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Urban Co-Mapping: exploring a collective transversal learning model

Urban Co-mapping: modelo de aprendizaje transversal colectivo

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Abstract

As mapping pedagogy has shifted significantly the past era, collective mapping emerged as alternative approach. It is a means to debate, illuminate, challenge, and imagine different spatial experiences and understandings within a broader collaborative effort and in a more democratic way. 'What we teach' in mapping scholarship has become more critical and collaborative over the years, but 'how we teach' it can still improve. Therefore, we find it relevant to reflect on how transversal learning practices and collective methodolgies can further enhance mapping pedagogy. This article draws from experiences in the 2022 and 2023 Urban Notes courses (an in-situ urban sketching elective) and discusses the outcomes of student-organized collective mapping experiments. The debate centers on the students' mapping results and survey responses. Overall, this article highlights how students were able to demonstrate creative and critical understandings of maps and how collective learning methods enhanced their overall architectural and planning educations.

***Keywords:** collective mapping, participatory urbanism, experimental workshop, collaborative learning, mapping pedagogy.*

***Thematic areas:** active methodologies (MA), participatory urbanism, political activism.*

Resumen

A medida que la pedagogía de la cartografía ha cambiado significativamente en los últimos tiempos, la cartografía colectiva ha surgido como enfoque alternativo. Es un medio para debatir, iluminar, desafiar e imaginar diferentes experiencias y concepciones espaciales en el marco de un esfuerzo colaborativo y de una manera más democrática. "Lo que enseñamos" a través de los cursos de cartografías se ha vuelto más colaborativo y crítico, pero "el qué y cómo enseñamos" aún puede mejorar. Por lo tanto, nos parece pertinente reflexionar sobre cómo prácticas de aprendizaje transversal y metodologías colectivas pueden mejorar aún más la pedagogía cartográfica. Este texto se basa en las experiencias de los cursos 2022 y 2023 de Urban Notes (optativa de esbozo urbano in situ) y analiza los resultados de la cartografía colectiva organizada por los estudiantes. El debate se centra en los resultados cartográficos y en las respuestas a las encuestas. Se destaca cómo los estudiantes demostraron una comprensión creativa y crítica de los mapas y cómo los métodos de aprendizaje colectivo mejoran su formación general en arquitectura y planificación.

***Palabras clave:** mapeo colectivo, urbanismo participativo, taller experimental, aprendizaje colaborativo, pedagogía cartográfica.*

***Bloques temáticos:** metodologías activas (MA), urbanismo participativo, activismo político.*

Resumen datos académicos

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1. Mapping as a creative, critical, and communicative endeavor

1.1 A brief history of mapping pedagogy

Over the past era, mapping pedagogy has dramatically shifted in three distinct ways. During the 19th and early 20th centuries, when it was established as a university discipline, its methodology was initially descriptive. Land was measured by surveyors, rendered onto a map by cartographers, and interpreted by geographers (Eckert, 1908; Raisz, 1938). In the 1950s, this descriptive mapping scholarship was called into question. As other social sciences had become more theoretical, quantitative, and experimental, scholars began to argue that geography was not exceptional (claiming it did not differ from other systematic sciences) and should similarly embrace the philosophy and methodologies of a positivist approach (Barnes & van Meeteren, 2022). In other words, mapping should be a scientific endeavor (see the Hartshorne-Schaefer 'debates' of the 1950s and 60s). This quantitative revolution in geography was the first major shift in mapping scholarship. Mappers no longer simply identified spatial 'facts' but recognized spatial relationships through formal theory, data, and statistical techniques.

