson, 2012). The introduction of Scandinavian participatory approaches to design was accompanied with an initial employment of ethnographic methods and perspectives within such practices in the late 1980s, and Smith and Kjærsgaard acknowledge the role

of ethnography in the development and growth of this design approach: "ethnographers have emerged themselves in participatory design processes taking on roles as mediators and facilitators of collaborations and co-creation activities, as part of an interdisciplinary collaborative pursuit" (Smith & Kjærsgaard, 2015:74). The role of ethnography in design has been linked to this engagement with the user and the co-creation method, I will go back on the role of ethnography in design and in my theoretical and methodological approach in Chapter 3.

The term *co-creation* can be understood as engaging citizens, users, academia, social partners, public authorities, businesses (including SMEs), creative sectors, and social entrepreneurs in processes that span from identifying problems to delivering solutions. The evolution in design research from a user-centered approach to co-designing is changing the roles of the designer, the researcher, and the person formerly known as the 'user' (Sanders & Stappers, 2014). The implications of this shift are significant because by engaging all relevant agents along the entire creative process-including design, production, and delivery phases we can consider individual insights, and this facilitates iteration and the operational processes of innovation. So, we also see different models to deliver an effective, high quality service consistent with the real needs of society and the prevailing cultural context.

Research projects on user participation in systems development were also developed during the 1970s (Von Hippel, 2005) alongside with the participatory design in Europe. In Norway, Sweden, and Denmark, the Collective Resource Approach was established to increase the value of industrial production by engaging workers in the development of new systems for the workplace (Sanders, 2008). By 2003, co-creating value between companies and customers was a common practice worldwide (Von Hippel, 2005). Eric von Hippel (2005) works with 'lead users' in co-creative activities and limited participation in the design process, though he uses an elite and carefully selected group of people. Later on, participatory processes started to involve the entire community in the initial phase of ideation (Sanders, 2008). This work

confirmed that co-creation as a method had considerable potential for engaging stakeholders. The engagement of different actors is in itself a learning and collaborative process that leads to comprehensive knowledge. Co-creation methodologies can be applied in many different contexts, such as performing arts and public service design. Co-creation methodologies promote social construction and an innovative mindset in stakeholders and participatory agents.

From 1990 onwards, new themes began to emerge. John Czepiel suggests that the customer's participation may lead to greater customer satisfaction. Scott Kelley, James Donnelly, and Steven J. Skinner are concerned with productivity but suggest other ways to look at customer participation: quality, employee performance, and emotional responses. According to Sanguesa (Czepiel, 2012), in the early 2000s, consultants and companies deployed co-creation as a tool for engaging customers in product design; these companies used qualitative methods to measure the benefits of co-production, contrasting the goods-dominant logic and the service-dominant logic where "the customer is always a co-producer" (Vargo and Lusch 2008).

Co-creation has also recently been applied to the U.S. healthcare system (Sanders 2006), where designers interview the community involved (family, patients, nurses, doctors, and policy makers) in the co-design of the hospital service. This has created a new space and type of co-design relationship, experimenting in several co-creation methodologies and techniques: the delivery of healthcare services has been designed, prototyped, and evaluated multiple lab studies, field surveys, experiments, and mobile applications all through participatory design involving relevant stakeholders. The end result is environmentally sustainable behavioral change between healthcare providers and patients in the U.S. healthcare system.

In the context of public services, co-creation is understood as a collective service that is provided by either the government, citizens, NGOs, private companies, or individual civil servants, based on government or non-

government data. Mixed use of quantitative data and qualitative stories has produced good results in public service and human-centered design, especially where the focus is on digital products, behavior design, and customer experience. Big Data insights and innovations come from self-interested individuals confronted with the reality of their own data measured against the backdrop of an entire population data. These participants and users are then motivated to discover new patterns of actions for themselves. Over time, the sum of all those self-generated experiments is population-wide hypotheses which can then be tested analytically using co-created Big Data sets.

As we face new challenges and modern scenarios in the future, combining Big Data and co-creation through qualitative methods can allow us not only to be co-producers, distributing our ownership in a more horizontal way, but to move from firm-centric networks to people-distributed networks, ultimately leading to increased innovation capabilities for all. Increasing communication and participation from individuals by creating communities that enable people to interact can lead to new creations that take the needs of society as a whole into account, as these participatory communities produce more data. We need to learn how to make better use of this data to improve conditions and quality of life within our societies.

Thus, co-creation is a powerful tool in design that appeals to a more reflexive citizen, able to collaborate with others in pursuit of shared goals from different fields of expertise. In addition, members of a community worried about living conditions, environment. etc. can provide important data and ideas for solutions to their own problems based on a horizontal model of social interaction. Co-creation entails a process of learning and teaching for all, as all the actors involved in the process participate with their own skills and competencies to develop the product, whatever it may be. In doing so, they simultaneously enhance their own skills with the input of the other actors, better equipping them as collaborators as they move forward in the design process. As said, Co-design is another concept relevant to my theoretical framework. Co-design was born from the business and marketing fields and

not from design practice itself (C. K. Prahalad and Venkat Ramaswamy, 2004). Only in the latter half of the twentieth century did co-designing become a core concept in the open space of design improvisation, culturally situated in the idea that human-centered design products are "always in the making." Co-creation became encapsulated within industrial design at the beginning of this century as a way to design within a community on the basis of its needs. Co-creation, thus, is understood as a collaborative process and a necessary part of co-design.

In the co-design process, the role of designers also changes dramatically to facilitators and enablers of this open relationship with the community, rather than independent actors removed from the community itself (Sanders, 2006:62). We are indeed talking about the social construction of an innovation mindset within communities, as this design process is situated within and relevant to particular social and cultural needs within society itself, whether on a local, national, or global scale. Sanders describes this important cultural shift, arguing that along the innovation process there are several phases, but that the pre-ideation phase, the "fuzzy" moment in which all seems chaos, is extremely important. This is the front-end moment where people make decisions on the basis of exploration and observation; they generate ideas through research.

A designer can be a researcher, and a researcher can be a facilitator of the design process and participate in the development of the learning process, all the while doing it collaboratively. This is a new and fascinating approach to be applied to design education and also for other fields of education. Such pedagogy relies on a series of relational interactions where people are constantly exploring, discovering, observing, interrogating, and doing collaboratively. I will further be testing how they are co-learning how to design through creativity in their educational context.

2.3. Open design and pop-up community

Open design is another core concept in my research, as it brings different voices to the developing landscape of design education, a field in search of new learning models to adapt to the rapid socio-technological changes of our societies during an ongoing digital culture revolution. The process of production of digital content and media communication becomes important in and of itself. "The medium is the message," as Marshall McLuhan famously states (1972). These changes in education must relate to the development of digital technologies, as well as the digital culture that emerges from these technologies, in which users are also producers, blurring the divide between experts and amateurs. Users, or consumers, thus are also the producers, becoming "prosumers", a term invented by Alvin Toffler (1980). The notion of participatory culture and "prosumers" highlights the active role of the user, i.e. the consumer or the audience associated with digital culture (Jenkins, 1998; Tapscott, 1995; Benjamin, 1940).

New ideas in design are coming from Open Culture (Benkler, 2006), which advocates for new ways of collaborative learning and sharing knowledge through the free circulation of cultural products that people can creatively remix (Lessig, 2005, Le Guin, 2012). Other authors such as Nakamoto (2008) propose the Blockchain model through the creation of bitcoins, where the current digital technologies allow the spread and storage of many kinds of educational records (from a degree certificate to a student essay or a video of a dance performance) in a universally available format that is not held by one institution, but is copied across many computers, making education with these materials open and accessible. By "allowing people to show their own creative works and ideas to the world, staking a claim for invention and gaining recognition" we have undergone "a mindset change" as a society (Innovating in Pedagogy Report, 2016). This push to spread more collaborative ways of learning through the deployment of horizontal knowledge-sharing formats has led to open source distribution models using freeware and social media.

Everyday users have built complex communication networks and free public information databases, libraries, and platforms.

In open design methods, the role of everyday people moved from passive receivers of the product to users in user-centered design models, which is human-centered design by co-creation within a community (Sanders, 2008; Sanguesa, 2016). Open design thus emerges with new possibilities for testing and prototyping using P2P (peer-to-peer) models that have a significant impact on people's interactions with a product and with each other. The nature of openness here also means there is a digital trail documenting the design process, which is available in open source repositories where virtually anyone with access to a computer (not only designers) can download a wireframe or a template for creating a product, ready to be made—for example, to print using a 3D printer (Bauwens, 2013).

Community-based design has led to the development of human computer interaction (Druin, 2013). While the development of new technology in Druin's work is not explicitly focused on learning, frequently, learning is a result of the design process because the participants are youth (Druin, 2002). Also, Spikol, Milrad, Maldonado, and Pea brought a strong Scandinavian influenced co-design approach to the development of mobile science collaborations (Spikol, Milrad, Maldonado & Pea, 2009).

Although technology does not always play an active role, this research aims to fill the gap in open design methodologies as they apply to education in particular, emphasizing the construction of community-based and collaborative practices and activities in open design. Until now the principal focus of this emergent field of design is on technology as a core element of dialogue and participation. Here I want to explore how, in a specific cultural and social context, learning happens through making and doing in the everyday setting. Moreover, this design method is called "open" because it seeks a better quality of life for all through collaborative research in the design process. These core elements of open design are important to underline, so that we may shift from

a context where design is understood as product development and industrial production toward a human process of collaboration. In doing so, we consider design as a process of relationships, as well as an open process of meaning creation and social interaction (Bergen, 2001) and correspondence (Ingold, 2019).

During my professional experience as a designer, I have explored and applied the concept of a pop-up community as instant communities generated by design interventions on site; these interventions come from people interacting around a challenge that has originated from a real need, and that entail a shared sense of value in coming up with potential solutions. The pop-up community is contextual to a concrete need, and problem-solving surrounding that need occurs within scenarios of everyday life (surrounded by neighbors, bustling squares, cities, etc.). Working in the public domain centers on design as innovation for the common.

It must be clarified that I do not rely on the sociological or anthropological tradition that understands community as a given social group that shares a collective identity, beliefs and values. Instead, I focus on a community-based design research concept as realized by Anne Marie Bang and colleagues, from a tradition of Participatory Action Research (PAR) (Bang, Medin, Washinawatok, Druin,1970) that I will develop further in Chapter 4.

Then, a community-based design is formed around a social problem or challenge. Di Salvo introduces the concept of publics and design tactics; the community emerges from a public interest (Di Salvo, 2012). Moreover, this author argues (in the sense of De Certeau) that strategies are acts of power in action, while tactics are developed by people in order to negotiate solutions that fit their goals and desires. Thus, the public is something that matters and is socially created and is acting in multiple domains. The role of design through the act of making is that of a tool of transition and contribution in communities, which perform the process of exploring "the possible". Then, the design process is on searching for a "common good," where the collective process of

looking for alternatives brings people to co-design scenarios toward the goal of creating opportunities for all.

However, in this research, I use the concept of "community of practice" taken from Wenger (2011) as the "pop-up community" that emerges during the process of co-learning, when students and teachers are engaged in a process of research, collaborating in the knowledge production in an open design context (see Chapter 5). The notion of community is crucial in my research, as it connects the learning process model based on open design to everyday contexts. However, for this dissertation, community is built by students and teachers that engage citizens for their research process, but not in a participatory manner, as I will explain later in Chapter 5. It is so because the learning process is based on the co-design of the "community of practice" and the citizens are engaged in the research process as collaborators in informing the artistic practice and as the target audience, but not directly as co-creators.

For the purposes of my research, a pop-up community of practice is formed around a common challenge, and collaboration where design within this community is an invitation to learn and share in "designerly ways of knowing" (Cross, 2006). In this way, I maintain that teachers may perform as designers, who are cultural mediators who translate language, materials, and people's actions and desires into a meaningful method for creating solutions (Bourdieu, 1984). In our case, a meaningful way for engaging artistic education. Through designing together within the community, cultural values are produced in the material world, and at the same time collective identity and social relationships are codified within a transformative learning process.

2.4. Creativity in formal and non-formal education

The term creativity is abused in today's design landscape, according to Liep (Liep, 2001:5). The concept has too often applied only to artists or elite

professional designers, with the creative capacity of the masses underrecognized. To embrace creativity, we collectively need to believe that all people are creative (Munari, 1980) and consider creativity as an inclusive process of learning and expression. According to Sanguesa (2014) and Sanders (2015), if we accept that we're all creative, there are different creative skills we can learn by doing, adapting, and making. That means that people who are not designated as experts can be part of this human process of co-creation together with professional designers; there is value when they express themselves creatively and make their own choices. They can create, observe, interact with and transform the design process (Design Council Report UK, 2001). When it comes to the concept of co-design, we must remember that, as Wieman (1961) asserts, creativity is a characteristic of humankind.

Maria Montessori (1949) was one of the pioneers in connecting creativity with the learning process. She conceptualized creativity as a way of expression and asserted that everyone is creative, so creativity can be an inclusive way of learning. This implies the need to rethink creativity as a collective and collaborative process, not only a result of individual genius. No system of codes, norms, rules, and symbols can anticipate the circumstance in which creativity happens (Bruner, 1993; Nascimbeni 2015), but our collective creative imaginary is inseparable from the material circumstances that surround us. The creative process is thus one of improvisation that is generative and relational. According to Ingold and Hallman (2013), through improvisation we design relationships and ways of living.

Creativity is about change and is part of our daily life, intrinsic to the act of making and doing for everyone. It is socially constructed and culturally situated. Creativity is even part of how we form our own concept of "self" and figure, to live in society. Creativity as a cultural and social process is not linear, but full of cross-cultural dynamics and situated moments. Thus, creativity goes hand in hand with design, innovation, and improvisation. According to Allyn and Bacon, Good and Keaty-Bright (2011) design is a bridging perspective that through a new model of education can integrate creativity, technology and

making as a collaborative approach. In particular, this concept of creativity means that creativity is developed in a team and in a set of experiential learning that provide outcomes through the social interaction of the students practice.

In this research, I endeavor to use creative processes to draw a connection between academia and everyday life. Open design methods, as based on co-creativity, can be used to blur the classroom walls and bring students the opportunities to treat the world as a laboratory, acting and experimenting through *peer-to-peer* creativity*.* The concepts of co-creation and co-design are then key instruments for teaching arts and design, since they awaken creative motivation by connecting with the personal and communal interests of participants. I emphasize the use of pop-up communities and non-formal education to teach design in my workshops, and now faced to implement these skills in performing arts, too. We can describe any organized educational activity that takes place outside the formal educational system as "non-formal education" (Nascimbeni, 2015; Education Report, 2001). Usually it is flexible, learner-centered, contextualized, and uses a participatory approach. Often it also focuses on outreach activities related to the community or society as a whole.

Based on the arguments of the distinguished education researchers Fabio Nascimbeni, Grainne Conole, and Alan Roger, I apply the following criteria to introduce non-formal education in a formal education setting:

a) It is learner-centered as learners play an active role in their learning, and educational programing is customized to their circumstances.
b) It uses a flexible curriculum that can be changed. The degree of flexibility differs from one program to the other.
c) Human relationships in non-formal education (student-teacher/ mentor, peer-to-peer) are more informal and depend more on reciprocal learning.
d) It focuses on practical skills and knowledge.
e) It makes creative use of educational resources.

f) It prioritizes community participation, while valuing decentralized and more flexible organization and management.

Non-formal education often targets disadvantaged groups such as youth, women, the poor, and marginalized social groups, however it is also useful for any kind of situation. This learning system is associated with the concept of Connected Learning (Ito et al. 2013), where learning environments have a sense of shared purpose, a focus on openly networked infrastructures. It is also based on collective creativity that builds toward collective outcomes using the knowledge and expertise of the community and the potentialities of the peer-to-peer culture. As Ito and colleagues argue:

> "*Our approach draws on sociocultural learning theory in valuing learning that is embedded within meaningful practices and supportive relationships, and that recognizes diverse pathways and forms of knowledge and expertise. Our design model builds on this approach by focusing on supports and mechanisms for building environments that connect learning across the spheres of interests, peer culture, and academic life.*" (Ito et al. 2013:3).

According to Nascimbeni, this connected learning helps to mind the gap between formal education and informal ways of learning, as it aims to connect education with everyday life (2015). However, this model is usually centered in primary and secondary schooling. My applied research focuses on implementing these principles in higher education and taking them further, thus proposing a higher education pedagogy that reframes these principles in an open design-based methodology. The aim of connected learning is integrated in my co-learning model as applied in my research, as a way to go beyond the distinction between formal, non-formal, and informal education, to propose a more integrated and comprehensive system of knowledge co-production also in higher education.

Chapter 3

Engaging people in research

3.1. Ethnography as encounter

This journey begins with the idea to construct the learning process on-site in a real-life scenario within our everyday context; to invite no trained designers as part of the co-creation process; and to move beyond simplistic ideas in which we are only design thinkers following a readymade recipe. This journey requires rethinking how we understand design and social science methods like ethnography, to innovate in performative arts education.

As it has been introduced and will be further developed in this chapter, in this dissertation I argue the importance of ethnography as a way of describing and analyzing cultural and social processes, as well as a way of engaging people and developing collective knowledge through collaboration. As I will explain, ethnography is not only a scientific method, it is a way to promote a systemic thinking, and an embodied way of knowledge production, that helps participants to grasp complexity as they intervene in the real world.

Ethnography is embraced in this research in a twofold way: First, it is applied in the co-learning process, as a way students meaningfully engage with people and lived spaces and as a reflective tool to gain insights about cultural and social processes. Second, ethnography in this dissertation is also part of my research methodology. Thus, I also use ethnographic methods to describe and analyse the actual experience of the co-learning process developed during this research during "the polyphonic city" workshop and to evaluate its results (see chapter 5).

Ethnography, embedded in the anthropological tradition, is essentially the study of a particular cultural group or social phenomenon. Fieldwork is the empirical part of the research, and for anthropologists, ethnographic fieldwork involves an immersion in people's lives through participant observation and in depth interviews, documenting people's sayings and doings to get a deep understanding of their unique perspectives. For example, Margaret Mead (1928) went to the Pacific for nine months to document the ways adolescence is negotiated by Samoan islanders. Clifford Geertz (1965) studied religious practices in Bali, and Sherry Ortner (1978) traveled to Tibet to study the importance of cultural symbols in the organization of society. Other ethnographers have conducted research in spaces as diverse as hospitals and family dining rooms, in geriatric centers and on the shop floor, in jungles and recreational parks, wherever the activity in which they are interested takes place. For educational anthropologists, the field may be a classroom, a school, a literacy group, or any other place where learning and teaching takes place. To conduct his first ethnography, Harry Wolcott (1967/2003) spent a year in a Kwakiutl Blackfish village in British Columbia. He taught in the village's one-room school while documenting the ways children learned their culture's values both in and outside the classroom. Nowadays, ethnography is well known in education research as part of the qualitative methods to provide an holistic description of educational systems, processes, and phenomena within their specific contexts (Goetz and LeCompte, 1993; Pole & Morrison, 2003; Woods, 2013).

Ethnography begins with what the anthropologist Bronislaw Malinowski described as a "foreshadowed problem," that is, with a problem or topic of interest. Foreshadowed problems are generated from all sorts of places: established theories, a personal need to explain a particular phenomenon, an unanticipated outcome or set of outcomes, or even a chance encounter. Although ethnographers are encouraged to identify problems that focus their research, they must also remain open to the unexpected. As Malinowski wrote: "Preconceived ideas are pernicious in any scientific work, but foreshadowed problems are the main endowment of a scientific thinker" (1922: 9). But because they reflect the study's conceptual and theoretical grounding, foreshadowed problems can feel vague and abstract (LeCompte, Preissle, & Tesch, 1993).

What do ethnographers do during their time in the field? They gather information by watching and talking with people, and by reading available reports and records. Observation is the main tool in an ethnographer's toolbox, and ethnographers spend a good deal of their time in the field observing, but also participating in the events and the daily life of their subjects of study. Participant observers take part in whatever is going on at the site in order to better understand the insider, or emic, experience. Bronislaw Malinowski (1922), the first and perhaps the most famous participant observer, spent three years in a small village with the Trobriand Islanders, watching and talking with men as they constructed canoes, tilled their horticultural plots, and traded kula shells with neighboring islanders. But ethnography also is applied in contemporary context and in any kind of human group.

In an effort to better understand the role of social structure in creating conformity in institutional environments, sociologist Erving Goffman (1961) worked in a mental hospital providing care for and talking with patients. William F. Whyte (1981), who titled his autobiography *Participant Observer* (Whyte, 1994), studied the life of urban young men in Cornerville, an Italian neighborhood in Boston. He spent three years with neighborhood gangs on

street corners, in the local bowling alley, and in rent strike demonstrations. In my own design ethnography, I was a participant observer, trying to listen and watch the process and conduct in-depth interviews, while simultaneously acting as a critical agent.

The ethnographer's aim is cultural interpretation. According to Fetterman: "Cultural interpretation involves the ability to describe what the researcher has heard and seen within the framework of the social group's view of reality" (Fetterman, 1989: 28). The ethnographer then, must be a keen interlocutor and interpreter of culture to grasp the participants' view of reality. For this author, "Ethnographers use interviews to help classify and organize an individual's perception of reality" (1989: 50). However, ethnographic interviews are less formal and less interviewer-driven than traditional interview formats. As the anthropologist Michael Agar wrote, in an informal interview "everything is negotiable. The informants can criticize a question, correct it, point out that it is sensitive, or answer in any way they want" (1980: 90). Following Schatzman and Strauss:

> *"The field researcher, then, regards the interview as a lengthy conversation. The way the researcher probes for detail, for clarity or explanation, and his gestures which signal normal surprise and even disbelief, provide him with the means for shaping an interview in this way" (1973:72).*

However, what matters in ethnography as a qualitative methodology and in particular for this dissertation is the "ethnographic encounter" and the transformation that the ethnographer experiences in relationships with others. According to Lanzeni and Ardèvol (2017) ethnographers build forms of engagement with "others" into the very design of their research. Ethnographic knowledge emerges from the process of being together in the field, and what the ethnographer reveals is what matters related with what is at stake. For these authors, ethnography is always the outcome of a collaborative engagement with others. If what characterizes ethnography is the encounter

with other's perspectives and ways of doing, it means that it is a relational method, flexible and transformative in nature based on the relationships in which ethnographers and their research partners engaged.

I will be back to methodology in chapter 4 and the results of this ethnographic fieldwork will be presented in chapter 4 and 5. However, it was necessary to introduce the main principles of ethnography to understand its role in this dissertation, both, as a research tool as well as a key element in the co-learning teaching-learning process.

In the next section, I will turn to design ethnography as the way ethnography has been put into action in the field of design, its transformations and the way I have adopted it to develop the co-learning methodological framework.

3.2. Design ethnography in teaching-learning process

In this section, I will introduce the importance of design ethnography in the co-learning process, as a method that allows students and researchers to interact with everyday people in broader society and learn from them. As it has been stated, ethnography as a research method in the social sciences is based on the immersion of the researcher in the world he or she wants to know. It implies mutual correspondence and collaboration in the research setting and requires the researcher to pursue a complex understanding of the people and community they study, taking into account particular experiences and unique perspectives (Lanzeni, and Ardèvol, 2017). I will argue that these features of the ethnographic method are essential in the co-learning process because they enable the students to engage people in their design or artistic research. Finally, I will reflect on how we can look at creativity as the epistemological status of collective expression and what kind of knowledge it produces in the co-learning process through open design and design ethnography.

Ethnography has been most commonly used in design to help the designer either get data about the cultural context in which the designed product is meant to function, or to test the user experience or understanding of a prototype (Dourish, 2006). According to Smith and Kjærsgaard design anthropology enters design by hand of Participatory Research because both share the aim to understand people's needs and desires and both have shared concerns for the social and political aspects of design and use of technology in diverse contexts, afar from workplace or conventional industrial agendas of ethnography in design (Smith & Kjærsgaard, 2015:75).

