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Beyond critical pedagogy of place: sensory-embodied learning through the university campus

Daniel Gutiérrez-Ujaque  and Monica Montserrat Degen 

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ABSTRACT

The COVID-19 pandemic has revealed an alarming chasm between traditional higher education pedagogies and the lived experiences of students, posing new challenges to educators worldwide. Addressing this, our study proposes a curricular paradigm shift that foregrounds sensory and embodied learning. Influenced by a Critical Pedagogy of Place framework, we conceptualize the delivery of an urban studies module as an experience-centred encounter with the campus. Our research examines the implications of incorporating course activities and teaching styles that promote sensory-embodied forms of learning and their potential to break free from the confines of the physical classrooms. Empirical evidence from our study demonstrates a remarkable 87% increase in student theoretical comprehension, heralding the transformative potential of turning university campuses into sensorial and embodied critical spaces. Such a transformative pedagogical approach critically questions the outmoded banking education model and encourages students to interrogate deep-seated social and cultural norms and practices. In pushing the boundaries of traditional pedagogy, our study suggests the need to revamp higher education learning experiences to resonate more closely with contemporary students' lived experiences.

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Introduction

The COVID-19 pandemic has resulted in a significant decline in higher education attendance, as evidenced by a 20% drop reported in a recent study by UK's Office for National Statistics (EDUCAUSE Review, *n.d.*, ONS, 2022) and pointing the reason to lecture-focused approaches that promote passive learning in higher education (Crang, 2003; Giroux, 2018, 2020). Such methods, referred to as banking education by Paulo Freire (1968), position teachers as knowledge custodians rather than catalysts for intellectual curiosity. This highlights the need for a shift towards a more student-centred, critical, and engaging pedagogy to ensure student success and active participation (Røe et al., 2022).

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This situation has exposed the disconnect between traditional higher education teaching methods and students' realities and identities (Nagro & deBettencourt, 2019; Rapanta et al., 2021). We, therefore, argue that higher education must adopt a critical curricular approach that considers contemporary society's social and cultural realities and promotes exciting and relevant learning experiences. In this article, we apply a Critical Pedagogy of Place (CPP) framework to an urban studies module to deconstruct the idea of banking education by considering students lived experiences and encouraging them to challenge dominant cultural assumptions, practices, and outcomes (Gruenewald, 2003). The term CPP refers to the combination of critical pedagogy (Hooks, 1994; Gutiérrez-Ujaque & Jeyasingham, 2022) with place-based learning (Hooykas, 2021) such an approach places cultural and ecological systems at the forefront of critical knowledge construction (Hill et al., 2019). We suggest that adopting a CPP approach can lead to more inclusive and culturally responsive teaching practices that empower students to engage critically with their learning and environment (Ontong & Waghid, 2020).

CPP operates within a dialogical framework that empowers students to participate actively as informed citizens, recognising the profound influence of their professional practices on the social, cultural, and environmental well-being of their communities (Anderson, 2013; Hooykas, 2021). What sets CPP apart is its emphasis on spatiality, which establishes a vital connection between the entire educational community and the local context, whether a city or a rural village or in this case the university campus within a London context. This approach transforms local heritage, cultures, landscapes, and personal experiences into meaningful learning scenarios for students (Gruenewald, 2003).

As Gruenewald further elaborates, by immersing themselves in CPP, students learn to understand their social and environmental responsibilities as engaged citizens:

developing a critical pedagogy of place means challenging each other to read the texts of our own lives and to ask constantly what needs to be transformed and what needs to be conserved. In short, it means making place for the cultural, political, economic and ecological dynamics of places whenever we talk about the purpose and practice of learning (Gruenewald, 2003, p. 10)

Students are encouraged to critically examine their communities' social, cultural, and environmental dimensions, recognising the challenges and opportunities they present. This approach expands students' awareness of local issues and equips them with the necessary tools and skills to actively address these challenges, contributing to their communities overall well-being and sustainability. By embracing CPP, educators can nurture a generation of socially conscious and environmentally responsible individuals who are deeply connected to their local contexts and actively strive for positive change.

The present article offers a nuanced development of Gruenewald's concept of Critical Pedagogy of Place (CPP) by applying it to an urban studies module as part of a Sociology and Media and Communications degree program at the College of Business, Arts and Social Sciences at Brunel University London. In particular, our case study explores how incorporating sensory-embodied practices in the context of campus-based learning expands the classroom outside its physical constraints. Our research examines the importance of senses and embodiment in learning processes on campus to improve the learning experience in higher education.