Widely emerging in academic circles in the 1970s and 80s, the second large shift was the quantitative critique of maps (what has become widely known as critical mapping). This was a time where urban academics and professionals enlarged their classification of map forms, ignited new conversations about space, and branched outside of the map being the primary focus of analysis. Maps were not simply a scientific endeavor with a value-free history, but they had political, colonial, and racial dimensions (Wood, 2010). Jacob (1996) describes this shift as moving from a *transparent view* – previously recognizing maps as neutral transfers of information – to an *opaque view* – now recognizing that mappings include selections, omissions, additions, and inescapable contextual influences that give it shape. Critical mapping scholarship recognized that maps have a problematic mix of so-called rational actors, i.e., the conventional representation of space and neutral expertise (Gualini, 2018). Therefore, urban academics and practitioners undertook the challenge of discovering ways in which citizens can act together to address their concerns and (re)imagine their futures. Collective mapping emerged as an alternative practice. It was an approach where official plans could come through meaningful collective dialogue that helped to identify shared interests and action items (Saija & Pappalardo, 2018).

This is not to say that cartography was only critically practiced by academics after the 70s and 80s. There are notable examples of collective mapping that challenged both descriptive and scientific mapping endeavors beforehand. In the 1950s, MIT's The Perceptual Form of the City project emphasized that urban space is perceived. By asking directions to a diverse group of people, Lynch and Kepes studied how the city is seen and interpreted through its urban landscape, focusing on the physical elements that compose our 'Image of the City' (Lynch, 1960). During this same time, Debord-inspired situationalist mappings used the method of derive to draw mappers through the city by the city. Focusing less on physical features of the city, these maps sought to challenge city planning schemes that ignored how the character of a place (its appeal or repeal) influenced how people move through space (see Debord's Guide psychogéographique de Paris (1957)). And lastly, the Detroit Geographic Expedition and Institute's 1971 mapping, titled *Where Commuters Run Over Black Children on the Pointes-Downtown Track*, demonstrated the provocative potential in communities constructing their own spatial facts (Bunge, 1971). Rather than bring in professionals to deploy participatory strategies and explore unfamiliar places, locals[1]

[1] Bunge refered to them as 'folk geographers' (people who did not have any training in mapping methods).

were the ones conducting and controlling the geographic expeditions (or mappings) of their neighborhoods.

These collective mapping experiences, as well as others, highlighted how geography is more than just identifying where things are (Wood, 2010); information is more than just a narrative retelling of how things are; and systems are more than a standardized way of thinking and operating. In other words, they demonstrated how collective mapping could disrupt the current mapping pedagogy. Critical mapping scholarship has since become well-established within our institutions and academic debates.

Most recently, in the 1990s, the third major shift has been to contend with emerging digital technologies, such as geographic information system (GIS), and society. These three shifts (towards scientific, critical, and digital mapping scholarship) remain relevant in university-based urban studies, including architecture, planning, and so on.

1.2 Collective learning experiences and the Urban Notes case

Topics of space (Cosgrove, 1999) and the prevalence of spatial visualizations (Kitchen & Dodge, 2007) have been growing. In planning and architectural studies, mapping has become a relatively predominant practice. It is seen as a way to broaden our awareness of spatial relationships that exist between different objects and properties as well as a support to justify our urban (re)development initiatives and public policies. But within the current contexts of democratic cities and growing number of complex urban issues, it seems urgent to further investigate how to more effectively incorporate collaborative methodologies in our learning environments and practices.

Collective mapping has proven to serve various groups differently through both hand-drawn and digital mediums. For example, as Saija and Pappalardo (2018) state, researchers have used it to collect diverse data that combines expert and nonexpert knowledge to highlight diverse values, perceptions, and needs of diverse populations at different spatial scales. On the other hand, community groups, activists, and other non-governmental organizations have used it to question power relations and dominant social narratives (see the Anti-Eviction Mapping Project and Iconclasistas). Similarly, collective mapping has been used in a variety of ways in planning and architecture schools. For instance, they can be collaborative research devices, expressions of critical and cognitive accounts of place, promote a debate on a specific topic or space, or even provide a methodology/dynamic for learning, analysis, and alternative group projects. While these uses have been notable, this article explores how transversal learning practices and collective methodologies can further enhance mapping pedagogies.