In the same vein, Sarah Pink (2007) shifts the definition of design ethnography to better suit the field of design and to introduce its specificity. This author suggests that ethnography has been understood in design as an auxiliary tool to get qualitative data of the users, for its descriptive strength, but has ignored the potential of the ethnographic encounter, the relational aspects of this particular mode of knowledge production. Thus, she proposes that in the field of design it is convenient to depart from the classical definition of ethnography as the scientific description of people's way of life and culture, to a new understanding of design ethnography as the co-exploration between researchers and users of users' worlds, to produce shared knowledge for social intervention. Thus, to introduce ethnography in design implies a larger transformation of this relationship, to a more creative and co-productive one.

Here I follow Pink's new framework for design ethnography, introducing the idea of a "sensory ethnography" and "embodied ways of knowing" by stressing the numerous ways that smell, touch, movement, and other senses alongside work alongside observation; artistic performance can help us to re-think the ethnographic process through reflexive attention to what Pink terms the "sensoriality" of the experience, for both researchers and those who participate in their research (Pink, 2015). According to Pink, the insights of theoretical analysis are co-discovered between people. Thus, the methodological and practical aspects of doing sensory ethnography implies techniques like

performance, drawing, enacting or walking together, and engaging in a learning process with other people in our societies at large. This sensory ethnographic methodology and its interdisciplinary aspect—between the design field, social sciences, and performance arts—is key to enriching my research and ethnographic work through a focus on the senses and embodiment as a way to involve participants in the teaching-learning process. Moreover, this conception of sensory ethnography is key to my purposes of introducing design ethnography as a pedagogical tool in performative arts education.

The design ethnographer can introduce concepts, devices, conversations, and digital and physical artifacts into the research setting (Otto and Smith, 2013: 13). The vocabulary and lexicon of design research is open and ever evolving, where we interact by exploring, experimenting, and creating "correspondence" with the research setting. Correspondence, from Goethe to Ingold, can be understood as a relationship based on engagement in form of communication, reciprocity, trust, shared values, and counterpoints or constructive criticism between the research participants. As we will see in Chapter 5, during the workshop, this experimentation and correspondence is sensed among students, teachers, people who perform in the educational setting, all of them, together with the citizens and the market, that take part in the research. Inspired by Gatt and Ingold, it is in the process of making that design researcher, student, and everyday people co-design their conversations in ways that correspond with one another (Gatt and Ingold, 2013).

According to Otto and Smith (2013), design ethnography operates following a different time frame than ethnography in the anthropological context, one that is oriented by a research process that includes unexpected ways exploring the present, *hic et nunc.* Design ethnography occurs in a series of short-term interventions (Pink, 2014), across different cultures or societies. While classical ethnography is based on long-term stays and it is often delivering highly idiographic knowledge, design ethnography goes beyond the writing of text, to the co-production of situated knowledge as a basis for reflecting across cultural boundaries and stereotypes. Thus, design ethnography does not necessarily

and with a written description of the studied reality, but with a design product that incorporates the insights produced in the field. However, it is also important to highlight that what matters is the transformative power of the ethnographic encounter. We must to avoid the frequent misunderstanding of ethnography in design studies which focuses on the early use of service design toolkits, guides, interaction design or information design practices, where the outputs are product-market oriented.

Beyond the prescription, problem solving, and solutions of traditional design, I approach a more participatory design oriented endeavor. Design ethnography is applied in the co-learning model as a pedagogical tool because of its relational principles; the sensory engagement and its openness for learning with others to engage a transformative encounter that triggers collective creativity. This concept of design ethnography is thus the device that enables people to learn in the encounter, in the very process of making together.

In my point of view, design ethnography methods and learning outcomes happen *along the entire design process* and not only as preliminary or complementary techniques. The concept of correspondence developed by Ingold (2013) allows to understand design ethnography as open-ended and to incorporate it in my open design methodology and co-learning model.

According to Otto (2013), material practices involved in design conceptualization, visualization, prototyping, and performance are also components of design anthropology (Otto and Smith, 2013). In the design world, we don't operate in *a vacuum*. Every decision is constructed through the influence of social and cultural values. What I try to show here is that design ethnography as I understood here following the mentioned authors is much more than a tool for the research in design because the researcher does not only make observations while participating in the community, but also intervenes in the making and improvising as part of the collective decision-making; and in this process the researcher is also situated *within* the cultural and social context of the pop-up community. As I will show, this happens

because cultural embodiment operates as a bridge between the internal inner self and the world of outer expression.

Participant observation is the main data-collecting technique in ethnographic research, but is also a fundamental way to approach and to work with people in the context of their daily life (DeWalt, 2002).This is the key argument for introducing participant observation as a technique for co-design, and, here, for co-learning. As said, ethnography has been used in industrial design in the classic sense, as a way to take data, collect data, or produce knowledge "about" people. Authors like Gun, Otto and Smith, and Pink propose that we use ethnography as a way to produce knowledge "with" the people. That is to say, what matters here about ethnography is not only its technique of obtaining data, but its way of approaching people: listening to what they have to say, accepting what they have experienced, etc., to learn from them and with them. In particular, this design ethnography does not pretend to produce formal knowledge "about" reality, but rather "intervene" in reality "with" the people. Indeed, participant observation in co-learning, as I will develop it, is not a way to produce data, but to gain understanding or insight that we can apply in our own lives. That is why design ethnography as presented here is separated from other ways to practice ethnography.

We can say that this way of understanding design ethnography means a fundamental change, a "hack" of the classic ethnography. For those reasons, it is necessary to explain here, once more, the differences between "classical ethnography" and "design ethnography" as part of the co-learning process. The student as researcher can explore and discover meaningful insights, not only observing, but sensing and inquiring in meaningful relationships and dialogue with people. This pathway creates intimate familiarity with the people involved in the learning process and their practices, as anthropologists have explained for the ethnographer (Rabinow and Sullivan 1987). By the process of participant observation, the student can develop a degree of empathy very useful to the process of co-creation. The researcher becomes part of the people he or she approaches to better understand it and perform with it as co-

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producer, rather than seeing it as a mere object of study, the 'other'. Alongside participant observation, interviews serve to decode the inner knowledge of the people encountered and help the researcher to obtain a clearer idea of the role of the individual as a social actor (Spradley 1979; Crapanzano 1992; Fowler and Hardesty 1994).

Ethnography, as both an approach and a method, is aimed at acquiring deeper knowledge of a social group, as well as the individual as a member of society and an active citizen. Ethnography does this by means of fieldwork, carrying out open-ended interviews and spending time interacting with people in the community. The core of ethnography is empathy; the core of design is also empathy and open-endedness. Situated in a context of meaningful cultural interactions during open-design interventions, we can co-learn toward a powerful transformation through building relationships, both material and immaterial. Experience prototyping (Buchenau and Suri 2000), critical artifacts, speculative design objects (Dunne and Raby 2013), and video-based design documentaries (Binder 1999), are examples of similar methodological transformations where design ethnography brings embedded knowledge. Thus, design ethnography has great value in this research as part of the co-learning strategy.

The practices of design ethnography are generative, as those practices inform, describe, and transform a reality. According to Ingold (2013), beyond the writing culture of ethnography and its descriptive practice, design ethnography generates correspondence with materiality. Here my aim is to extend these practices to learning, and in particular, to creative arts higher education. For all that has been said, my proposal is that design ethnography fits well to a model of peer-to-peer learning, especially in the fields of design and creative arts. It makes students aware of culture and society, opening their minds to a sensitive and exploratory engagement with a city, a community, a way of living, and a lively place. That happens through immersion, correspondence, and empathy, in addition to rational analysis.

The design ethnography toolkit is open and can be co-created, expanded, and nurtured by people who make contributions along the process, too. Design ethnography aims to foster the generative nature of the fieldwork encounter toward the building of a systemic thinking system (Gunn et al, 2013). Ethnography beyond the definition of a descriptive method is part of the creative process through design interventions in the making. As design actions are largely organized as change-oriented interventions, we can say that design ethnography is an open-ended process of knowledge production that triggers deep knowledge and understanding about the social and cultural aspects of a place (Turner, 2000).

The anthropologist George Marcus argues that collaboration is imperative beyond fieldwork ideology. The lecture Marcus gave at Aarhus University in 2012 is testimony to the power of the contemporary evolution of ethnographic method beyond the ethnographic text and academic purposes; it emphasizes the importance of interplay with the everyday through digital-physical materiality and immateriality produced by and through the design process as inquiring forms of communication. This process brings the ethnographic journey toward a different ecology: a collective ground of knowledge beyond the academic text. We explore design ethnography focusing on the possible, as well as the transformative potentialities of the not yet possible and the unknown.

The future is unwritten but not empty, not happening in a *vacuum*. In design as well in ethnography, the relationships we explore are in the present (how present materiality can engage possible future ontologies through intervention is not exactly the core of our reflection). Pop-up communities, critical design practices, imaginative and speculative processes occur in the present (here and now), even as we are making. If ethnography is a labyrinth of adaptations and interventions leading us toward what we want to know (Ardevol, 2000), then design can be in any experience we transform through ethnography; it is a relational process of multiple conversations, embodied in social and cultural practices of the real world.

Collaboration through design ethnography—like in any relationship—is not exempt from conflict; it is full of constant engagement and sometimes distance. Ingold argues in his book *Perception of the Environment* (2011) that cultural variation is variation in skills. Skills are grown and not acquired: skills are incorporated into the human behavior through practice and training in an environment and social context. They are thus as much cultural as biological even as they are embodied. This sheds a light not only on ethnographic research as a methodology, but also opens, in my opinion, the reflection on co-learning through design ethnography as a means of addressing a growing call for a significant re-orientation of design and arts education.

The process of social and cultural reproduction is a creative process, where ethnography is a way of thinking beyond the mere description and analysis of "designerly" dimension (Ingold, 2013). Then, we shift from the interpretation of design as mere material production to design ethnography as the creation of meaning; toward an open concept of design that shifts to improvisation in everyday's life as a platform of co-learning for real world challenges.

3.3. Design ethnography and embodied knowledge

Design ethnography can be useful as a pedagogical tool for opening up the learning process. Ethnography is also a way to intervene in the world. In this case, what is important is the approach that design ethnography for the students in the learning process: It enables people to move towards the unknown and embody the experience in their own learning process.

In his book *Embodied Mind, Meaning and Reason*, Mark Johnson (2017) analyses the works of thinkers like William James and John Dewey, and develops an approach to clarify the role of embodiment as an experimental

pathway in the learning process. The author argues that the two thinkers consider embodiment as a cognitive process situated within a dynamic ongoing organism. Embodied cognition is problem centered and operates relative to the needs, appreciations, and values people have in relationships with the encounters.

The shift to the design method of ethnography is challenging because it means that experiential learning is highlighted over the production of formalized knowledge. Here design ethnography is understood as part of the learning framework through which knowledge co-production can emerge. This process happens both by any kind of materiality and immaterialities as involving embodied and non-representational routes to knowing (Pink, Ardèvol and Lanzeni, 2016). In *The Art as Experience* John Dewey argues that the experimental methods and the notion of experience can be a cognitive or non-cognitive process; they include in the same moment subject and object of the process, developing the content of the experience at the same time as the place and the way in which it is experienced (1934:10). So, on the one hand, Dewey maintains that the experience is the general flux of life, "conscious life," and on the other hand, it is instant, ephemeral and immaterial *momentum* that gives form to the experience itself.

Taking into account Bruno Munari's definition of creativity as "*the material outputs of our imagination"* and Dewey's notion of the "*art of experimental thinking,"* we can outline the main principles that guide my theory of co-learning as an experimental and embodied way of learning:

- Creativity is a social construct and based on a social activity (Csikszentmihalyi, 1996; Hallman and Ingold, 2007).
- People can learn from each other by sharing practices, habits, and creative thinking, and applying these in their real lives and communities (Sennett, 2008: 9; Wenger, 1998).
- Design as art is a social and communicative act (McLuhan, 1964 and Munari, 1991).

- Open Design is a medium and tool through which people think through the act of making, all the while developing the capability to express new insights and cognitive connections (Eco, 1962).

Although "design thinking" is one of the names given to design practices that enable the production of new insights in the field of design, it is usually applied as a marketing outcome. Therefore, I will not use this concept in my research because in my opinion, it does not take into account the complexity of the social and cultural dimensions embedded in design. Moreover, Dewey suggests that design is an expressive *medium* where technology is included as experimental thinking material. Designing involves improvisation, thinking through our own body, materials, artifacts, and stories.

In the co-learning model, I describe cultural embodiment as a socio-cultural process situated contextually and operating through different artifacts, material and immaterial (Johnson, 2017). On an individual scale, a student can create "symbols" as they continue their exploration process. Those symbols can be conveyed in any form of expression, such as drawings or performances, using any kind of materials to tell us stories that are related to the way they have experienced the world, thus connecting their "external world" and their bodies, including their creative "internal world". This language of thoughts and emotions is embedded as inner creative processes and it is externally mirrored, reworked, and transformed into the collective creativity process (co-creativity). Our actions and the context in which we act is culturally constructed (Csikszentmihalyi, 1996) and the meaningful application of technologies and materialities are the consequence of our cognitive and emotional processes, as they are socially re-mixed and re-produced.

This two-way process is recognizable in the learning environment. When the researchers (designers or art students) interact during the ethnographic-inspired fieldwork, they are responsive to the people and the environment they are in. So, theoretical viewpoints are connected to their body, senses (feel, smell, sight, touch), their body movements, the environment (space, shape,

time, movement), and their emotions or feelings that arise during such wanderings and encounters. Their interactions are part of the learning process and of their personal and collective storytelling. This enables people to learn collaboratively during the process, putting to work their senses-body-minds. Then, the role of co-learning is to create a bridge between the internal world of the individual and the external world of collective experience. Embodiment is a transitory property of co-learning, as a transformation from an inner state to a shared, open learning process takes students toward the unknown territories of imagination.

Even more, learning with others and from others is a challenging transformative process. The input the students bring from their fieldwork experience contributes to a bottom-up design approach. In this research *co-learning refers to* a comprehensive system of sensing and thinking that operates through design and ethnographic methods to co-create performances, conversations, dialogues, and critical ways to learn in a real-life peer-to-peer setting.

In particular, our aim in the co-learning model is to move towards a transformative and performative open-design research scenario that involves a multidisciplinary team, a creative process, and a pop-up community where our mental inner states can resonate with external outer worlds. This reflective interaction allows everyone to engage learning. Another benefit of the pop-up community is the set of unexpected learning opportunities it opens; by building or joining an instant community, we learn from people's everyday stories.

Finally, in this section I have focused on producing embodied knowledge through design ethnography research, expanding the focus of creativity from the individual to the collective, and distributing learning and cognition by including the body, senses, and emotions in our teaching and learning processes. In particular, I emphasize the transition from the individual researcher to the role of collective collaborators.

In this schema, design ethnographers are systemic thinkers who operate within a distributed learning system in co-production with others. I have discussed how to develop embodied, performative cognition through design ethnography and research interventions in the real world. I have argued that we must open the learning process to the unknown—open in the sense of Eco interpretation (1977) of openness, not by pursuing an individual, singular way to design, but as an invitation to collectively learn from real-world challenges. In addition, I want to argue that the ethnographic method as it applies to design is an active and reflective way of observing and participating in non-judgmental co-presence (I will come back to that issue in chapter 6).

3.4. The city as open class

Design is a social act and a cultural practice. Through the process of collaboration, designers have the capability to explore citizens' needs in real-world interventions. This transformative role of design(ers) can go far beyond the problem-solving model and the market system, to make unique and important contributions to world transformation—even as this begins at a stage of awareness about our agency as humans to contribute to our immediate environment. We all have a right to the city (Jane Jacobs 1968, Richard Sennett, 1980, David Harvey 2003); we are all citizens, and we can be everyday change agents. It does not matter which social role: as designers, teachers, students, artists, etc. Being a change agent also means actively participating in our public life as citizens. In doing so, we can work towards a more sustainable and resilient urban present and future.

In this section, I propose to understand the co-learning process in the context of everyday life and our role as researchers, teachers and students as citizens and change agents. Moreover, I argue that "the city" has great potential as a learning environment, a place full of thought-provoking research questions, real-life problems to be solved, and challenges to be addressed. In addition,

the city "belongs" to every citizen, and we all have a commitment to it, a common concern and "a public" that can be addressed as a "common good" (Di Salvo, 2015). By opening the classroom to the city, we engage students with real-life experimentation to develop their skills in design and in the creative and performing arts as well.

How can higher education students explore the city as a learning environment? Academic research and education programs can be systematically linked to real-life problems and challenges in the city with benefits for students, researchers, and the city inhabitants. A-limited-but-growing number of universities have adopted new forms of education, in which the learning process is organized around real-world projects or problems (2016, Nascimbeni, Conole 2001, Anderson, 2015). In these newer approaches, students apply knowledge and skills, often in teams, to solve these real-life problems. Intrapersonal skills and competencies are developed as students learn from one another through teamwork and group processes. Universities that adopt problem-based learning methods are constantly in search of real-life projects and problems on which their students can work. The city can naturally supply such problems, and as such, is a great locus for a learning environment—where innovative solutions that students develop can benefit the urban community.

Why and how would "the city" be interesting or relevant for students and researchers in the field of creative arts? Why is it so relevant for the co-learning methodology I propose here? Several reasons can be put forward. For a start, social scientists could conceive the city as a fertile environment for learning and innovation. In fact, there are many projects and design programs that recognize the potential of the city as a "living lab," a place where researchers and companies can try out new technologies, products and services (Pierson & Lievens, 2005; Dell'Era & Landoni, 2014). The city explicitly provides conditions to test innovations in a real-life environment. These environments are test and development settings, set up by coalitions of firms, education and research institutes, governments and users. For example, the city of Helsinki

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uses a whole district to create the area "Expoo," a living lab for senior healthcare. In Buenos Aires, Argentina and in Medellin, Colombia the public library networks are considered cultural living labs for citizens. Citilab as the Lab of senior citizens in Barcelona, Amsterdam CityLab as environmental and bicycle-based city providers. Squares, streets, neighborhoods, markets, parks, are all public spaces where the city can acquire ideas, solutions, and knowledge from students, young professionals, researchers and citizens. This in turn, helps to address important, often crucial urban challenges as Richard Sennett described in his Open City (2017) as cited textually:

> "The cities everyone wants to live in should be clean and safe, possess efficient public services, be supported by a dynamic economy, provide cultural stimulation, and also do their best to heal society's divisions of race, class, and ethnicity. These are not the cities we live in. To make them better, we should make them into open systems. We need to apply ideas about open systems currently animating the sciences to animate our understanding of the city. More, in an open city, whatever virtues of efficiency, safety, or sociability people achieve, they achieve by virtue of their own agency. But just because a city brings together people who differ by class, ethnicity, religion, or sexual preference, in an open system, the city is to a degree incoherent. Dissonance marks the open way of life more than coherence, yet it is a dissonance for which people take ownership". (Sennett, 2017).

Students gain relevant real-life experiences, and their work is more rewarding because it addresses a real need in the open city as diverse and multicultural. In addition, by trying to solve real-world problems, students increase their "value" on the labor market.

If this is so in the field of design, how about the field of performative arts? The relationship between the arts and the city is well established (Pinder, 2008; Michels & Steyaert, 2017). Roger Sansi, in the *Art, anthropology and the gift* (2015), explores the relation between art and anthropology and its relation to

the city and the interdisciplinarity movement in the creative and performative arts. Sarah Pink also recognizes the confluence between the city, arts and ethnography in her experience with artists. In her co-authored paper "Walking across disciplines: from ethnography to arts practice" (2010) introducing walking as implicated in ethnography and arts practice, as in the case of the situationist artistic movement and the *flaneur*, walking through the city as a way of artistic research and intervention. In recent years the city has become increasingly central as a means of both creating new embodied ways of knowing and producing scholarly narrative. George Marcus also has stressed the collaboration between artist and anthropology in urban interventions, particularly the potentiality of the ethnographic method in arts experimentation, see for example, his article "Contemporary fieldwork aesthetics in art and anthropology: Experiments in collaboration and intervention" (Marcus, 2010).

However, my proposal of "open class" differs slightly from the notions of the city as an open or living lab proposed in design, and also takes a step further from the experimentations in art and ethnography. On the one hand, I want to stress the idea of extending the class outside the university walls to engage with the city and the citizens' needs, desires, and expectations. While in the "living lab" projects, citizens are invited to collaborate as co-researchers and co-designers, in the "open class" what matters is that the students' work is open to the city and resonates with it, but it does not necessarily have to fully engage citizens themselves in the whole artistic or design project, as I will explain further in the next chapters. On the other hand, despite the city has been the locus of many artistic interventions and performances, it is not usual that the city exploration is part of the artistic training itself. That is the idea that engaging with the city and citizens can be part of the academic learning process of becoming a professional actor, choreographer or performer in the process of learning from the city and listening to the citizens' life stories, dreams and expectations.

Nevertheless, I got inspired by the idea of considering researchers, teachers, and students as citizens forming a pop-up community to explore some lived

reality in the pursuit of educational goals. Several education and design environments have been developed following the idea to use living labs to do experiments that close the gap in between theory and practice. In a medical or biological setting especially, this is called design experimentation (Hamels 2006, Stappers, 2007). My proposal here is to keep a door open to experimentation, but to avoid the term "lab" as it refers to a designed context to carry out experiments. In contrast, the open class is oriented to favor the implementation of critical skills and decision-making through participation in the learning pop-up community. Students can thus apply ethnographic skills like observation, attentive listening, empathy and reflexive learning about different ways of living in the city. These skills will allow students to create effective design or artistic interventions that are tuned to real people' needs and understandings in real-world scenarios. In this setting, the academic supervisor must assume new roles as she or he becomes more of a coach and mentor rather than a traditional lecturer, requiring a different attitude and skills (van Winden, 2014).

Design ethnography integrates two distinct ways of looking at the world. The first piece is of course observational in the way researchers observe how people interact with others and give meaning to objects and spaces. Sometimes, designers present people with designed objects and observe how they interact with them, while asking questions (Houde and Hill, 1997). The second piece is shaping, where designers are involved in conversations with people around unfinished prototypes or stories and invite participants to modify them (Baskinger, 2010).However, there is a third way that supposes that the design ethnographer participates in the community's activities, responding to them and their materialities through the senses, as well as through actions and words. According to Ingold (2013), this is the concept of correspondence with materiality, a way of awakening the senses. We can use this to develop the student's skills to empathize with the word and the people they meet as part of the learning process.

Following the concept of "open class" in the co-learning approach, we explore through real world interventions, by opening a dialogue with the city as a living entity. In this dialogue, the role of open design as a platform for co-learning is to explore, understand, and intervene in the process of making in the urban context where we live, in the public space of the city.

The participatory engagement (Halse et al 2010) with the city accomplishes the transdisciplinary aspect of this conversation, contributing to an experimental research agenda to bring together design and ethnography. In terms of educational purposes, it means to start a collective dialogue between teachers and students, a conversation that enables anyone to take part and make decisions about the subject, field, and research. This is an *open-ended* process that starts from observation, discussion, and conversation; where teachers welcome the eventual conflict, we may face the interaction by facilitating the conversation, without imposing our creative process but rather, guiding, letting life bring us all to the process and vice-versa.

My main interest when I was starting to work on the open class concept as design teacher in 2001 was to develop an experimental exploration with my students. My idea then was not only to bring real life into the class, but to look for the impact of our interventions, practices, and experiments, aiming to redesign our relationship with the urban environment in a more equity and inclusive way. Since then, I've been experimenting the possibilities of an engagement with the city with design students, producing a variety of workshops in order to encourage students to engage in a conversation with the city and its people using different tools such as: building a kiosk in the middle of an urban parking in Barcelona, Spain (2015), or opening a designed storage space for the neighborhood to participate in sustainable design in Sitges, Spain (2016), or making a pop-up movie theater in Kolding, Denmark (2017). In these interventions, I moved the class outside the university building, enhancing the teaching-learning process by using the city as an open classroom. I also developed a variety of tools, from storyboards, design cards, to cartoons to movies, and so on. The visualization tools as support for the open class

conversations and create a mutual understanding of what we can do together. This is what we call "infrastructuring" when we co-design.