The article has been organised in the following ways. First, we discuss how university campuses have the potential to be transformed into expansive places of learning that allow for critical thinking and inform research on current debates about people's lived experiences and social contexts. Second, we explore how sensory and embodied approaches to teaching can enhance and expand learning processes within higher education. Subsequently, we present our main results emphasising these approaches in the learning processes on campus. Finally, developing further Gruenwald's initial CPP we propose three methodological strategies for generating novel higher education learning environments.

Transforming university campuses into critical learning spaces: perspectives and practices

A range of different pedagogical approaches discuss in depth the relationship between curricula, sensing learning experiences, and the role of the body in the educational process (Johansson & Lokken, 2014; Nguen & Larson, 2015; Todd et al., 2021). However, less research discusses how these processes merge within university campus environments. One theory that addresses the campus as a source of learning is campus-based learning (Hockridge (2015), a teaching method that leverages university communities' unique social, spatial, and sensorial dimensions to create meaningful and impactful student learning experiences. By incorporating real-life examples from daily rhythms of campus activities and spaces into the educational process, lecturers are encouraged to use the campus as a teaching tool, helping students better understand and retain the concepts (Rapanta et al., 2021; Martikainen et al., 2022). Although campus-based learning is rich in methodology, few studies have highlighted the importance of sensory and bodily stimuli in creating effective and engaging learning experiences that genuinely resonate with students and their cultural and social backgrounds (exceptions are Leigh, 2016; Quinn & Maddox, 2022).

A university campus clearly provides students with a dynamic and ever-evolving social, sensory, and cultural learning environment. This environment comprises diverse spaces, practices, and activities, including libraries, classrooms, residence halls, sports facilities, and recreational areas designed to stimulate multiple senses (Lumpkin et al., 2015; Saroyan & Trigwell, 2015). According to Smith (2004) and Blazek and Stenning (2022), the campus is much more than just a physical location for studying and working; it's a cultural project shaped by a multitude of sensory experiences, contributing to the overall environment (Degen & Rose, 2012; Welch, 2016). This perspective, echoed by Groenwald (2018), underscores the unique and transformative nature of a university campus due to its multisensory aspect. Sasson et al. (2022) offer a similar perspective, emphasising the importance of the multisensory nature of the campus, where sensory stimuli such as sight, hearing, touch, smell, and taste play critical roles in shaping students' learning experiences (Lambert, 2012; Cox, 2018). So, the campus environment can significantly impact students' social identities and attitudes towards diversity, as demonstrated by research on the impact of campus atmospheres on student attitudes towards race and ethnicity (Miller & Acs, 2017).

Another significant aspect of campus-based learning approaches is the active involvement of the senses. This engagement includes integrating various sensory

modalities, such as visual aids, hands-on activities, and technology, which better address different students' learning styles (Stone et al., 2020). Degen and Lewis (2020) suggest that the combination and transformation of sensory stimuli can lead to the creation of different forms of knowledge, dependent on the individual's positionality. However, implementing a multisensory approach in a university setting presents challenges, such as resource scarcity, lack of time and space in traditional classrooms, and the need for creative solutions (Phillips, 2015; Vannini et al., 2012). Despite these hurdles, creating a multisensory learning environment is vital to fostering an inclusive educational community that prepares students for the evolving demands of the world (Vannini, 2015; Le Breton, 2017; Thyssen and Grosvenor, 2019). Meyer et al. (2017) reiterate this point, emphasizing that integrating various sensory modalities in teaching methods can significantly enhance students' learning experience, promoting better comprehension and long-term retention of information, both of which are essential for academic success.

Furthermore, it is important to reflect on how embodiment plays a significant role in the actual learning process. Research consistently indicates that embodiment is key to learning, enabling students to connect their physical experiences with their cognitive processes (Hockey & James, 2012; Gilleard and Higgs, 2014; Marvell and Simm, 2018). Specifically, in university education, an awareness of embodiment can be fostered through various means, such as mindfulness practices, physical exercises, and somatic techniques (García-Vita et al., 2021). These practices can help students develop a greater awareness of their bodies, emotions, and cognitive processes, leading to improved mental health and well-being (Denovan et al., 2020; Fritzsche, 2022).

Thus, when students, including those with disabilities, engage sensorially with the physical world, they also engage with their cognitive processes (Bhopal et al., 2016; Jiang, 2020; Lourens & Swartz, 2016). The evidence reviewed herein proposes that recognizing and catering to the varying physical capabilities of students, especially those with disabilities, is a crucial aspect of the learning process (Felder & Silverman, 1988; Hall & Chouinard, 2016). Therefore, incorporating learning techniques that consider (disabled) bodies not only enhances accessibility but also boosts inclusivity and overall educational engagement.