This article reflects on the outcomes of collective mappings in the 2022 and 2023 Urban Notes courses. Urban Notes is an elective course that connects architecture students (ETSAB) with active neighborhood groups (associations, local businesses, groups in vulnerable situations, architecture professionals)[2] to observe and analyze a different neighborhood of Barcelona each year on foot (Seve, Redondo Domínguez, & Muxi Martínez, 2023). In recent years, the course has been held in the Poblenou, Sants, and Raval neighborhoods, and it has emphasized how to debate, process, and synthesize various spatial understandings and experiences using approaches such as urban sketching, mapping, and open-ended debates (see Figure 1).

[2] As this article focuses on the 2022 and 2023 iterations of Urban Notes, we wanted to highlight some of the groups and organizations that helped shape these learning experiences. In 2022, we thank Lacol, Can Battló, Vapor Vell, Sants Market for their engagement. In 2023, we thank TotRaval, AteneudelRaval, La Boqueria Arquitectura, Impulsem, La Traginera for their participation. Interactions included guided neighborhood walks, facilitated debates, joined sketching sessions, and so on.

Fig. 1 Photos from Urban Notes sessions in the Raval neighborhood. Source: Toldi, A. (2023)

The authors recognize that collective mapping is not something that stands alone; rather, it is a part of a wider open process. That is why the course centers collective mapping experiences within a transversal learning model – including, but not limited to, crafting the lessons to be in the neighborhood of focus and giving students autonomy in collective expression. Collective mapping was not incorporated into the course as a means to communicate a shared project proposal by the students. Rather, students collectively mapped as "a 'means for' thought, the socialization of knowledge and practices, a boost for collective participation, … the driving force for creation and imagination, … among many other aspects" (Iconclasistas, 2013: 11).

Through self-organized collective mapping and in-situ lessons, the Urban Notes course directly challenges two ways we tend to structure architectural and planning learning environments. Most university courses take place inside a classroom where students are passively presented with a topic and tend to engage with it in limited ways. By leaving the classroom, students can directly and more extensively engage with the urban environments they study. This includes, but is not limited to, more diverse perspectives of a given place and a real-world context for more hands-on-learning. Secondly, collective mapping is often used as a stand-alone practice. It is typically incorporated into learning environments as a prescriptive tool to gather *more* spatial information.[3] As highlighted earlier, collective mapping is not just a method to build a spatial representation. Rather, it can also help students explore more ways of acting, understanding, debating, and imagining the neighborhoods they study. Though this article reflects specifically on the elective course Urban Notes, the conversation has broader pedagogical implications.

[3] This approach (commonly referred to as citizen science) has been particularly useful in the face of new phenomena or emerging interests where the data needed is difficult, if not impossible, to gather through more traditional methods.

2. Lessons learned from Sants & Raval mapping experiments

2.1 Methodology

The Urban Notes course has changed over its four courses, most notably with the introduction of collective mapping starting in the 2022 course. Collective mapping was seen as a means to complement the in-situ learning experiences of Urban Notes. As this article is primarily focused on the outcomes of collective mapping in a transversal learning model, the discussion will only focus on the 2022 and 2023 courses, drawing from the students' mappings and survey responses.

Within both courses, the mappings took place once the in-situ lessons had concluded. The collective maps were approached from an open-ended base and did not follow a strict program. It could be more or less abstract, use a 'base map' or not, include images and/or texts, and so on. Teachers were not involved in the co-creation process; simply, we encouraged students to take it as opportunity to come together to share common and/or differing observations, experiences, impressions, and visions of the neighborhood over the duration of the course. We made it clear to students that they had the freedom to self-organize this collective mapping, but we did offer some recommendations. These included:

- We suggested first to establish the content and process they hoped to map, to then consider the types of graphic expressions and layout they hoped to use, and finally, to begin mapping with a common direction in mind.
- We suggested they could approach discussion through a 'snowball' structure, working first individually or in smaller groups and then coming together collectively after having some time to reflect in a more intimate setting.
- We also emphasized some of the difficulties of this exercise, such as synthesizing a variety of narratives and deciding on an agreed upon form of expression.