In this dissertation, I developed these ideas further by introducing design ethnography as a more reflective way to relate to the city and the environments with which we engage. Moreover, the notions of a sensory ethnography and of embodiment allowed me to support my experimentation in the applied portion of my research with a stronger theoretical and methodological background; Thus, the city as an open class is included in the co-learning methodology that I am presenting here.

The social aspect of the design process also means to take into account that relationships among the participants are not exempt from conflicts and power dynamics. A conversation in the street may be part of a *design dispositive or device* that allows participants to be familiar with a certain environment and produce a co-designed meaning through the making, finding themselves through encounters with others. However, Foucault (1994) argues that a *dispositive* or *device* is a system of power/knowledge formed through a set of diverse discourses, organizations, and decisions distributed throughout a network (Foucault, 1994: 300). And thus, we cannot forget power relations in our aim as a collective experimenting in co-learning to produce knowledge. For Foucault, while a device implies "*a set of strategies of the relations of forces, supported and supported by, certain types of knowledge*" it also leaves actors open to change their position based on the systematic order of such knowledge production (Foucault, 1994: 300). In 1997, Foucault described a new model of governance concentrated again in the microspheres of power relations; the design process also may imply different positions of power (distributed or not) where the communication is not always symmetric. According to authors like Sanguesa, Ingold and Hallam, the design process as instant intervention is the base to reframing social relations (Ingold and Hallam, 2007; Sanguesa, 2005). So, on the one hand, we can start conversations as a means of exploring conflicts in controversial real-world situations, as a critical civic practice that students must learn to be active in society. On the other hand, as teachers, we

must learn to both manage and facilitate possible conflict situations using our influence in the class group (I will develop it further in chapter 4, Ethical considerations and the risks of action research).

Through my teaching experience, I have explored different ways of conceiving of the city as an open class. Through different speculative and critical interventions, I have used open design to use teaching as a form of mentorship and facilitation, to enable people to learn in their own ways. By not telling students what to learn or how to learn, but engaging with them in a collective project, I provide them with the tools to conduct their research and reflect about their learning process. The underlying principle is that we are all citizens engaged in an experimental design process for the common good, it does not matter if it is through design devices or a performance that we co-learn in the making. A transition from the formal top-down education mindset toward a circular and horizontal model is thus achieved by introducing design ethnography in practice in the open class. The result, as I will develop further in the next chapters, is that everyone (experts and nonexperts, teachers and students) learns by doing in a peer-to-peer relationship, moving from the classroom to the public space and vice versa.

As a process, it can be difficult to standardize and co-produced these kinds of learning projects, a possible constraint that should be addressed through a systematic educational innovation agenda for both the higher creative arts institutions in higher education, as well as for educators. For example, in my case, the students approached the fieldwork through experimentation, learning how to be a sensitive human, and I provided the structure of the open-class experience. Educators must reflexively engage with the body and the mind as well as of their students, if they want to participate in their students' learning process successfully and make an impact. In the explication of the workshop, in chapter 5, I will show that the teacher cannot really intervene in the co-learning process without participating with the students, accompanying them in their process through embodiment, as well as live it as a sensitive alignment with students' creative expressions and their own inner process.

Chapter 4

Methodologies

4.1. Exploring methodological paths

As it has been said, this dissertation aims to develop a pedagogical framework within design-based methodologies to be applied in creative arts higher education. Thus, it is an applied research and the output is a pedagogical model that I have called "co-learning". In this chapter, I will explain the ways in which social sciences and design methodologies may frame a pedagogical model for creative arts education.

For doing that, I shall explain that there are different levels of dealing with "methodology" through this research. The output is a pedagogical method, I use and intermingle different kinds of methodologies for developing the co-learning framework, and there is also the research methodology properly speaking. "Method" is an ancient word and its etymology comes from Latin *methodus*, "way of teaching or going," and from Greek *methodos,* literally a path, a track or a road; a way, and a way of doing. Due to its interdisciplinary nature, in this dissertation "method" plays different roles and different "paths", sometimes forming the figure of labyrinths and cross-roads.

On the one hand, I used a set of methods that have a common action-research approach, in order to introduce students to a learning method based on research as active learning through making; that is to develop the co-learning methodology. On the other hand, this set of methods is also at the basis of my own research activity for this dissertation. That is, participatory action research methods operate in two different levels: as a framework for active learning and as the research methodology for implementing, testing, and evaluating the co-learning pedagogical model.

For developing co-learning as pedagogical methodology, I worked on a set of concepts, principles and procedures I explained in the preceding chapters. Here I will refer on methods and techniques coming from participatory action research and art-based research, and how I implemented them at different levels and for different purposes, but always from a qualitative and reflexive approach. I also took lessons from my own experience in design teaching. For developing this pedagogical approach, I reflected on more than 10 years teaching at a Design Colleges and the many workshops I undertook as an educational innovator. My years of experience provided the tools for a reflexive process that led to the systematization of the co-learning principles and practices that lead to the workshop "The polyphonic city".

I draw on design research by incorporating the different methods and tools coming from social sciences, participatory action research and art-based research. Design research is focused on the process of design as open-ended. As Kimble and Stables mentioned, research is part of the design task based on speculative thinking (what if), prototyping and iteration (Kimbell & Stables, 2007). Design research is also eclectic in relation to methods, combining qualitative and quantitative approaches depending on the nature of the project and about the research questions. I want to merge "the seeking" from the research with "the action" of the design in a broader sense, as well as, I want to introduce research as a keystone of the teaching and learning process as a design process. First of all, as a design educator, I claim the role of the teacher as a critical and cultural agent, through an attempt to locate inquiry at the center

of the pedagogical approach. Thus, the teaching and learning process becomes for me a research practice at different levels and for different actors: teachers and students are co-researchers in the exploration of the relationship between reality and the classroom. In our case, teachers and students are involved in multi-dimensional research, using critical inquiry to develop their respective skills and goals as interdisciplinary collaboration. Thus, the kind of applied research I propose as co-learning is qualitative and collaborative in nature, in the sense that its aim is holistic and comprehensive, an integral education framework to allow students to reflexively explore their environment as sensible and responsible citizens. I want to increase their awareness about the complexities of social and cultural life and to introduce this complexity in their artistic practice and grow as human beings able to correspond with the world.

Art-based research is also another source of inspiration and my practice. This kind of research approach can be defined as the systematic use of the artistic process, the actual making of artistic expressions in all of the different forms of the arts, as a primary way of understanding and examining experience by both researchers and the people that they involve in their studies (Shaun McNiff, 2008). This is relevant for performative art students as it links research with the aim to gain an embodied knowledge. However, many authors agree that social sciences qualitative approach methods intersect artistic research based on experimentation:

> *"Arts-based action research is a blanket term that refers to the use of the arts, in various forms, as the basis for inquiry, intervention, knowledge production and/or information sharing. As a research method, art-based approaches consist of the merging of the conventions of 'traditional' qualitative methodologies with those of the arts to allow for deeper research insight, interpretation, meaning making and creative expression, and alternative knowledge and ways of knowing...."* (Wilson & Flicker, 2014).

As the art-based methodologist Meban says:

> *"While quantitative research tests the claims of its advocates through controlled, experimental methods, qualitative research methods are applied using more interpretive means. In the case of studies of arts education, quantitative research aims to measure the impact of the arts on student learning while qualitative research is heuristic and operates within the world of arts education practice, a world in which random factors tend to impede the effectiveness of experimental design."*
> (Meban, 2005: 124).

Lincoln argued that qualitative methods are naturalistic, participatory modes of inquiry, which uncover the lived experiences of individuals (Lincoln,1992). Consequently, *"there is no single, objective reality, there are multiple realities based on subjective experience and circumstance"* (Wuest, 1995: 30). According to Gilbert, qualitative researchers aspire to uncover the world through another's eyes, through the exploratory process that is deeply experienced (2001). Qualitative research reflects the values of subjectivity, individualism, holism, relativism, and interpretation (Streubert & Carpenter, 1995).

Adding to the qualitative approach and art-based methods, participatory and action research are two important elements in the way I understand research and a research oriented pedagogical approach. Participatory Action Research (PAR) is considered a subset of action research, which is the "systematic collection and analysis of data for the purpose of taking action and making change" by generating practical knowledge (Gillis & Jackson, 2002: 264).

According to authors like Argyris (1985), Friedman (2001), and Reason (2006), the main goal for a participatory process is the production of new knowledge in relation to practices extended by different stakeholders. Reason and Bradbury (2006) argued that it is the connected learning process of sharing practices, as well as participatory relationships in between, which define the action

researcher and the people involved. This is an important step that moves the focus of attention from the individual toward the collective.

Paulo Freire's pedagogy and Augusto Boal's "El teatro do Oprimido" methodologies is a reference also for developing my understanding of research in teaching practices. They both believed that critical reflection was crucial for personal and social change (Freire, 1980, Boal, 2003). The Freire's participatory action research approach was concerned with empowering poor and marginalized members of society through theatre and performing arts tools, especially surrounding literacy, land reform analysis, and the community (Freire, 1970). Freire was an adult educator and author of critical works of pedagogy, who challenged social relationships based on dominance and power in traditional education (Freire, 1997). In particular, he argues that developing critical consciousness requires the individual to be knowledgeable about political, social, and economic contradictions, and to take action to change the oppressive elements of reality, thus achieving liberation from oppression (Freire, 1970). Those principles can also be applied in other educational contexts, such as higher education in our case, researching through art and design. PAR was developed to create social change and democratic forms of interaction and decision-making, empowering the powerless through democratic means (Selener, 1997: 237). For this dissertation, I emphasize its use to form a basis of democratic, horizontal collaboration between teachers and students.

Also, community members are considered co-researchers throughout the entire PAR process (Gillis & Jackson). This participatory community dimension involved another layer of decision-making, where action research and design ethnography play an active role toward community transformation. Therefore, co-learning is based on relational knowledge exchange through practical actions, reinforcing the role of ethnography as a qualitative method that is not only a tool of design methodology, but a piece of the learning system throughout an open-ended research process.

At another level of this dissertation is how I used action-research in my investigative process itself. According to Greenwood and Levin action-research is:

> *"systematic and orientated around analysis of data, whose answers require the gathering and analysis of data, and the generation of interpretations directly tested in the field of action" (Greenwood & Levin, 1998, p.122).*

Thus, we can say that my applied research in arts education is based on action-research as I was, at the same time, conducting the co-learning workshop in the Performing Arts School in Barcelona, and doing research for testing my working hypothesis (that is doing participant observation, gathering audiovisual data and taking notes in my field diary for further analysis) about the co-learning model. Here is when ethnography enters as a method to empirically analyze the workshop organized to test how the process of co-learning worked.

To end, in this dissertation, PAR and Art-based research are part of my qualitative approach and intermingled in the action research framework, in the sense that the research process occurs at different dimensions. In our case, students are learning through participatory action research that has the goal to produce an artistic object or performance, while the teacher's research process is to review the pedagogical method itself. Both are seeking to improve their skills concerned with a real challenge situation.

4. 2. The workshop as participatory action research

The workshop "The Polyphonic City" is designed for this action-research endeavor as a prototype to test the principles and practices of co-learning in a real situation. The main goal of this workshop is to explore in a real-setting, with students and teachers of the School of Performing Arts in Barcelona, how co-learning works and if it can contribute as a pedagogical methodology to foster an interactive educational mindset that expands the academic learning context outside of the school setting, as continuum of formal education in design and in other creative fields.

This action-research also holds that design is a social and cultural practice, and thus with its realization I aspire to contribute to a better understanding how co-creation is used and deployed in arts education scenarios, and test if it makes design accessible and inclusive to art students, and if it is useful to enable the process of learning in a transformative, collaborative, and creative open experience.

As I have introduced in chapter 1, my research questions are related to the pedagogical principles of co-learning; in particular I shed a light on what must be the role of the teacher-mentor or artist-teacher and the community, in such open learning process; how to translate an open design-based methodology to other fields of creative arts education, such as performing arts. The objectives of the applied research are to enable the teacher-artist in performing arts to implement a collaborative pedagogy and teaching methods (co-learning) based on co-creation and an open design-based approach.

The action-research is embedded in my research plan as the phase to empirically test the co-learning methodology. To recap, during the first year of the PhD. Program I have been developing my research plan and theoretical framework. The action-research has been planned and implemented through a two-year program 2017-2018. During this phase, first, I developed the workshop design following the co-learning theoretical framework and methodological principles presented in the previous chapters, experimenting with different elements in workshops and master classes; and second, I

developed and carried out a workshop as a prototype to test the educational model, prepared and implemented fieldwork, and created a framework for producing data and evaluating the prototype results.

The action-research was carried on during July and December 2017 until February 2018. It has consisted in developing the workshop's methodology and creating the conditions for the workshop implementation on-site, and later on following the participants, doing interviews and working on data classification and analysis. The three-day participatory workshop was held in Barcelona with second year Performing Arts students between 24th November and the 1st of December 2017. The workshop was created to test and evaluate the co-learning methodology; thus, during its realization, qualitative methods were applied in order to generate data for further analysis. This qualitative approach was based on ethnographic techniques, such as participant observation during the workshop and in-depth interviews after the workshop.

During the workshop I video recorded the process for further analysis and kept a field notes diary. After the workshop, I also did in-depth interviews with the participants (students and teachers) to gain access to their meanings and feelings about the workshop, and how they relate their workshop experience to their teaching or learning processes. The participant observation was carried out by me, the researcher. At the same time the workshop was running, I was supervising the experience, keeping a field diary, video-recording the full sessions, and taking photos during the process for further analysis. After the workshop, I used my guideline for interviewing students and teachers about their experience. The qualitative data analysis included analysis of the workshop video-recording and a content analysis of the interviews. Additionally, I recorded in my field diary the power dynamic inside the community, gender and class issues, and the role that expertise played in the different phases of the co-design process. I observed how the students reacted to working outside of the formal classroom scenario and their social interactions with people in real life context.

The role of ethnography as the principal methodology for this research, has enabled to highlight the reactions and interactions of the different actors, in order to foster the ability to make visible the 'real world', open a new social learning setting through detailed descriptions of the everyday activities of the community in context, and open performing arts students to new scenarios of learning by making and doing. So, again, ethnography has been used as a tool in the art-based research of the students and as a qualitative research methodology for the action-research to evaluate the workshops' results in terms of the co-learning model.

Ethnography is notoriously eclectic in its employment of multiple methods of data collection, and ethnographers will typically observe, conduct interviews, and scrutinize relevant practices and artifacts during a single research effort. The ethnographic method is a type of qualitative research that combines immersive observation and informal, prepared one-on-one interviews. In anthropology, ethnographic researchers spend years living immersed in the cultures they study in order to understand behaviors and social rituals. Here, I have used ethnographic methods, but my intention was not to do an ethnography, understood as a monograph of a way of life, but to collect qualitative data for testing my working hypothesis.

As I have explained in chapter 3, design ethnography applies ethnographic methods on a micro level and for a short period of time, to understand the behaviors and patterns of people interacting with the space, services, or products. For my action research, I am dialoguing with the students in their natural setting while they are performing their tasks, asking them questions about their experience, what they are doing and why (when necessary) through the workshop. Observing as they perform activities and questioning them in their environments about the public space helped me to discover important details and behaviors for my data analysis that I will explain in detail in the next chapters.

Ethnography is local by nature; that is, the ethnographer collects data necessary to describe and interpret local practices. My local practice is the one developed in the workshop as design ethnographer interacting with performing arts students and teachers; my position was that of coach, producer and disseminator of information, as well as ethnographer: taking notes to apply the research findings as appropriate, later.

Because design ethnographic research is also local, its focus is deep and concentrated in a single event; design ethnography is linked with this capacity to delve deeply into a particular site or issue, what anthropologist Clifford Geertz called "thick description" (1973: 6). By "thick," Geertz was referring to a theoretical description that explains the meaning of an event from the point of view of the participants of the event itself, revealing their cultural patterns and values.

My aim in setting the workshop as an action-research process was to explore how co-learning could transform the art classroom into a space of open-ended research, where students and non-students could be active participants in meaning-making through co-creation. As a designer, educator and researcher, I wanted to establish a process of dialogue encouraging multiple voices and subjectivities, facilitating a process of collaboration and exchange between the participants and myself. My use of participatory methodologies was part of my pedagogical method itself and part of my research strategy and was explored through the workshop's experimentation. For the students, the participatory method provided an important collaborative process, developing a way to engage with the community through performance, design ethnography, and conscious embodiment during collaborative actions.

There are multiple ways in which the world can be known, and different kinds of collaborative knowledge production. On the one hand, I propose that performative arts students go "outside" the class to develop competencies in collaborative creativity and emotional management, as they face and learn from the unknown. For that purpose, as I said, I took principles and tools from

design ethnography and participatory action research to experiment with the city as an open class and to interact with people and form pop-up co-learning communities. Research as new knowledge production is then based upon the sensory design, the body's capacity to be receptive to the environment, to the sensory aspects of the learning setting, including an emotional and bodily response to what people do and say. Then, the students learn by doing, experiencing, and sensing to produce learning in collaboration and engagement; this allows them to create verbal and visual discourses—like drawing—to further develop their performative actions. The collaborative process was context-specific because the workshop was structured and determined by the particular motivations and needs of the participants. By working together over time, the group developed a shared practice and learned from their interactions, collaborating with each other.

On the other hand, I based my action-research in a process of iteration that evolves from participant observation using my own body and my experiential and sensorial awareness during the whole process, acting as a design ethnographer in documenting the process, both by recording audiovisual data about the ongoing process and taking field notes during and after the workshop sessions, including my own perceptions, impressions, and hypotheses about what happened. This material helped me to evaluate the experience and extract the insights and the findings of the co-learning implementation.

4.3. The workshop as an embodied space

The co-learning methodology is a design workshop-based format, as it takes a hands-on approach. According to Yoko Akama, Sara Pink, and Shanti Sumartojo, the workshop format is a space of possibility that opens people to uncertainty (2017: 12-13). The tradition of the workshop in design is about the creative generation of ideas, mostly related to innovation. The process often

involves the making of prototypes and the practice consists of participants engaging in activities together with the help of a facilitator who introduces scenarios and problems for participants to collectively solve. Theory and practice become a praxis of co-design, as new ideas and insights develop in an applied, experimental setting. What is relevant here is that the workshop format allows a more democratic participation than a traditional classroom format. The time and space opened by the workshop structure allows participants to play, experiment, and learn in the process of making, not without fears, but encouraging no judgement and collective making decisions.

This openness is important in the co-learning workshop, because that means that students, teachers and researchers are participating in the workshop process as equals. Teachers adopt the role of "facilitators," proposing, giving advice and instructions, but also participating in the collective action like any other participant and assuming different supportive roles during the action.

The workshop format also creates a common goal among participants to achieve a specific outcome. In our case was a performance outside the classroom, in the city setting that we have chosen to explore. Finally, another characteristic of the design workshop format is the practice of documentation, that is to keep a record of the workshop process, usually by video recording it and collecting the materials generated in the process. This has a parallelism in the ethnographic method, and was useful during the co-learning workshop, as I wanted to document the process to later analyze it in depth, in order to evaluate the experience and to examine if the co-learning methodology worked as a pedagogical tool for performing arts education.

Design ethnography also uses the workshop to generate a research process with the participants and to engage in a process of co-creation that involves ethnographic methods such as participant-observation and in-depth interviews. Thus, also the students were encouraged to appropriate these techniques for their city exploration. Moreover, design ethnography works through workshops to explore or create the prototypes of a design or a certain service with the

future users. It is a structured process that entails diving into the everyday life and experiences of the people for whom a design is intended. The aim is to enable the design team to identify with these people's needs and expectations; to build up an understanding of their practices and routines, and what they care about. This technique was also introduced to the students. This allows the team to work from the perspective of "the users" (in our case, citizens we encounter in the market as the city space we explored) on new designs for relevant slices of their daily lives (in our case, how the performance will take form). Designers use this understanding to work on idea generation and concept development, as well as I understood the design process in the "Polyphonic City" workshop.

4.4. Ethical considerations

Research ethics are a requirement for the protection of dignity of subjects, both in the daily work of field research and in the publication of the information in the insights. However, when students participate in the action-research, they have to cope with different society values, their own conflicting values, and some degree of ambiguity in decision making, and those are recurrently issues emerging in the literature review on education research, especially as it applies to design ethnography (Gatt and Otto, 2017). Moreover, when students participate in research with the city, they also have to consider research ethics and the societal values about human rights, gender-based bias and the design culture based on the ethic of sharing, collaboration and the researcher's values about inquiry.

4.4.1. The risks of action research

According with David Coghlan and Mary Brydon-Miller "Conducting action research requires a researcher to have a complex mix of competencies in social or group dynamics (to organize the process in a collaborative,

democratic way), personal and collective reflective learning practices (to enhance reflexive awareness of how the actors are intervening in the setting and are thus embedded in the study itself) and research methods (for contributing robust conclusions to the relevant scientific/social discourse)). Conducting action research involves applying this mix of capabilities in real social environments where action produces unexpected as well as intended consequences." (Coghlan and Brydon-Miller, 2014:2)

My action-research fieldwork also included risks in managing situations with students, teachers and those individuals who take on the role of bridges between myself as a researcher and the students, as well as all the negotiations that I have had to carry for obtaining the permissions to perform and video-recording in the marketplace where the students will get in contact with the city. School staff introduced me to the students as a design ethnographer and shared their own insider information about the setting, the experiment and the project. I was particularly concerned about the risks new encounters might carry for the teachers who engaged in experimentation with me—as this co-learning design carried with it, by nature, the risk of failures.

I tried to explain the process well and made sure to check in with the teachers who will participate in the workshop and that we were facing a performance in their everyday space, instead of a traditional dialogue with questions and answers. Through this, I was able to take their feedback and ensure a positive workshop experience for all, and at the same time focus on reaching their goals as teachers, as well as mine as a researcher. I also transcribed my field notes regarding these affairs into my field notes diary, so I can reflect and then analyze and review and include feedback, so I was able to track our developments throughout the workshop process. At the conclusion of our experiment this cultural and social sensitivity paid off: these teachers decided to continue implementing the open class and co-learning pedagogy we co-developed in their courses.

4.4.2. Ethics protocols and fieldwork

Research in the human and social sciences is in a unique position since its object of study is often made up of human persons. Its objective is to develop research that must reach and benefit society, but that research can alter and even cause harm to the same human groups studied. The researcher is therefore at a crossroads: she cannot forget that she is dealing with human beings while pursuing scientific rigor in the elaboration of her data (Lui, 2005).

To help researchers make decisions that respect an ethical framework, there have been guidelines for some years that have been developed by institutions from different academic disciplines, such as the Guidelines for Research Ethics in the Social Sciences, Law and the Humanities of the Norwegian institution National Committee for Research Ethics in the Social Sciences and the Humanities (Nesh, 2001), or the Code of Ethics of the American Anthropological Association (American Anthropological Association, AAA 1998). The objective of these guides is to serve as a framework for researchers to ethically guide their decisions during the design and development of research. The categorical imperative shared by most of these deontological codes is that research should avoid harming those who are part of the study, as well as respect their security and privacy. Based on these principles, the developments that are made vary from one discipline to another and from geopolitical areas (with differences between the Anglo-Saxon world and the rest of European countries, for example). To ensure that research participants are respected and safeguard their safety, the most widespread mechanism, apart from recourse to anonymity of the personal data obtained, is the Informed consent.

The first ethical reflection that the ethnographic researcher must carry out forces her to ensure that her actions do not harm those who are part of her study. If this is a principle of general application in the social and human sciences, as much or more so for ethnographic research, as long as it is carried out through intimate coexistence with those who share the fieldwork experience. This relationship of trust established between researchers and

correspondents demands not only that the people do not suffer harm, but that they are informed and aware that they are participating in a research project. This is particularly true when this relation is made with students and teachers.

During my research some reflections on the field ethics were; on the one hand, to fulfil the regulative ethic codes regarding informed consent; on the other hand, be reflexive towards a situated ethic during fieldwork and the role of students as researchers as well.

