

# Assemblages in Higher Education: a New Learning-Teaching Approach through the Prism of Social Space, Transdisciplinary Practices and Contemporary Art

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## Abstract

*This paper presents a methodological approach to university teaching capable of integrating inclusive, reflective, critical, creative learning processes and enablers of social change in the lifestyles of students and teachers within higher education. This approach is based on the concept of assemblage, social space, the uses of contemporary art practices and transdisciplinary perspectives. To illustrate it, we present a case study that integrates the subjects of Geography and History in the second year of the degree in Social Education and the subject of Industrial Automation from the degree in Industrial Engineering (speciality in Mechanics and speciality in Electronics) at the University of Lleida (Spain). Students from both degrees carried out a joint learning project based on urban space in the city of Lleida. All of the students' projects were based on the Sustainable Development Goals from the 2030 Agenda. Our results emphasize three aspects. Firstly, the importance of incorporating novel methodologies in teaching from an assemblage perspective. Secondly, the use of contemporary art as a catalyst for possibilities and a strategy that allows rhizomatic thinking, offering the freedom to create the knowledge and understanding required to rethink education. Finally, the use of sensory, spatial and corporeal practices to develop and implement new ways of teaching within different fields of higher education such as geography and industrial engineering.*

## 1. Introduction: A liquid becoming...<sup>(1)</sup>

Intensified globalization processes require higher education to transform in response to the rapid changes in modern-day societies. However, much of higher education remains submerged in an industrial education system, in which memorization and homogenization are fundamental features. The legacy of Edward Thorndike with his behavioural law or Frederick Taylor with his model of industrial efficiency are still present in many training contexts of the 21<sup>st</sup> century. We propose that instead, higher education must draw on creative, inclusive, reflective training models that are capable of being coherent with the diversity emerging from society.

This article proposes a methodological approach to university teaching capable of integrating inclusive, reflective, critical, creative learning processes and enablers of change in the lifestyles of students and teachers. This will strengthen their reflective and critical positions within society and their social responsibilities. To do so, we show how alternative teaching perspectives are possible within higher education, where pedagogical approaches are constantly seeking other references, other knowledge and other views (Saéz 2018).

We are inspired by the plan of action, approved by UNESCO in 2015, in favour of humanity, the planet and prosperity based on the 2030 Agenda and its Sustainable Development Goals. Here, education is regarded an essential element for improving people's lives and fostering sustainable development. Teachers who share these approaches are committed to ensuring an inclusive, equitable and quality education, promoting coherence in line with 21<sup>st</sup>-century social values.

1. This research is part of Daniel Gutiérrez-Ujaque's doctoral thesis that will be submitted in November 2019.

Developing our teaching from the Sustainable Development Goals allows us to break from traditional teaching models that compartmentalize subjects and disciplines and generate significant learning situations for both students and teachers.

In order to test this approach, a transdisciplinary project was set up among students from two academic years (2017-2018 and 2018-2019). This project emerged within the subject of Geography and History in the second year of the degree in Social Education and the subject of Industrial Automation from the degree in Industrial Engineering (speciality in Mechanics and speciality in Electronics) at the University of Lleida (Spain). We brought together a mix of students from both degrees to work together and generate possible social and technical responses to the problems present in today's society.

## 2. Towards real change in education perspectives

The design of education curricula to integrate different areas of knowledge based on common problems requires a flexible approach to science. Kuhn (1962) considers that science is not something linear, but changing, as it has to continuously adapt to the social, political or technical context it exists in. Social constructionism suggests that learning at school or university happens through what Berger & Luckman (1966) describe as 'communicative interaction': language, body behaviour, etc., which demands the presence of the other. Hence, learning processes acquire meaning from the social interaction expressed through language.

Keeping the social constructionist approach in mind, we now discuss the different elements that make up the methodological approach that we are proposing for university education. These elements arise from the methodological triangle based on contemporary art, hybrid spaces and autobiographical narratives (Jové, Bonastra, Gutiérrez-Ujaque, Sebastian-Novell 2018). Likewise, approaching this perspective from within the subjects of geography and history enables other factors to enter into play, such as the concept of social space and the philosophical concept of assemblage as the bringing together of heterogeneous elements that create inter-transdisciplinary networks.

