Experiential learning for sustainable urban development

by

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Abstract

Our cities are likely to be unsustainable because they are conceived without considering a significant section of city users, namely the underprivileged. Though in some cities, like Rio de Janeiro, such urban unsustainability is 'in one's face', arguably it is a worldwide phenomenon. A representative part of society seems to be distant from, and invisible to, the 'eyes' of those who have the privilege of going to top schools, and design and build our cities. How could education engage our students to recognise the underprivileged and contribute towards more sustainable cities?

This study considers education, the central purpose of which would be the development of individuals and society, as a point of leverage from which to improve our cities' sustainability. More specifically, experiential learning is analysed as a clear-cut educational method to contribute to bringing privileged and underprivileged people closer. More explicitly, questions such as how experiential learning can contribute to urban sustainability are explored. The experiential learning programme Favela-Lead is explored by interviewing its students. Favela-Lead challenges students to co-create real solutions for urban sustainability with underprivileged people in Rio de Janeiro's urban informal settlements. As a central conclusion of this study, when students live through the experience of working with the underprivileged to improve living conditions, urban sustainability is likely to be exponentially improved.

Contents

1. Introduction

This study explores experiential learning as an educational method to contribute to the development of individual learners and sustainable urban environments. Favela-Lead, an international experiential learning programme in seven favelas[1] in Rio de Janeiro (Rio), is explored regarding its contributions towards sustainable urban development. Students, who are or are to become the ones who shapes our systems and cities 'tomorrow', are the focal point of this study.

This opening chapter first describes the broader framework in which this study is embedded. It also introduces the debate concerning education and experience, and its intersections with sustainability and its urban slope. Secondly, 'Favela-Lead' is briefly introduced and the literature context delineated. Lastly, the research purpose and questions are outlined.

1.1. Background
1.1.1. The intersection between sustainable urban development, education & experiences
Education has always underpinned 'sustainable urban development'. For instance, since the ancient Greek era, Plato (428/427 or 424/423 – 348/347 BC) highlights the continuing education of all citizens as an instrument to reach social and individual development in the Greek city-states (Cooper 1997). Similarly, Wals and Jickling (2002) and Holmberg (2006) argue that education has always played a pivotal role in influencing sustainability agendas. More specifically, education should underpin key dimensions of sustainability such as our cities' social development (access to basic services such as health, education, food, assistance (Hall 2018); and equity of opportunities along life (Silva et al. 2012)) (Wals and Jickling 2002, Holmberg 2006). If social development has always been a key purpose of education, urban sustainability should be an educational outcome.

However, within the educational domain, the reformer John Dewey (1938) argues that Western traditional education's (schools which rely on subjects or cultural heritages and rigid and uniform tendencies) contributions to social development are limited. He states that traditional education rigidness (with its classrooms' spaces built by fixed blackboards, rows of chairs and desks disposed in a military rigid regimen) limits imaginations, movement, intellectual and moral freedom. Dewey (1938: 89) argued for a new philosophy of education, which he called 'progressive education', concluding that: 'education in order to accomplish its ends both for the individual learner and for society must be based upon experience'. Dewey (1938) advocated a specific form of education which he coined as 'experiential learning' (the consideration of real-life experiences in education, as detailed under section 2.1). Moreover, regarding sustainability in the twentieth-first century, authors such as Wals and Jickling (2002), Eriksson (2006), Holmberg (2006), Wals and Corcoran (2006), Healey (2007), Mezirow and Taylor (2009), and Shrivastava (2010), refer to Dewey's work, asserting the need for education based upon real-life experiences in order to meaningfully contribute to sustainable development, including in cities. This intersection between education, experience, and sustainability in the urban context will be explored in this study.

1.1.2. Experiential learning: bridging the gap between scientific & lay- knowledge

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[1] Brazilian informal settlements

Notwithstanding, there has been tension in the Western world between experiential (practical) and theoretical (scientific) educational paradigms since ancient Greek times (Ericsson 2008). In the late seventeenth century, Newton advocated for a modern science, based on real-life experimental observation (represented by the popular falling apple metaphor), rather than on imaginative 'gods' (Fara 1999). Diderot's and d'Alembert's first French encyclopaedia (which is a key contribution to illustration and Enlightenment), featured popular knowledge (such as how a knife is made), because they considered that popular knowledge is key for individual and social development (Withers 1993).

Nonetheless, scientific knowledge, which is adopted by traditional education, is likely to be too distanced from popular knowledge in many ways. Gramsci (1971) states that scientific methods dismiss people-nation's experiences and are applied by influential well-educated intellectuals to produce and re-produce the privileged ruling-class systems of domination. Specifically in the sustainable urban development field, Healey (2007) questions the scientific method cause-effect contributions to urban sustainability (as detailed below). Popular people-nations' and urban users' knowledge is regarded to be 'lay knowledge' - built on peoples' real-life experiences, observations, and cultural inheritances (Healey 2007) and practice (UNESCO 2006). For instance, truths and wisdom of the poor and the ancients are considered lay knowledge (Wals and Corcoran 2006). Though real-life experiences have always been key for both individual and social development as previously mentioned, traditional education has been disregarding it and negatively distancing students from the lay knowledge that represents a significant part of our cities' users lives (Eriksson 2006, Wals and Corcoran 2006). For this reason, experiential learning is needed in order to reconnect students with an authentic sustainability (a sustainability which is driven by social and environmental values, and less trapped by standardization that privileges economic perspective over others (Wals and Corcoran 2006)) (Eriksson 2006).

1.1.3. Cities by and for the privileged

Regarding traditional education's impacts in the urban development field, authors such as Lefebvre (1976), Morgan (1988) and Healey (2007) state that traditional education has been enlarging the gap between the privileged well-educated (such as architects, engineers and urban planners, whose interests and scientifically-driven decisions are significantly shaping cities and societies) and the underprivileged (like favela dwellers, and those whose interests are underrepresented in the decisions which shape cities and societies (Mitchell 1995)). Consequently, Lefebvre (1976), Mitchell (1995), Morgan (1988) and Healey (2007) argue that cities are likely to be spaces of social inequity and injustice (which are likely to be unsustainable for a significant part of city users), because cities are likely to be planned and built by the imagination of those privileged ones who, though well-educated, are 'distant' from urban user's real-life experiences as a whole.

Indeed, key professionals in city building, like the previously mentioned ones, are unlike to be educated to really recognise lay knowledge's relevance in practice when conceiving cities. For instance, more than one in five 'citizens' in Rio officially live in the favelas (Brazilian Institute of Geography and Statistics (IBGE), 2011). However, as analysed under section 4.B.1, the favelas are likely to be considered urban no-go zones by the privileged and well-educated. Favela dwellers are ignored when cities are being conceived (Silva et al. 2012), as

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underprivileged people are in other cities such as London and New York, where citizen participation can be controversial (Cornwall 2008).

Citizen participation is indeed a promoted narrative. However, Cornwall (2008) and Ledwith (2011) refer to 'tokenism', as practices that are employed in citizen participation processes by adopting fictitious and manipulative narratives of unprivileged inclusiveness. Such processes were seen as a misleading euphemism by Arnestein (1969) in her seminal publication A ladder of citizen participation. Arnestein (1969) argues that citizen participation practices are largely employed as a process to simulate citizen participation and justify already decided urban plans. Thus, as these authors point out, it is key to understand both who participates in citizen participation processes, as well as the extent to which participants are really listened to, and who wins in such processes.

Notwithstanding, underprivileged people from hopeless environments, such as the favelas, are more likely to engage and participate in criminality, in turn 'causing' violence and suffering among the privileged (Eriksson 2006). Isn't it logical that inequality causes conflicts in our cities as a whole? Would the privileged (and their institutions) be harvesting, for instance the urban violence, they themselves have caused? Could experiential learning reconnect and engage students with human values, in turn bringing the privileged and the underprivileged closer, and ultimately contributing towards an authentic urban sustainability?

Engaging students for an authentic sustainability, as previously suggested, demands that students understand human experiences such as the underprivileged's lay knowledge (Shrivastava 2010). Elements such as authenticity (putting being before seeming) and the capacity to inspire (for instance, engaging students to authentically and critically analyse the mainstreaming system) are missing in schools, limiting its capacity to engage students regarding human values, and in turn in terms of sustainability (Wals and Corcoran 2006).

1.1.4. Are schools fostering unsustainability?

Nevertheless, schools have arguably contributed to the improvement of human beings. Statistically; hunger, diseases, and war, which had been our main issues, have reduced worldwide (Harari 2016). However, central-stage social issues, such as inequality, have grown in the Western world after the fall of the Berlin wall. Inequality decreased only immediately after World wars I and II. Europeans were in underprivileged situations, which required them to think collaboratively and collectively as a community (Piketty 2013). After the Berlin wall fell, the 'shadows' of war were overcome and capitalism could thrive freely with no need to show a social face anymore (which currently wears the mask of sustainability) (Harari 2016, Giridharadas 2018). Since then, our privileged well-educated students have been freely leaning towards a consumption-led competitive system that raises urban social issues such as inequality in our cities (Minton 2009, Harari 2016).