Regarding informed consent, it designates the process by which the details of the project are explained to the research participants and their participation is requested to include them (Nesh 2001). The refusal (Hudson& Bruckman 2002) or the practical impossibility of obtaining consent (Sudweek & Rafaeli 1996) is sufficient reason for an investigation not to develop; hence, informed consent becomes one of the fundamental, if not the main, mechanisms of the ethical process of all research in the human and social sciences.

The procedures and protocols I proposed for obtaining informed consent was done according to each discipline and specific methodology in the College of Performing Arts as well as following the American Anthropological Association standards regarding ethnographic fieldwork. As I argue, there are even notable differences between some countries and others. While in conducting surveys or interviews, it is understood that informed consent is given explicitly or implicitly when the subject agrees to answer the questions or may be requested from an acceptance protocol at the time of administering a questionnaire, in the case of the participant observation is not easy to obtain from all the people with whom the researcher comes into contact in one way or another, and there is also the risk that it is too intrusive a procedure, distorting the natural relationship that the researcher intends to achieve. Considering the uniqueness of ethnography, and particularly participant observation, the American Anthropological Association proposes a flexible and gradual formulation of the process of obtaining and I follow and implement it.

First of all, I had the support and agreement of the School staff to conduct the research, as it was their interest to enhance innovative methodologies in their academic grades and as it is an applied research, they were willingly to support

my research and implement its results in the School. In the second place, I got in touch with the teachers and explained my research goals, inviting them to participate. Finally, three teachers were involved in the research, and the group class of their courses were called to participate. I explained to them my research purposes and goals, giving detail that the workshop will be recorded and explaining to them that they can withdraw at any moment at their wish.

However, as I will describe in my ethnographic account in the next Chapter, students' interests, as reflected in the research, may come into conflict with those of their teachers and sometimes, the researcher's responsibilities with the research may conflict with their academic responsibilities. Thus, during the workshop some conflict of interest showed up. I must adapt to the pre-existing group dynamics and teacher-student and their relationships, which sometimes contrasts with the participatory action research I wished to carry on. Thus, improvisation was a key element to respond to the unexpected situations, trying to react with empathy and concern. Thus, sometimes I resolved to reconduct my initial workshop guidelines to introduce other activities that suited more the tensational moment. In other cases, I only could flow with the events and try to understand which implicits were at stake.

Using a completely different approach, a good number of investigations have provided evidence that the "privacy expectations" (King, 1996) of individuals who interact through the internet often do not coincide with that of an external observer who is not part of the Collective (Sharf, 1999; Allen 1996, Bromseth, 2002). That is, while someone can interpret the interactions of a forum, a chat, or a mailing list as public, the experience that members of that group have is of relative privacy. Therefore, privacy rules are developed within groups, and do not derive solely from the configuration of technology (Sharf, 1999), but is designed for anyone to access does not mean that the participants in it conceive it as a public space that can be freely investigated people trust confidentiality standards in the community of which they are a part "(Elgesem 2002, p.196). I am bringing this discussion here because in my workshop due to the blended format, I use the Blackboard of the official course at the College and the cloud folder to collect the data that the students gathered during their

fieldwork in the marketplace. The students use it as a private cluster of collection of their work and in particular as a peer to peer laboratory as well of sounds and visions.This raises various considerations for me. In the first place, the perception of the public and the private can vary according to the position of the observing subject (external or internal to the collective) and therefore for the teachers and me was a previous discussion we agree on in our preparation meetings, we cannot judge "from without" without taking into account the perception of the students. Secondly, the type of technology or technological architecture that the Blackboard offers does not determine the private or public nature of an interaction space. In my research this space was hybrid and it depends once again on the perception that users have about what they are doing, it is the result of negotiation and sense that each group attributes to these interactions according to the nature of their project (in this case for educational purpose). Third, and as a corollary, the public and the private are not absolute categories that we can determine "a priori" in relation to students' interactions, they are contextual and depend on the negotiation that each group carries out and on the research questions we would like to answer.

Not always we have a single solution therefore, in our pathway as researchers we have experienced the difficulty of deciding on the public or private nature of information and interactions especially when we consider students and education the context of our fieldwork (Malin, 2006) and we are not always sure that we have made the right decision. For example, I assumed that the students were aware that their data in the cloud were protected by anonymity by the College, although for more security we changed the user's name in the study. During the participant observation and the in-depth interviews, I also established relationships of trust with the students, however, I used an informed consent protocol for my depth-interview with the students and the teachers who took part in the workshop ".

As the study took place in the classroom and in the marketplace, I had also to ask for informed consent from the market's staff and vendors. I obtained permission to go there with the students and to take photos and video record the market interactions.

The field work at the market was conducted by the researcher, students and teachers during class time. And in this collaborative and open design process, the field work is configured by the theoretical framework of my co-learning research as well as by the methodological ethnographic and action research approach. I have already pointed this out when considering the question of the public or private nature of interactions and contexts on the blended educational format. The fabric of ethical decisions is a system of mutual trust and roles that must be faced in both online and offline, regarding data privacy and interpersonal relationships.

During the action research process, I also open up questions regarding gender (Butler, 2019), the role of facilitator (Gardner,2000) and the researcher's construction of the field and his or her own meta reflection (Ardevol, 2005). On the one hand, the School of Performing Arts was very international in teachers and students composition, for example, one of the teachers was from Northern Europe, and there were students from Syria, France, Colombia, Turkey, United States, UK, and Spanish and Catalan, thus the workshop was held in English. Thus, the fact that I was an Italian woman was not a surprise. On the other hand, working with the body senses and doing corporal exercises is part of their training, so the activities regarding body performances were well accepted, although I was always aware of any uncomfortable reaction and gave them space to express their feelings.

Finally, I must say that I took many roles during the workshop. It was not easy for me to conduct the workshop while at the same time, being the ethnographer of my co-participants and taking notes of my own impressions, reactions and feelings. The ethnographer in me probed, reacted, questioned, responded, expressed surprise... in the relation with the encounters and the performance of the bodies, the gestures and the senses. It was fully immersive and sometimes exhausting, despite the help of the participants and co-researchers.

I agree with Amanda Coffey when saying fieldwork affects us, and we affect the field. This author argues that "ethnographers should be aware of how fieldwork research and textual practice construct, reproduce and implicate

selves, relationships and personal identities" (Coffey, 1999:1). Fieldwork is personal, emotional and identity work. The personal identity of the researcher mediates all other identities and roles played during fieldwork. How did the students see me? During the interviews some of them were quite explicit. At my question how have you seen the role of "the teachers" in the context of the workshop?

Sodelan (Syrian girl) answered:

> *I like a lot you Ari. I think you are more than a teacher, you're not a normal teacher! To me you're more like us but with more experience and very nice, I don't feel you like a teacher. You understand us, and even though we never had class with you before, it seems you know us perfectly.*

Mary (Colombian girl):

> *You're not a teacher. I feel you are more a colleague from where I can learn from but with more age. (laughing) with more experience too and with a particular light in your eyes.*

Otello (Catalan boy):

> *You guide me, I guide you, and the others guide us as well. I mean you're dancing with us. I don't have fears with you. I can touch you and I like the way you make the body talk. I will use it again. So about the teachers "leave the kids alone… !".*

4.4.3. Ethics precautions

I had also to take into consideration that my fieldwork will happen in a School of performing arts, where the body has an important role, moreover, part of my methodology consists of working with the body as a learning medium.

If people have a trauma history, becoming more aware of the body can lead to overwhelming sensations and emotions – so always give people the choice to do bodily exercises and respect those that decline. Calibration of exercises is vital, asking for consent each time a variable is changed. It's rare for people to become overwhelmed through embodied work if consent and calibration are respected. If someone does, it's useful to know the center to help them self-regulate.

When we look at the body, we see history, and if students are not aware of their predispositions, also a likely future. Embodiment is affected by gender, age, ethnicity, social class, cultural background, situation, relationship and place. One use of the term 'embodiment' refers to someone's personal biographical layer of how we create our way of being in the world continuously and often unconsciously. However, embodiment can be viewed as a type of agency consisting of learnable skills as well as a collaborative learning where you can be aware of and make changes for life.

People sometimes have concerns about working with the body. The key ethical and safety issue for working with the body is consent –certainly for touch. Some cultures (often corporate cultures) may not allow touch and it's perfectly possible to do embodied work without it. Because embodied work tends to go deep quickly and can touch on personal issues, the usual ethics of coaching must be kept impeccably, including confidentiality and avoiding dual relationships. It's also essential to have a firm embodied foundation oneself before doing embodied work.

Chapter 5

The workshop

5.1. The Polyphonic City

In this chapter, I am going to explain the process of implementing, experiencing and testing the co-learning methodology through a workshop developed in an Art School in Barcelona with second year students, combining their art-based research with a real experience in a city nearby market as open class, under the title "The Polyphonic City".

In the co-learning methodology, the workshop format is the action-research context where the methods of design and ethnography are put together to engage participants in a common shared goal. In the case of the performing arts schools, the goal has to be related to the learning objectives planned in their program; in our case, to embody their skills in artistic intelligence. Thus, the main structure of the workshop is based on observation, relatedness, embodiment and the creation of a collective performance as the common goal output. The workshop I developed for the co-learning experience in the School of Performing Arts in Barcelona is based on the same principles of creating a space of possibility (Akama and Pink, 2017) that allow students to embrace

uncertainty as pedagogical experience, and to work with their bodies as a way of experiencing their environment, incorporating their learnings to produce embodied insights. That means to introduce some design ethnography principles not only as a cognitive mind set, but as a performative experience through the body for outer expressions and help to navigate into the unknown.

Thus, my proposal for the workshop was to introduce an embodied way of understanding and incorporating the ethnographic principles, taking Sarah Pink's mentioned concept of "sensory ethnography" and "embodied knowledge" and mixed it up with my personal embodiment experience as artist-teacher. The idea was that students can develop an ethnographic approach through their bodies and senses, a proposal of knowing, inquiry, discovery and learning through the body and to show up their inner feelings by creative outputs; such drawing, improvisation, dancing and relations with their inner creative process and the environment.

5.2. The School and The Market

As I have explained before in Chapter 2, a key stone of the co-learning methodology is the *open-class* concept. In "The Polyphonic City" workshop, the open class is a learning format and a dynamic open process in the between the class and the public space, that allows students to get in and out of the class and to experience, learn what they embodied of the real world.

The classroom and the city are the open scenarios and the real stages of the workshop process. The idea is that students relate their learning experience with their immediate material, social and cultural environment; to connect school with the real world, explore the city and its inhabitants as encounters. Thus, for the co-learning workshop experience, I agreed with the teachers in several meetings we had before to co-design together a learning pathway to

integrate in the already existing curriculum of the course of performing art and research, to define a possible outlet of the workshop that could be a choreography inspired by the sounds of the city, called "The Polyphonic City". To make it more hands-on, I looked at the surroundings of the School of Arts to find out a possible scenario, culturally rich and meaningful for the students together with the teachers. I found out that there was an old market nearby; the Abaceria Market, a market built at the beginning of the 19th century that was about to be closed for its modernization. Talking with the Art School teachers and students, I realized that most of them just pass through the market to go to school, but that some of them, especially those that are international students, did not even enter the market. Thus, we as a multidisciplinary team of teachers and researchers decided to involve the market in the process. That implied to go to the market myself and to establish a relationship with the City Council, the Market Director and Administration office to get permission to go to the market to do a performance and to take pictures and video registration. Finally, the workshop took place within 3 days at the end of November 2017 with students from the School of Performing Arts in Barcelona and involved the Market Abaceria as tribute to the Public Market due the decision to the Municipality to close it after 150 years of activities for its rehabilitation.

In the workshop participated 14 Students: 8 females from Catalunya, Syria, Colombia, and France and 6 males from Spain, Turkey, Uk, and United States. They were students of Performing Arts, Dance and Music departments and their teachers Max (dance), Rosemary (art-research) and Jenny (performing), challenged to co-create a performance in the public market with the title "The Polyphonic City". It was the first time the students interacted with a public space out of their class, in their neighborhood and in contact with everyday life in the framework of their class program. After the workshop, I contacted the teachers and students to interview them in depth about their experiences. Although the workshop was done more than three months ago, they still remembered it as a keystone in their training and in their lives, as well as for the teachers. Finally, I did 10 student interviews and I also interviewed 2 teachers. After the interviews, I asked the participants to write short answers to a short list of

questions regarding what has it meant for them to collaborate in the workshop; how have they you seen the role of "the teachers" in the context of the workshop; what have they learned from "ethnography" and from "design"; how would they explain the dynamics in the workshop; finally, how did they feel and which moment do they remember better and why.

The workshop was designed as three days full immersion, where group and individual activities are mixed in class and outside class as explorations, using the format of design workshop and the "open class" pedagogical learning format. The experience was thought as a continuum of experimentation, discovering, incorporation and implementation of insights and emotions, taking the in and out activities as a learning personal and shared context. During these three days, the students, teachers, researchers and the observers (my supervisor and other researchers that came through while the workshop was undergoing) co-create a multidisciplinary team, all involved in the process and helping me with the video camera, recording and taking photos when necessary.

The students understood from the beginning that we are all in an open conversation and we are all experimenting a full-body exploration, new lexicons and meanings through design ethnography research approach. Max, Rosemary and Jenny, the teachers, were co-creating with me the different parts of the process, interchanging ideas and impressions, sharing doubts, activities preparations and a cloud drive folder to upload all the shared materials. Finally taking part in different moments of the workshop. They participated in the experience of co-conducting the workshop, commenting, given feedback and participating in the full-body activities when present. These "invisible threads" of embodiment from inside to outside the class and vice-versa, the emotions and the expressions that arose during this experience are the core topic of my applied research here.

The workshop was structured in three days' development. First day was devoted to introducing design ethnography to give them some Ethnocards to

explore the city through a sensory engaged observation and work with them on the body responses to those challenges; that is to construct an embodied design ethnography framework to go to the market. The first day ended with a visit to the market where we all observe, take notes, record images, talk to people, etc. and with the purpose that each student has to develop her or his own creative graphic work that reflects his or her experience of the market. The second day we worked around their markets' impressions through sharing market impressions and recordings, sharing their graphic creations and improvising a collective dance, and the session ended with the mission to prepare a shared choreography for going back to the market the next day. The workshop ends with a performance in the market outside the school, with the neighbors, and going back to class to share the experience.

In the next sections, I will explain in detail the development of the workshop and the process of creation diverse cultural dynamics involving both the process and the means, the mind and the body, the non-verbal, the place and the space, the seeking and the actions, and how it became possible to create a new audience format, collaborative, cooperative, open to a more inclusive dialogue.

As I already explained along this dissertation, the social and cultural dynamics of this workshop process is open-ended and belongs to the principles of no judgement, of co-presence, and collaboration. Thus, participants can face the constant complexity of the world we live in, being receptive to its change, accepting the turnabouts, the obstacles and prejudices, along the way, learning in our flesh how we can be more human, more compassionate, more open to accept diversity and to learn how to navigate into the unknown and unexpected moments of our lives.

5.3. Discovering life

5.3.1. First day workshop

> *"I woke up with my left foot today...one foot in front of the other and I am there. I am at the school's door. Today is the day. I am running "the workshop" with my students of performing arts. I feel like a fish out of water. I bring in my pocket the strategy planned for the first class. I have to remember to set up the space and the camera. Note: the list of the students' names is in Jenny's folder. Send her an email now!*
>
> *I need to set up and deliver with the learning objective in mind to introduce design ethnography to the performing arts students".* *(Fieldnotes, 24, 11, 2017).*

For the workshop's organization, I first mapped through observation, the possible scenarios of the encounters. The space of the city, the public space of the market as a place of social and cultural meaning. We all are going to co-produce and encounter city life through the project, thus I was going to observe how we interact with the people and the public space. I decided to start the workshop with the idea of introducing design ethnography with some cultural probes and body-storming techniques to the students, not very typical in design, but common in other artistic disciplines as performing arts.

Design Cards are generally applicable to all design processes, concretely in participatory design and in co-creation design processes. The cards are a conceptual tool for the design phase of ideation. In particular, card-based design tools have been used by a great number of researchers to bridge the gap between scholarly knowledge and design practice. They usually are hand-sized and typically contain both text and pictures (Deng, Antle & Neustaedter, 2014:696). Cards are good at bringing multiple participants together in making sense of observations and for emerging new exciting ideas (Lucero, Dalsgaard, Halskov & Buur, 2016:75). Thus, I develop a set of cards that I called "Ethno Cards" as they sintetize the main principles of design ethnography that I want them to reflect upon and keep in mind when going to the market (See Annex I,

Ethno Cards). I create them to engage students in design ethnography, they allow us to teach in a more inclusive way, co-creating tools *ad hoc* and designing it in context. The Ethno Cards work as a tool as well as a way to introduce design ethnography as well as play and co-create common meanings around it. In particular, by a hand-made toolkit of cards, students sitting in a circle are playing with the design ethnography principles and tools by the cards. By the embodiment and sensorial awareness of the tools, students are stimulated to exploring through empathy, by sensory-ethnography (Simmel and Pink, 2008), with their real-world intervention, experience, students can relate images and meanings and discover the unknown co-learning in a peer to peer relations, listening to others, learning in the making and build up a team in the improvisation. I will introduce the workshop dynamics by quoting my field notes and of the video-recording of this first session.

> *Ari* (researcher)*: "Doors, steps, first floor. I feel the fourteen bodies of my students in the space, I listen to their breaths. I need to start... I have to introduce design ethnography...I feel their voices and the silence among us, I sense the space of their uncertainty and I move towards them asking to breathe. (Fieldnotes, 24, 11, 2017)*

> Ari (researcher): *"Morning. Yes: well, let's start to breathe in, breath out!" In the circle first, then we walk the room, we observe the space. In front of the first encounter you meet and start seeing in their eyes. Body to body, eyes to eyes, one universe open to another one, in a vibrant correspondence of non-verbal languages and instincts". (Video Transcription, 24, 11, 2017)*

Sodelan, Mary, Otello, Layla, Nemo, Ololai, Nada, Sol, Omero, were some nicknames of the more engaged students in the workshop. I moved with them all through the classroom space. Giving and receiving space, observing how their instinctively moved through space, their emotions and how their impulses move them. It was time to come back. Extracts of the video recording:

Ari (researcher)*: "Let's sit down in a circle!". This is a toolkit of cards, very special, I prepared for you. Their name is Ethno Cards. I gave each student an Ethno Card and asked them to have a look: "Are you familiar with the words written in the cards? What they said? Can you please read it for us?"*

Otello: *"Ethnography is an artifact to observe the world and learn from it. Design is a creative process. Together design and ethnography means openness to the new. Well, this is my first time I heard about the word "ethnography". I am more familiar with design. I like this other card better. Said: "Field work observation, interviews, notes…".*

Sodelan: *That means we are going to make interviews and observe? I like the Ethno Card… said: "principles, co-present… recognition… "I mean understand that we are with others when we observe and make interviews…".*

Ollolai: *I really think the best Ethno Card is the one I have. Said: "Design Ethnography is transformation, open knowledge." I guess that as an actor I will seek for freedom and that is possible only when you transform something into something else…*

Ari (researcher): *Do you think we are going for a journey together? We're playing about the principles and the lexicon about design ethnography. Why is it important for an actor? Why are we here today?*

Mary: *My Ethno Card says: "Design Ethnography is a holistic approach for an actor's creativity." I am not sure what holistic is, but I am curious to discover how our creativity can be created also outside the class.*

Jenny (teacher): *As an actor we need to learn how to work in multidisciplinary teams but above all how life enters in our class. Ari will help us to explore the "In" and the "out" of our creative process.*

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The Ethno Cards introduced design ethnography principles as immersion, co-presence, non-judgement and techniques such as participant observation, interviews in a non-directive way. The results of the interaction with the Ethno Cards gave me the impression that students were curious and expressing their doubts, as well as challenging my own expectations, thus sharing the same doubts and curiosity; an impression that was confirmed during the interviews.

After sharing our meanings about the Ethno Cards, I propose to the students to embody their Ethno Cards learnings through two consecutive actions: 1) a sensory observation of the surrounding through walking the class space; 2) an exercise of looking at each other, feeling each other's presence. These body movements and interactions were done to embody the design ethnography concepts and prepare them for "participant observation": to observe patterns, movements, practices, to listen to people, their stories and their expectations (engage in conversations and open interviews with people in the market).

> Ari (researcher): *"Let's start embodying the different building elements of this room. Be a column, be the pavement, be the light…Walk and then…to imagine…walking… across the market. The Sounds. Let's walk in different directions. Up, down, left, right, we see the sound? Can we smell it? Let's dance and move around the space again."*

> Max (dance teacher) introduced them to different kinds of music and sounds: *"Inner/ out! Let's dance!".*

After the improvisation, I introduced the last calm exercise:

> Ari: *"Let's see us in the eyes. The students start a simple movement in order to see each other in the eyes, human to human, people to people, body to body and recognize themselves. Let's observe the market too. Go*

to explore it by yourselves."

After these exercises we decide to go to the market. My idea was that after the exploration, each of them may create their own "Ethno Cards", this time based on their market experiences and bring them to the class for the next day. During the market exploration they walked around the place, taking photos, talking to the vendors and clients, and registering small videos, in small natural groups (see photos in Annex I First day workshop).

5.3.2. Learning through Imagination

The introduction of the topic "design ethnography" was operating at a psychophysical, tactile, movement-based dimension. The students embodied their learnings about "what is design ethnography" by navigating through the classroom's space, sensing the obstacles and textures with their imagination, letting their feelings and emotions go. The new lexicon was internalized through body and movement as a new way of experiencing the world, opening their thinking to their senses and interior/ outer expressions. Thereby they went to the Market with an open mind and curious attitude to explore the unexpected; through their bodies and minds, through recording and imagining, sensing and placing the market in their lives.

The first day, students in class, started embodying the different building elements of the room (columns, pavements, lights) till interiorize their individual experience through instincts, feelings and emotions. They express their imaginary worlds outer with their own language, before to go physically to the market as individual exploration. As continuum to their imagination, they were visiting the Market being attuned with the sound of it and their corporality. Once back in class, I asked them to draw their own cards for the next day. To co-create in their imaginary language first about the market as social interaction experience. The co-learning experience needs a psycho-physical preparation in class and then a

performing improvisation. This process is a consequently embodied process from our imagination to the action. By embodying the experience in the Market, first as well as experiencing themselves as creator, students develop the co-presence and sense-making through the instant intervention, from individual to collective learning and vice-versa. Following some reflections of the students (after workshop interviews) that give us a first-hand statement about how they experienced this first day workshop and how they related the experience with their learning process as future actors and artists. In their own words:

Mary: *"This is for me a very important way to learn. I don't know anything about ethnography and a bit more about design. I was impressed by the Ethno Cards and your explanation in the circle when you tell us about ethnography is not judgement. I was just judging you! and I judge a lot and all! I was for the first time thinking to observe first, what's the word around me. I was really curious also about the word ethnography and the culture of people. Is this something I can learn in class? I was thinking more about the Natives of America when you said about anthropology. Then I also discover design as a way to collaborate and think about life"* (Mary, 25th February 2018).

Ollolai: *"I was very impressed by the cards. You use this card for each value of ethnography (strange). I remember every card. I also know now that it is possible to use research in art and how we can explore making research in performance. We also reflect by ourselves and we make our own cards. As a real artist. Yes, I learned it from design and ethnography to be a real artist. I will use this learning again in my new project with Maria".* (Ololai, 25th February 2018).

Mary: *"In Catalunya we're friendly people. We eyes' contact. I saw that something new happened looking at each other. I was a bit shy but in t I feel it is the most important thing I learned. I learned to look into my colleagues and myself and in my eyes."* (Mary, 27th February 2018)

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Sodelan: *"I learned from the cards that ethnography is a way like design to don't judge and to observe life. It's like a pair of glasses that you can share with others to understand how life goes. I really like that design means thinking. Not just drawing but thinking to make life much better. I was very surprised about using creativity. We don't do that in class. We improvise but as second year students, we just stay inside making exercises. This was real. "* (Sodelan, 27th February 2018)

Otello: *"...Is it to be back to the light. Is to be back to the city. Out of the wall, out of the class, out of our judgmental teachers' eyes. I mean looking at someone for the first time. I found a sense of it and it was very important. This is the first step to move toward the light. Then you can face it"* (Otello, 25th February 2018).