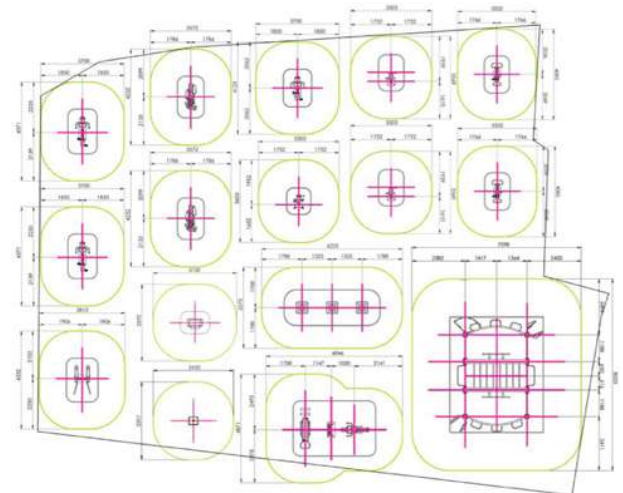
To highlight specific aspects of this approach, we have selected a project from the hybridization between the

Social Education degree and the Industrial Engineering degree (2018-2019 academic year), namely the project to create a Smart Gym in a disused public space in the historic centre of Lleida (Spain). This social and technical proposal suggested using the kinetic energy generated by the users of this public gymnasium to illuminate the streets of the historic centre (Figure 1). This project, formed by three education and three engineering students, arose from the learning processes experienced in our hybrid teaching of both degrees and the set of connections, or 'assemblages', created by different practical activities, meetings and other experiences during the project.

Figure 1. Proposal for the Smart Gym. Source: The authors



Space chosen to install the Smart Gym



Machine management

## 2.1 Assemblages between the degree in Social Education and the degree in Industrial Engineering

Situating ourselves in a fluid and changing knowledge paradigm and in the theoretical school of social constructionism reveals this methodological approach to be something changing, enabling and hybrid. This emerged from the interaction between people and relating elements that seem unrelated, thus creating so-called assemblages, a concept devised by philosophers Deleuze and Guattari in *A Thousand Plateaus* (1987), where they describe the theory as a way of analysing social complexity, emphasizing the fluidity, interchangeability and multiple functionalities of different elements or features that are connected in society. This philosophical approach therefore allows us to comprehend teaching in higher education as a set of heterogeneous, connected ‘things’. In such a view, the experience of teaching practice is constructed through the classroom space, the minds and bodies of students, and the computers they use, to mention just a few. In these networks, or assemblages, the relations between these elements are not stable or fixed but rather can be displaced and replaced within and among other elements.

Moreover, the concept of assemblage requires another philosophical concept, the rhizome, as coined by philosophers Deleuze and Guattari, who use this idea to describe how one element can connect with multiple elements. For these two philosophers,

*“A rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb “to be,” but the fabric of the rhizome is the conjunction, “and... and... and...” (1987: 25).*

Rhizomatic thinking opens infinite possibilities for approaching any thought, activity or concept. Understanding education and educational processes as rhizomes allows us to provide open, flexible and dynamic responses to the learning processes that emerge in teaching, as they enable new scenarios, many of which may seem inconceivable. One of these scenarios is the creation of hybrid spaces within university education. Theorized by Zeichner (2010), these break the dichotomy between theory and practice and between the knowledge created from academia and beyond, creating optimal conditions for the construction and application of knowledge.

In conclusion, understanding a methodological approach from the philosophical conception of assemblage and rhizome allows us to generate open, flexible and inclusive teaching practices. Placing ourselves in an emerging paradigm allows us to open our teaching practice to other fields of knowledge. The Smart Gym Project is an example of this, as it arose from the interactions between our students and the people who use and inhabit this marginal space. Presenting the concept of the rhizome and assemblage to this group allowed them to expand upon the possibilities of their proposal. This leads us to the second element of this approach, which is based on the interdisciplinary and transdisciplinary perspective that has emerged from these projects (Jové et al. 2018), bringing us closer to transversal humanism.

## 2.2. Transdisciplinary approaches in higher education

When one examines the evolution of knowledge, the fragmentation into specific disciplines led to deeper knowledge but discouraged a global perspective and an analysis of the interactions between different academic fields. As Morin affirms, “it is necessary to teach the methods that make it possible to apprehend the mutual relations and the reciprocal influences between the parts and the whole in the complex world” (2005: 2) and, therefore, to open horizons within the field of knowledge.

Such developments led to the emergence of a multidisciplinary approach based on the non-integrative mix of several disciplines. However, the emergence of the systemic approach showed how the multidisciplinary perspective could not respond to all emerging problems. From such insight, interdisciplinary research emerged, which encompasses problems as a whole but views them from different disciplines. These investigations continued to develop and in the late 70s, UNESCO and the *Centre International de Recherches et Etudes Transdisciplinaires* advocated transdisciplinary research. Nicolescu argues that “transdisciplinarity concerns that which is at once between the disciplines, across the different disciplines, and beyond all disciplines. Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge” (2010: 22).