This section has summarised the literature relating to the role of university campuses as spaces that facilitate transformative learning experiences. By integrating sensory, and embodied approaches, campus-based learning allows students to understand urban life from their embodied positionality and therefore link their everyday experiences to broader cultural, social, and political structures and developments (Csordas, 2015; Howes, 2019; Zuhroh & Umanailo, 2021). By combining these themes, campus-based learning, and sensory-embodied approaches, we can promote student engagement and enhance pedagogical practices in higher education. As we illustrate in the next section, these approaches permit a nuanced development of Gruenewald's concept of CPP, immersing students in a sensory-embodied learning journey within and about the campus that offers transformative experiences.

Teaching the urban as sensory- embodied practice

The SO3604 Global Cities module offers students a comprehensive understanding of the complexities that characterise urban life and the myriad factors that shape urban development. The module focuses on the fundamental theoretical and empirical approaches to urban studies, drawing heavily on human geography approaches as well as historical, economic, political, and cultural perspectives. Scheduled over three hours with breaks, it allows for various interactive and experiential learning activities. Students are encouraged to critically evaluate the concepts of urbanism, space, and place through embodiment and explore the connections between the built environment, social life, and power relations in contemporary cities. Indeed, the module develops innovative and interdisciplinary approaches to sensory urbanism and human geography, exploring the role of sensory and embodied experiences in shaping the urban landscape, such as how touch, smell, taste, sound and vision have shaped urban landscapes and urban social relations. Through a range of immersive learning experiences, students learn to appreciate how different senses shape urban environments and power relations in cities. Overall, the Global Cities module equips students with the knowledge and skills to analyse and engage with complex urban challenges from a social and humanist perspective, preparing them for various urban planning, policy, and research careers.

In 2018, the arrival of the first author, from the University of Lleida, Spain, as a PhD Erasmus+ researcher in Education Sciences at Brunel University London marked an important change in the evolution of the SO3604 Global Cities module. Collaborating with the second author, we aimed to revitalise the traditional lecture and field trips based curriculum with a fresh perspective and new seminar approaches (Peacock, Mewis & Rooney, 2018). We sought to integrate a CPP perspective, emphasising a learning situation's sensory and embodied pedagogical aspects to transform the campus itself into a dynamic and immersive learning environment (Low, 2015). Furthermore, we encouraged students to engage their bodies as a critical tool, elevating their learning experience and deepening their understanding of the intricate interplay between urban development, social life, and spatial power relations in contemporary cities (Degen & Rose, 2023). It is important to point out here that we are both from a white-Hispanic cultural background, which sometimes positioned us outside or, at least, at the margins of some of the established class and ethnic structures in the UK.

Methodology

The data for this case study was gathered through a variety of instruments: Pre- and Post-course Surveys (PPS), Student Interviews (SI), a Focus Group (FG) discussion and Learning Diaries (LD). These methods allowed us to generate a data triangulation to analyse student experiences' transformations. Below is a table summary (Table 1) with the definition of each instrument and the timeline when these instruments were applied. The total of students in this module was 32, and the participants in this study were recruited voluntarily. All participants were aged between 20 and 25 years at the beginning of the study, there was a mix of gender with a higher proportion of females (65%) and a high diversity of cultural backgrounds and ethnicities reflecting Brunel's diverse student population with 30% from a white ethnic background and 70% from Black, Asian, Chinese, and other ethnic backgrounds.

Table 1. Definition and timeline of each instrument.

Instrument	Definition	Timeline
Pre and Post-course surveys (PPS)	<i>Pre and post-course surveys</i> by the whole class measured the impact of the new approach on students' experience. This provided a comparative measure of the impact of the pedagogical changes and captured any shifts in students' understanding and experiences as a result of the course.	Week 1 (pre) and week 12 (post)
Student interview (SI)	<i>Semi-structured interviews</i> were held with 10 students (the same students that kept learning diaries) which on average lasted 30–45 minutes. This method provided an opportunity to explore in-depth students' sensory interpretation of the place, their metaphorical view of Brunel, and their self-perceived "sensory identity", thereby providing rich qualitative data to enrich our understanding beyond what quantitative data could offer.	Week 8
Focus group (FG)	A two-hour <i>focus group</i> discussion was conducted with the ten students who kept learning diaries to gather additional insights. The questions were semi-structured and explored the participants' experiences of learning, especially their transitioning from second to third year. The questions investigated societal influences on sensory perceptions, the role of social media in learning, and personal experiences within Brunel University.	Week 11
Learning diaries (LD)	<i>Learning diaries</i> were kept over the length of the module by 10 students who were asked to reflect on their experiences of the weekly seminars and how they related to their understanding of the course material.	Week 12

The data was transcribed verbatim, and the transcripts were analysed to identify patterns, themes, and relationships between the data. *Atlas.ti 11* was used to assist in the coding and categorising of the data. The coding was an inductive approach, so the themes emerged from the transcripts. Finally, the themes from the data analysis were compared and contrasted with the PPS to identify any changes in students' perceptions and experiences of the sensory and embodied pedagogical approach on campus. Brunel University's ethical processes were followed to protect participants' rights and dignity.