Layla: *"...Yes, I would like to say that for a girl in the streets of Caracas it is not ok to go alone and less, having class outside. This was for me the first time I experimented to go out, how to learn something without fears. I always have a Taxi or someone driving me at school. To me, collaborating in the public space means freedom.... This moment of the interviews at the markets to the vendors ...that moment! I learned so many insights and information from people. People share their whole life with us, sharing long time emotions and Market's stories. Stories of life, disappointments, love, passion, misery, migration and above all of human feelings".* (Layla, 25th February 2018).

The interviews show us three main students' insights: Their appreciation of the Ethno Cards as meaningful and effective tools for opening their minds to explore the city in a responsive way. The connection between conceptual and body learning and the surprise of their ability to engage with the vendors in the market and to discover their life's stories. They also express the feeling of "learning without fears". "It is ok to be wrong" as well as experience the freedom to not judge and not being judged.

Teachers participated in the first day workshop as observers, they did not know about design ethnography, and were learning about it by the way. My purpose was that they get curious about the method so they can learn more about it later, if they want to, and if they wish to introduce this co-learning method in their classes. Thus it was really exciting when they expressed their interest and enthusiasm to participate in the workshop as an opportunity to go outside the class with the students, but above all, about their "discovery" (go to the market was a learning but above all, a living vibrant experience). In their own words:

> Jenny (acting teacher): *It's necessary to bring the classroom to the world and vice-versa. Before students had no opportunity to go outside. I was supportive in making this kind of transition (in and out) as the most relevant learning for everything, myself included. (Interview, 13.02.2018)*

> Rosemary (research teacher): *I have never used cards in the classroom, as well bring my students to real life. I have always referred to Shakespeare, Sheppard, Eugene O'Neill. I never thought that a market could be a learning platform, less for actors. I learned how to go in the classroom and outside, how it is possible to embody life and the real stories to create characters. I will use it for the future. (Interview, 13, 02, 2018).*

The transition inside and outside the class, enables both students and teachers, to open new learning pathways. During the workshop's first day, the feeling of navigating into the unknown and to embrace the uncertainty was very present as well as a tool to open the experimentation toward new expressions, discovering new insights about place, space and people.

5.4. Embodying the market

5.4.1 Second day workshop

I lost my lesson plans. I had to redesign the dynamic, sensing the students in the space. The room we booked is already taken. The battery of the camera is empty. I am nervous. I need to follow with the second part. Students need to share their own cards. (Ari, 29.11.2017 Fieldnotes).

The second day was organized around students' experience in the market. Students' Cards were shared with the group. In particular, they had also to upload their photos and videos previously taken in the market in a common online folder named "The Polyphonic City". Those embodied experiences designed a real shared choreography's leit-motive.

Ari: *"Let's share the emotions and feelings you had. Let's listen to the sound of the market you register … Let's also listen and share impressions about some of the interviews you did with the vendors, the people in the market, etc...."*

After listening to some video-recording stories of vendors about their relation to the market (how the market was their life, how they went in love in the market, and had the family around them), the students realize that the market was not only a place to shop, but a place full of life and commitment. As the market was experiencing a decline period, with some vendor shops closed, it was also a space used for poetry and artistic expressions from the same vendors and collectives of the neighborhood.

This environment created by the collective memories wonders the group of students. And it was reflected on the Ethno Cards they created. Following a transcription of some excerpts of the second morning workshop session:

Ari: *"...The market seems a real discovery for you... and I notice that you also make pics to the visual poetry around the vendors' shop windows around the market is a recurrent topic in all your pics…"*.

Otello: *"...Yes, the most important was exactly the poetry … I mean written on the windows in the vendors shops, the words talk to us...you can imagine how the letters become your script and start moving with this in mind...you act in the market with your imagination with the apples, the fish, the smell, the sounds...is all a big poem!..."*.

Layla: *"...In Syria... I was back in my country when I smelled the ginger…and I saw this poem in the vendor shop about women...well I am now living here but I was in my market in Syria...suddenly ginger, red peppers...all the spices in my body dancing and I saw my grandma.... We always spent time together to buy in the market for the Sunday dinner and for my grandpa. I am dancing with their memories... blue eyes...ginger and lemon...my family is with me…"*.

Mary: *"...Avocado! Verde te quiero verde...this is the poem. In Colombia we eat avocado in many ways and my mum use it as a face mask for the nutrient property for the skin...I am in Cali...I saw my beach and the avocado in the market corner...I am here and my smell is there...I am not sure…Then, we shared the Ethno Cards they have done about their experience in the market. Most of them were truly creative…"*.

Otello: *"...I draw an abstract sound. I am reflecting about emptiness. How did the market sound when the night came? I perceive a sense of wind and music that is a companion of this adventure. For that the notes and the empty spaces…"*.

Layla: *"... I draw the red heart at the center of my card because the market is the center of people and life in a city. You can find life and again life again and a variety of feelings, colors, faces, gestures. You can't get bored about it."*.

Mary: *"...My card is a mix of memories, pics and vendors' faces. I listen to their stories and I decided to connect them here in my card of people, their feelings and emotions".*

Ollolai: *"...My Ethno Card is the fish in the shop. I am the fish... I mean if I understood ethnography and design are useful to describe life and people and their stories in a more creative way. As an actor, I decide to be the fish in my card...I am silent, I am observing the complexity of human life".*

Sodelan: *"...My card is full of plastic colored balloons. I imagined all the waste in the market reused as a new material...something can be for example create a new compost...I imagine any failure can be re-design as a successful one...your life can be wasted but you can decide to take another direction… you can fly as the balloons in another life…".*

Marc: *"...My card is Catalunya as an independent country. Market: is the independence of all the choices you can have as a country to be full of diversity and still unite. I believe in diversity. I am the mushroom with the white head. It's different from the others but is unique and with personality. This is also my country where I live. The card is Catalunya…".*

Then, the idea of this session was to perform the experience of the market. With their Cards students express their relation to the market, and somehow, they "became" part of the market (see Annex I, Student's Cards). This day Max, the dance teacher, was there. I propose to start from the market's sound recorded and then perform how we imagine an imaginary market in a carpet we find in the class. The objective of the exercise was to embody the market, to feel it and to move within it through imagination:

Ari: *"Let's go to imagine a carpet, a common space, an imaginary market. How does the market smell? How does the market sound? What do you encounter? Let's navigate!"*

> *Ollolai: "I am the fish... I mean if I understood ethnography and design are useful to describe life -and people and their stories- in a more creative way. As an actor, I decide to be the fish…I am silent, I am observing the complexity of human life*

The last part of the workshop's (morning session), was Max's (dance teacher) possible choreography for the next day in the market. Max introduced the idea of the market as a house. He drew a map of an imaginary market with its different entrances and everybody performed different directions around the imaginary drawing, thinking how they can inhabit that space; instead to work around their inner experience of the market, they were instructed to make a plan as a mandatory choreography, that "must" be developed.

> Max (dance teacher): *let's now think about the house! The rooms...imagine…how is this house? Let's dance.*

The atmosphere started with a gentle classical music where the students' bodies started from the ground slowly moving up. Directions: up/down, right/left, and turn in/turn out, move up/ move in... all the bodies are one till then the music changes and becomes more intense, electronic and louder. The instructions given to the students put them back to the status of following someone's ideas instead of working from their inner toward outer expressions, following their emotions and insights, improvising while exploring new pathways, through their bodies. I sensed that the pedagogical dynamic of the co-learning was broken. In the first exercise, the imagination was used in relation to their own experiences in the market. In the choreographic preparation, they were impelled to use the abstract imagination of a "house" or to imagine the market "as" a house.

 At the end of the morning of this second day, Jenny (acting teacher) commented to the students to come back with a character in mind for the next class, while Max was asking for a basic choreography. The learning objective was to have a framework to start with and improvise then in the market.

During the afternoon, I decided to co-create a session with the students with the following improvisation and choreography with the use of a toolkit of patterns cards (see annex). I usually use this kind of toolkit in my design class to explore, identify and connect patterns as a cultural and social process. In particular, I asked the students to choose one card and draw a new one, inspired by the feelings received from another group of cards to identify the pattern they recognize.

Then commented and shared with an improvisation, a choreography that can express out there, both instincts than feelings. This moment was particularly significant as we can read it by the interviews below:

> Ollolai: *"...I can't believe it!... I see the sound in the card. Then my body started… Dancing with others. We were separate on the floor… then united and moving up, down, as fishes in the ocean… I am in the heart of a fish...come here...look how many dead fishes in the shop and Hi! ...the vendor is a kind of man with intense dark eyes and robust hands… I suddenly lost my voice…I am swimming in the ocean …mute...I am a fish…". (Ololai, 29th November 2017).*

> Mary: *"...We moved inside. We moved outside. We just see us, move and feel. I am pretty sure that my instinct was in the card that Ari showed us but then… my body asked me to move differently. I moved with the others, together with others… "(Mary, 28th February 2018).*

5.4.2. Learning from life

Embodying the market as open dynamic in class as well as in collaborative and collective creation allowed the teachers and the students to work with me with a new way to approach design and ethnography through a tactile and bodily mood. I tried to design with the students through their imaginary body, a system of

learning through our perceptions and sensations:

> "*Once I sense, I exist, then I can explore the world out there and be confident with my imagination to explore*" (Ari, Fieldwork notes, 29, 11, 2017).

As reference my teacher Anna Halprins in 1966, was a pioneer in the climax of the couple's collaborative experimentation, together with his husband Harry, (the Halprins) organized the first of a series of "Experiments in Environment." These multiday collaborative workshops involving designers, dancers, musicians, visual artists, writers, teachers, and psychologists were intended to investigate "theories and approaches leading to integrated, cross-professional creativity" and heightened environmental awareness. Larry applied lessons learned in these "Experiments" to his work in the public arena, particularly as a foundation for the development of his community design method, the Take Part Process.

The Halprins conducted the 1968 "Experiments in Environment" as a twenty-four-day event located in downtown San Francisco, in wooded Kentfield in Marin County, and at the dramatic coastal Sea Ranch. The three environments were evaluated through "intuitive modes of perception," including kinesthetics and other body-environment awareness techniques.

"City Map" served as an initial score to stimulate direct interaction with the physical environment of downtown San Francisco. Guidelines included these instructions: "*Be as aware of the environment as you can… This will include all sounds, smells, textures, tactility, spaces, confining elements, heights, relations of up and down elements. Your own sense of movement around you, your encounters with people and the environment and your feelings!*" Visual material was distributed, including a map with a processional sequence, indicating mode of transportation (walk, cable car ride) and stops along the way. The predetermined "tracks" throughout the city ensured that each person's time in each place varied from the next person. The group was therefore in constant flux, except at three o'clock, when in Union Square all forty participants were

instructed to rise to the sound of chimes and face the sun. To choreograph this complexity, the Halprins distributed a diagram, called the "Master Score," that indicated the sequence in which each participant was to visit the places along the route, the time to get there, and how long to stay. What "remained unscored and open," according to Larry, were "the involvements with other people, the adventures, sensitivities, games played, and impressions gained."

Day two of "Experiments in Environment" was situated in Marin and included what was called "Trails Myth." The participants were asked to join hands and perform the movement score blindfolded to gain a "direct experience of the kinesthetic sense in space." After "Trails Myth," a "Blindfold Walk" extended the group-movement possibilities into the outdoors. Participants were instructed to walk through the woods blindfolded, holding onto the shoulder of the person directly in front. The intention was, again, to heighten the other senses. After the blindfolds were removed, participants were asked to draw the experience of their blindfold walk. According to Larry, "*without seeing it in their customary mode of perception, the participants recreated where the open vistas occurred, where the terrain changed, where spaces were narrow or lofty or threatening*." Such "sensitivity walks" were adapted for the Take Part Process to instill a stronger awareness of the environment and enhanced perception of movement through it.

For "The polyphonic city" I follow the same intention in a new brand environment with the exploration of the real market generated a research attitude, which is a powerful pathway for actors' training, as they connect acting research with everyday practices. Not only, they make their imagination work through unknown patterns or from an abstract world of possibilities, but learning from real people' actions and behaviors, attention to everyday patterns (sound, visual, body movement patterns, etc.), that come out from the "real world"; so they discover and embodied new patterns to their own repertoire.

When students come back to class, after their dance improvisation they embody and play out the patterns they discovered in the market. They were aware that

they were co-creating an improvised performance embodying a certain harmony between them, a structured complex and correspondent, symmetric choreography. They experienced co-creation as a collective creativity process in collaboration. Open class did function pretty well in achieving the pedagogical learning objectives.

Below some students' reflections, after the workshop interviews, from the second day, and how they were embodied life's story with the real-world experience and their creative process:

Mary: *"...I'm Catalan, we're used to staying out. Since I was a child, my family and I, we went a lot playing in the square of my neighbor, San Martí. I really like to stay outside but I am not having outdoor class. I mean, we went out to discover the market, the city to learn. I understood that class is not closed in the school. I normally don't do workshops, only regular classes inside the institute. We never go out to perform. Yes, it was the first time I used the city as open class, as you explain. I never had the opportunity to stay with my colleagues in the market before. We don't explore the city and we don't use the public space as public commons to learn. No, we don't do that and for me is the thing to do. Yes, I discover that collaboration is blurring the class wall and also that performing is a creation process with my colleagues. I don't create alone, I create when I talk with people on the outside and with my colleagues, you and Jenny, others and above all with my imagination. Amazing! (Mary, 27th February 2018)".*

Otello: *"...I remember many moments but the most important to me was when we have different voices talking to us about the performance. I was really confused. I was again in the same void I have when Jenny and Max talked to us in class. I don't feel anything. I was afraid for a moment that they would switch off the light "rapidly", but you decide to move it. I was very connected with you when you came to hug us and instead of asking something, you started moving your body and we followed you and we performed on the carpet. Was a delirium, a sort of*

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common need to let it go. I learn more than my imagination fails with my
expectations to be a good student for my parents. I feel you learn with
us and we learn together. But I don't see you imposing. I feel your
creativity move with us and share the light. I learn to be me, a performer
with all his fears". (Otello, 25th February 2018).

Otello: *"...I was thinking many times that to be an actor, a performer, a*
dancer, you don't need to go to a school. Then I saw a movie about
Shakespeare and my father gifted me different books. I like Otello in
particular. Thanks to Otello I decide to go to school to become an actor.
In my family all are teachers. I don't like the way my teachers make class
in general. I haven't had a nice experience before. I was really waiting
for something different and then you arrived with a group of other women
and moved the light. I think to Jenny or to Max. They can switch on and
off the light. You move it. There is a difference. I mean you're dancing
with us and the other teachers are talking. I don't have fears with you. I
can touch you and I like the way you make the body talk. I will use it
again. So, about the teachers "Hey teachers, leave those kids alone!"
(Otello, 27th February 2018).

It is remarkable to say that during the second day, teaching methodologies collided; the combination of workshop dynamics with the dance class introduced different teaching's styles. While the actor- teacher and the artistic research-teacher were participant observers, commenting and helping from their expertise, Max, the dance teacher adopted a resolute attitude: students must develop choreography. He proposed to them to think about the market as a house with many entrances. Thus, the idea did not come from the students, but they adopted it as their starting point. He was given instructions to the students as an expert choreographer, applying teaching methods based on instructions for creating the performance on a very detailed house, although he has not participated in the first day of the workshop nor went to the market, thus he was unaware about the shared experience and the collective learnings we have shared from our visit to the market.

Thus, there was a collapsing moment: the co-learning model and the teacher's

model based on traditional teaching-learning style, where the teacher is the expert and the students learn from his mastery and follow his instructions. Recalling Pink and Fors: "There have been two dominant strands in traditional debates in the field of pedagogy: one that refers to processes of teaching people to do things in particular ways; and another that seeks to enable learning." (Pink & Fors, 2017:1). Clearly our pedagogical styles were different. While I was situating myself as an artistic guidance that lead but not direct the process and a co-researcher with them, he was situating himself as an expert that gives instructions and solves problems. While I was reinforcing improvisation and co-creativeness from their own experience of the market to create the performance, he was suggesting a plan and a strategy.

This conflict of teaching styles creates a point of inflexion or pivoting, I have to address in the "now" of the dynamic. Confusion, noise, collision and adversarial thoughts create a moment of big confusion among the students and change dramatically the dynamic. This was an important reflection for me as a researcher as well as a teacher. In particular, because the different pedagogies were in comparison and in collision and it was made explicit later in the interviews:

> Mary: *"...The performance Max asked was very strange, but it was fine, because we did it ourselves. A part, I don't like at all the moments. I was confused when Max asked it and I was lost for a while. I also recognize how the time I spent just doing tasks without thinking, was a waste... I want to use the body to feel and I want to be an actress...".*

The conflict was the core point of the "embodiment turn": going from sensory and tactile experience toward improvisation and co-creation together. The final remark is that the co-learning process worked despite the conflicts and hesitations, the students showed autonomy to react and the method is open to improvisation and flexibility how to navigate into the unknown. Both design and ethnography embodied the openness of the interplay with multiple encounters in the now, enabling the students to build up and decoding significant complex relations with the material and immaterial space and place through their creative

processes. This open-ended dynamic is iterative and creates multiple perspectives on what makes this experience unique and performative to co-learn facing and navigating into the unknown.

5. 5. Performing the market

5.5.1. Third day workshop

"...Today is the day. I am excited! I am not sleeping a lot... I had an orange juice…energy to embody the sounds of the market...I am sensing a strange lightness and windy atmosphere in my body.... Let's do it! "(Ari, Fieldnotes, 1.12.2019).

We arrive at school, step by step, first floor, classroom. All the students have decided to use the clown as an imaginary character to perform at the market. I accepted their decision, but somehow, I felt that it was something in the character of the clown that disguises them and protects them, separating them from the people, instead of creating a shared experience..., but why not? We were different teachers interacting with the students, so everybody shall be respected in the decisions taken.

Ollolai: *"... We decided to go as clowns...so everybody can recognize us as actors in the space. (fears)…let's go together? …".*

The idea we discussed with the students was to introduce the performance in the market as "a gift". We shall perform for them to give back something to the vendors and neighbors, a sort of gift for being so kind in sharing their own stories with us. We decided to go out in four groups (one teacher each group), to record the experience and to start performing and improvising from the different market's entrance, to create more improvisation, exploration, diversity.

Ari: *Wait me downstairs! Elisenda, Max, Rosemary and Jenny are you filming the improv-interventions? I will follow the groups in different tempos and moments. What if we start with the observation of the fishermen zone group and then we split with the students in different areas of the market?*

The performance happens in different momentums. Firstly, the students access the market from different points and move across the space in couples exploring with their red noses the vendors' shops. They have decided to reproduce the sounds of the market. Different moments of uncertainty, doubting where to go and how to perform. People looked at them with curiosity, not understanding what was going on. Then suddenly a deep sense of fear made them become one big group of red noses… they moved with decision and coordinated actions, gaining confidence in their movements. Then, the final performance was all of them joining together, moving their bodies as one and shouting loud: "Bolet! Bolet! Bolet!" (mushroom, mushroom, mushroom!).

This collective scream was like a summary of their market experience. In the interview to a mushroom' vendor and how the old man was explaining his life (coming from a little village in the Pyrenees to Barcelona, the big city), and how he left his family, he begins a new life. And he likes mushrooms in the forest, and now that he can't go anymore because of his age, he still likes them and like to sell them singing opera -Bolet, Bolet- (mushroom, mushroom!).

In the "bolet" momentum, they were able to co-create a collective improvisation in front of the segmented ones they have been shy to perform before. They found each other in need of collaboration. The momentum creates a collective capability to navigate through the unknown. "Bolet" (mushroom) was the sound they accepted -although many of them did not know the meaning- as a common and visceral scream that allowed them toward the transformation. To transition from the state of fears to across their own fears, the students finally open up to the interaction within the group and with the market's encounters. At least, the

connection between the market, the performers and the "true life" happened. "Bolet" means mushrooms in Catalan, was the sound and onomatopoeic background that embraced the collective improvisation: "*boooolet, boooolet, bolet*" (mushroom, mushroom, mushroom) toward a collective transformation.

> Marc:*" … Bolet, Bolet, Catalunya, mushroom, mushroom, Catalunya, Catalunya…I am looking for the big mushroom (bolet) ...my uncle has been collecting mushrooms since I was 5 years old. You need to be very careful about picking the right ones. You can also die… I am sitting at the edge of the mountain rock, waiting for my Uncle Isaac and his mushroom's basket...He always finds lots of mushrooms… I find only a white and majestic one today… smells velvet and is elegant like a suit … I will show it to my Uncle Isaac and If this is what I think...We can for sure celebrate…. Bolet, Boooolet! (mushroom!).*

Back into the classroom, students as shared the collective encounters in the market, discovered the fuzzy creative moment of sense-making (that is proper of every design process) and the team building in actions, to set up their own relations even the "gift" to the market (the performance) was a moment of confusion and a reflection. Some of them shared their impressions and feelings about the performance in the public market:

> Ollolai: *"...I am really surprised about the fears that I encounter. I understand the importance of belonging to a group. Acting is something I need to escape from this world. I am very fascinated about the performance we did. Was improvised about all the sensors and the sounds around the market as an open stage full of encounters and instant reactions".*

> Mary: *"…Is it my first time I act in public space. In Colombia, the street is a drama and the city as a drama. Here people are actors and you can act and talk to everybody. The market never was for me an interesting place to act. I am very confused because now I want to discover more and see how my body can act in the public space".*

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> Otello:*" ...I believe in you Ari. I understand why we are going out. She teaches us to always open up different viewpoints. She is fun! I believe in myself acting in the street to create relationships and to learn with others. Co-learning is something new, but this market is an example of how life is going on while we are close in this classroom".*

To close the workshop, I improvised (once more). After sharing our impressions about the performance, I decided to perform a last "lesson" for us all. I asked all of the participants to lay down on the floor first and then to connect back to our bodies and aligned our energy.

At one moment, after a while, I said: "*Now let's put all your body on my legs!"* All the students and the teachers follow my instructions without any doubts.

This was a moment of relevance due to the fact that showed in practice how our mindset to follow instructions, according to the training we received in school, is active. Nobody questioned it was really a silly instruction and I was in pain. This uncanny situation speaks about the role of teacher as instructor instead of enabling students to learn and create an open and critical thinking-based dialogue. I must shout louder out and scream in order to react and pull away from my legs.

> "*I find myself. This is the reason why I am teaching. A mission and is a pathway for me. To share a complex pathway. This is the reason why I am confident in their creativity and in the possibility of new ways of teaching and learning". (Ari, Fieldnotes, 29th November 2017).*

From my point of view, the final "legs' lesson" and the instructions I gave was the climax of our workshop. I was showing through my own body and their own bodies the limitation of an instructional pedagogical model. It was a collective experience that is difficult to forget. For me, it was and still is an important aim to build a new pedagogical paradigm by not going against the old one in order

to overcome the obsolete form of thinking, but introduce disruptive codes that enable people to critical learning and to do it together, in collaboration toward a shift of a new paradigm. If we share our fears, and we embrace change, we are more open to new opportunities of being more human and compassionate.