Thus, not surprisingly, educational institutions' responsibility in unsustainability is a growing concern. From a general perspective, Wals and Corcoran (2006) publish that schools' traditional rigid disciplinary structures hinders systematic approaches to the world, and force a consensus about the perspective of the ill-defined concept 'sustainability' that is multidisciplinary; instead of dedicating efforts to critically analyse the "trap of standardization, of mainstreaming, and of

privileging one economic perspective over others" (p 103). From this study's specific perspective, Eriksson (2006) argues that schools are not using their intellectual and moral capacity for a truly empathetic and collaborative involvement with the underprivileged, such as urban informal settlements dwellers. Our well-educated leaders are driven by fostering a competitive consumption-led development, which is drastically placing civilisation under high-risk living conditions on Earth – consumption is drastically increasing mental illness and social injustice in our cities (Minton 2009). Numerous authors drive attention to the fact that graduates holding post-secondary educational degrees (most world leaders have completed tertiary studies such as BSc, LLBs, MBAs, and PhDs) are perpetrating and reproducing unsustainability (Orr 1992, 1994, 2002, Birch 1988, Hesselink et al. 2000, Siebenhüner 2000, Bowers 2002, Bogotch 2002, Wals and Jickling 2002, Davies et al. 2003, Rees 2003, Furman and Gruenewald 2004, International Association of Universities (IAU) 2006, Olssen 2006, Reid and Petocz 2006, Sherren 2006, Sipos et al. 2008, Sibbel 2009). Hence, urban sustainability requires education institutions to change. Or maybe schools are likely to be successful tools to avoid change and sustain the neoliberal dominant system (Neil Smith 2002, Wals and Corcoran 2006)? To which extent is education biased towards the dominant system?

1.2. Research approach

This research aims to contribute to the previous debate and field from the context of urban informal settlements, specifically the Rio city's favelas. The intersection between education, experience and sustainable urban development is analysed. The experiential learning programme 'Favela-Lead' is explored under this debate's framework by analysing its participants' perceptions and experiences. The aforementioned gap between the privileged and the underprivileged, and the recognition of lay knowledge, are analysed as central-stage issues for sustainable urban development.

The Favela-Lead programme, which is detailed under section 3.2, has been selected because, firstly, it is classified as experiential learning, and secondly, it aims to engage students in authentic urban sustainability. Thirdly, it recognises city user's lay knowledge (the favelas inhabitants' wisdom as detailed under section 3.2), and finally it aims to bring the privileged and the underprivileged closer to each other.

Aiming to explore the Favela-Lead programme in the aforementioned experiential learning's and urban sustainability's frameworks, related literature is reviewed, exploratory qualitative research methodology is applied primarily based on in-depth semi-structured interviews, key themes in the interviews are decoded, and information obtained is analysed and triangulated with documentation and publications concerning Favela-Lead.

1.3. Research questions

This study explores Favela-Lead participants' perceptions about how practice (such as observing and interacting with real-life experiences in a favela), combined with previous theory (such as in-class lectures, literature reviewing, and online activities) contributes to their own development, and ultimately to sustainable urban development. By doing so, the Favela-Lead programme is analysed within John Dewey's framework of experiential learning (1938). Recent publications on experiential learning such as David Kolb's (2015), and its intersections with sustainability and its urban slope, which are discussed by authors such as Eriksson (2006), Holmberg (2006), Lundholm (2006), Healey (2007) Sipos et al. (2008), Shrivastava (2010,

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2012), and Wals (2012), are also incorporated. By adopting this framework, this study explores the following questions:

A. How do participants perceive that the Favela-Lead programme contributed to their own development as individual learners?

B. How do participants perceive the Favela-Lead programme in terms of its contributions towards sustainable urban development?

C. What challenges do participants perceive in the Favela-Lead programme?

2. Literature review

This section reviews relevant literature that is aligned to the study's focal areas, namely that of experiential learning and its intersections with sustainability and cities.

2.1. Experiential learning

Understanding experiential learning requires a return to Dewey's original conceptualisation, because contemporary approaches, such as David Kolb's (who chairs the 'experience-based learning systems' organization), are often problematic due to oversimplification (Ord and Leather 2011).

Experiential learning is a lifelong process (a means to an end) in which the learner individual (like urban planners as aforementioned) experiences the reality (like urban informal settlements) that is being studied (Dewey 1938) – see point 1 under "Notes" Such process development involves conscious and deliberate real-life experiences (for instance the favelas' observation, reflection, and conceptualisation) which are contrasted with in-class learning experiences (such as reading, watching, hearing, talking, and writing), ultimately aiming to build, and make sense of, knowledge (Dewey 1938; Boyatzis and Kolb 1991; Mainemelis et al. 2002; London 2012, Kolb 2015).

Arguably, the term 'experiential learning' is controversial in itself. Fenwick (2003) states that experiential learning is a redundant term because learning is, in itself, an experience. Some scholars argue that experience is included in any form of learning (reading books and watching lectures are experiences), and that connecting students with experience through out-of-class activities, such as field projects or internships, is an old practice (Kolb 2015). Indeed, Dewey (1938) states that the perception of experience itself was a central problem in previous attempts to define schools of thought based on life-experience. As he states, he even considered abandoning the word 'experience' when representing his thoughts on education.

Bruner and Olson (1978) frame the discussion on experiences by differentiating indirect and real-life experiences. They state that indirect experiences are those coded into symbol systems such as experience-in-text like books, or language like lectures. They conclude that the difference between real and indirect experiences is "the source of the differences between the "scientific" mind of Western man and the "primitive" mind of traditional man" (p 12-13). Moreover, they state that indirect experiences enhance the comprehension of real-life experiences, by pointing out the combination of lectures, practical experiences, and observation as a potential solution for a successful education. However, they argue that our knowledge about how to relate lectures, experiences and observation in out-of-school contexts is underdeveloped.

Nevertheless, Dewey (1938, 1958) echoing James (1912) arguments, goes deeper. He illuminates experiential learning not as any experience, but rather the 'modern' discovery of inner experience: an exclusive personal realm under each individual's control; where freedom allows emotion, ingenuity (see point 2 under "Notes") and creativity to flourish. Dewey (1938) refers to properly articulated and coherently chosen human experiences, which must be incorporated into broader learning processes aiming to engage students to reflect and contribute continuously ('now and tomorrow'), for better societies. Dewey (1938) argues for a

humanisation of education. He associates human experiences with principles, criterion, and categories such as mutual consultation, individual freedom, kindliness, decency, social commitment, continuity, democratic ideals, and new knowledge (a moving force that fosters curiosity and purposes set up).

Hence, experiential learning is about consciously and deliberately experiencing the studied reality (in this study focus the favelas); aiming to build knowledge and to authentically, even ingenuously, engage students to contribute to social development from a human perspective (in this study a focus in cities).

2.1.1. Experiential learning and potential negative aspects

Contrarily to the previously discussed approach, other authors argue that experiential learning is likely to be biased. Because understanding phenomena through practice is limited by the practice itself, and by the individuals' biased perceptions and interpretations of such practice (Brehmer 1980, Buchmann and Schwille 1983, Eisenstein and Hutchinson 2006, March 2010). Consequently, the previously mentioned authors state that experiential learning should not be considered as equivalent to traditional education methods. Moreover, the latter enable various experiences that can be coded in, thus extracted from, a text; which for instance contributes more towards social development (Buchmann and Schwille 1983). Because, rather than being limited to a specific practice, traditional education methods raise awareness about the real (for instance, how to work more efficiently and produce more) and the possible (such as, which model would turn our cities into sustainable spaces). Nevertheless, Kolb (2015) states that biases and limitations to the built knowledge are a risk in any form of knowledge (Kolb 2015).

In addition to the previous critical approach to experiential learning, the United States educational revisionist historian Karier (1975) argues that John Dewey and his theories were conservative instead of progressive. Karier (1975: 417) states that Dewey 'changed the meaning of terms like democracy, freedom and equality'; manipulating education in order to introduce and reinforce the United States liberal culture in different societies and countries. Karier (1975) states that Dewey contributed to manipulate other countries' (such as developing economies) affairs by applying an education centred in practice to train a, though efficient, intellectually limited work force, rather than forming well prepared intellectuals. Furthermore, Karier (1975) argues, one of John Dewey's real agendas was to impose the Anglo-Saxon culture on United States immigrants in school in order to de-nationalise them.

John Dewey (1922-1923, 1938c) indeed argues in favour of a common United States unity to work together. However he recognises cultural diversity, and emphasises the need of experiences in order to achieve social tolerance, acceptance, and the raising of collective social consciousness (Dewey 1922-1923, 1938c). Notwithstanding, Karier (1975) points out that Dewey's conception of unity, social tolerance, acceptance and so on, came from the liberal United States culture.

Dewey's enthusiasts, such as Putnam and Putnam (1993), interpret that any education that imposes any culture would not be progressive in Dewey's approach. Eisele (1974) and Urban (1975) raise Karier's mistakes concerning contextualisation, internal consistencies, cross-referencing and authenticity of documentation. In fact, though maintaining her

conclusions, Karier (1976) recognises that she made errors in some sources she used to build her arguments.

Among Dewey's detractors, Phillips (1998) states that Dewey promoted an education in which history and culture are undervalued, and skills and processes are praised over knowledge and facts. She concludes that Dewey's philosophy contributes to 'amoral philistinism'. Nevertheless, Dewey (1938) argues for the incorporation of practice in combination with theory, including history, in order to enable assimilation of knowledge in a way that makes sense within the present context. Petrovic (1998) claims that Phillips misinterpreted Dewey's ideas. Dewey (1922-1923: 516) states:

> '*We need a curriculum in history, literature and geography which will make the different racial elements in this country aware of what each has contributed and will create a mental attitude towards other people which will make it more difficult for the flames of hatred and suspicion to sweep over this country in the future*.'