At the same time, working through a transdisciplinary approach has allowed for dialogue between university disciplines, connecting knowledge, breaking and

changing the prejudices between the students of both degrees. A rigid, prejudiced and stereotyped positioning towards the other degree emerged in most groups during the first joint work sessions. The models, comments and mental constructions were highly visible and the group<sup>(2)</sup> expressed this in stating that “at first we thought it was very strange to join with another discipline that is so totally different from ours. It is not normal”. However, being able to share views and work together for eight weeks within an interdisciplinary and transdisciplinary approach caused a change in opinion:

*“Now, we see the other disciplines differently, since we have realized that we are not really totally opposed, and that other views are necessary in order to improve the way any problem is examined.”*

*“As we progressed, we saw how both disciplines have common ground on which to build this project, enriching us with different views and knowledge.”*

*Working through a transdisciplinary approach has allowed for dialogue between university disciplines, connecting knowledge, breaking and changing the prejudices between the students of both degrees*

Such views show that awareness of academic dialogue is necessary between students of different disciplines, including those who have at first sight nothing in common, such as social education and industrial engineering. As teachers, it is our responsibility to create the conditions and contexts within university education to make this change of perspective happen. However, this can only happen if teachers are able to create these inter-transdisciplinary conditions. In this methodological approach, we are committed to breaking the boundaries between the two disciplines. This means creating educational experiences where communication between transdisciplinary contents emerges. As we have further noted in other research, using contemporary art and community resources further enhances such experiences, since such learning is a catalyst for possibilities and a strategy that enables rhizomatic thinking (O’Sullivan 2006).

2. The Smart Gym project is formed by Pau Becana, Eric Comellas, Guillermo Doste, Núria Pijoan, Irena Rius and Ingrid Simó.

### 2.3. Contemporary art as a catalyst for knowledge

The methodology of learning about contemporary art incorporates into teaching what the arts evoke and provoke. In this case, we view the use of contemporary art as an experience (Dewey 1934) that crosses the boundaries of art and allows us to reinterpret students’ ways of life. It is therefore valuable because of the variety of questions it generates, of its expressive richness and of the different scenarios that it evokes (Schön 1999; Stenhouse 1988; Jové 2013; Jové & Betrián 2012). In this methodological approach, we consider contemporary art as a catalyst for the rhizomatic possibilities that foster critical, imaginative, reflective and receptive individuals. Art, with its transdisciplinary nature, allows us to act like a scaffold in students’ learning process and as a model to help not to create dichotomies between theory and practice (Lenz-Taguchi 2010).

We believe that learning and communicating through contemporary art is a catalyst for possibilities and a strategy that enables rhizomatic thinking, offering the freedom to create the knowledge and understanding required to rethink education. As O’Sullivan (2006) and Allan (2012) state, contemporary art produces new and different possibilities of thinking about education, making alternative things happen, in a more inclusive way, while Adams, Worwood, Atkinson, Dash, Herne & Page (2008) point out that learning and communicating through art makes different things happen. This approach triggered us think of how contemporary art can be used to develop new methods of teaching and learning.

*Learning and communicating through contemporary art is a catalyst for possibilities and a strategy that enables rhizomatic thinking, offering the freedom to create the knowledge and understanding required to rethink education*

Hence, we go back to the year 2009, when a project developed by teachers from the Faculty of Education, Psychology and Social Work at the University of Lleida (Spain) created the exhibition space called Zona Baixa (Jové, Farrero, Betrián, Ayuso 2014). This space, located in the Faculty building, hosts works of contemporary art donated by the Panera Art Center, so that students can work with different artists, and so artists can loan their creations to students. It is from the relationship with the Panera Art Centre that a joint project arose between

education and engineering students with sound artist Agnès Pe in 2017-2018 and with artist and activist Daniel García Andújar in 2018-2019.

Specifically, the Smart Gym project worked with Daniel G. Andújar for two weeks, when this group of students were able to analyse the artist's creative process and his emphasis on the visibility of power relations in the city and how they shape our daily life. With Andújar's creative input, the students were able to extract new social discourses, raising awareness of invisible social practices to transform a disused space into a used and living one. This is how this group evaluated Andújar's participation in the project:

*"Daniel Andújar allowed us to delve further into the cultural, social and power realities that exist in the historic centre of the city of Lleida. It helped us to link our work with cultural realities, as well as the different ways of seeing the current world."*

This student highlights the change in the students' views after interacting with Daniel G. Andújar. If it had been another artist participating, the students would have surely followed a different creative process which would have led to other creative actions. Likewise, Andújar's contributions and his creative process had an impact on the teaching staff, inasmuch as this experience created new teaching resources to be used in the learning spaces (Jové 2017). This experience configured a different learning area, different to traditional learning spaces as it allows us to create novel, social and inclusive spaces.