The course

This section aims to provide a comprehensive overview of the pedagogical practices adopted in the SO3604 Global Cities module. The primary objective of presenting this sequence is to give readers a detailed understanding of the organisational structure of the module, enabling them to gain insight into the pedagogical and methodological actions employed in this study. We provide a week-by-week description of the 12-week teaching curriculum to achieve this goal, highlighting key aspects of our pedagogical approach, focusing particularly on the seminars we conducted after a 1.5-hour lecture time. Subsequently, we will transition to the results and discussion section, exploring the effectiveness of our approaches in facilitating student learning and engagement. In this way, we present a detailed and evidence-based account of our teaching strategies and outcomes; simultaneously, we aim to inspire educators to embrace more experiential and embodied pedagogies and to transform traditional lecture-based teaching practices.

Week 1 of our module started with a new experience for students as we stepped outside the confines of the traditional classroom, asking them to start the lesson by meeting in the Quad, the civic heart of the Brunel University campus. This iconic square, as depicted in [Figure 1](#), provided the perfect setting for students to begin the module with the question: Why study cities? And, to ask them to start with a sensory



Figure 1. The Quad – Brunel university London.

exploration of their personal experiences within the campus's rich material, cultural, and social environment (Smith, 2004). As students gathered on the stairs leading to the Quad, they were tasked with choosing different locations around the Quad and observing spatial patterns of behaviours as well as and reflect critically on their feelings evoked from textures, smells or sounds or activities in the different locations. By introducing the concept of sensory ethnography, we aimed to shed light on the often-unnoticed sensory elements of everyday life, as noted by Pink (2015) and the importance of space in framing identities and social practices. Students were given 30 minutes to capture their sensory impressions, thoughts, and connections in a written record. This exercise was designed to encourage students to pay close attention to the site-specific qualities of Brutalist architecture and the social fabric that shapes campus life (Pallasmaa, 2012). After the students completed their sensory ethnography, we gathered in the Quad to share and reflect on our findings. The discussion highlighted students' (and our own) positionality concerning the diversity of experiences, from their different reactions to scents of the various food shops around the Quad to common sensory experiences such as the perceptions of the frenzied pace of campus life. As teachers, this experience provided a deconstruction of our conceptions of how students experience the campus. For students, this activity shattered the conventional norms of the first day of class, where teachers typically present an overview and assignments. However, by embarking on a campus exploration together, a sense of equality and collaboration emerged, dismantling the hierarchical structures prevalent in banking education models (Freire, 1968). After the experience, we continued the discussion in the classroom, bringing in more theoretical concepts such as spatialization, power or embodiment through the creation of a concept map, as depicted in Figure 2, to organise and make sense of emerging ideas and concepts. Drawing on the CPP, we intertwined environment, culture, and education concepts aimed at sparking embodied reflections that respond to the needs of campus residents – the students. By doing so, we aimed to evoke social and environmental awareness and highlight how our surroundings shape our lives and experiences (Glass, 2014).



Figure 2. Brainstorming after on-campus activity.

During *week 2*, we delved into the often-overlooked relationship between space, culture and identity. Our objective was to challenge the conventional notion that space is merely a passive backdrop to social and cultural life and instead recognise it as a dynamic entity moulded by society, its needs, and the economy (Lefebvre, 1991). To truly comprehend this connection, we approached the subject from an intersectional perspective (Hooks, 1994), examining first theoretically through a lecture how questions of identity, space, and society interact to shape one another. We used here our own examples of feeling “out of place” in certain environments, by drawing on our own experiences when we first arrived in the UK like entering a quintessential UK pub and not knowing we had to order at the bar. As hooks suggests: “any classroom that employs a holistic model of learning will also be a place where teachers grow and are empowered by the process” (1994:49). Next, we embarked on a sensory journey for the seminar through the Brunel University campus to bring these theories to life. Armed with notebooks, students formed groups of three or four to answer thought-provoking questions such as: *How can you map places through experiences?* and *“How can Brunel University become a cultural home for its diverse students?”* This exercise aimed to inspire critical reflection and provide a deeper understanding of the campus as a lived social space. After a 30-minute exploration, the students reconvened in the classroom to share their observations and insights.