Another central Phillips' (1998) and Karier's (1975) critique was pointing out that Dewey rejected the authority of teachers, because he rejects that teachers should bring knowledge and intellect to students. Notwithstanding, Dewey (1938) states that knowledge should be built along with students, from a closer educator-student relationship. Garrison (1996), as well as Petrovic (1998), argues that Dewey was misunderstood. They state that Dewey praises the need for new forms of authority, and collaborative approaches, oriented to engagement rather than coercion.

In conclusion, the adoption of real-life experiences in leaning processes is a controversial topic. A dichotomised debate of 'traditional methods versus experiential learning' seems to be a common perspective through which experiential learning is approached in the reviewed literature. As apparently evident, experiential learning outcomes will depend on the agendas that underpin each educational process, as well as on how experiential learning is implemented and which experiences are used.

2.2. Research framework and experiential learning
2.2.A. Experiential learning contribution to participant's development
Experiential learning contributes to an individual's development in all arenas of life (as a student, citizen, professional and so on) (Passarelli and Kolb 2011). Properly and coherently experiencing real-life converts perceptions (related to the here and now) into concepts (related to the future and past). Every experience changes those who act and experience the event (James 1912, Dewey 1938, Kolb 2015).

Experiential learning stimulates critical thinking, in turn raising one's awareness about the consequences of one's actions' (for instance, who should participate in the citizen participation workshop one is designing?), raising self-control and patience, and enhancing problem (such as urban informal settlements' issues) solving capacity (Dewey 1938). Thus, experiential learning brings intelligent thought to conflicts between impulses or desires, and action (James 1912) (for instance, should I undertake a tokenistic citizen participation process?). So, experiential learning can improve emotional and intellectual attitudes, sensitivities and reactions to real-life situations (James 1912, Dewey 1938, Kolb 2015). Ultimately, experiential learning leads to personal

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development in new directions, which bring to light new and authentic purposes and values (for instance truly collaborating for community development towards a more authentic urban sustainability) that were less likely to be perceived beforehand (James 1912, Dewey 1938, Shrivastava 2010, Kolb 2015).

Evidently, traditional education also leads to personal development. However, its militarily rigid framework is unlikely to connect students with the previously mentioned 'new directions' because it tends to ignore the individual learner's emotions, impulses and desires (Dewey 1938, Shrivastava 2010, 2012). Thus, as discussed under section 1.1, traditional education is likely to educate students towards reproducing the mainstream system (in which cities are likely to be spaces of inequity), rather than open the individual learning's eyes towards new possibilities (for instance to co-create cities in collaboration with a broader part of city users), such as authentic sustainability-driven systems that truly 'see', and consider, the underprivileged (Wals and Corcoran 2006) when conceiving cities (Healey 2007).

2.2.B. Experiential learning and sustainable urban development

As mentioned above, students usually graduate without knowing how to think collectively, or how to collaborate and contribute to social and economic development in a sustainable way, but rather to competitively sustain the business as usual mainstream model (Martin and Jucker 2005). For instance, as aforementioned under section 1.1, urban planners are unlikely to consult favela dwellers when designing local development plans, which end up being unsustainable (Silva et al. 2012). Thus, a central-stage challenge for an authentic urban sustainability is to innovate traditional education towards a progressive model: a lifelong, collaborative, authentic and multi-stakeholder model (Dam-Mieras 2006).

Eriksson (2006) specifically claims that educational institutions should engage with grassroots practices and underprivileged people by adopting the progressive model of 'experiential learning'. Martin et al. (2006) argue that experiential learning is likely to reconnect students with the underprivileged's current real-world challenges and avoiding inefficient and reductionist solutions that ignore lay knowledge. Because experiential learning activates emotions, which are likely to raise the sense of self, the other, and community (Senge et al. 2004, Wals and Corcoran 2006, Scharmer 2007), fostering in turn collective thinking and bringing underprivileged (such as favela's dwellers) and privileged (such as urban planners) people together (Shrivastava 2010). Ultimately, experiential learning is likely to integrate lay knowledge, bring underprivileged and privileged people together, and foster authentic sustainable development (Eriksson 2006, Shrivastava 2010).

Kolb's (2015) theory of "contemporary applications of experiential learning" (p 18) approaches experiential learning as a method that is likely to bring the underprivileged into the privileged and well-educated's formal mainstream system. Kolb's (2015) perspective could be problematic, because it could suggest experiential learning as a method for the inclusion of the underprivileged into the unsustainable social system that misrepresents them (for instance, including favelas dwellers into Rio's formal and unsustainable urban system (Silva et al. 2012)). However, arguably the sustainable way should be re-thinking and re-creating the current system from a structural perspective in collaboration with the underprivileged, in order to raise their representativeness.

As mentioned above under section 2.1, understanding experiential learning requires a return to Dewey's original conceptualisation (Ord and Leather 2011). Dewey (1938) argues that common experiences cause different 'minds' (for instance from different religions or socioeconomic backgrounds) to be more likely to connect with each other, in turn enhancing conversations' comprehension, tolerance, trust and productivity (for instance in conceiving cities). Such 'minds' can now understand something in a common way (Dewey 1938). Two individuals' minds can sense and understand another's reality. Consequently, the tendentious approach of 'including the other into my system' tends to fade. Walking in the others' shoes raises understanding about the other person.

Dewey (1938) also points to the fact that experiential learning is a social process, as it helps build differentiated networks by connecting students within each other, educators, third parties such as neighbourhood associations (Dewey 1938) and the underprivileged (Eriksson 2006, Shrivastava 2010). Authentic human relations take place, whereas rigid traditional classrooms activate an artificial uniformity, in which people essentially put seeming (pretending) before being (Dewey 1938). Outward experiences promote emotional bonds and trust, in turn fostering authentic and intimate relations, social groups and enduring collaborations, which ultimately tend to empower participants', and groups' capacity to make changes (Dewey 1938) that lead to sustainable urban development (Shrivastava 2010).

Shrivastava (2010) states that an experiential learning programme for urban, rich and young MBA students in Shillong's rain forest, in India, engaged them in such a manner so as to recognise the underprivileged lay knowledge, which resulted in more authentic sustainability practices. Shrivastava (2010) argues that students understood the value of lay knowledge, and in turn engaged in sustainability, because a tribal peasant from Shillong saved their lives by helping them to find the way out of a forest. Shrivastava (2010) reports positive outcomes from such experiences in connecting students, the underprivileged, and sustainability.

In a different event, though similar to Shillong's regarding the relations between privileged and underprivileged people, referring to the IMF (International Monetary Fund) decision-makers, the Nobel laureate in economics Joseph Stiglitz (2002, cited by Eriksson 2006:21) states: 'from one's luxury hotel, one can callously impose policies about which one would think twice if one knew the people whose lives one was destroying'. If an IMF decision-maker had participated in the aforementioned Shrivastava's experiential learning programme, would Shillong's experience make the IMF decision-maker think twice before imposing policies that would destroy Shillong's communities?

However, as aforementioned, experiential learning experiences are not just any experience. Shrivastava (2010: 447), referring to experiential learning for sustainability, states that: 'To make sustainable management concepts engaging and real, they must be examined in real-world settings and real-work projects. Students need physical exposure and engagement with sustainability issues'. Shrivastava (2010) points to a specific type of experience in the current debate, namely working at a grassroots level in real-work projects. Visiting sites as consultants and suggesting the solutions which would 'help the poor', which is one type of approach in experiential learning, is not as effective as working interactively with the community, as is discussed under section 4.B.2.

Based on this study investigation framework that considers the privileged (like urban planners) and underprivileged (favela dwellers), experiential learning can be a tool to engage students with the underprivileged and its lay knowledge, ultimately contributing to collaboration for sustainable urban development. Real-work projects are likely to be an effective experience to reinforce students' engagement. Could the co-creation (at a grassroots level, not from offices) of real-work projects with the underprivileged, along with urban planners' education, help avoid unsustainable practices such as tokenistic citizen participation?

2.2.C. Experiential learning challenges

In 1938 Dewey published that the education framework, in which experiences would be introduced, was commonly problematic because traditional education subject-matters divisions were not helpful for effective learning. Apart from the inefficient bureaucracy of traditional education in general, such divisions are a problem today in education for sustainability, which is trans-disciplinary in nature (Wals and Jickling 2002, Combes 2005, Martin 2005, Eriksson 2006, Holmberg 2006, Sipos et al. 2008, Shrivastava 2010). Lundholm (2005) points out that students from traditional education divisions such as engineering and biology are likely to react differently to sustainability issues.

Dewey (1938) states that experiential learning is the most severe discipline, because its planning and facilitation are more complex, subjective, relative and challenging than teaching in a classroom. Many try to improvise and fail (Dewey 1938). Educators have to clearly interlink theory and practice, while flexibly integrating all students within themselves and with real-life experience (Dewey (1938). Educators need to have more knowledge about students' profiles than in traditional education. Experiential learning programmes must therefore be flexible (not rigid and bureaucratic) and tailor-made each time they are delivered (rollouts do not work) (Dewey 1938).