Both the mappings and the feedback were given to the students as a voluntary task to complete. We are unclear exactly how many participated in the mapping,[4] but for the surveys, we received 13 responses in 2022 and 8 responses in 2023. The survey consisted of 20 Likert-styled questions and one open response.[5] The open response question asked students to elaborate on their experiences in the course, sharing their insights on the results of the course and where it can still improve. Although we imagine that there are various take-a-ways from those who have engaged with Urban Notes, we want to highlight three continuities in mapping scholarship and two novelties for collective learning from these past two years.

[4] We recommended that they should first decide together on an afternoon when many are available to meet unhurriedly and *willingly*.

[5] Students responded in English, Spanish, and Catalan. For the purposes of this article, all responses are translated to English by the authors; original (untranslated) responses can be found in the footnotes.

Fig. 2 Collective mapping of the Sants neighborhood. This collective map was presented in the "73 Barcelonas" exposition in the Model Festival.[6] Source: Urban Notes' students. (2022)

[6] *Authors: Bruno Seve, Zaida Muxi, Salvador Gilabert. Alumnado: Abdeljalil El Bahja González, Alexandra Serdeliuc, Andrea Àlamo Navarro, Ana Paula Córdova, Andreu Grané, Antonia Gonzalez Gomez, Anzu Masugi, Arnau Toscano Prat, Bingbing Xia, César Tomás Plata, Charlotte Baumgartner, Clàudia Martí Fanlo, David Piquer, Davide Cacioppolini, Ece Ergüven, Maria Eduarda Cunha, Maria Sobrino Mora, Óscar Serrano Ruiz, Tommaso Spagnolli, Yağmuray Sarı, Yamila Segura, Sergio Serrano Varela, Valentina Ciancaglini.*

2.2 Continuities in mapping scholarship

2.2.1 The 2022 Sant's mapping (re)illustrates that space is lived and representation is biased

As can be seen previously in Figure 2, the mapping demonstrates how space is lived and representation is biased in at least three recognizable ways. First, the mapping of the Sants neighborhood was physically shaped by the perspectives gathered by students over the semester. The area is malleable, as it was transformed to make space for diverse understandings and experiences. Typically, we try to fit the information into space, which comes with reductions, omissions, and simplifications. This mapping is a great example of how information can shape space, recognizing that it does not have to just be the other way around!

Secondly, in public spaces like streets and squares, the words highlight contradictions and varying experiences within the same places. For example, in one space, we can see contradictory words, such as *friendly* and *cold* or *nice views* and *grey*. In another space, we see potentially different perceptions of the same phenomena, such as *border* versus *privacy*. There are many factors, such as class, race, gender, citizenship, and so on, that influence how one interacts with and perceives space. Lastly, the students signed the map, as can be seen in the bottom right corner of the mapping. The students made it transparent that their map is biased and partial; in other words, they made it transparent that it has an author.

2.2.2 The 2023 Raval mapping video captured by students (re)iterates that (spatial) knowledge is a process

Unprompted, students provided us with this video when they uploaded their collective mapping. Based on publication limitations, only screenshots of the video can be seen in Figure 3. Within the video, one can observe how the collective mapping dynamic is not continuous. There are pauses around the map, where it appears the participants are debating, and there are pauses away from the map, where it appears they have taken some time to step away. Collective mapping does not just include adding contributions to the map; organizing, debates, pauses, and other moments are also a part of the process.

Fig. 3 Screenshots from the collective mapping video of the Raval neighborhood. Source: Urban Notes' students. (2023)

The group dynamics are also shifting. You can see that there are times when only one individual is adding contributions. This could indicate that they helping to moderate discussions around the map. There are other moments when several people are contributing. All this to say, mapping is full of fluctuations and shifts. It is an ever-changing process, not something that simply comes into being.