Building on week 2’s exploration of space and identity, *week 3* shifted our focus to space and power as we discussed how the built environment reflects and perpetuates power dynamics. We explored the struggles of identity expression in and out of place (Cresswell, 1992) and how urban planning can be viewed as a tool to organise and regulate social life. The gendered division of urban spaces into private and public was

used as an example to showcase how power is performed and mediated in public spaces. To bring this concept to life, groups of four students were armed with a map of Brunel University and tasked with marking where power relations are expressed on campus and how these are exercised. This exercise created a counter-cartography (García-Vita et al., 2021), providing a fresh perspective on the university's normative map. The students were asked thought-provoking questions, such as: *How are power relations expressed on campus? / Are you aware of any spatial segregation on campus? / Where and how are students transgressing planned space?* The map different students then produced led to some difficult discussions. Female students started to identify areas they would avoid at night; another group of students started to highlight how the uses of the university's night club are at times racially spaced with different ethnic groups preferring some club nights over others but also segregating themselves into different areas within the nightclub.

In **week 4**, the seminar delved into the interplay between the senses and the body in shaping spatial experience. It was recognised that the body is a critical tool on the university campus, and each sense constructs a unique perception of and connection with specific locations. The seminar aimed to uncover how the senses inform our understanding of university spaces and contribute to the overall university experience. Thus, students were tasked to focus on one specific sense and map sensory elements such as taste, smell, and touch through photographs and recordings. The students were prompted with questions that guided their exploration: *Which sense is most frequently utilised on campus? How does the specific sense shape your campus experience?* When students came back we started to construct a layered map of the campus of tastes, the campus of smells, the campus of visions, the campus of sounds and the campus of touch.

During **weeks 5 and 6**, we delved deeper into the themes of globalisation and qualitative research methodologies, which are vital in comprehending contemporary cities. In this phase, students were introduced to theoretical and empirical debates surrounding globalisation and the interconnectedness of cities worldwide. The lessons were held in the classroom yet students began to make links between their findings on campus and theoretical and methodological issues emerging. For example, globalisation was discussed as an economic, political and cultural phenomenon and students started to see this reflected in their own biographies as well as their own lives. This is of significant importance as it provides students with the opportunity to apply the theoretical concepts they have been immersed in over the course of several weeks, thereby bridging the gap between theory and praxis.

In **weeks 8 and 9**, the lectures focused on theoretical discussions of urban regeneration, gentrification and inequalities in the city. Seminars linked up theoretical insights on these topics with trialling sensory and ethnographic methodologies on campus. This provided a unique opportunity for students to apply theoretical knowledge gained earlier in the module to examine their own sensory and embodied connections with the university and how these were linked to broader political and economic processes, offering further insights into the university's social fabric. The objective was to link the personal sensory-spatial experiences of Brunel with the increased marketization of higher education, neoliberal processes and capitalism.

In the same week a walk-along with the participants of this study took place. Students were asked to document their sensory and embodied experiences through

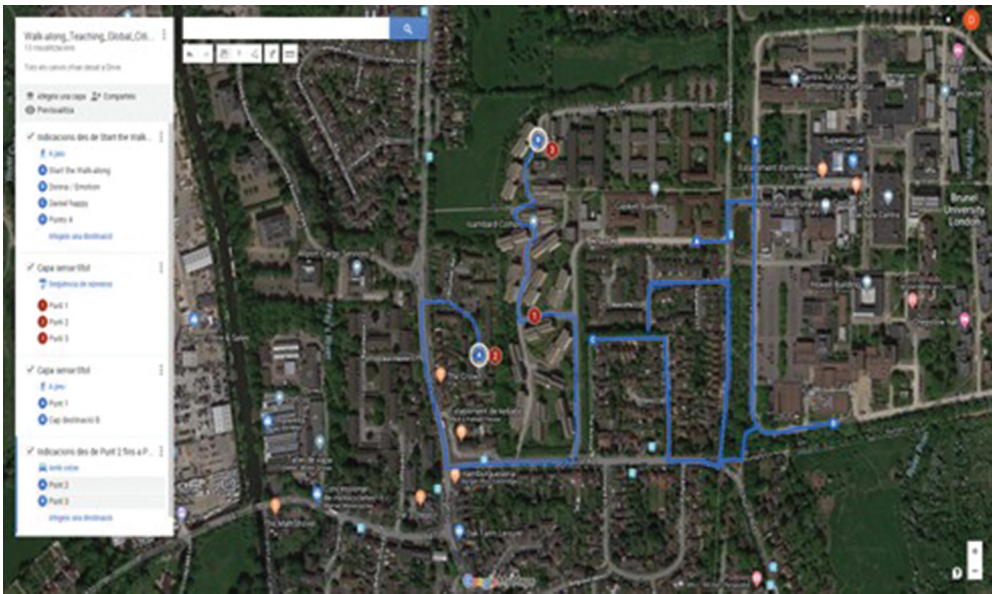


Figure 3. Example of a sensory ethnography done by a group of students.