5.5.2. Learned Lessons

It is worthy to recover some responses to the interviews after the workshop to evaluate the co-learning process in relation with the main research questions. Through the interviews, we can verify that students connected their market experience to their training as actors as well as to their living experiences as citizens and human beings. Moreover, during the interviews and later on in their own writings they reflect about the workshop process and the relationships they made between design, ethnography and their performance as actors. They also were aware about their body as a "locus" for learning and experimentation. They also acknowledged the importance of learning with others and from others; the importance of being together:

> Mary: *"...You use a word: co-design. Is my first time learning that you can design and learn with others and collaborate to make a performance, for example, in the market. Then you can live with others and explore their worlds with a distance. You can also perform with the body. We decided to use the clown, to use the body and less words. I understood that ethnography also can express feelings without words but through the body. When we improvise after that we design or co-design the cards, we create a performance in the instant. We create in an instant to represent a feeling and to express a thing. I never did that in class before. I'm a performer". (Mary, 28th February 2018)*

> Nemo (remembering his acting in the market with the fisherman shop): *"Do you know when you don't give attention to something you already*

have? This is what I learn from ethnography. Be here. Be with you, present. very difficult. My friends call me Nemo the fish and I like to be a fish. So, I can dive into the ocean and discover. This is design and not table and chairs as you said … I learn to listen to my colleagues even this girl I don't like too much…you know it... She is always cool, she knows everything. Honestly, it was the first time, I was thinking she really knows stuff and that I'm learning...yes also learning from a girl!" (Nemo, 28th February 2018)

Ollolai: *"Our teacher talked about you very much. When I saw you… I was thinking "they are both crazy". Then I ask Layla if she likes it. She was so engaged, that in a certain way, I followed her. Was the first time I felt capable of doing something by myself as an actor. No one asked me to make it. I really decided that was the moment to go out and participate, collaborate". (Ololai, 28th February 2018)*

Layla: *"I was very surprised and happy to don't make class. Better I was very enthusiastic to experience a real experience in the city. I really appreciate the moment we explore design and ethnography with the body. I will use it more for my project. Was warm. The methodology: what does it mean? the way? if yes was all new and experimental. Like discovering and action, moving, dialogue, reflection. It is my first time I made a workshop like this and I was surprised (Layla, 28th February 2018).*

Otello: *"I feel the colors, I feel the smell around when I walk by the city. To me, it was easy to understand you. I was very attracted to my cousin when we were at college. In particular, I feel the light as changing according to the space. This is the reason why when you asked us to go out in the public space, I was familiar with this. I was also thinking about the idea to go out performing many times. I never did it because in class no one propose it. So, I just follow the class and the rules. The emotion I have is mutating. Do you know the movie Blade Runner? I saw a remake at the cinema with my cousin and then my father showed me the first version. incredible better. I feel the same in the city, in the public space and also*

with my colleagues. I mutate from a state of students to a state of artist. I see a different light imaging the market on the carpet, the sounds, the smells...and in the eyes of my colleagues... because everyone said that we collaborate as artist but it is not true. This is the first time that we perform in the public space and also the first time we create together also in collaboration. I have created always alone my performances and I'm going to the market to buy fruits with my imagination and back within my body. (Otello, 25th February 2018).

During the action-research fieldwork as a participant observer, I noticed that students' experiences of the market were deeply connected to their relationships and memories. My first impressions were corroborated later in the interviews, as they reflexively explained to me how they were surprised by how they connected their body movements with the market experience. Later on, when analyzing the video recordings and the interviews, I noted the complex relationship between personal memories, vendors stories and collective performances. One of the most impressive moments of the workshop was when they joined together in the market performance and how they extempore found the Catalan sound "bolet" (mushroom) as the collective sound to finish the performance. The articulation of the personal memory of one of the students, with the collective memory of the vendor's storytelling and the performance of "the bolet" dancing. Then I did not realize what they were shouting, only looking at the video and cross-checking with the interviews, the connection was made clear to me. Through this writing I have argued that it was due to their work with body, emotions and imagination that enabled them to co-create and share.

According to Light, A (2015) considers participatory design as a form of anthropology at a time when we recognize that we need not only to understand cultures but to change them towards sustainable living. In my research, the democratic-oriented practices of some participatory design research to definitions of co-learning, allows the students to explore the role of design intervention in social processes. And, challenging definitional boundaries, it examines design as a collaborative tool for cultural change,

Some points of my personal learning journey taken from in my fieldwork notes:

- To feel deeply at home in your own skin and have a sense of belonging.
- To both express and manage your emotions and have a choice about how you are
- To be a more compelling leader, lover and learner
- To survey the field of embodiment to see what your current practice covers and what it does not
- To be a bit less of an arsehole a bit more of the time
- To heal the trauma that your parents couldn't, so that you don't pass it on
- To learn practical design and ethnographic tools if already teaching a bodymind art-performance research
- To feel fully alive, and to be fully human
- Further research in that sense needs to be done.

5.6. Beyond the workshop

Jenny and Rosemary are the acting and the art-based research teachers that co-learned with us during the workshop series. After the workshop, they introduced the co-learning methodology in their course and followed the open class IN/OUT practice also after the workshop. They recognized the value of the co-learning pedagogy and the strong engagement students had after the lived experience of the workshop.

Moreover, as they told me during the interviews, the students decided to go by themselves again at the market. After embodying the co-learning experience and stimulated by their own curiosity, they decided to follow the improvisation and applied it for their own new performance and the end of the course. The continuum design in and out of the class generated also expectations and questions about their curriculum, the way they can learn and grow up as actors

in collaboration in the public space. This is an important indicator of the impact of the co-learning workshop among the teachers and the students. It is interesting for the evaluation of the co-learning reflecting on the answers that students gave in relation to re-think about teaching-learning methods and the role of teachers and students in education:

> Layla: *In Latin America, being a teacher means to have a certain importance in the society especially if you're of class 4 or 5, means you have money and influence. Here in Europe teachers are very friendly and if you attend a private institution, they are for you at every moment. They follow, they are like babysitters. I sincerely don't feel really much a very big interest in their attitude. Seems to be another daddy or mummy. What I was seeing during our workshop was a great experiment where the ordinary will be converted into the extraordinary and I learn a lot, have fun and go out with my colleagues. You lead all the moving and we take part of it. Then we start leading and you co-lead with us. We all are part of this Dance but the teachers feel in my opinion that something without their control is happening. They also follow you but do not participate just stay more than live the experience. But what do you pretend? you're an artist with this way so funny and close to share. They are traditional artists using the teachers to have some money as all the artists. You have more money but also more ideas and ways to share. You're not a teacher, better an artist sharing ideas with a group of young artists. (Layla, 27th February 2018)*

> Ollolai: *"...I don't know. We collaborate together, we go out in the city, we ask people how they feel about the market, we observe. Then we perform and we talk about it. Is not a class. Is a performance. What do you call it? I will call collective performance because we create together. Then the idea to stay in touch during the days and explain to my mother that an Italian artist ran with us in a workshop, that I was very different and happy...this was very new". (Ololai, 27th February 2018)*

> Mary: *"I sincerely don't know what a methodology is… but I can certainly explain I received a very traditional education and this workshop is magic. Is something that overcomes the normality to bring you to*

normality. I would like to say that is the first time I learn to express myself and talk in critical ways about issues of importance and with my colleague outside, in the city and make a performance. The period from the preparation to the performance was the best time I had. Then the performance was as when you need to make the coffee for the first time with the machine when you put water. You don't have any bottom. you need to make a decision of how much water and coffee. Then fire!! you understand right? This is the way to be experimental and share with all your feelings, impressions, actions and reflection. I was really enjoying my freedom during the workshop". (Mary, 28th February 2019).

The workshop "The Polyphonic City" can be described as a systemic creative space of relations, where collaborative learning occurred through embodiment and self-reflection. The students learned in a continuum in and out of the class. The open class allowed them to experience their bodies and creativity both in the market and inside the classroom. They worked through the design ethnography process the body-mind connection, inwardly as personal and collective experience, and expressed it outer, as performative action in the space (inside the classroom and in the public space of the market).The students learned in collaboration how sensing the space, they learned through imagination and thinking through their body, so they embodied new interactions with the environment and encounters.

The embodied and experimental action-research process with the students and teachers of the Art School introduced through design ethnography, an innovative way to work art skills through observation, exploration and dialogue in the encounters. They rely on trust, collaboration and collective creativity. During the workshop, while using design ethnography, I combined performance training in the context of the public space, bringing new ways of learning from the class to the city, and vice-versa, as an open and collective set of opportunities for all of the participants.

Chapter 6

Conclusions

6.1. Co-learning in performing arts

This research has been based on main working hypotheses related to learning and creativity as social and cultural practices; assuming that open design and design ethnography can be a reliable framework for pedagogical purposes and interdisciplinary learning for performing arts education. I unfold this theoretical framework through Chapters 2, 3 and in Chapter 4 I explored the methodological paths I was interested in, both, as part of my pedagogical method and as part of my research in education. Then in Chapter 5 I described in detail the "Polyphonic City" workshop and, in my analysis, I relate my participant observation with the participants' later interviews.

Through this empirical action-research phase, I develop a qualitative ethnographic approach to probe the co-learning methodology and evaluate the results. Now, in this last chapter, I am sharing my main results and findings and the scope of my future research.

The implementation of open design and design ethnography as pedagogical tools in the field of arts education, allowed me to contrast in an empirical setting the main research question related to open pedagogy as a set of methodologies that enable students to embody their creative work at the edge of different disciplines. In particular, I showed that performing art students incorporated these design approaches through practices of embodiment and probed that they were able to take different directions in decision-making with autonomy.

The action-research findings showed that embodiment was key, first, to allow creativity to flourish through improvisation, learning by imagination and using the body as a thinking tool. Second, embodiment allowed students to connect with outer realities, outside the class, in the city as the open space of exploration through establishing relationships, connecting meaningful learning through interaction with others and the city, and creating a critical awareness about their everyday environments through curiosity and appreciation.

Michael Chekhov when developing his acting method, in his book "*To the Actor (1953)*" he argued:

> "*All true artists bear within themselves a deeply rooted and often unconscious desire for transformation ...I am a creative artist. I have the ability to radiate. Lifting my arms above me, I soar above the earth. Lowering my arms, I continue to soar. In the air moving around my head and shoulders, I experience the power of thoughts. In the air moving around my chest, I experience the power of feelings. In the air moving around my legs and feet, I experience the power of will. I am. "*

Most of the acting methods do work with embodiment as a source of discovery and express inner feelings and emotions. However, in the co-learning pedagogy, embodiment is a result of the interaction with others. As we have seen, students learn through imagination, as Michael Chekov described, sensing the body... but moreover, they incorporate "the other" in this process learning from the encounters' interaction. Faced with the unknown, in real situations of everyday life in the open city, the students experienced new

insights, were willing and aware to collaborate with others, learning from them in a mutual relation of giving and receiving.

One example, through active listening, and sensing the sounds of the market, participants elaborate a relationship between outside spaces and the inside feelings. The student's body was like an interface of relations and reciprocity: new viewpoints, new perspectives arise helping to decode complexity. When considering the embodied basis of the results from the imaginary market in class and the real experience in the public domain, it is worthwhile reconsidering the aforementioned relationship between sense and atmosphere, things and people, objects and space, body and mind. That is, in their daily interactions, students found that objects carry distinct sounds properties as well as spatial depending on context or atmosphere; during the workshop they use these experiences as part of their storytelling and in their improvisatory performances. This fact implies an innovation in the actor's training as well as in arts educational frameworks.

In this dissertation, I tried to explain how I developed my pedagogy, drawing on different methodologies coming from design and the social sciences. I also have done research to test co-learning in an empirical, real context setting, by designing and implementing a prototype, "The Polyphonic City" workshop, to try to answer the research questions mentioned in Chapter 1. I have tried to follow along this dissertation a *fil rouge* based on the interwovenness of cognition (e.g. understanding), collaboration (peer to peer) and action (toward decision-making) as a practice of learning through the body and the mind.

To summarize:

1. Co-learning has proved its strength to promote an open pedagogical framework to support creative arts educators and learners to link academia and daily life.
2. Design methods have been shown to positively contribute as learning methodologies to foster an innovative educational model that expands the academic learning context outside of the traditional school setting in a more collaboratively and horizontal relationship between students and teachers.

3. Co-learning has been tested as an open pedagogical framework based on the principles of design ethnography and open design. This approach demonstrated that it is useful to bridge the gap between class and public space, in and out, providing the tools to reflectively interact with the unknown, the others and learn from new environments.

4. Embodiment, as an improvisation learning methodology and as a principle of co-learning, has been successful to enable learning through imagination and bodily exploration. In this regard, the outcomes of the research are favorable to the development of new skills and competences to foster a continuum of formal and non-formal education in creative arts, in particular, in the performative arts.

Thus, the research has accomplished the main proposed objectives: to develop a pedagogical model able to fill the gap in between formal and non-formal education; to apply design methods (open design and ethnography) in the creative arts education to foster innovation and promote new skills and competences. Moreover, after the workshop we can say that co-learning enables students to improve skills such as critical thinking, problem solving, creativity and innovation, adaptability, collaboration, communication, somatic knowledge, self-direction and self-assessment.

In particular, during the workshop students practiced the following skills and competencies, that were outlined as possible outcomes in chapter 1 and that has been identified also during the workshop:

- to collaborate and share knowledge, fostering students' agency and collaborative learning;
- to expand creativity by increasing their autonomy in seeking for solutions to the challenges of opening the classroom to the city and its inhabitants.
- to enhance appreciation to foster engagement with the "others" in the performative creations.
- to stimulate empathy and human understanding through embodiment and to foster students' management of the unknown;

Summarizing, the co-learning methodology implemented in the workshop has accomplished, generally speaking, my main expectations. I hope it offers an innovative bodily pedagogy for creative arts education as it nurtures students' openness and leads to cultural and social awareness. Following the current trends in education, co-learning expands educational innovation by an interdisciplinary approach to the humanities, cultural studies, anthropology, and sociology into the creative arts curricula, not only as a theoretical background, but in the creative practice itself.

6.2. Principles of co-learning

In this section, I present the main findings of this research and how they contribute to develop the co-learning open pedagogy as well as its limitations and future aspects to investigate. My hope is that the research outcomes will contribute to the long-term integration of co-learning principles and can be incorporated into the curricula of creative arts education, as well as in other fields in higher education.

The outcomes of the workshop illustrate how co-learning as an open pedagogy for creative arts education and this interdisciplinary learning by doing may bridge the formal and the non-formal education, introducing in the curricula educational innovation mindset and systemic thinking, both in problem framing and solving. On the one hand, the workshop demonstrated the viability to work collaboratively with students inside and outside the class, enhancing students' responsibility and agency towards decision making. Students improved their creative and performative skills by learning through experience, embodiment and improvisation.

Co-learning pedagogy is aligned with current educational trends, as seen in Chapter one, as the connective learning (Nascimbeni 2016, Conole 2009) and many other initiatives. Still, more research needs to be done in this direction, in particular, in the intersection of performance and AI and new forms of embodiment in diverse cultural and virtual environments.

We have seen that the students' co-learning processes happen through their social interactions as a continuum with the place, in and out of the class. They embraced collaboration and felt free to improvise. However, the process was full of fears, doubts and hesitations. In particular, the performance in the public space (in the market) activated a lot of fears that were embodied in their body motions when they walked in pairs through the market. They talked about that fear in the interviews and their initial resistance to go and talk to the people. They were also very surprised about people's spontaneity and how they share life stories about the market. However, these tensional encounters with strangers make them feel alive and that they were exploring new ways of being in the world together. They also explored with wide open eyes the market itself, its decadence architecture, finding pieces of art, poems and bizarre installations. Moreover, they also engage with the objects and the natural products, taking sensitive photos of what they were looking at.

These explorations were later present in their drawings and performances, as that student that performed the fish agony. All that exploration and spontaneous emotions through the market opened new horizons of imagination toward expanding their inner experiences. In this sense, "openness" does refer only to the "open class" that connects in and out learning experiences, but also inner and outer creative processes. And, even more, openness also relates to the workshop as a space of possibility (Pink and Akama, 2018) that we co-created during the process.

Finally, the openness is part of the art-based research process itself, which students embraced through the embodiment. By learning in a very short lapse of time, we did not expect a much elaborated performance, but a very complex process, as it was improvisation-based.

As I have explained previously in this chapter, the results of my research corroborate my working hypothesis and answer positively to my research questions described in Chapter 1. In particular, through the workshop implementation, I have demonstrated the viability and suitability of those mixed methods based on open design, co-creation and design ethnography worked in the field of performative arts. Moreover, the workshop's results confirm the positive shift in the roles of the educator from instructor - as a rule provider- toward a guide or mentor. This educator role as mentor or provider that co-learn with the students doesn't impose a pre-established vision to the students' tasks but enables them to decide according to their values, explorations, discovering and real-world encounters in a mutual open interaction.

Of course, more questions than answers rose from this experience, and further research is needed to be done in order to strengthen my assumptions. However, in qualitative inquiry, hypotheses are guidelines, orientations for the research, not to be validated but explored, abandoned or refined and enhanced through empirical observation, data analysis and interpretation.

Here I present here the main findings of the action-research in a nutshell.

The findings are twofold:

- One set is related to the principles of co-learning as the main criteria or ruling guidelines that were shown desirably for the workshop's successful development.
- The other set is referred to the protocol applicable for designing a workshop based on the co-learning principles and open class methodology.

In this section I will present the first set of findings are four co-learning principles: embodiment, openness, collaboration and absence of judgement as pedagogical principles of this method. In the next section, I will present the findings related to workshop protocol open-ended and expanded according to where we co-learn and with which community of practice.

We can summarize the co-learning principles drawing on the workshop's findings in the following:

- **absence of judgement**: the workshop showed us how students' experience across the market worked as a positive outcome as well as they acknowledged that they experienced a non-judgmental way of discovery and learning. The preparatory phases allowed them also to navigate into the unknown, in the way they explore with self-confidence the market and the curiosity they applied on the base of their sense-making. Absence of judgement was a valuable resource that they applied in further explorations of the market and for other similar experiences in their learning process in their performing arts training. Ethnography recalls and avoid preconceptions and judgements of others acts, however, they applied this principle in their own learning experience and between each other during the workshop.

- **collaboration**: the workshop showed the students engaged in the co-creation process, enabling them to enhance their critical thinking by a collaborative exploration in between in and out space of creation. They worked cooperatively to recollect the stories about the market, delivery awareness about their agency and responsibility as performers as well as citizens and their accountability regarding the social interaction and the co-creation of the creative performance. The finding here is that collaboration is essential for co-learning.

- **openness:** during the workshop the students worked on their interpretations by observing, interviewing and recording both sounds and voices, and taking photos, fully immersed in the smells, sounds, music and full-body patterns during the experience. This movement inside and outside the class enabled the students to creatively work with flexibility and improvisation. Moving from inwards to outer expressions, interacting with others and learning from the encounters as the base of learning with people. Their art-based research was an open-ended process. It does not stop after the workshop, but they willingly continue their exploration, revisiting the market, enhancing their learning process with autonomy and self-confidence. At least in undergraduate education

in creative arts, research has to be understood as an open-ended process of knowledge production, and encouraged for promoting critical thinking, not only to focus on concrete problem solving. Moreover, openness has been definitive for a learning process that promotes a collaboratively and horizontal relationship between peers, flattening the distance between experts and non-experts. As we have seen, students' interviews support these conclusions. Thus, openness becomes the third main principle of co-learning.

- **embodiment**: Co-learning method is built on an education theoretical framework based on body-mind entanglement. Then, design ethnography based on participant observation, sensory awareness, and embodied interaction correlate with students' learning through the body and self-reflection in a collaborative learning space open to real life. They had also to confront their fears and doubts together. This approach allowed the students to develop their critical thinking regarding the understanding of the whole process, analyzing their cultural backgrounds with respect to diversity and other ways of being in the world. What finally the workshop has revealed is the role of imagination for the embodiment. Thus, embodiment has emerged from the workshop as a key principle, as it combines cognitive, emotional and sensory processes in the body movement. In this interwoven, imagination is connected to experience and allows the incorporation of the new and the unexpected.

This dissertation introduces as its main finding design embodiment as a way to lead interdisciplinarity between design, social sciences and the arts and expand it to other disciplines as well. Embodiment is important for learning through the sensorial experiences in the public space, back and forward, outside the school and inside the school, generating a performative and creative space for the interaction with human and non-human encounters.

In particular, I recall that during the workshop I was focused on the body symbolic meaning portrayed in the students' movements and narratives because I wanted to get a grip on the relationship between appearance and meaning through real-world intervention, a relationship traditionally difficult to account for. In the out of class experience, in the market, I focused more on multi-sensory character and how students experienced the market through all of their senses, including audio recording, photo taking and video recording as ways of experiencing the encounter with the market and its inhabitants. Findings from this type of open research help to address embodiment: action and movement, which is essential for understanding any kind of human cultural relations.

For example, stressing the links between bodily postures and symbolic connotations (Carney, Cuddy, and Yap, 2010) demonstrate a relationship between the expansiveness of bodily posture and experienced 'power'. Interestingly, they showed that an expansive, as opposed to a contracted, bodily posture made people feel more powerful and also affected behavioral choice by enhancing risk taking. I realized that in the workshop, students usually adopted an expansive posture, but during the market performance they performed more contracted bodily postures, in correspondence with the fears and shame they expressed, especially during the first part of the performance when they were wandering in couples. Thus, design embodiment is also a finding that requires more research to be further developed.

Embodiment as many approaches and interpretations, is in use for my research as Richard Schechner founder and creator of the Performance Studies Department in the 70s at NYU, New York City, defined in his book, *Environmental Performance (pag. 40)*, he said:

> "*One thing can be said for sure: Performance Studies takes performance itself as the object of inquiry. That is, PS scholars do not begin by asking questions of 'Being.' They do not inquire into 'essences', as if beliefs and social values are natural or God-given.*

Instead, Performance Studies scholars see all of social reality as constructed by 'Doings'—actions, behaviors and events. No aspect of human expression—religious, artistic, political, physical, sexual—descends from On High, fixed for eternity. Instead, the various features of a culture's life are contingent—they are shaped and reshaped in particular through embodiment":

Because these performances are the building blocks that structure our reality, to understand and comment upon how embodiments function, we need to explain what any given performance does, and how it is doing it. Among other questions, we ask: What circumstances helped create this performance? How is it structured? What relation- ships does it enable? What effect does it have in a society, and has that function changed over time through embodiment?

We also perceive relationships between people and objects in our world through embodiment as the capability to connect and relate inner worlds, feelings and emotion with outer expressions. At the center of the embodiment there is the creative process. Thus, the workshop was oriented to discover patterns and relationships; people may be close or far away from each other, shelters may or may not provide shelter, people waiting can be patient or not, vendors may be talkative or opaque. Get a sense of an environmental setting by living it and later on, imagining our relation to it is the process the students experienced and from where we all learned. I showed that students intuitively understand the connection with them and the market as "togetherness", these findings and intuitions suggested that the first experiment (exploring the market) and the second (make an interactive performance for the market) are related, and that part of the outer expression resides in the perception of relational properties.

John Dewey was concerned with leveraging the power and potential of education as a pathway for improving quality of life. Dewey saw education as a medium for creating social continuity through the renewal and "re-creation of beliefs, ideals, hopes, happiness, misery, and practices" (Dewey, 1916: 2,

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1989). Listening to others and learning from the body can be an emancipatory and democratic practice for all and is a core aspect of the co-learning methodology. This is the substance of the co-learning set of methodologies, the set of interventions that operate as methods as well as tools of transition toward a more equity, distribution, decentralization, equality, collaboration, no judgement, compassion and human values that connect academic training with everyday life.

To conclude this section, I bring upon the table the relevance of the body and somatic practice in the co-learning method and in particular its role as enabler in performative arts. The body is more than just a "brain-taxi". It is key to who we are, and therefore a key aspect to work with as a facilitator as well as an artist teacher. The world is emerging from the era of body-mind split. I am saying nothing new. The idea that the body, rather than being a hunk of meat, is intimately involved with the human experience is now mainstream. As well as wisdom traditions such as meditation and martial arts that have historically worked with the body-mind, there are now plenty of studies (Schechner, 2011; Halprins,2000; Turner 1980) which show that thinking, emotion, perception, intuition and more are all bodily functions. The word 'embodied' can be used to distinguish between a depth approaches to the body or to other common meanings, for example, those focused solely on fitness and athleticism. Embodiment concerns the subjective experience of the body – the body as an aspect of who I am, not as a thing. Working with the body leads to deeper insights and more lasting change than purely cognitive approaches. The body is central for performative arts education; but art-based research focused on the interdisciplinary intermingle of open design and ethnography turns to be an important resource for connecting artistic training to the world and to critical thinking.