2.2.3 The survey reveals that most students found collective mapping to be a beneficial approach

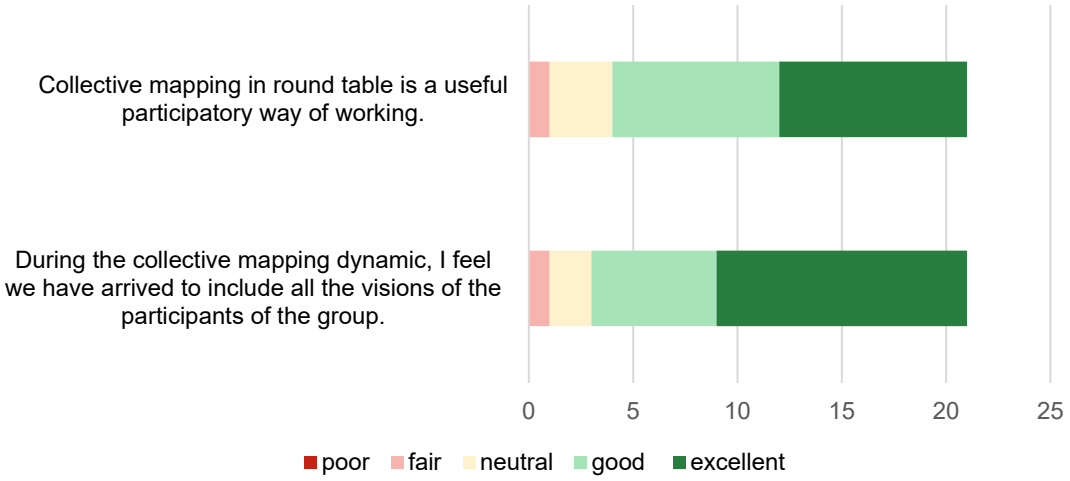
While 2.2.1 and 2.2.2 reiterate what we can learn from the collective maps or the act of collective mapping, this sub-section emphasizes the 'off-the-map' outcomes. Mapping is not simply a means to an end. Rather, as can be seen in Table 2, collective mapping can be a useful participatory approach and dynamic. This creates the potential for 'off-the-map' benefits such as engagement, debate, and comradery. Collective mapping can build a collective representation, but it can act in more ways than just as a tangible output.

There is a notable difference between the 2022 and 2023 course that is worth recognizing. In 2023, students were involved in an initial collective mapping towards the beginning of the course. After one in-situ lesson, professors and students informally mapped initial impressions, perceptions, and experiences of the neighborhood. Students first collectively mapped in small groups. The class then came together to present and debate their maps. During this conversation, professors and students co-mapped on a large arial image. Professors used this as an opportunity to share various information about the Raval, including its history and current realities, in an engaged way. Interestingly, this may have had an impact on how the students perceive collective mapping. Between the 2022 and the 2023 students, there is a noticeable difference between the students' perception on whether collective mapping is a useful participatory way of working. The 2022 students responded with a 4.0 average whereas the 2023 students responded with a higher average impression of 4.5. This could be due in part to the fact that the 2023 students first had a guided collective mapping experience in which they could build from when self-organizing.

Not all impressions of collective mapping were positive. While most expressed it was both a useful way of working and the final representation did a good job of including all visions, there were some outliers. In the survey, one student stated, "I had the feeling that the group of students was very fragmented, maybe it's because there are so many of us or I don't know… I also think that it would have helped to do the collective mapping in two or three groups. Being fewer makes it easier for everyone to participate, organize themselves…."[7] This reiterates one of the challenges of collective mapping. One single visual representation of a diverse group cannot represent all. Even efforts to include the visions of most is still challenging. There will be debate. There may even be conflict. But we believe this is part of the nature of collaborative work. Another student expressed a more positive experience, stating that although "the collective map was difficult for everyone to work together … I think that some participants did a good job."