Figure 4. Photographs depicting the campus identity taken by the students.

writing and photography during the walk, allowing for a multi-faceted approach to data collection (as shown in Figure 3). They marked specific places and objects with numbers (1, 2, 3) that evoked emotional resonances, recorded their conversations, and took photographs of elements they identified as part of Brunel's identity (as shown in Figure 4).

In *week 10*, was designed to be a unique and memorable experience, allowing students to apply their theoretical knowledge in a practical setting outside the



Figure 5. Fieldtrip in Smithfield Market.

university. A field trip to the Museum of London and Smithfield Market was organised to offer insights into the historical and contemporary urban landscape, economic changes' impact, and public space's role in urban life (as Figure 5 shown).

During the field trip students were divided into groups and asked to analyse the power relations from one sensory perspective: i.e. to examine the city of sound, the city of touch, the city of vision, the city of taste and the city of smells. This experiential learning approach was consistent with the literature that emphasises the value of fieldwork as an affective, experiential, and critical learning experience (Golubchikov, 2015).

During the course's final two weeks (*weeks 11 and 12*), students were required to apply the skills and knowledge acquired during the previous weeks' sessions on an empirical group project. The project entailed conducting an in-depth ethnographic study of a selected location (campus of Brunel or Smithfield Market), enabling students to demonstrate their comprehension of the fundamental principles, theories, and challenges explored throughout the module. Furthermore, the presentation served as a platform for showcasing their critical thinking skills by analysing and interpreting contemporary media forms and representations, enhancing their ability to navigate and understand urban development's multi-faceted and nuanced nature. Similar to how the inaugural week of the course disrupted power dynamics by commencing activities beyond the confines of the traditional classroom, the autonomy bestowed upon students in selecting their own topics fostered an environment conducive to exploring personal interests, consequently amplifying their intrinsic motivation. Moreover, from a pedagogical standpoint, this practice engendered a democratization of knowledge acquisition, engendering heightened student-teacher interactions characterized by greater proximity, authenticity, and substantive relevance.

As we illustrate in the next section, the SO3604 Global Cities module fostered a deeper understanding of the intricate interplay between urban development, social life, and spatial power relations in contemporary cities. Furthermore, it gave students the skills and knowledge to become influential global citizens.

Deepening in the results and interpretations of this teaching experience

This section presents the results and discussion of a study that explores the nuance of CPP using sensory and embodied learning experiences in higher education. In order to comprehensively construct this section, the present study draws upon transcriptions derived from a multitude of sources, as discussed above. The findings presented here have significant implications for pedagogy and curriculum design in higher education. This section is organised into three approaches: proposing methodological proposals through the university campus, examining the senses as a source for novel political, cultural, and ecological discourses, and transforming lecturers and students into creators of curricular content that can rethink the campus' learning space.

Proposing new methodologies based on the university campus

Our study has aimed to advance Gruenewald's (2003) conception of CPP by incorporating sensory and embodiment experiences in shaping higher education curricula. As mentioned in the previous section, we have emphasised the importance of cultural and ecological systems in shaping critical knowledge. Our approach extends this theory by utilising the unique environment of Brunel University's campus to provide students during seminars with a more holistic and nuanced understanding of the world, fostering their development as critical and engaged learners. As can be seen from [Figure 6](#), students' perceptions of the campus as a learning environment changed throughout the module between week 1 and week 12. We can identify increased students' confidence

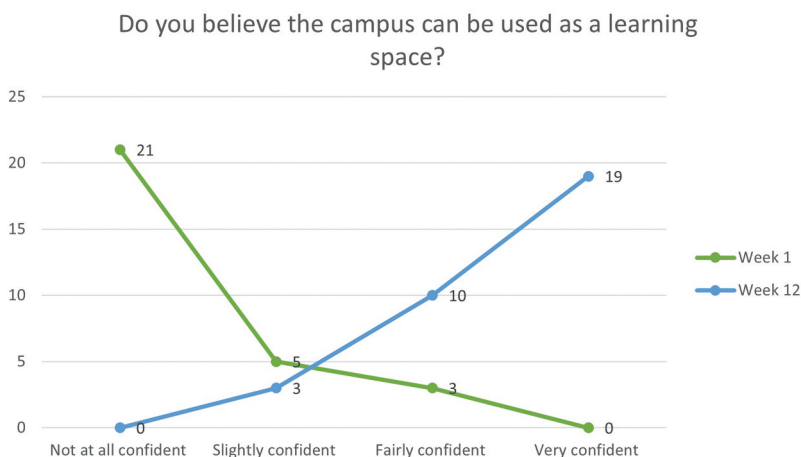


Figure 6. Result of students' perception of how the campus can be used as a learning space before and after completing the Global cities module.

as they applied their newly gained urban-social knowledge in a campus environment. Incorporating sensory and embodied experiences into the curriculum clearly supported students' understanding of the campus as a learning space.