Students, groups of students, and experiences are living singular elements that vary (Dewey 1938, Kolb 2015). Planning experiential learning is challenging, because it is not possible to precisely forecast its outcomes, which in turn affects each student (for instance, the way current and previous systems of experiences interact, in each individual, is relative) (Dewey 1938, Shrivastava 2010, Kolb 2015). For example, previously having experienced music, or violence, in a favela will condition further experiences in such a place differently. Moreover, if previous experiences exert a negative influence on the further development of experiences, the latter are likely to be mis-educative and ultimately cause insensibility in the student (Dewey 1938 and Kolb 2015), as well as potential barriers between students, subject-matters, and educators (Lundholm 2006).

For instance, Lundholm's (2006) research on students' reactions to sustainability issues identifies students' strong and traumatic emotional responses to images of violence (as usual in the favelas' daily life), which built barriers between students and educators. Lundholm (2006) concludes that people tend to ignore issues which raise uncomfortable feelings. Along the same line, Martin et al. (2006) identified students' disillusionment on meeting 'real world' issues in diverse disciplines, ultimately limiting students' interests and perceptions about the world. Moreover, Lundholm (2006) states that privileged people commonly perceive sustainability related education as being too focused on problems (such as on urban informal settlements), with little emphasis on solutions. Furthermore, Lundholm (2006) argues that students,

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consciously, do not want to know about how their lifestyles impact the underprivileged. They tend not to perceive sustainability issues such as inequality as an issue that could be related to their lifestyles and carriers. Hence, in such cases, 'experiential learning for urban sustainability' could raise barriers between students and issues such as social justice and lay knowledge integration in urban planning, in turn reinforcing unsustainability-driven decision-making, contrary to what is initially argued in this thesis.

In conclusion, experiential learning for urban sustainability is a challenging practice that demands resources. Outcomes are difficult to be precisely forecasted. Moreover, traditional education bureaucracy and subject-matters divisions are likely to be problematic for experiential learning for urban sustainability. However, the question needs to be asked, are not urban sustainability issues urgent? How can we not prepare future professionals to conceive of, and build sustainable cities?

3. Research Methodology

The research framework, and its interconnection with the literature, was outlined in chapter 2. Chapter 3 presents the methodological approach adopted and crafted in such a manner as to conduct this study in an academically rigorous way and reach valid conclusions.

3.1. Overview
In order to reinforce rigour, researchers must actively reflect and raise their consciousness about what is being undertaken, and how they interpret and relate to subject domains (Baxter et al. 1998, Rosaldo 1989, Denscombe). A brief description about this research reflection process follows.

The first step in this study concerns itself with deciding on the scope, which originates from my own experience. Firstly, as a consequence of having experienced the favelas at a grassroots level, I have engaged in social justice projects. Secondly, I perceived comparable changes in people who first entered a favela with me. Thirdly, as an educator, my perception is that those students who had sensed theory by experiencing related real-life situations at a grassroots level have engaged more (and more critically) in the field of sustainability in general. Ultimately, as discussed in the introduction, education is an efficient leverage point from which to influence urban sustainability. Thus, these experiences and perceptions were directly used in the education programmes I have designed and delivered, such as the research case-study on which this investigation is based, namely the Favela-Lead training programme. This is detailed under section 3.2. Aiming to delve into such experiences and perceptions, I selected grassroots experiences, education, and urban sustainability as the key topics for the scope of this research.

Secondly, in order to understand the form of educational framework under which the Favela-Lead programme could be explored, literature concerning different forms of education was reviewed. As a central conclusion, though the Favela-Lead programme could be classified under different forms of educational frameworks (such as community- and project-based education), John Dewey's (1938) experiential learning framework was identified as a seminal reference. Dewey's experiential learning is still contemporary, David Kolb publishes recurrently on the topic (his book's *Experiential learning: experience as the source of learning and development* second edition was published in 2015), and Dewey is one of Kolb's key references in the book. Literature about other reviewed forms of education commonly also build their argument around Dewey's theories. Furthermore, authors who publish on the intersection between education and sustainability (from both general and urban perspectives), such as Holmberg (2006), Sipos et al. (2008), Mezirow and Taylor (2009), Shrivastava (2010), and Wals (2012), frequently refer to, and underpin reflections on, Dewey's thoughts on education.

Thirdly, the methodology was delineated. Social dynamics, which are the issues explored in the study, such as perceptions (the way an individual frames practical experiences (Singer 1998)), can be effectively explored by adopting qualitative methods (Yardley et al 2019). Semi-structured interviews would be the method of choice here for building this research material based on Favela-Lead participants' perceptions. Semi-structured interviews are an established tool for in-depth analysis to understand educational and social matters surrounding participants' experiences and perceptions (Silverman 2005, Denscombe 2010, Seidman 2013).

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Fourth, considering the reviewed literature and considering the Favela-Lead programme and its urban sustainability context, the research framework was adopted. The following core themes were identified and coded as regards experiential learning: a) its contribution to participant's development, b) its contributions to sustainable urban development, and c) its challenges. The interview questionnaire was designed based on these core themes.

Fifth, data was collected through the interviews and further interview contacts as detailed under section 3.4.

Lastly, collected data was coded and analysed. Further themes were decoded as detailed under section 3.5.

3.2. The educational programme Favela-Lead

This methodology is anchored in the Favela-Lead experiential learning programme, which covers urban sustainability by focusing on urban informal settlements. Favela-Lead falls under Lead Canada's programme for a broader framework on leadership for sustainability. Favela-Lead is a ten-day intensive (fourteen hours daily) programme that was conducted in November/December 2013 (thus, participants could evaluate Favela-Lead's impacts on their development over a six-year timeframe). Favela-Lead is Lead Canada's third and final module (previous modules took place in Ottawa and Saskatchewan over a period of eighteen months), undertaken in Rio's seven favelas: 1. Vigário Geral, 2. Complexo do Alemão, 3. Morro dos Prazeres, 4. Fallet, 5. Santa Marta, 6. Chapéu Mangueira, and Babilonia.
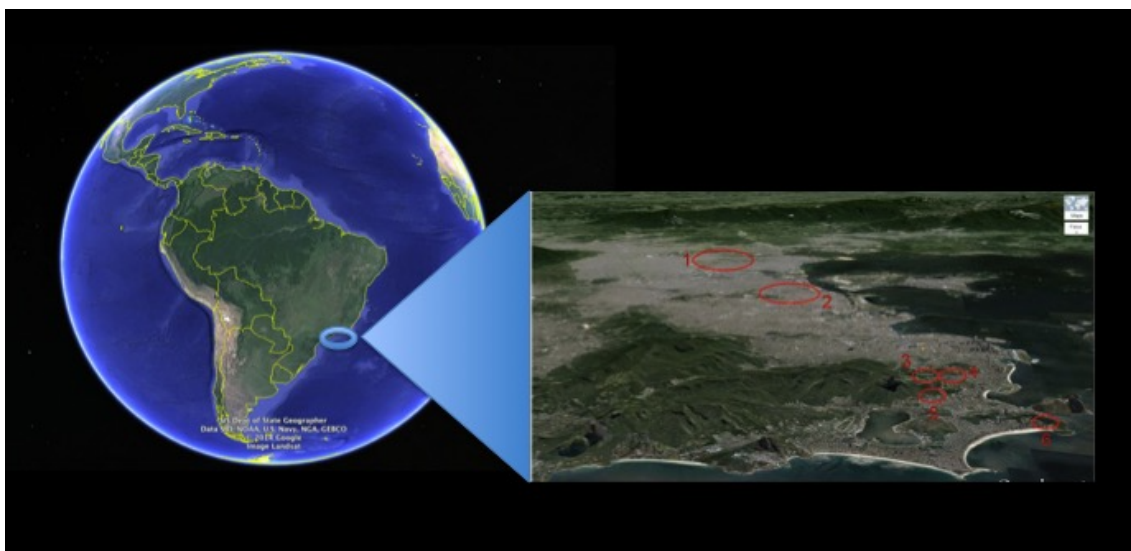
Such education programmes are led by the organisation Lead[2], whose aim is to empower the next generation of leaders for sustainability. Lead is a United Nations consultative organism created by the Rockefeller Foundation and the Gro Harlem Brundland in the Eco-92 (1992 Earth summit in Rio), which is present on all continents. I have previously designed, delivered, and

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[2] https://www.lead.org/about-lead/#our-story (accessed 29 August 2019)

facilitated Lead programmes, as is outlined below in terms of researcher 'positioning' in the study methodology.

Inspired by the idea that small areas of intensive studies can illuminate a broader comprehension of realities (Brookfield 1962, Smith 1984), the Favela-Lead participants (students and Lead director of education programmes, who participated in Favela-Lead as a student) experienced grassroots real life in Rio's seven favelas, focusing on how to do projects for urban sustainability in urban informal settlements. Moreover, students had to co-create a project for urban sustainability with one favela's community (named Fallet) in order to apply the previously studied theories[3] in the eighteen-month Lead Canada programme. Participants were expected to challenge their conceptions on sustainable urban development and engage with and learn from the favela dwellers.

Specifically regarding the co-creation process, students first had to identify who to work with in Fallet. Then, as a team, they would prepare an urban sustainability project plan following the traditional steps (so that it could be presented to potential financers). Special attention was given to the community consultation process, because at the end of Favela-Lead, the community, under the role of evaluator, had to approve the project plan in an organised event. Some meetings were conducted with potential financers, such as banks, the local electricity provider, and the city council so that the community could evaluate the mainstream organisations' reactions to the project plan. After this step, the implementation of the co-created project (which is a sewing cooperative to generate incomes for the community) is not considered under this study's framework. Further information is available in this study's notes[4].