The co-learning pedagogical model developed here for performative arts education aimed to help artists, students and teachers, to get quickly and powerfully to the heart of real issues and create changes that stick. As well as helping in developing skills for more kinaesthetic learners. Involving the body in the learning process boosts the transformative power of all people, as we all

can experience embodiment. Our habits rest in how we hold ourselves and move, and so do new ways of being. Working with the body in this action-research showed me that performer-artist assume that the body matters but sometimes they are not sure how to work with it easily and safely. We have seen in the workshop that students were not afraid to "use" the body in their performing tasks but for most of them it was a surprise to discover that they "can think" through the body.

6.3. The workshop's protocol and guideline

As the second set of findings from the workshop process, I also have extracted an open protocol that obviously is subjected to improvisation and improvement, to be re-designed in each new context. However, the co-learning workshop can be described as a teaching-learning process that embedded and embodied a process of research, developing creativity through improvisation through different spaces, playing with shapes, tempos and lived emotions. The process of research was not only at one level. In this case, it was set as an art-based research process for students as well as for the performing art teachers, but it was also an action-research for this dissertation; and was understood as an open-ended process that did not finish with the workshop. Teachers and students continued experiencing the open class format, developing a further performance based on these new insights and experiences.

After the workshop and during the interviews, students acknowledged they experienced a learning process as actors as well as citizens, that is actionable in other contexts and situations. Through this integrative and holistic way of learning, students showed that they could train their own skills as performers as well as art-based researchers, incorporating elements of design and ethnography. By doing so, they connected their personal lives and memories to the lives and memories of the market as a lived place, including humans and

non-humans; memories, walls, colors, fruits, animals, paintings and sounds. They also connect this embodied knowledge and lived experience to their training as actors. In other words, they connect their learning about the market with their creativity as performers and also as citizens and life beings. Finally, it is important to say that they also put into work many different skills and competencies in collaboration.

The workshop as a creative space of learning is scalable and can be delivered through the open workshop principles and protocols I am presenting here for any discipline. And I hope that the principles and the protocols I have been developing in this dissertation can be implemented for other purposes and in other learning interdisciplinary environments.

Through improvisation in the making, I figured out an easy protocol (see Annex II) for conducting the open class based on the principles explained before. This open protocol is a set of procedures and elements to take into account when developing the open class based on procedures to work in class but also outside, in the city. These in and out movements are subject to improvise and can serve as patterns for other experiences that shall guide new workshops based on co-learning methodology based on the open class and embodiment. Thus, here below a list of the elements that teachers need to have in mind during the "open class" process:

1.Space IN/OUT

- Architecture - The physical environment, the space, and whatever belongs to it or constitutes it, including permanent and non-permanent features.
- Spatial Relationship - Distance between objects on stage; one body in relation to another, to a group, to the architecture.
- Topography - The movement over landscape, floor pattern, design and colors.
- Social interaction-The interaction with people and casual encounters
- Cultural awareness- The relation with diversity and cultural plurality.

2. Shape IN/OUT

- Shape - The contour or outline of bodies in space; the shape of the body by itself, in relation to other bodies, or in relation to architecture; think of lines, curves, angles, arches, all stationary or in motion.
- Gesture - a) Behavioral gesture: realistic gesture belonging to the physical world as we observe it every day. b) Expressive gesture: abstract or symbolic gesture expressing an inner state or emotion; it is not intended as a public or "realistic" gesture.

3.Time IN/OUT

- Tempo - How fast or slow something happens in the public space and in the classroom. Give time to things to occur.
- Duration - How long an event occurs over time; how long a person or a group maintains a particular movement, tempo, gesture, etc. before it changes.
- Kinesthetic Response - A spontaneous reaction to a motion that occurs outside of oneself. An instinctive response to an external stimulus. (realistic/non-realistic)
- Repetition - a) Internal: repeating a movement done with one's own body, and b) External: repeating a movement occurring outside one's body.

4.Emotion IN/OUT

- Psycho-Physical narrative (including performances, drawings)
- Critical thinking
- Movement of your body, different ways of moving (very slowly or fast). The movement of different parts of the body
- Collaboration
- Cross cultural understanding
- No Judgement
- Cultural diversity

5. Story IN/OUT

- Perceptual ability to see and understand logic systems as an arrangement of collected information as social interaction
- Systemic thinking
- Complexity

This open protocol is a guideline to orient teachers in developing workshops based on co-learning principles and the open class, but also in relation to the achievement of the following skills and competencies as learning outcomes:

a) **collaboration:** to increase students' autonomy in seeking for solutions to the challenges of opening the classroom to the city and its inhabitants.

b) **creativity:** to expand creativity by collective experimentation and coordination of body movements through improvisation.

c) **appreciation:** to appreciate the social and cultural context by engaging with the "others" in their performative or design creations while improving their critical thinking.

d) **cross cultural understanding:** the ability to incorporate and understand cultural systems and values as an arrangement of collected information, making meaning from social interactions.

e) **management of uncertainty and the unknown:** the ability to face the uncertainty and the unknown by practicing self-confidence and empathy through embodiment and no judgement.

In order to apply and share the co-learning method, I create an open protocol that summarizes the set of methodologies, principles, format and guidelines (Annex II workshop's protocol) to share for future purpose and in other educational contexts. However, more research needs to be done in the contemporary framework of emergent technology such as AI and creative processes.

6.4. Making a transformative present

Co-learning in my own words is the practice of relations in the now, the instant, the presence, where theories and actions are inseparably intertwined, as well as body and mind, in an open-ended research to explore performative

behaviors, habits, cultural norms and interaction patterns in the city as open class. This interdisciplinary method is transformative and indeed can be expanded and is extendible to other disciplines and fields.

I based co-learning in design ethnography taking it a step further as a learning tool. Designer ethnographers in the making, through the making, are constructing audiences and new public through instant interventions. We start facing the strange (*change and face the strange* said David Bowie in 1977 in his beautiful song, Changes) interrogate socio-material reality through improvisation and unpacking interventions (Jensen 2007; Jespersen at al. 2012). Design Ethnography has been developed for different purposes; we can list a few: as a description for intervention (Vikkelsö 2007); as ethnographic stories that allow generalizations for intervene (Winthereik and Verran 2012) or as a cultural analysis to lead intervention (Jespersen et al., 2012). Here, I have transformed design ethnography to a pedagogical tool for learning to be an actor. This introduces a transformation but also opens this method to further horizons.

From design intervention that Garfinkel named in 1967 "Breaching Experiments" (Garfinkel, 1984), co-learning can deliberately intervene in social norms perception but instead to be disruptive, embrace them in order to generate a reflection in the given instant in form of inquiry, as well as in a conversation. This practice is framed in a systemic thinking perspective, generating knowledge around the social and cultural issues and encounters viewpoints, knowing through the body.

We operate in a complex system of systems, enabling learning by exploring a wide range of realities. Co-learning is an open experimental *momentum* of learning in between modes and modalities of the existence and situated possibilities, sometimes also dialectical. This is an empathic exploration that critically oriented the people involved to the dialogue of possibilities based on people's needs, concerns, feelings, aspirations with absence of prejudice. Observation, action and reflection on the field as learning as well as process,

departs from the organization of data analysis and its explanation. Insights occur in-the-making and are self-evaluated as a continuum during the experience of the encounter interaction. What is important is the moment of self-transformation in the process with the encounter and with the others. This is the point that I sustain here, that answers my deeper questions, where the design ethnographer does not seek for data collection, but seeks to be responsive to the others, through the body, doing and making, and let be transformed in the process.

Co-learning is essentially to work with tacit knowledge that emerges from interaction, and to socialize it needs ethnography in order to allow an open-ended inquiry. In that sense, ethnography is interesting in its process as an iterative open-ended pathway of experimenting in the fieldwork; that is in the relationship with others as significant agents. The co-learning is a context-depending activity happens in the real world, the public space, where the role of the design ethnographer is crucial to recognize the material resources(environment, infrastructures) and the immaterial ones (relations, know-how, cultural and social stereotypes) as transition, to reach a deep learning and knowledge about people, place, city, things and recognized, express, expand the connections with no judgement. Co-learning is also based on a collaborative practice where the results are all connected to the diversity of the system of practices involved. This is when we, teachers and students as co-researchers, expand and amplify the potentialities of discovery in the action research process and in the action of knowledge and sharing production.

Dourish (2001) and Klemmer, Hartmann, and Takayama (2006) describe five themes for interaction design and I related to them focusing on how we understand the world through our bodies and the actions they enable. I selected the four types of embodiment to underline their interdependence in the context of my research: the relatedness to sensory information and hence its relevance and potential with respect to the fact that people perceive the world around them and objects in /through all their senses; the potential to provide insights in complex context to understand facets of the immaterial

experience; and the relevance and pervasiveness in public domain or space that addresses meaning in action and movement.

A strong connection between design and ethnographic research is important for understanding the importance of these methods in the co-learning process. The empathic conversations between the various people and parties involved in the open inquiry requires embodiment for both, a sensitive attitude and a strong, bodily engaging approach. As we have seen in the workshop, the research activities and materials need to be well designed, in order to get people involved and elicit useful and inspiring results. In this way, embodiment in design ethnography as I applied it in the co-learning not only takes inspiration from everyday life, it puts it at the very heart of the learning process, the creative process in between imagination and practice. Then collaboration and cooperation as pedagogical methods can enable teachers and students learning or co-learning to impactfully create relations in between space, people, things, human and non-human.

6.5. Future Research

Here I present future lines of research awakened through this dissertation. For me, it opens new pathways for future research perspectives drawing on design ethnography as an emergent field and approach, focused on processes of social change, through design ethnography as transformative pathways for educational innovation. From my point of view, education is clue for forming responsible citizens.

One of the core tenets of John Dewey's educational philosophy was the belief that, in school, children learn not only the explicit content of lessons but also an implicit message about the ideal organization of society. A school, he argued, was a civilization in microcosm: "I believe that the school must represent present life—life as real and vital to the child as that which he carries

on in the home, or the neighborhood, or on the playground," Dewey wrote in "My Pedagogic Creed," which was published in 1897.

The society for which us as well as the students are being prepared is dramatically different from Deweys' times, however, his thoughts are still worthy in the present. For Dewey "a school should be a model of what democratic adult culture is about", (1897, pag.8), consequently if children are exposed in school to an authoritarian model of society, that is the kind of society in which they may prefer to live. Class itself is also a venue in which students learned crucial values about being citizens in a democracy.

Co-learning indeed in the field of "performativity turn" (Schechner and Turner 2001) is a transitory stage and can improve a shared and distributed governance model of learning, from the ground-up, from inside to outer expressions and reaching collective and collaborative decision-making.

According to the first theories of Habermas (1962), "good" governance promotes first of all transparency as a two-ways communication. Co-learning system of communication is more circular, conceptualized as dialogue as well as conversation, the tension between top-down and bottom-up format of governance. Co-learning can create engagement but also fears, irritation and above all curiosity rather than just solutions, because communicate with more than words both cognitively and emotionally. There is a shift from the meaning and opinion formation (Habermas, 1991) to a making audience, toward a decision-making because of the attention of the performativity of the intervention.

Through future research pathways, I would like to explore more about possibilities, encounters, transitions, that enable new forms and meaning of instant experience, dialogue for transformation. In particular, how design for humans and non-human can make a profitable collaboration to improve human life's conditions. A method and a methodological transformation for creative arts education applied as co-learning in a complex world. This correspondence

once again embodied theories and embodying actions as inseparable. From the participatory concept of citizenship (Isin and Turner, 2002), we switch to a systemic and generative learning thinking system as a pedagogical model of co-learning, where constructing the new public is risky but transformative, where people, participants themselves perform "being public" and represented.

Dewey argued that education—as a social process and function—can have no significant or profound meaning until we first clarify what kind of society we want (1916, p. 19). There simply are no shortcuts or silver bullets to replace effective visioning. In similar ways, I want to explore how this intertwined look is in a new educational set up. I am thinking how to implement interdisciplinary, transversal educational fields, as well as the ontological challenges between human and non-human. The intention is to expand co-learning to challenge the boundaries between the depictions of the human world and the interventions in the making of non-human, co-learning and collaborating.

In particular, I am interested in continuing research education for improving students' skills of critical thinking, collaboration, lateral and critical thinking, problem framing and appreciation for a cooperative leadership. The making of non-human and human through embodiment will be a pathway I will explore as a continuum of the integration of system thinking and cross-cultural understanding.

The mechanisms by which individuals learn from direct experience will be a great deal of attention with the AI co-creation process. Reinforcement learning models rely on updating a value representation of a given action when that action leads to favorable or unfavorable outcomes. While co-learning will explore how social interaction and social learning can be a base for skilling the robots on the base of the human models use feedback from past outcomes to guide future decisions for non-human.

Artificial Intelligence is fast evolving and we as educators have to enhance our methods to its challenges. AI Learning relies on the computation of a prediction

error, which corresponds to the difference between an outcome and some previously-established expectations, future co-learning research can explore how stored expectation will be embodied and updated by this prediction error, multiplied by a learning rate that determines the speed at which outcomes can influence behaviors (Gläscher and Büchel, 2005; Pfeiffer et al., 2010; Funamizu et al., 2012).

However, reinforcement learning is not sufficient to explain all forms of hybrid learning, co-learning can be a future comprehensive framework to explore, as creative embodiment of social learning experiments, by observing human decisions and the resulting outcomes, and adjust those actions without having directly experienced the outcomes themselves (Subiaul et al., 2004; Monfardini et al., 2012) through AI. Principles analogous to those driving co-learning may be involved in these cases of AI co-creation, including the updating of expectations based on sensory and somatic inputs, but these types of learning require additional computational components besides feedback from outcome (Camerer, 2003; Montague, 2007; Seo and Lee, 2008). The brain areas involved in these processes are under active investigation (Behrens et al., 2008; Suzuki et al., 2012).

Relevant here is the work of dancer and choreographer Wayne McGregor and the exhibition that took place at the Welcome Foundation in London entitled 'Thinking with the Body'. The collaboration of McGregor with researchers in anthropology was focused in finding the ways dancers use their bodies to think. The goal of his research was to extend and share the findings as means for creativity, thinking and learning in other disciplines beyond dance. Also, choreographer Scott DeLahunta has made inroads into the relationship between dance, choreography and individual and collective thinking from a perspective that is influenced very much from cognitive science and distributed artificial intelligence. The mechanisms by which this type of co-learning can occur with AI are very diverse, and may include both simple enhancement of attention to others, in the case of socially facilitated food preferences, and the recognition of emotional facial cues in others as they experience outcomes, to

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more complex mechanisms including mentalizing and theory of mind. I wish to explore future research pathways in this direction, co-learning in a complex world.

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ANNEXUS

Co-learning: An open pedagogy for creative arts education

ANNEX I

The Polyphonic City
Workshop

24th November 2017

DAY 1

Workshop

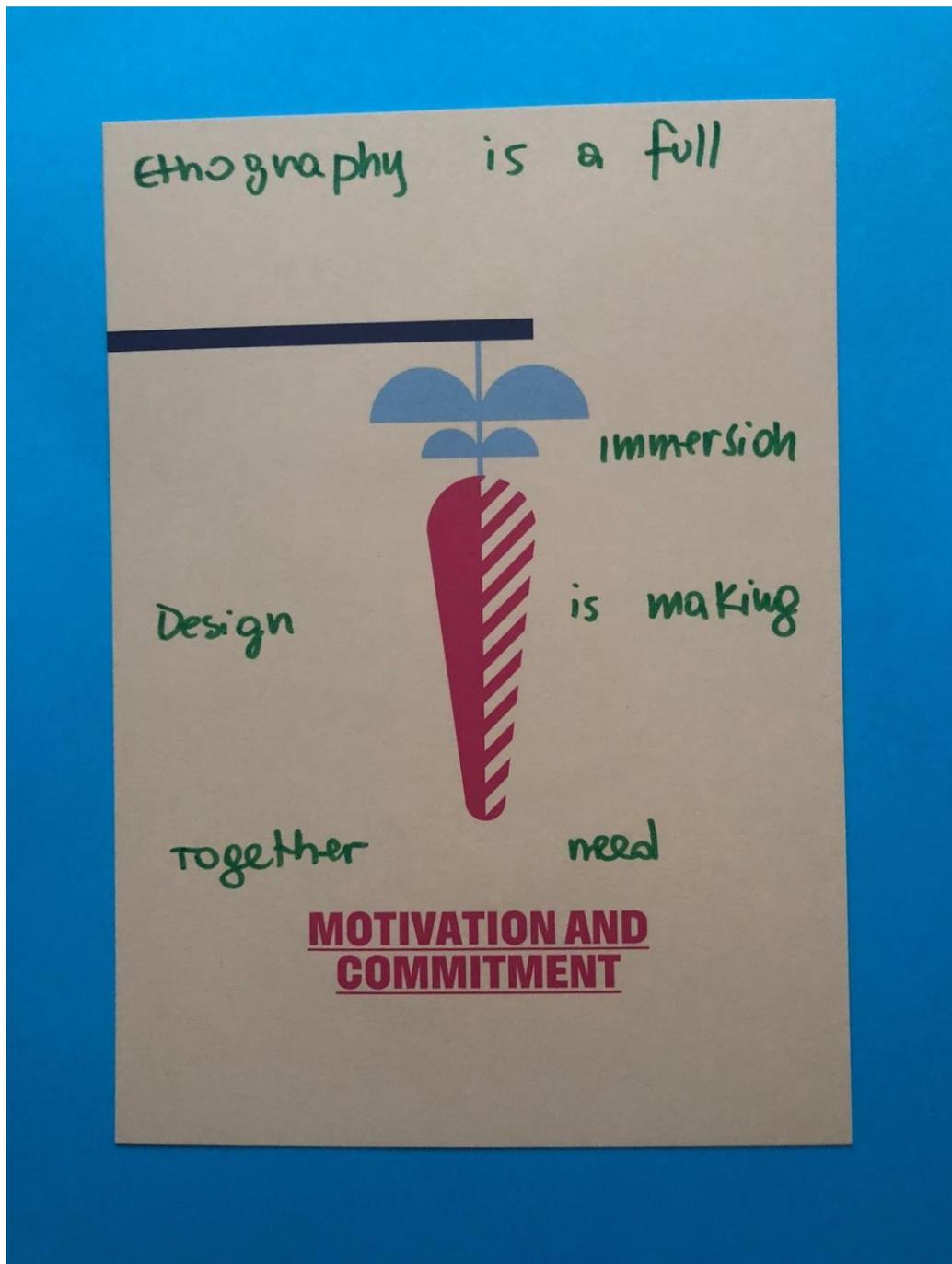# The Ethno Cards
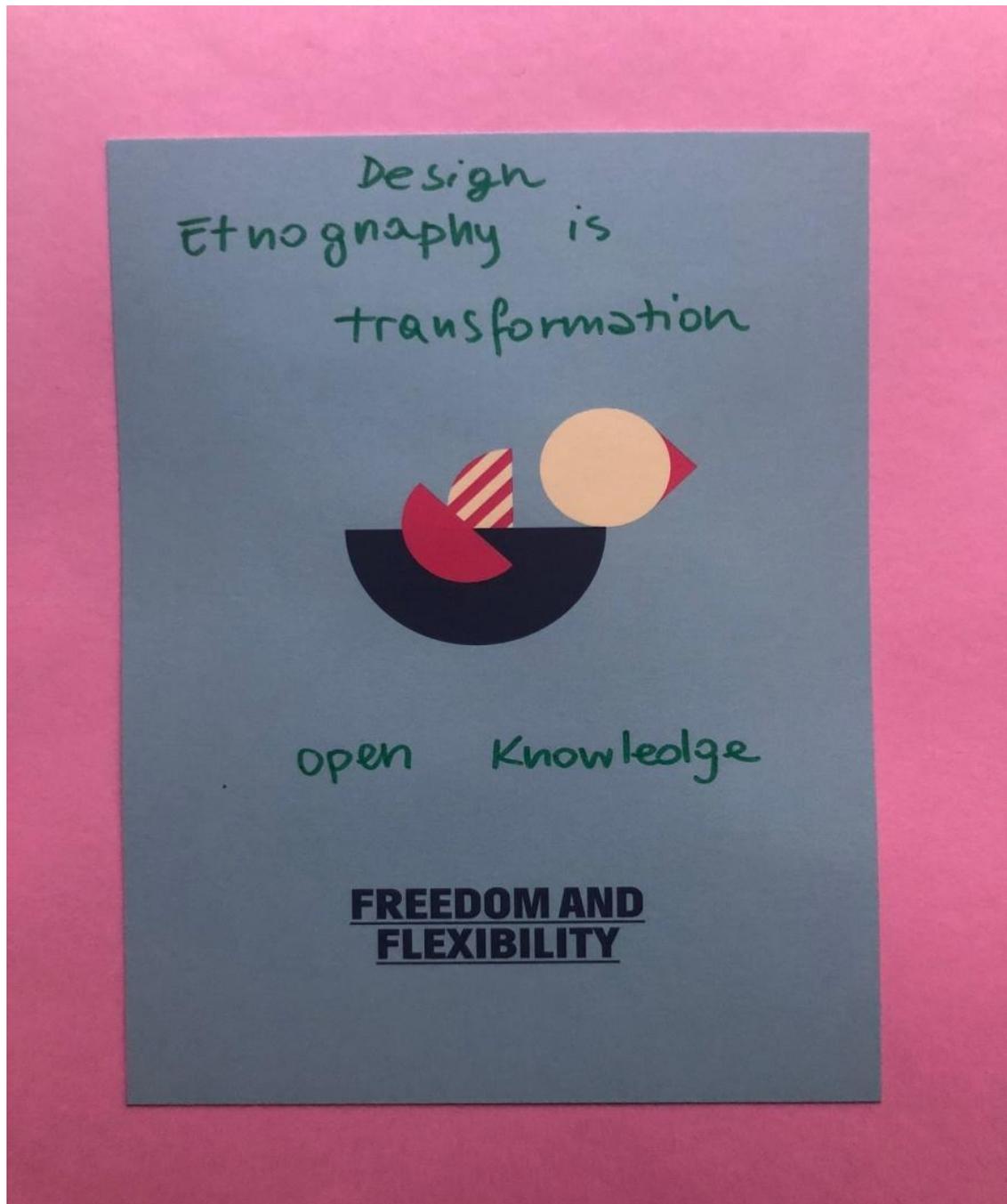
Figure 1
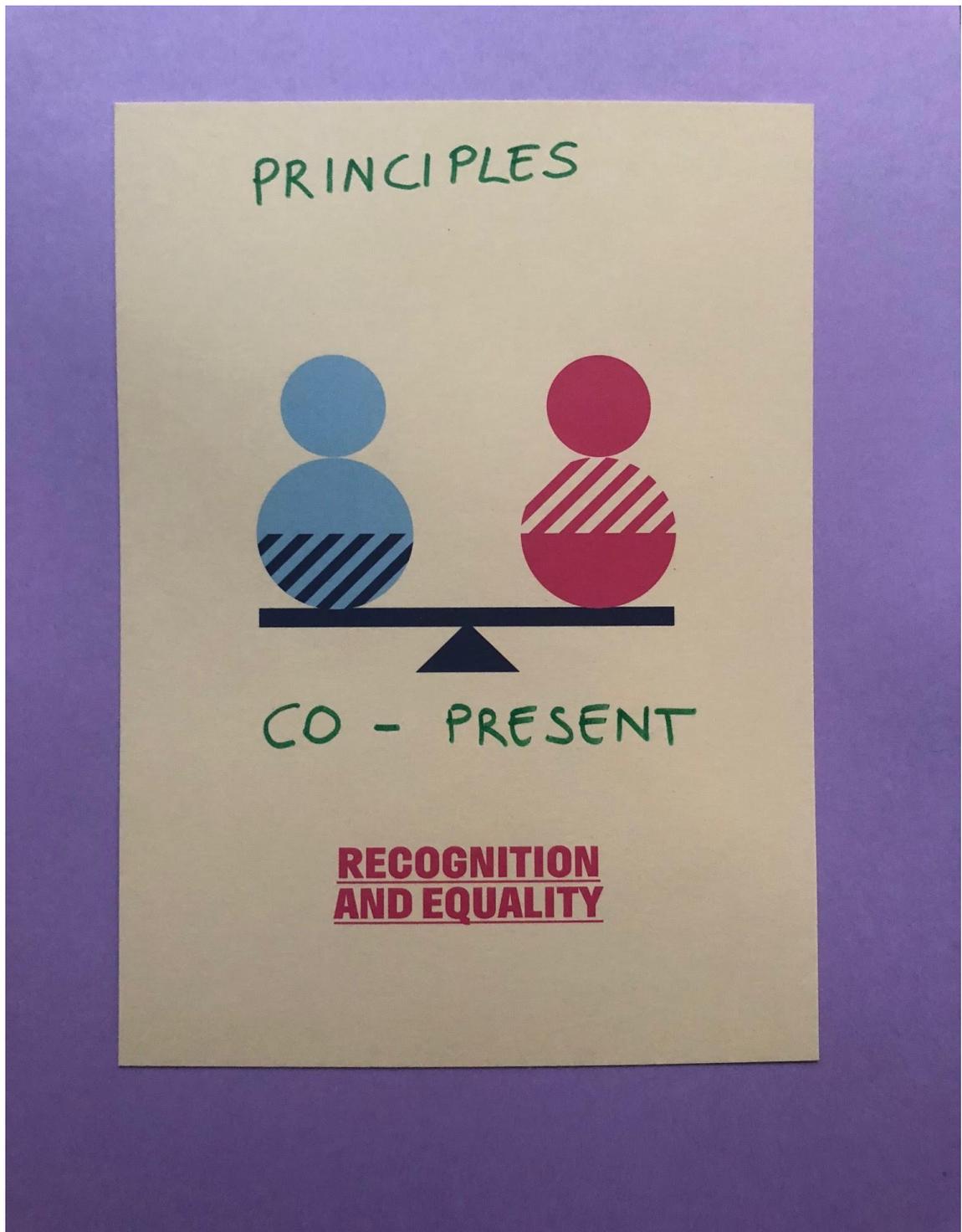
Figure 2
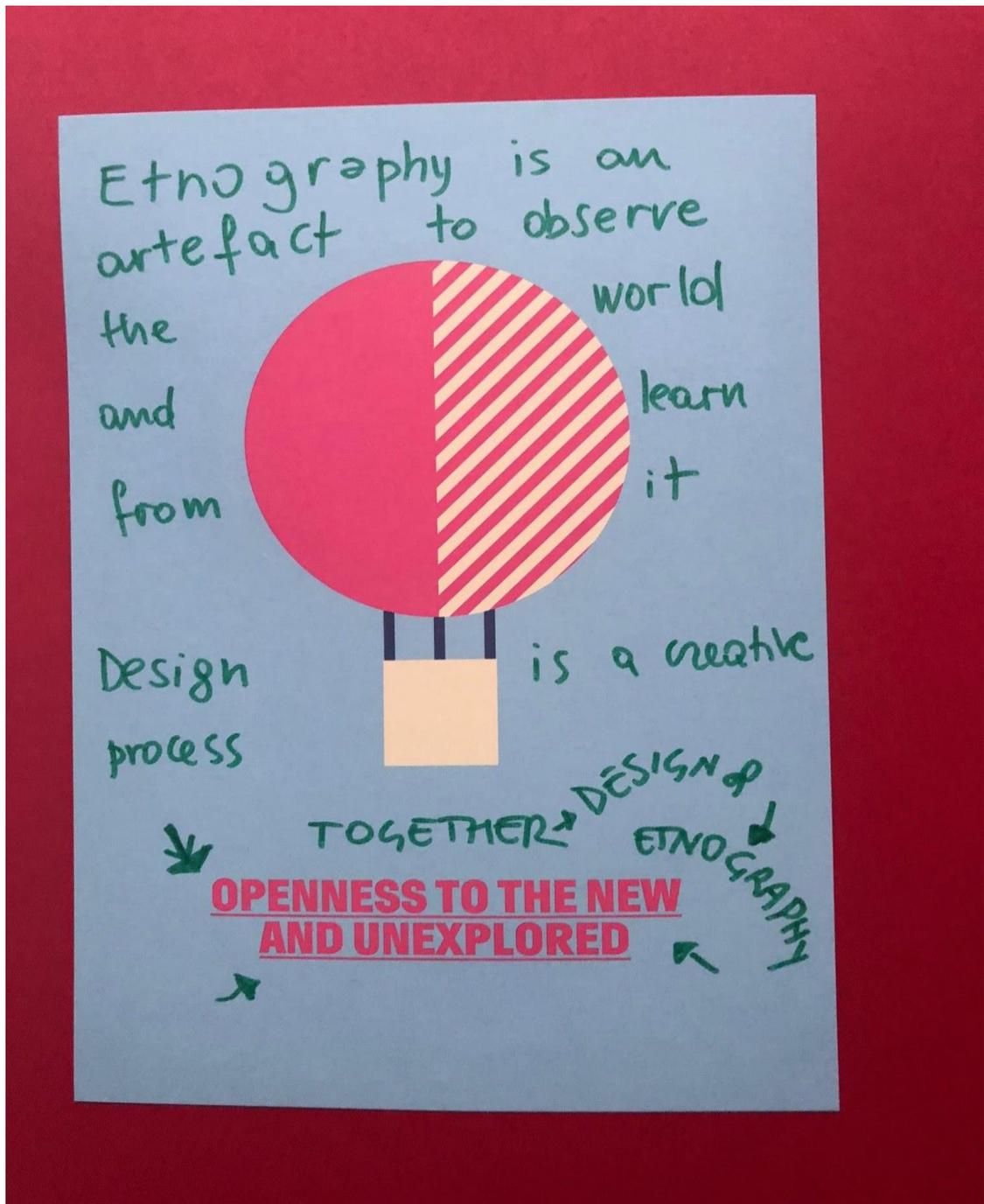
Figure 3