Supporting students in developing innovative proposals in their coursework to transform the university campus into a more inclusive and sustainable environment led to a more engaged and deeper understanding of the module content. We can conclude that engaging with the campus environment encourages students to rethink their relationship with their spatial and sensory surroundings and to consider their role in shaping their environment.

For example, students' quotes in their LD to the module show how sensory and embodied experiences are crucial to their education.

“A sensory approach has allowed me to understand the campus more meaningfully. Now, I walk through it, and I perceive relationships that I was not able to see before.” (LD fragment)

Walking around the campus and understanding that all our actions have a political and cultural significance is very important. The seminars have allowed me to realise this. (LD fragment)

Most participants agreed that higher education needs to incorporate sensorial and embodied practices to improve learning. There were suggestions in their learning diaries that evidenced how the sensory and embodied practices in higher education promote a more profound understanding of power relations and foster inclusive practices. For example, some students had reflected about the importance of lived experience in their studies:

From experiencing these practical seminars, I have become more motivated to understand my surroundings as a source of learning. (SI fragment)

Doing activities emphasising sensory embodiment has allowed me to understand how our actions have social and cultural connotations that we must take into account. (SI fragment)

These findings reveal the importance of using the body as a critical tool in seminars. As the quote suggests a focus on sensory embodiments encourages students contextualise their learning within their cultural and social backgrounds. Furthermore, these results support the conceptual premise that the senses play a crucial role in recognising diversity and positionality, particularly concerning differences in gender, race, social class, and individual and group perspectives.

Examining the senses and embodiment as a source of innovative learning experiences in HE

A recurrent theme in the semi-structured interviews was a sense amongst students that incorporating sensory experiences in university education can create a more dynamic and meaningful learning experience. Our research highlights how students engage with their environment through their senses and gain a deeper understanding of the surrounding social context.

“I think the course provides an interesting learning experience because it is connected to society and real life. This fact helps me better understand the theoretical concepts”. (SI fragment)

This approach fosters a more holistic view of the learning process and promotes critical thinking by allowing students to explore the links between the sensory aspects of their surroundings and wider social and political issues. In all cases, students reported that through sensory and embodied experiences in university education, they could better understand and navigate the social world’s complexities.

When the participants were asked about the importance of recognising senses in shaping their learning experiences, the majority commented that senses play a crucial role in shaping their student identity and are often overlooked in traditional forms of education. These statements illustrate how universities can foster a more inclusive and empathetic educational environment. Talking about this issue, two different interviewees said:

I was taken by surprise by these sensory activities. It made me realise that attention to our senses in an urban environment is significant. A small site like the campus can represent a society’s broader historical and cultural values. (SI extract)

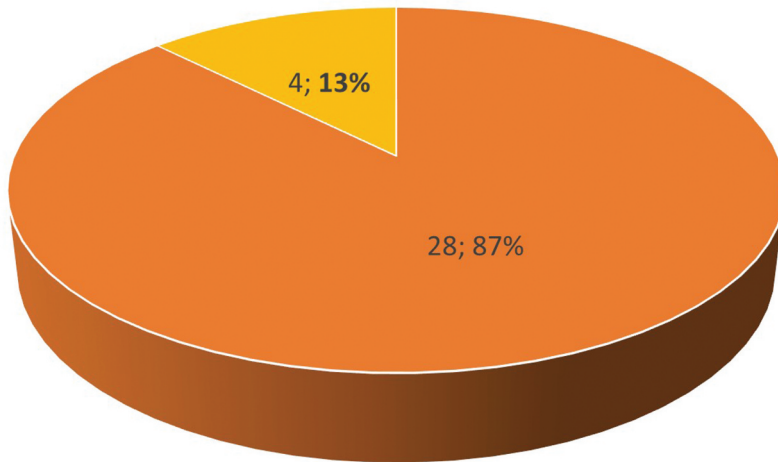
Class status can visually be made tangible through Brunel’s student accommodation. The campus is divided into new and old accommodations. The new accommodation looks very nice, the old one is cheaper and does not look as well designed. However, when it comes to communal places like the library, culture, gender and class status do not matter because everyone is here for one thing: to study hard and achieve their degree. (SI extract)

The value of these fragments suggests that learning through the senses can provoke deeper critical thinking and a more nuanced understanding of complex power relations (Hooks, 1994). The key strength of this study is evidence of the value of emotions in learning; universities can create a more empathetic and supportive environment that encourages students to engage with their studies: “An emotional subject offers an intersubjective means of negotiating our place in the world, co-produced in cultural discourses of emotion as well as through psycho-social narratives [...]” (Thien, 2005 quoted in Sharp, 2009: 77).