The favela's lay knowledge includes unique wisdom about favela dwellers' daily experiences (which are creative, innovative and tenacious) in surviving on the one hand, and the wisdom from each immigrant's variegated homelands in Brazil's poor countryside on the other (Saunders 2010). By applying such lay knowledge, and amidst a collaborative culture, favela's dwellers built their homes with their own hands (Saunders 2010, Silva et al. 2012). They collaboratively built whole neighbourhoods where more than one in five of Rio's inhabitants struggle to sustain their lives without the presence of the State - that is to say with no official laws, and precarious housing, schools, hospitals, and security, for example (Glenny 2017). Each favela can be a whole unique 'city' inside Rio, where the privileged are unlike to have ever stepped foot, but many privileged people feel they can solve the favelas' issues by implementing sustainability projects (Silva et al. 2012). Though Rio's urban contrasts are unique, the privileged approach underprivileged people's issues in such a way in many cities (Healey 2007) as discussed under section 1.1. Rio's contrasts make it a unique open-air laboratory for students to clearly sense the impacts of urban unsustainability (for instance, of neglecting city users when conceiving cities).

This study explores how the Favela-Lead programme contributed to the progress of its individual learners and more authentic sustainable urban development, as detailed under sections 3.4 and 3.5.

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[3] Examples of theories in Lead Canada's scope are as follows: community development, public participation, sustainable development, housing, cross-cultural-communication, social development, and leadership for sustainability.

The Favela-Lead programme has broader specific aims also, such as empowering local grassroots leaders, as detailed in notes[4, 5, 6].

3.3. Research sample

Though informants can be selected randomly in qualitative research, interviewee aspects such as social status, education qualifications and professional expertise must be considered (Denscombe 2010). Experienced students and key professionals, who make relevant decisions concerning sustainability projects, were selected for this study. They were likely to have detailed and consistent information about Favela-Lead. Interviewee identities are protected. Their profiles are as follows:

Table 1. Interviewee profiles (interviewees authorised the publication of this information)

Interviewee	Age	Gender	Level of education	Professional experience (years)		Approximate number of educational programmes received	Profession
				Total	Sustainability		
A	40	Female	Master	20	7	10	Learning coordinator and researchers supporter. Main activity is coordinating training for researchers.
B	47	Female	Bachelors	15	10	7	Researcher and Canadian government urban planner focused on community resilience, public-participation, and policy making.
C	55	Male	PhD	25	10	+20	Researcher and head of sustainable business programme at the Vancouver British Columbia Institute.
D	62	Female	Master	34	15	+20	Strategic planner at the Canadian government. Focused on stakeholder engagement and policy development.
E	62	Male	Four Masters (one being a MBA)	37	37	+20	Vice President of corporate affairs for United American Corporation. Former World Bank consultant for 13 years. He is specialised in projects implementation in informal settlements.
F	64	Male	Bachelors	35	20	+20	Director of education programmes in 'Lead'. He plans, designs and facilitates training programmes.

3.4. Data collection – Semi-structured interviews and triangulation with documents and video

Semi-structured interviews were conducted according to interviewees' availability between June-August 2019.

A pilot interview was undertaken to test and improve the questionnaire (Castillo-Montoya 2016), which was designed along the intersection between this study's questions, literature review, and the Favela-Lead programme. The pilot interviewee is a collaborator who, though having a similar profile as the typical Favela-Lead student (she is an experienced student with an international career in multicultural environments), was not involved in any way in the Favela-Lead programme, nor is her interview included in this research. The questionnaire was refined based on her feedback.

It has been demonstrated that the researcher's personal identity can influence interviewee responses (Denscombe 2010). I reflected about my interaction with the interviewees (Favela-Lead students), which has always been positive. The experiences in Rio's favelas built strong bonds between everyone. I thought that participants might try to please the interviewer. The positive aspects are that they would likely dedicate time to this study (which occurred in practice – some interviews went on for three hours), and they would feel committed to this study, providing additional examples and information in general. As Baxter and Jack (2008) state, researchers should plan long and intense exposures to the topic under investigation, also in interviews if possible, so that deeper and multiple perspectives can be collected and understood. The negative aspect is that I would have to manage bias in order to find objective and consistent information.

I strived to achieve this by a) being transparent: sharing such thoughts about my position in the beginning of the interview with interviewees (all of them are experienced in the education field and could easily understand such thoughts), and asking them to be critical, b) developing a sixty-eight comprehensive questionnaire in order to structure a long conversation in which similar topics could be addressed at different times of the interview and from various angles, and c) reminding interviewees, during the interview, that they were welcome to raise any points. Moreover, Denscombe (2010) states that online interviews can contribute to reducing the impact of the researcher's personal identity.

Interviews were conducted via Skype as interviewees were based in numerous countries, including Canada, China, Italy and New Zealand. Face-to-face interviews were both uneconomical as well as unsustainable (Denscombe 2010). Visual contact was established by means of computer cameras. Videos were recorded on Skype (and were reviewed for a month)[4] and the audio was recorded by using the artificial intelligence application otter.ai. A 'voice notes' application and a mobile phone were used as voice recording backups. I did not perceive any limitations due to conducting online interviews.

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[4] Skype does not allow recorded videos to be downloaded and stores them for a month only.

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On the contrary, interviewees were where they needed to be (all them were in their home countries), and the conversations were fluid and long, with no external noise nor interruptions (Zulawski and Wicklander 2002). When needed, additional information and/or interviews were requested as indicated (that is, to substantiate information) (Wengraf 2001). Interviewees did not demonstrate any constraints concerning video recording intrusiveness, as it is likely to happen in video-recording processes (Denscombe 2010). Notes were taken during the interviews.

Following practices recommended by Baxter and Eyles (1997) and Denscombe (2010), interviewees were engaged as follows: 1) interviews were requested by e-mail, 2) interviews were conducted, 3) transcripts were sent to interviewees for their validation, along with further in-depth questions, 4) further contact was made by e-mail to clarify and analyse information in-depth (for instance, information about an experiential learning programme undertaken in Italy, apparently inspired by Favela-Lead programme, was requested as explained below), 5) in two cases a new interview was arranged in order to deepen understanding of specific topics. The time frame between steps 2 to 4 spanned from 2 weeks to 1 month. Thus, the 'real' contact with interviewees was 'long', making a more in-depth analysis possible, and information provided 'in the heat of the moment' could be corroborated. Also, following Denscombe (2010) recommendations, Interviewee-B, Interviewee-C, Interviewee-D, Interviewee-E and Interviewee-F (refer to their profiles in table 3) were told that they were considered key players in the research topic due to their professional experience.

In interviews concerning emotional matters, feelings and experiences, it is more difficult for the interviewer to identify if the interviewee is telling the truth (Denscombe 2010). Triangulation was used to check the validity of the data (Denscombe 2010, Biggam 2011). For instance, Interviewee-C, who is a researcher and teacher, said 'Favela-Lead' led him to do further experiential learning programmes in Italian cities. Documentation about such programmes was requested and provided by him. I could analyse such an Italian programme and understand what similarities could be discerned between the two programmes[5]. Interviewee-B provided information about the housing project she planned for Recife's favelas in Brazil, as a consequence of having participated in the Favela-Lead programme (indeed, in the project plan sent to the financer, her only previous experiences in favelas was Favela-Lead). However, due to confidentiality issues, documentation could not be provided in similar situations with Interviewee-A and Interviewee-B, regarding urban community-development's and citizens-consultations' projects. A public video[6] about the Favela-Lead programme, in which these research interviewees were interviewed in 2013, was accessed and analysed in order to corroborate information provided by the interviewees. The production of the video was an independent pro-bono project undertaken by a local communication agency. I was also interviewed in the video, and consulted about the potential script. Under each Interviewee agreement, the video was uniquely used as a triangulation source to contrast information provided by interviewees in this research framework compared to 2013, when Favela-Lead took place and the video was made.

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[5] For instance, both experiential learning programmes (Favela-Lead and the one undertaken in Italy) are centred on cooperation, grassroots experiences, and network building for sustainable urban development.
[6] https://www.youtube.com/watch?v=S4x9Sw5n9-o (last accessed 29 August 2019). The video has been uploaded to my YouTube channel.

Favela-Lead participants' perceptions with regards to experiential learning were explored through the asking of questions, such as:

Table 2. Some interview questions

"What have changed for you after having participated in the Favela-Lead programme?" - in an attempt to identify how experiential learning have influenced in its participants.
"Has your vision of sustainable urban development changed somehow as a consequence of the Favela-Lead programme? How? Why?" – trying to identify how the Favela-Lead programme could have influenced participants concerning sustainable development.
"Do you think that experiential learning programmes contribute more towards sustainable urban development than courses with no experiential learning? Why?" - in an attempt to identify experiential learning programme's contribution to sustainable urban development.

3.5. Data analysis

This section describes the transitional process undertaken between data collection and data analysis to make sense of data in terms of this study framework.

Saldaña (2009: 3) states:

'A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data. The data can consist of interview transcripts, participant observation field notes, journals, documents, literature, artefacts, photographs, video, websites, e-mail correspondence, and so on.'