[7] Original (untranslated) response: "tuve la sensación de que el grupo de alumnos estaba muy fragmentado, quizás es por que somos muchos o no se…También creo que hubiese ayudado a hacer el collective mapping en dos grupos o tres. Siendo menos es más fácil que todo el mundo tenga participación, organizarse…"

Table 2. Student feedback about collective mapping experiences



2.3 Novelties for collective learning

2.3.1 Both the Sants & Raval mappings do not outline action but respond to changes, demonstrating a different kind of learning potential through creative autonomy

As can be seen in Figure 1 and 2, the outcomes of the mappings are dynamic and use a mix of hand-drawn and digital means to share their understandings and perceptions of the neighborhoods. There is no 'direction' or 'action' outlined by either mapping, but rather, both represent moments of exchanges and responses. The in-situ classes and self-organized collective mapping gave students the opportunity to digest (or react to) time and space rather than to simply compute (or quantify) it. This demonstrates different kind of learning potential when students are not encouraged to simply identify urban 'problems' and define 'solutions.' Another student emphasized how uncommon this learning environment is, stating that "… we do not see this type of dynamic in other subjects, it is very free and educational: it helps to disconnect from the technical and boring career, doing something that (I) like." They went on to say that "... I think that it is very good that each student is free to choose the technique that they like the most and with which they identify the most, it has helped me to investigate other methods of representation. …"[8] Mapping, sketching, and other forms of representation are modes of expresión, ways to build, share, and create ideas. It is a valuable learning opportunity to give students the freedom to explore what modes of expression communicate different impressions, perceptions, and concepts well. While it is important for architectural and planning students to develop tactical skills, strategical skills are equally as important.

2.3.2 The survey reveals that students strongly express the benefit of and desire to have more collective learning experiences outside of the classroom

As can be seen in Table 3, all those who responded to the survey expressed neutral to positive experiences with in-situ learning. There is only one question, though, that all responded to positively*: I enjoy walking in urban drawing classes. I consider this kind of experience very fun*

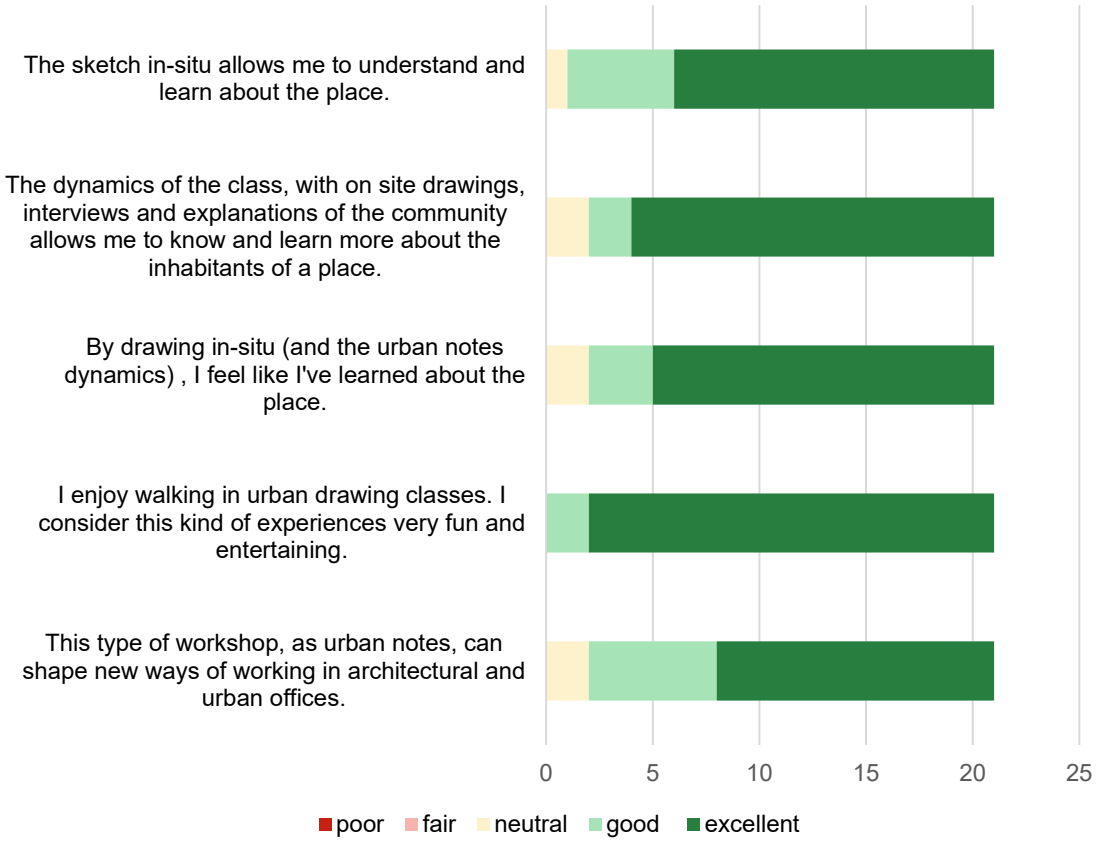
[8] Original (untranslated) response: "… No vemos este tipo de dinámica en otras materias, es muy libre y educativa: ayuda a desconectar de la carrera tan técnica y aburrida, haciendo algo que (me) gusta. … Creo que está muy bien que cada alumno sea libre de escoger la técnica que mas le gusta y con la que mas se identifica, me ha servido para investigar otros metodos de representación. …"