Figure 4

Figure 5

Use of the Ethno Cards in the workshop

Figure 6

Figure 7

Exploring the market, talking to the people (Photos taken by the students)

Figure 8

Figure 9

Figure 10

Figure 11

Figure 12

Figure 13

Figure 14

Figure 15

Figure 16

Figure 17

Figure 18

29th November 2017

DAY 2

Workshop

Students Cards

Figure 19 and Figure 20
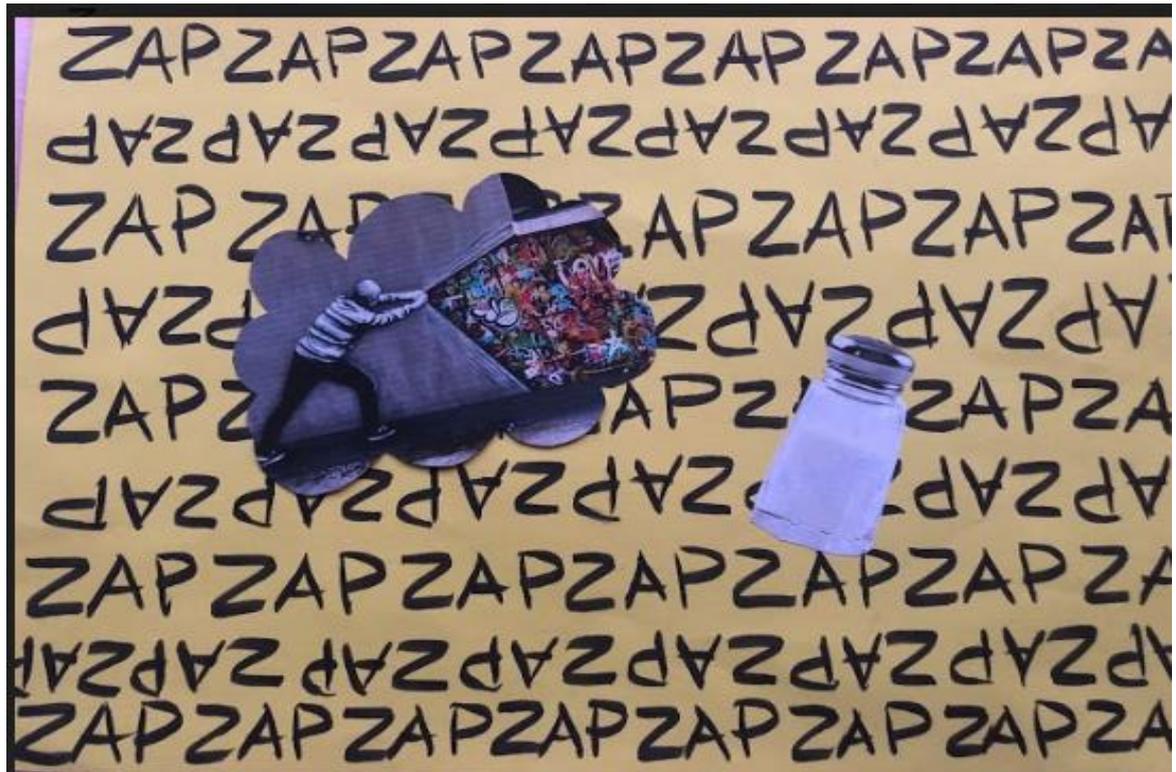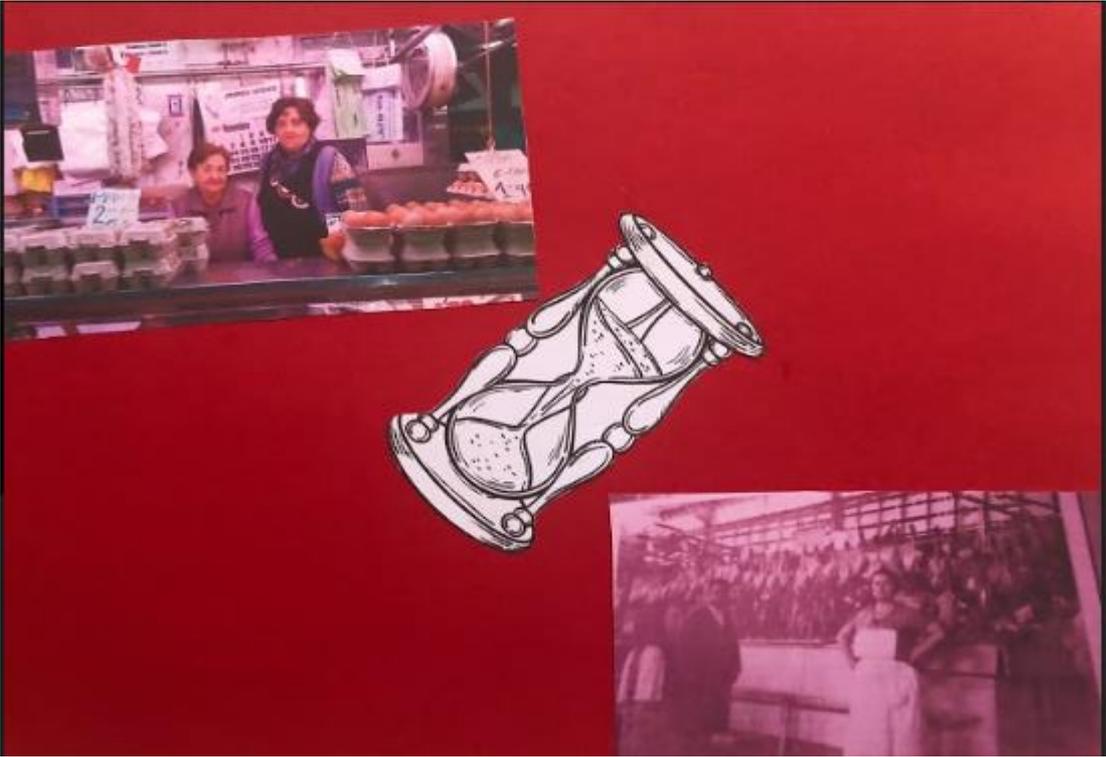
Figure 21
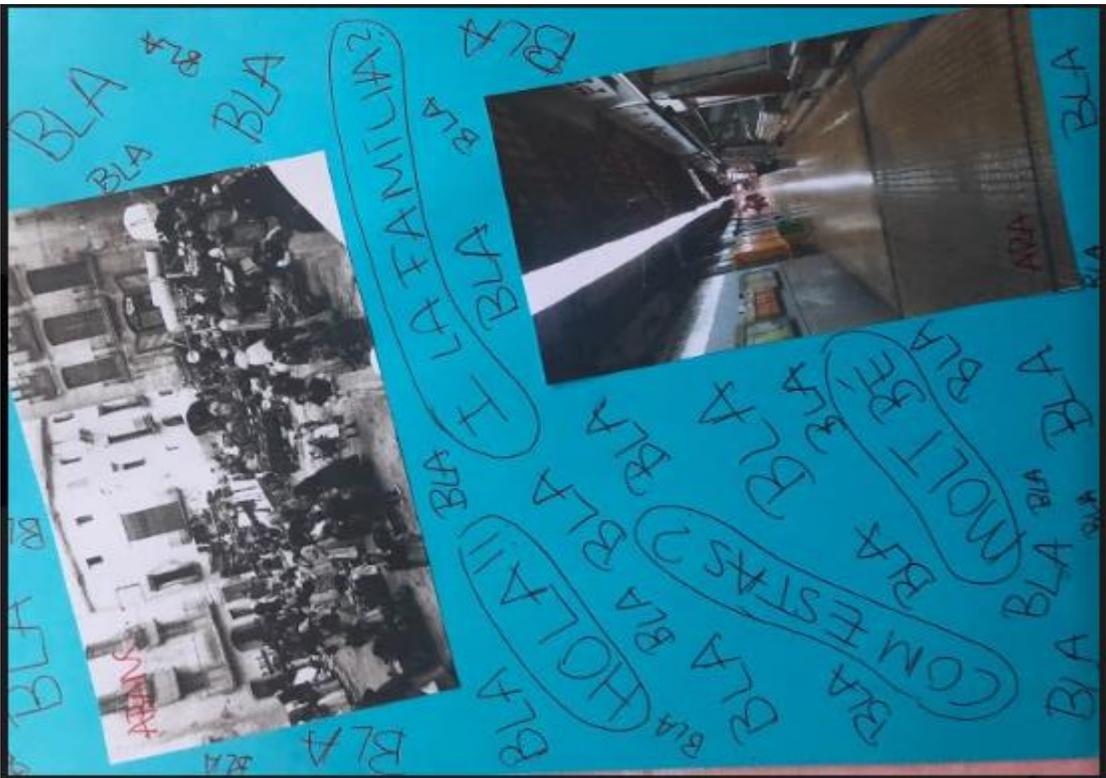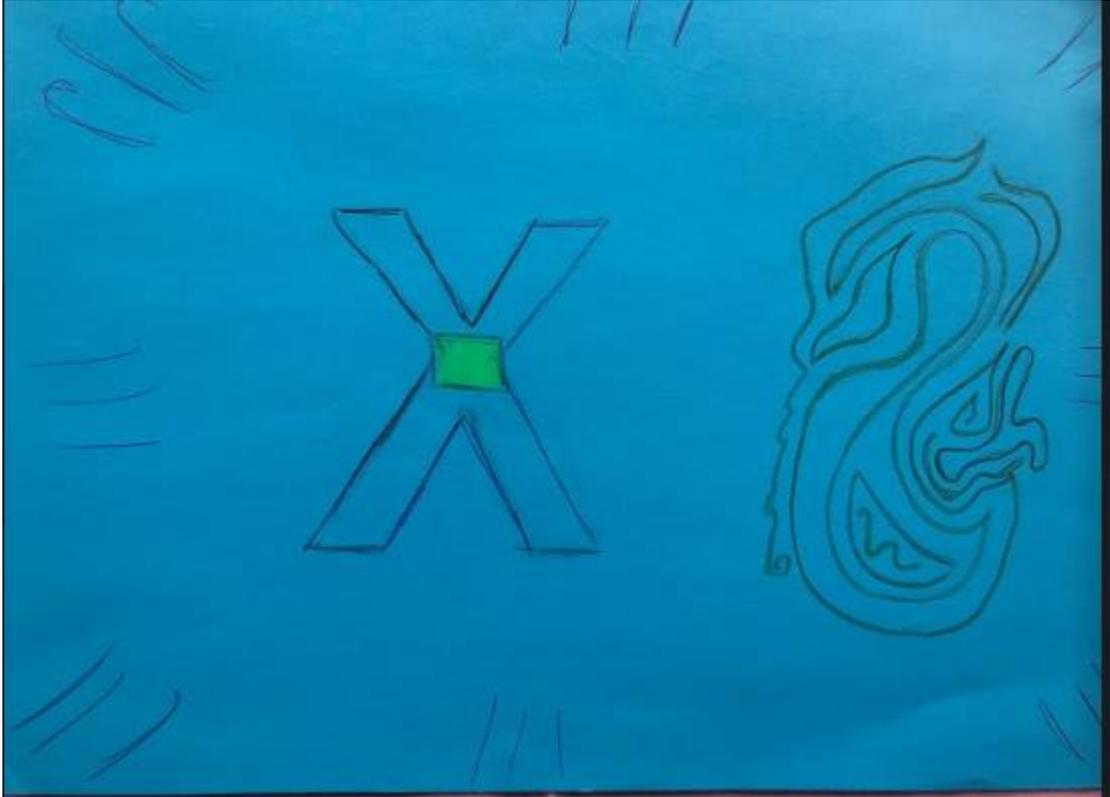

Figure 22

Figure 23

Figure 24

Figure 25
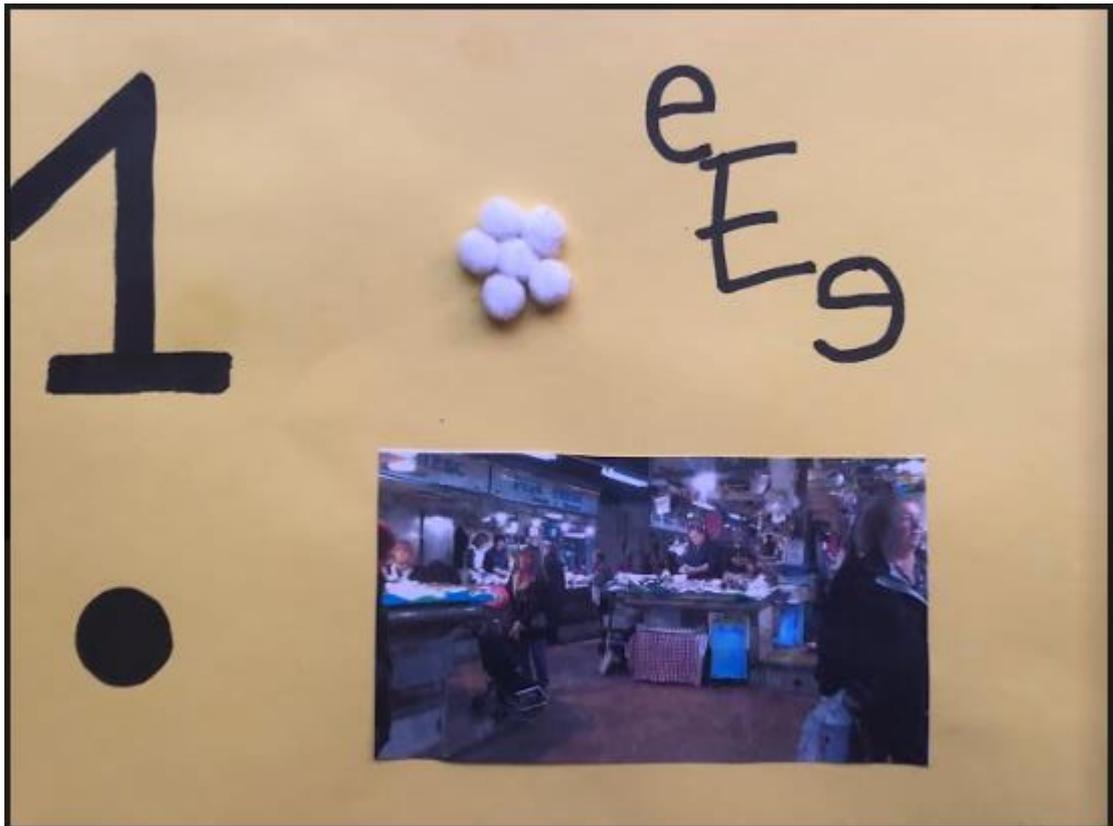

Figure 26

Figure 27

Figure 28

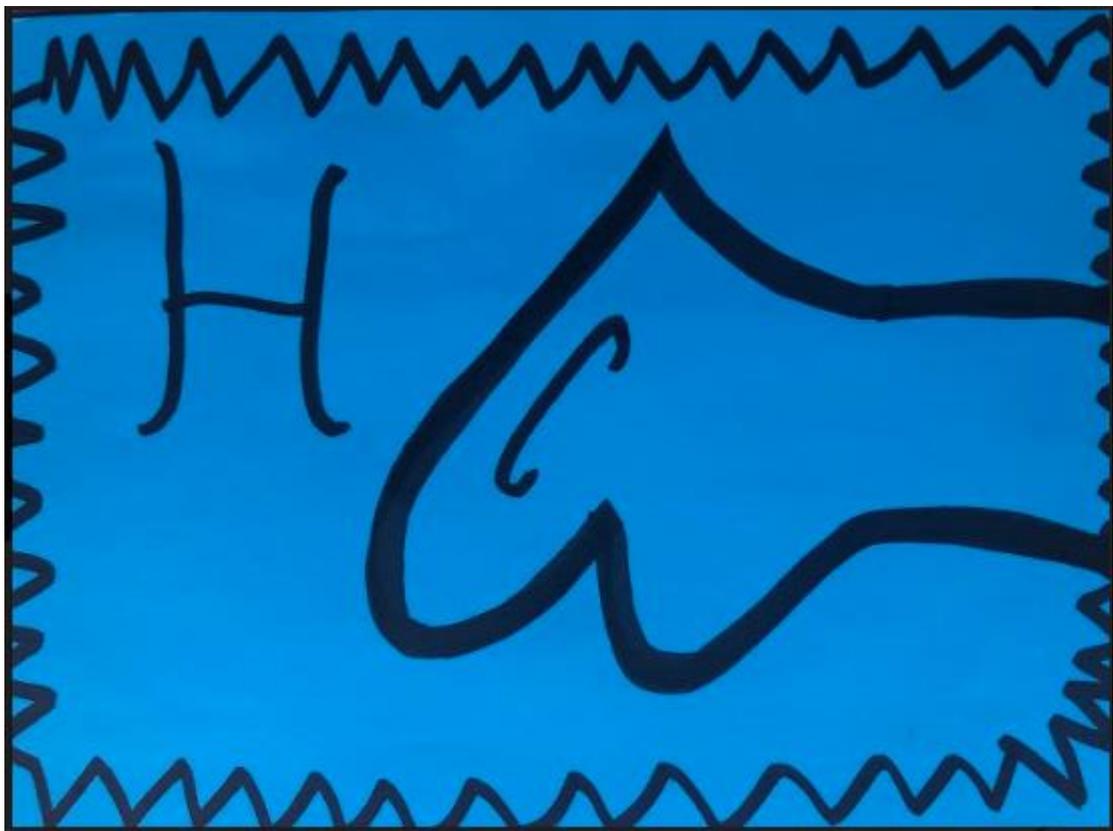Figure 29

Figure 30

Students improvisations on the carpet

Figure 31

Figure 32

1st December 2017

DAY 3

Workshop

Going to the market as clowns

Figure 33

Figure 34

Figure 35

Figure 36

Figure 37

Figure 38

ANNEX II

Co-learning protocol

Co-learning =
Methodologies+
Actions+
Principles+
Format+
Tools

M

METHODOLOGIES

open design +
design ethnography +
action- research

A

ACTIONS

Co-creation + Sensory Knowledge

P

PRINCIPLES

no judgement +
collaboration +
openness +
embodiment

F

FORMAT

Open Class (IN/OUT) +
Workshop (Space of Possibilities)

T

TOOLS

Ethno Cards+
Student Cards+
Workshop's protocol