Following this research framework (detailed under section 1.3), which is based on a literature review and the Favela-Lead programme and its urban sustainability context (as discussed in section 3.2), three themes (research questions) were identified, from which the interviews' questionnaire was constructed. After conducting the interviews and receiving additional information by e-mail, along the decoding process (data core meaning identification (Saldaña 2009)), clear consistent patterns were identified between the data provided in the interviews, the literature review, and the Lead-Favela programme: 4.B.1 bringing the underprivileged and the privileged closer, 4.B.2 raising student's awareness about lay knowledge, and 4.B.3 changes unlocked by Favela-Lead towards sustainable urban development, 4.B.4 working together to co-create a project for sustainable urban development, 4.B.5 Favela-Lead emotions activation, and 4.B.6 listening to diverse people. Hence, it makes sense to encode (core data information coding/labelling (Saldaña 2009)) all data provided by the interviewees following the same thematic structure (the three research questions identified) in this research framework. Coding information by themes is identified as a method to interpret this study's data (Saldaña 2009).

The first step in the data analysis was the full transcription of all interviews. Interviewees' additional information was sourced via e-mail for enrichment. Relevant text was then highlighted and analysed to structure all the information. The structure of themes was identified.

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Each interviewee's information was coded following the respective themes. Different interviews information was cross-referenced to check consistency and to begin to connect the frameworks that build the narrative. At this stage, the overall narratives began to emerge.

Sipe and Guiso (2004) conclude that all coding is influenced by the researcher's personality, position, beliefs and interests. Coding relates different pieces of a research together (connecting the literature review, methodology, and data analysis), starting from the researcher's initial study idea on which the entire research study is developed (Richards and Morse 2007). Such initial ideas (the research cornerstone) include a researcher's perception and creation (the researcher is in it). Thus, the researcher is present in all pieces that are connected together by coding, for instance. In an effort to try to bring this analysis to my research, a final question was raised to all interviewees: "*What would you change in this research?*". The objective was to understand if there could be different lenses through which they perceive the relationship between Favela-Lead and sustainable urban development. No significant answer was providing regarding coding. However, suggestions were given regarding the continuity of this research, some of which were included under appendix 1.

Relevant information (such as a video and documentation sent by interviewees – as previously detailed in the triangulation process - section 3.4) was analysed. This research's narrative was developed as discussed in section 5.

3.6. Ethical considerations

The University of Oxford oral consent script was adopted, and interviewees received related information in the interview request e-mail, as well as at the beginning of all interviews. Such information included the purpose of this research, University of Oxford standard consent request details (following its consent scripts), this project's ethics reference number (EQ C1A 19 017), the rational for their participation, details about how their data is being treated (for instance data storage policy, and anonymised use of quotes in publications), how to change any information in the interview transcripts they received, information about how they can withdraw their consent to use their data until the 15th August 2019, and that we would keep in contact for approximately one month after the initial interview in order to deepen our understanding of key findings. Permission for audio and video recording of their interviews was also obtained. Interviewees were informed that after this study's final evaluation by the University of Oxford, they would receive a copy of it upon request.

3.7. Limitations

The study outcomes should be interpreted cautiously, and, as the sample size was small no outcomes should be regarded as definitive for all experiential learning programmes. Though no new themes were identified in the last three interviews (Francis et. al 2010), the small sample size is unlikely to be representative for experiential learning in general. Due to this study timeframe, it was not possible to analyse a wider range of interviewee profiles (such as people from other cultures, education programmes like MBAs, and disciplines).

Notwithstanding, interviewees mentioned concrete initiatives where they have adopted learnings from Favela-Lead. For instance, interviewee-C stated that he has begun to adopt experiential learning programmes in the courses he runs at Vancouver Columbia British Institute. Interviewee-B said she now creates more diverse groups with which to do citizen-participation, and interviewee-D argues that she adopted participatory dynamics in the workshops she runs. It would have been relevant to visit and assess Favela-Lead's influences on such initiatives.

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However, due to limited resources, basic time and budget, it was not possible to undertake such visits in Canada, Italy, and New Zealand.

4. Interview findings

This chapter outlines the interviews findings, which are discussed under the study framework, and guided by the adopted interview schedule, as detailed under section 3.4.

Favela-Lead's contribution to the individual learner's development in the urban sustainability field is firstly briefly analysed in section 4.A. Secondly, section 4.B analyses the study's core issue, which is Favela-Lead's contributions towards sustainable urban development. Finally, under section 4.C, Favela-Lead's challenges are studied.

4.A. Experiential learning's contribution to the individual development as a learner

As discussed under section 1.1, education is an instrument for achieving social and individual development (Cooper 1997). Arguably, any educational method, such as experiential learning, should contribute to building knowledge, which would in turn contribute to the individual learner's own development, and ultimately potentially contributing towards sustainable development (Wals and Jickling 2002, Holmberg 2006, Shrivastava 2010) and encompassing cities (Healey 2007), as discussed under sections 1.1, 1.3 and 2.2A. This study data analysis begins by focusing on the contribution of experiential learning towards the individual's development as a learner in the field of sustainable urban development.

Different forms of education classification schemes and taxonomies in the academic literature are complex and confusing (London 2012, Kolb 2015). Thus, to ensure alignment between the study and interviewees, interviewees were initially asked how they would classify the Favela-Lead education programme. All interviewees asserted that they perceive it as experiential learning. Four interviewees talked about urban development and two about favelas' development.

Aiming to objectively sense the contribution of experiential learning to student development in the field of sustainable urban development, the following question was asked:

Table. 3 Favela-Lead influence concerning students perception of sustainable urban development

Interviewees	A	B	C	D	E	F
If the Favela-Lead programme contributed towards your general understanding of the sustainable urban development field, please rate how much from one to five (being five the highest)	4	5	4	4	5	3

On average, students scored their perception of Favela-Lead's contribution to their understanding of sustainable urban development at 4.17 out of 5. Such contributions are analysed as follows.

Students were challenged to co-create a sustainable urban development project along with the favela dwellers, as discussed under section 3.2. Students suggest that they understood sustainable urban development in a broader, wider, deeper and actionable way (which can be put into play afterwards, as analysed under section 4.B.3).

Interviewee-A (15.06.2019, Skype) specifically suggests a more 'inclusive' understanding of urban sustainability. She considers the underprivileged points of view, which are variegated. She highlights an initial issue for all students, which is realising the fact that favelas dwellers did not understand 'sustainable urban development' as the same way that students did:

> "*Probably the biggest eye-opening experience that I had. Experiencing the favelas in Rio made me realise that urban sustainability itself means something different to everyone, to every community, in each city.*"

Interviewee-A reinforces the value of experiential learning in understanding urban sustainability:

> "*I don't think that I would have truly understood the meaning of urban sustainability in-class, without experiential learning. So* [Favela-Lead] *had such a big impact for me. I learned a lot.*" (Interviewee-A, 15.06.2019, Skype).

Interviewee-C specifically mentions that his knowledge concerning urban sustainability, and his awareness about urban social issues, have improved.

> "[Favela-Lead] *created ideas, new lexicons, a new vocabulary, which didn't exist before and provides me an accurate comprehension of urban sustainability. ... It created awareness in those types of social issues in cities.*" (Interviewee-C, 24.06.2019, Skype)

Interviewee-D specifically mentions that experiential learning enabled the application of the newly acquired knowledge (precisely on community-development, as analysed in depth in sections 4.B.3 and 4.B.6).

> "*Urban sustainability involves complex concepts and if you don't get to have real exposure to them as we had in the favelas it just becomes something ethereal that is difficult to put into play afterwards. ... I learned to do community-development projects, as I do in Canadian cities, more effectively.*" (Interviewee-D, 03.07.2019, Skype)

As detailed under section 3.2, Interviewee-F plays the roles of both Lead director of education programmes, and student in Favela-Lead. Thus, he knows first-hand about all the students' evaluations feedback and can add to the student groups' perceptions. Interviewee-F (18.07.2019, Skype) reinforces the depth of knowledge that had been developed by combining experiential learning and in-class learning, remarking on specific urban sustainability topics such as citizen-participation:

> "*The value of the learning combining experiences is much more in depth, much more profound.* [Students] *were able to associate the knowledge they had acquired before about urban sustainability set of skills: community development, co-creation and citizen-participation, and all those other things by putting it into practice.*"

Interviewee-F (18.07.2019, Skype) highlights that experiential learning empowered students to think differently and contribute in turn to urban sustainability in different countries (as analysed under section 4.B.3).

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"Having really challenged students to get out from their comfortable zones made them think differently, and contributed to the development of societies in cities of Brazil, and later on in Canada and other countries."

All interviewees expressed similar perceptions concerning Favela-Lead's contributions to their development in the urban sustainability field. However, due to this study's length limitation, the latter quotes were selected to represent such contributions.

In conclusion, students communicate that traditional education could not contribute to the outcomes to the extent that experiential learning could. Experiential learning created deep, new (wider and broader), and actionable (contributing in turn to their own professional development, and arguably for sustainable urban development as analysed below) knowledge on urban sustainability. Moreover, thinking differently and empowering students to contribute towards urban sustainability in different cities worldwide were also highlighted as outcomes. Experiential learning could be an effective method to mitigate issues such as a school's imposition of an ill-defined concept of 'sustainability' that reproduces the privileged systems' standardization, as claimed by Wals and Corcoran (2006) under section 1.1. It could also empower students to actively contribute towards urban sustainability, as Shrivastava (2010) suggests under sections 1.1 and 2.2.A. This is analysed under section 4.B.

4.B. Experiential learning and its contribution towards sustainable urban development

How experiential learning contributes to the individual as a learner was analysed. In section 4.B, interviewees' perceptions are firstly investigated in terms of how much the Favela-Lead programme helped them to contribute to sustainable urban development. Secondly, as identified and discussed under sections 2.2.B and 3.2, the decoded themes are analysed under sections 4.B.1 to 4.B.6 to delve deeper into Favela-Lead's intersection with urban sustainability.