Our research findings have significant implications for the future of university education. This approach highlights the importance of recognising the diverse ways students experience and engage with their environment and can create a more humane and empathetic educational system that equips students with the skills and knowledge to navigate the complexities of the social world (Hooks, 1994).

Transforming lecturers and students into creators of curricular content

Our research highlights the importance of transforming lecturers and students into creators of curricular content to rethink the campus as a learning space. As our survey revealed, by engaging with the campus through their senses and embodied experiences, students can gain a deeper understanding of their academic, social, and cultural surroundings. [Figure 7](#) reveals that 87% of the students state that they better understand the conceptual framework due to their experiences in the practical seminars.



- I have gained a better understanding of the concepts
- I would need more clarification to improve my understanding.

Figure 7. Students' perception of whether they better understand the concepts after the experiences.

This phenomenon can be attributed to the deliberate dismantling of hierarchical structures within the classroom, achieved through various practices such as communal campus strolls, collective dialogue exchanges, and spatial reconfiguration of classroom arrangements. These micro-level interventions engender a more egalitarian and inclusive classroom environment, fostering meaningful and reciprocal interactions between students and educators that transcend traditional power structures. However, the most striking result from the data is that lecturers and students did become joined creators of curricular content. As we show in the following fragments from the FG, this is a remarkable result and may have significant implications for the future of university education.

It is great that we have been able to put into practice what we are learning by going outside during the seminar and discussing and applying the topic (FG fragment)

It was constructive to go around campus to use the concepts we learn; applying them in practice implies better understand and better preparation for the professional practice (FG fragment)

Students assume the role of active co-creators of knowledge as they establish meaningful connections between curricular content and their lived experiences. Notably, one interviewee highlighted an enhanced sense of mindfulness in her everyday life, attributable to the practical application of course concepts. Consequently, the incorporation of daily experiences imbued her with fresh insights and novel experiences that could be effectively integrated within the academic realm. So, our findings support the conceptual premise that lecturers and students should be co-creators of curricular content to generate an empathetic educational system that promotes inclusion and fundamental social transformation.

Conclusion

This article explored the profound impact that incorporating sensory and embodied learning into university campus life can have on a CPP conceptual framework. Through this research, we aimed to illustrate the potential of utilising the relationship between the embodied sensorium of the university campus to produce learning activities that foster critical thinking, link course content to students' lives, and shape educational practices. In doing so, we hope to contribute to the ongoing conversation about transforming traditional higher education models and promoting more significant and transformative learning experiences for students. By examining the role of sensory and embodied experiences in shaping critical pedagogy, our main goal in the current study was to offer insights into the potential for this approach to disrupt banking education programs and promote more inclusive and equitable learning environments.

The findings have raised the importance of using students' own sensory and embodied experiences on campus and beyond in higher education teaching and offered a powerful means to explore the critical potential of the curriculum. Our seminars supported not only familiarising students with the university campus but also creating a conducive learning environment that is less normative and hierarchical and less subject to power relationships. Our study adds to the rapidly expanding field of incorporating sensory and embodied learning experiences into higher education. In particular, our pedagogical approach is concerned with developing a deeper understanding of the social and cultural dimensions that shape students' interactions with others and their environment. Through this deeper understanding, students could develop the skills and knowledge needed to take meaningful action towards promoting social justice and environmental sustainability in their current and future lives. In addition, this study underpins a nuanced understanding of the CPP from Gruenewald (2003), strengthening his conceptual framework and providing new understandings, as we conclude now.

Throughout the semester we observed a marked increase in engagement, curiosity, and critical thinking by students. From a practical perspective, students connected better with the learning materials and related it to their lives, leading to a deeper understanding of theoretical concepts and their use for analysis.

In the aftermath of the COVID-19 pandemic, our pre-pandemic research takes on a heightened significance, asserting the necessity of re-establishing sensory and embodied learning in the university educational milieu. In light of these challenges, the pedagogical strategies our research highlights, especially sensory and embodied learning, emerge as both advantageous and critically essential. Our pedagogical approaches have been proven to significantly enhance student motivation and emotional engagement with the learning process. As we strive to overcome the post-pandemic educational landscape, these results present a compelling solution to the many challenges imposed by the pandemic. Moreover, our research sheds light on the potential of these methodologies to cultivate an academically diverse, inclusive, and empowering learning atmosphere. It promotes a more profound understanding of the interplay of social, cultural, and spatial dimensions influencing student interactions, thus enabling them to effect meaningful societal change. Consequently, as we contemplate the trajectory of higher education in the post-COVID world, it is clear that including sensory and embodied learning in university life is not simply beneficial but a pivotal factor in the sector's evolution and recuperation.

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