and entertaining. While enjoyment is not the only goal in education, it is important factor to consider if we want to offer courses that students want to engage with and consequently will more actively participate in.

Students also voiced how the in-situ lessons benefitted them in the open-response section of the survey. One student shared that "this course helped me to shape a different perspective in viewing a neighborhood that I was just walking past." Another student had a similar experience, sharing that "getting to work outdoor, walking, talking and drawing was a great way to get to know the daily life and the history of Sants."

As seen in the last question in Table 3, the students (as well as the authors) believe that this type of workshop can shape new ways of working in architectural and urban offices. This means that the impact of education is not just limited to 'the classroom', but it influences how architects and urbanists 'in-training' will practice and work moving forward. One student went as far as to say that "… I consider that this should be a compulsory course because it really helps you to understand more the place where you are going to build in. …"

Table 3. Student feedback about in-situ learning experiences



3. Final Reflections

It is important to reflect not only on *what we teach* but *how we teach*. This article illustrates how collective mapping and learning created an active and explorative educational environment for the students in Urban Notes. Students demonstrated creative and critical understandings of maps and expressed how collective learning methods enhanced their overall architectural and planning education. Therefore, we believe that integrating collective mapping into a transversal learning

environment created richer learning experiences for our students and that the course left them with practical skills and knowledge relevant to their future studies and work.

Similarly, the idea behind the collective mapping experiments was not to tell students *what to map* but to give students the experience of working through *how to map*. We believe knowing *how to map* is not simply a technical facility but also a cognitive process. Therefore, it is important to create learning environments that promote the development of students' critical thinking skills. That is why this article is not concerned with how the students organized themselves during the collective mapping. Rather, we focused on the ways in which the students' self-organized mappings demonstrated critical mapping scholarship and how students' expressed that these experiences advanced their learning.

While Urban Notes offers useful insights for mapping pedagogy, we do have some critiques, recognizing that we still have some ways to improve the course. One on-going critical review from the professors is that the course should be allotted more time. As a three hour per week sketching elective, it becomes difficult to allot sufficient time towards all learning modes the authors wish to include. Balancing urban sketching, debates, and exploration has proven to be challenging. This concern was reiterated by the students as well. In the open-response section of the survey, eight of the twenty-one responses noted that making changes to the time of the course would improve it. With more time, we believe Urban Notes could create a richer culture of engagement between the students in the course and with neighborhood organizations/groups. Potential consequences of this limitation could be that neither of the collective mapping experiments were organized in spaces in the neighborhoods or included the participation of anyone outside of the Urban Notes' students. These are two points of reflection for future Urban Notes' mapping experiments.

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