As examined under section 2.2.B, Martin and Jucker (2005) state that students usually graduate without knowing how to contribute to social and economic development in a sustainable way. Interviewees were asked the following question about how much (five being the highest) they perceived the Favela-Lead programme helped them contribute to sustainable urban development:

Table. 4 Favela-Lead contribution towards sustainable urban development

Interviewees	A	B	C	D	E	F
How much did Favela-Lead contributed to your ability to contribute in turn to future social and economic development in a sustainable way in cities?	5	5	4	4	5	4

On average, interviewees perceive that the Favela-Lead programme improved their ability to contribute to future social and economic development in a sustainable way in cities, giving this metric a rating of 4.60. At the end of the interview, after having analysed the Favela-Lead

programme more deeply, this question was repeated. However no scores were changed. Further details on experiential learning contributions towards sustainable urban development were analysed as follows.

4.B.1 Bringing the underprivileged and the privileged people closer

As discussed under section 3.1, the researcher's personal identity influence in this study has constantly been a researcher's point of attention. Aiming to add acutance and rigor to this study, interviewees' perceptions on how close the Favela-Lead brought them to the favelas' dwellers are assessed, complementarily, by asking the following questions. Such questions were raised when interviews got to the end, in order for interviewees to consider different points which were raised along the interviews as a whole. Questions core topics were defined by considering the key issues this study's researcher face when implementing sustainable urban development projects in informal settlements in partnership with well-educated professionals from mainstream organizations. Five is the highest score answer:

Table 5. How close did the Favela-Lead programme brought students and favela's dwellers regarding sustainable urban development

Interviewees	A	B	C	D	E	F
Before doing the Favela-Lead programme: Predisposition to work with someone from a favela	3	4	0	0	4	3
After doing the Favela-Lead programme: Predisposition to work with someone from a favela	5	5	3	5	5	4.5
Before doing the Favela-Lead programme: Self-assurance to work with someone from a favela	3	4	0	1	4	3
After doing the Favela-Lead programme: Self-assurance to work with someone from a favela	4	5	3	4	5	4
Before doing the Favela-Lead programme: Predisposition to undertake a sustainability project in a favela	2	1	2	0	4	3
After doing the Favela-Lead programme: Predisposition to undertake a sustainability project in a favela	4	4	5	5	5	4
Before doing the Favela-Lead programme: Predisposition to decide positively if your organisation should support a sustainability project in a favela	1	2	1	NA	4	2.5
After doing the Favela-Lead programme: Predisposition to decide positively if your organisation should support a sustainability project in a favela	4	4	4	NA	5	3.5
Before doing the Favela-Lead programme: How different did you perceived your own self and someone from a favela were?	3	2	5	NA	3	3
After doing the Favela-Lead programme: How different do you perceive your own self and someone from a favela are?	0	0	2	NA	0	0.5

Under table.5 analysis, the most extreme cases are Interviewee-D, whose predisposition to work with someone from a favela, and to undertake a sustainability project in a favela, rose from the minimum (zero) to the maximum (five). Also, regarding the predisposition to undertake a sustainability project in a favela, Interviewee-B and Interviewee-C rates raised 60% after doing Favela-Lead. All interviewees mentioned that, after Favela-Lead, they joined as a group and proposed further sustainable urban development projects to Brazilian favelas. Concerning self-assurance to work with someone from a favela, Interviewee-C and Interviewee-D perceived self-assurance raised 60%. Regarding the predisposition to decide positively if ones' organization should support a sustainability project in a favela, Interviewee-A and Interviewee-C perceived difference raised 60%. Interviewee-A, Interviewee-B and Interviewee-E perceptions on how different they perceived they were from someone from a favela turned into zero after doing Favela-Lead.

Arguably, table 5 analysis reflects that all interviewees perceive to be closer to the favelas' dwellers (the underprivileged), and more prone to work with them towards sustainable urban development, than they felt they were before undertaking the Favela-Lead programme. It could be argued that this is an obvious conclusion, because after being with certain people in a certain place, one is likely to feel closer to such people and place. However, as discussed under section 2.2.C, Dewey (1938) and Lundholm (2006) state that experiences can traumatise students and ward them off the studied matter. A deeply analysis was undertaken, as follows.

Bringing the students (the privileged), and the favela's dwellers (the underprivileged) closer is challenging. As Lundholm (2006) states under section 2.2.C, people tend to ignore issues that raise uncomfortable feelings; and students, consciously, do not want to know their life-styles' impacts on the underprivileged. The quotes from the following three interviewees' are aligned with Lundholm's (2006) statement. Interviewees' mention terms such as "dangerous" and "no go zones" as those employed by their interlocutors referring to the favelas. Moreover, all interviewees mentioned Brazilian interlocutors, who arguably are related to the favelas' phenomena causes and consequences (Silva et al. 2012). Interviewee-A, as follows, specifically identifies the 'upper class' people as those who suggest that going into a favela is craziness.

> *"People I know from the Brazilian upper class told me before doing* [Favela-Lead] *that those from the favelas are dangerous. My Brazilian friends are still saying that I am crazy."* (Interviewee-A, 16.06.2019, Skype)

The latter quote was triangulated with Interviewee-A's interview in the aforementioned public video[7] from 2013 (minute 7:55):

> *"People have prepared me when I came to be careful."*

> *"Most of people, many of which Brazilians, I have told about* [Favela-Lead] *couldn't believe it really. ... They told me the favelas are no go zones and its dwellers are dangerous."* (Interviewee-D_03.07.2019_Skype)

> *"Those who know about the favelas, specially Brazilians, told me not to go to a favela in any case and to be extremely careful with the local people."* (Interviewee-B, 18.06.2019, Skype)

However, experiential learning is likely to be an efficient method in bringing people closer, as Eriksson (2006) and Martin et al. (2006) indicate under sections 1.1 and 2.2.B, and as concluded in table 5 analysis and below. Furthermore, according to the following interviewees' statements, 'working together' seems to be a central specific force that brought them together with the favela's dwellers, as Shrivastava (2010) argues under section 2.2B.

Interviewee-A specifically suggests that experiential learning made a difference in a way that in-class experiences cannot do.

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[7] https://www.youtube.com/watch?time_continue=531&v=S4x9Sw5n9-o (last accessed 29 August 2019)

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"Working with [the favela's dwellers] *made a difference in uniting us. And I have never experienced it in-class as in those days in Rio.*" (Interviewee-A, 15.06.2019, Skype)

Moreover, Interviewee-C specifically states that traditional education does not build relations in such a way.

"[W]orking together in Favela-Lead built relations with the people from the favelas, whereas the traditional [education] *does not."* (Interviewee-C, 24.06.2019, Skype)

Interviewee-B specifically mentions that she has never experienced so diverse people 'really' (emphasis) collaborating. Indeed, Canadian students and favela's dwellers, besides of belonging to extremely different socioeconomic and cultural backgrounds, spoke no common languages.

"Extremely diverse people were <u>really</u> collaborating. I've never had that before. ... We all were so engaged working as a team." (Interviewee-B, 18.06.2019, Skype)

As detailed under section 3.2, Interviewee-E is an experienced professional in cooperation for development. He stated that he had been trained by the World Bank in sustainability projects in urban informal settlements worldwide. However, regarding Favela-Lead, he specifically mentions 'very powerful experience for everybody involved', and that he 'rarely' has seen a group really that involved.

"I've rarely seen a group really get that involved. Co-creating a real project together was a very powerful experience for everybody involved, both sides [students and favelas' dwellers].*"* (Interviewee-E, 05.07.2019, Skype)

This section's latter analysis raises a central point to this study: experiential learning's experiences that challenge people to work together are likely to bring them together, ultimately fostering contribution towards sustainable urban development. Because, as discussed under section 2.2B, if the privileged and the underprivileged truly collaborate, sustainability is more likely to be fostered in our cities. Indeed, along the interviews, 'working together to co-create a project' was identified as a core theme, which is analysed under section 4.B.4.

In conclusion, considering this section's analysis, the Favela-Lead programme is likely to contribute to bring underprivileged and privileged people closer together to collaborate towards sustainable urban development. All interviewees mention that, six years after Favela-Lead they are still in touch among themselves, as well as with some people from the favelas, mainly by using the social nets and e-mail.

However, as discussed under section 2.2.B, experiential learning can be approached as a method to bring the underprivileged closer through social inclusion. Such approach is likely to be problematic, because the current system misrepresents the underprivileged and is ultimately unsustainable. For instance, as discussed under section 1.1 our cities are conceived by the privileged well-educated leaders, who are unlikely to consider lay knowledge (Healey 2007) and to think collectively (Wals and Corcoran 2006). Experiential learning can be used to include people in a system where the original causes of such people's issues are unlikely to be authentically, structurally and systematically addressed, as described under section 2.2.B. For

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the latter reason Favela-Lead students were challenged to co-create a project with the favela's dwellers, which had to be approved by the favela's community members themselves. Raising students' awareness about lay knowledge is central-stage in order for experiential learning to contribute to authentic urban sustainability, because this way lay knowledge can be truly considered in the decisions that shape our systems. Consequently, this study requires analysing the extent to which lay knowledge is considered in the relationship between the privileged and the underprivileged as analysed as follows under section 4.B.2.