## 2.4. Lived space as endless possibilities

Educational practices within higher education create and form part of society and the production of social space (Lefebvre 1991). Throughout history, space has been conceived as an inert and empty vessel waiting to be occupied by different bodies and objects. However, new currents of thought (Massey 2005; Soja 1996) argue that space must be comprehended as a continuous process produced by those who live in it. Space here is understood as a social construction, variable across history, created by the interaction between people and the physical environment. This perspective allows us to understand how the university is not a rigid entity, but is connected with other elements of society and the city in which it is situated, thus creating a network between different disciplines, professionals, historic places and learning contexts (Nora 1997; Lladonosa 2007; Vendrell 2008).

Thus, social space emerges from the unique interactions that take place in space. This is related to the aforementioned theory of social constructionism. For Lefebvre, "the social space "incorporates" social actions, the actions of both individual and collective subjects who are born and who die, who suffer and who act" (1991: 34). This allows us to understand how university teaching forms and is part of social space, which is a social product, since each society (each way of acting, of making a society) produces a space through its interactions. Space mediates and reflects society. In turn, this social space is shaped by bodies and senses that interact with it (Degen & Rose 2012). Focusing research on the dimensions of bodily and sensory experiences (objects, architectures and environments) provides a more holistic understanding of social life (Degen 2008).

Creating an awareness of the senses and the body in teaching has caused students to create new discourses in their research. As part of their learning, the students had to interact with a neighbourhood in Lleida and their projects emerged from the sensory ethnography that they conducted (Pink 2005). We could define sensory ethnography as that sociological practice based on collecting all information from space and through our perceptions. Being able to explore vistas, sounds, feelings and odours in the historic centre of the city of Lleida made it possible to discover dialogues and productions, and visualize the forms of life that inhabit it, thus enabling each group to focus their project on their own sensory ethnography. Specifically, the idea of a public gym emerged from this practice. As the students commented, "doing sensory ethnography opened the doors to new relationships and new discourses that we could never have imagined". So, this practice helped them to create their project by situating their own senses and bodies in a particular social space.

*Focusing research on the dimensions of bodily and sensory experiences (objects, architectures and environments) provides a more holistic understanding of social life*

## 2.5. Recommendations: Rhizomatic wanderings towards a new learning-teaching approach

This methodological approach shows how a teacher has built interactions between students from both degrees involving critical positioning and social responsibility. The results show how this methodological network

design helps to train creative, reflective and critical professionals. Such an approach allows university education to eliminate the fragmentation between disciplines, enriching and offering new learning contexts and new formats of university teaching. As Bauman (2005) says, education has to be liquid, since it must be flexible and dynamic enough to add to a world that is constantly changing.

### 3. Conclusions: to continue creating assemblages

We have shown how adopting an assemblage perspective provides teachers with a tool to transform their teaching through hybrid and heterogeneous practices that create new learning processes for students. Processes that allow for new approaches within teaching to connect seemingly opposing disciplines. Such an approach makes it possible to relate elements that at first sight seem disconnected, deepen the contents of the students' projects and challenge the stigmas and prejudices that students might have towards other disciplines.

We have used a transdisciplinary approach to rethink the concept of education and teaching practice. We deliberately fostered transdisciplinary learning situations that are based on research and action in and of the surrounding urban environment. This approach allows the contents of the curriculum to circulate throughout the different learning contexts that students experience during their degree, thus allowing us to learn through social spaces. It also leads the diversity, interactions and new narratives that emerge in these spaces to enrich the learning and content of the curriculum. We should note that working between different forms of knowledge has involved confrontation between students' different thought paradigms. However, the scaffolding technique and mediation by teachers led students to reach agreements.

As we have seen, working with contemporary art and creative processes is a strategy to give projects a different look. It allows the reconfiguration of both the projects conducted by students and our own teaching practice. In this case, the thoughts and ideas that emerged from learning and communication through contemporary art defined the teaching. Therefore, as teachers, we fostered projects that are viewed as an

artistic process, where creativity is not at the service of neoliberalism. Kalin (2016) warns us of the dangers in contemporary education of only fostering creativity to increase the economy through business innovation. In our case, we seek a re-appropriation of creativity to engender learning conditions that favour an ecological and sustainable education.

Through our approach, the creativity of transdisciplinarity projects involving social educators and industrial engineers arose from the voices and everyday practices that make up the social space in the city of Lleida. We believe an education curriculum must be questioning, critical and cooperative, and needs to integrate multiple areas of knowledge, based upon coherent, real-life 21<sup>st</sup>-century scenarios and a commitment to transversal humanism.

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