4.B.2 Raising students' awareness about lay knowledge

As discussed under sections 1.1 and 2.2.B, experiential learning can connect students with lay knowledge (Eriksson 2006, and Martin et. al 2006, Sipos et al. 2008, Shrivastava 2010). In this specific case, and as detailed under section 3.2, lay knowledge would be the favelas dwellers' wisdom. Professionals in the urban development field commonly ignore this, leading to urban unsustainability (Healey 2007), as discussed under section 1.1. The following Interviewee-C's and Interviewee-E's quotes pinpoint that Favela-Lead contributed to their awareness about lay knowledge. More specifically, they state that they have learned that the communities' solutions can be more effective and sustainable than those conceptualised from the mainstream system. Cornwall (2008) and Ledwith (2011) say underprivileged communities are successful in many ways.

"*In Rio* [I learned] *how communities solve some of their own issues better than we could imagine … we should not go to such communities to solve their problems as usual, but to learn and reinforce their successes. Then solutions would be really sustainable*" (Interviewee-C, 24.06.2019, Skype).

The latter statements were triangulated with Interviewee-C's interview in the aforementioned public video[8] from 2013 (minute 8:55):

"[Favela-Lead] *can certainly be used in the courses and in the programmes that I have in the demonstration that leadership and sustainability can actually grow in a community, it does not necessarily have to come from outside of the community*".

From a specific perspective, Interviewee-E contextualised his commentary on the issue of agendas being pushed, and solutions imposed, rather than the local tools (lay knowledge) being considered. Such a phenomenon is unsustainable, because as Interviewee-E states in his video's quote below, it never works.

"*My frustration in development is the whole idea of pushing agendas, not solving problems. Even NGOs have the same problem, they really don't get down and dirty, and really understand what's involved. In* [Favela-Lead] *I learnt what people in that favelas had in terms of their own tools to accomplish what they wanted. That was an eye-opener*" (Interviewee-E, 05.07.2019, Skype).

The latter quote was triangulated with Interviewee-E's interview in the aforementioned public video[9] from 2013 (minute 5:04):

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[8] https://www.youtube.com/watch?time_continue=531&v=S4x9Sw5n9-o (last accessed 29 August 2019)

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> *"Whenever development agencies try to impose solutions, there's been a problem, it's never worked."*

Interviewee-D states that she perceived the local wisdom of being happy though having few things. That is arguably a sustainable thought, in contraposition to our unsustainable consumption-led neoliberal system, produced by the privileged and well-educated (Minton 2009, Smith 2002).

> *"I learned how little some people have, and how happy they seem to be. They are wise."*
> (Interviewee-D, 03.07.2019, Skype)

Concluding section 4.B.2, arguably Favela-Lead raised students' awareness about lay knowledge, which in turn contributes to an authentic sustainable urban development, because the solutions designed by a team that also considers lay knowledge are likely to encompass a broader part of the society, as previously discussed under section 1.1. Consequently, the previously section 4.B.1's conclusion (that Favela-Lead contributed to sustainable urban development because it brought the privileged and the underprivileged people closer to collaborate) is now more consistent and authentic, because as concluded under section 4.B.2, lay knowledge is now more likely to be considered by the well-educated students in the solutions for sustainable urban development. Such is an alternative approach to the common practice of imposing solutions that are unilaterally created, from the mainstream system, and that are likely to reinforce the unsustainable mainstream system. However, delving deeper, what concrete impacts for sustainable urban development have Favela-Lead generated? What has changed? The real changes unlocked by the Favela-Lead programme towards sustainable urban development are as follows.

4.B.3. Changes unlocked by Favela-Lead towards sustainable urban development
As discussed under sections 2.1 and 2.2B, experiential learning must inspire and change students, causing them to want to make changes (Dewey 1938, Kolb 2015), in the area of sustainability (Shrivastava 2010) for example:

Interviewee-B is an urban planner and Interviewee-D is a strategic planner. They both work for the Canadian government and state that Favela-Lead enhanced their projects' impact on urban sustainability, as analysed in-depth under section 4.B.6.

Interviewee-B specifically states that the Favela-Lead experience raised her awareness about her impact on poorer people. Consequently, she states that she is more aware about the importance of experiencing the communities' realities before deciding how to implement urban projects.

> *"What* [Favela-Lead] *showed me, and I incorporated to my work, is that any time a project or change that will affect others is being proposed, we experience the current and projected situation through many lenses to ensure that we take all matters into consideration. ... I have integrated it in all projects we implement in our city and the impacts for urban sustainability have improved. For instance, the number of complaints from citizens concerning the projects under my area have fallen more than 15% ...* [Favela-Lead] *made me consider the impacts of my decisions in the poorer people. I've changed just because I've lived it in Rio".*
> (Interviewee-D, 03.08.2019, E-mail)

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Interviewee-B specifically states that Favela-Lead re-engaged her in community development activities.

> *"[Favela-Lead] reinforced a belief I have, and that was being challenged before Rio, that everyone has the human potential to something great to contribute to their community. However they sometimes just need that extra hand or opportunity, as we had in Rio, to see and act on that potential. Thus I've been doing a lot of community facilitation on engagement on controversial urban-planning projects after Rio. I have been changing public-participation's dynamics and achieving positive outcomes concerning urban sustainability influenced by* [Favela-Lead]". (Interviewee-B, 18.06.2019, Skype)

According to Interviewee-E's and Interviewee-F's quotes below, Favela-Lead unlocked change in the Lead organisation to enhance its impacts for sustainability, also in cities. They specifically mention the challenge of working together with communities to co-create projects, as a change adopted in Lead education programmes. Moreover, such quotes indicate that Favela-Lead raised Lead's decision-makers' awareness regarding the opportunity. Training people is a key force in having an impact on urban sustainability.

> *"As a member of the Lead board, I realised that* [Favela-Lead] *is the model we have to use worldwide because it has better impact for sustainability. So we evolve the Lead programme by adopting the challenge of co-creating real projects with communities."* (Interviewee-E, 05.07.2019, Skype).

> *"We implemented the challenge of co-creating projects with communities in further education programmes, and though not measured, we believe it enhanced our impacts for sustainability in both students and communities."* (Interviewee-F, 07.08.2019, Skype)

Interviewee-C argues that the British Columbia Institute was inspired by Favela-Lead to launch new programmes that contributed to urban sustainability in cities worldwide. Consequently, Favela-Lead's impacts are likely to be exponentially scalable. Moreover, as a consequence of Favela-Lead, students became active sustainability-driven Lead collaborators. Thus, as Interviewee-C states, a Favela-Lead model can be a catalyst model to unlock change towards sustainable development in cities; in this specific case through educational institutions.

> *"I created new programmes in my university inspired by* [Favela-Lead] *methods, such as the challenge of working with grassroots communities to co-create real projects under a multi-stakeholder and diverse framework, as we did in Rio. For instance in cities of Argentina, Italy and Spain our programme empowered young people from poor communities to open new businesses and centres for urban farming practices that have been working for the last three years. ... . Concerning Lead,* [Favela-Lead] *reinvigorated Lead. It was a catalyst that inspired us. We got onto the executive and on the governance, and have more of a say in where we're going concerning sustainability as a whole, and with a special focus on cities*" (Interviewee-C, 24.06.2019, Skype).

In conclusion, according to section 4.B.3's analysis, Favela-Lead unlocked concrete changes towards sustainable urban development. Such changes can be structured under three main frameworks, as follows:

- Firstly, generating impacts in the favelas where the experiential learning programme took place, through the project co-created between the students and the community.
- Secondly, Favela-Lead contributed to students adopting sustainable practices in their own daily personal and professional lives.
- Finally, Favela-Lead influenced the creation of further training programmes, which adopted its sustainability-driven model, giving scalability to the Favela-Lead's impact.

As analysed under section 4.B.1, working together with the favelas dwellers was relevant for Favela-Lead to generate impacts for sustainable urban development, as analysed as follows under section 4.B.4.

4.B.4. Working together to co-create a project for sustainable urban development

In order for students to obtain the Lead fellowship, the favela's community members had to approve the sustainable urban development project students were challenged to co-create by working with the favela's dwellers, as detailed under section 3.2.

Under section 4.B.1, when interviewees were asked why participants perceived that Favela-Lead had brought them together, 'working together' was commonly highlighted in all answers. At this stage in all interviews, notably, interviewees became emotional, and expressed themselves more intensely. 'Working together' was coded as a theme, to tag it for more in-depth analysis. Such analysis began by asking interviewees 'why working together brought you together?'. Working together can generate the opposite reaction (separation) in people. However, interviewees' answers highlight 'emotion' and 'being doing something together to improve living conditions' as the real central forces which helped unite them with the favela dwellers.

Interviewee-A drives attention to 'emotional connection' as the resultant central force, fostered by working together, and which built trust, bringing the privileged and underprivileged together through experiential learning. She argues along the same lines as Shrivastava (2010) under section 2.2.B and as analysed under section 4.B.5.

> *"Working together built emotional connection and allowed trust and connected the people. This was what made a difference in connecting us.*" (Interviewee-A, 15.06.2019, Skype)

Specifically, Interviewee-C highlights 'being building something together' and being an 'active member in that' as the central forces that brought people together.

> *"Because we were building something together, and you are an active member in that. It forces you to build relationships, whereas the traditional* [education] *does not"* (Interviewee-C, 24.06.2019, Skype)

Interviewee-B specifically identifies that collaborating to improve living conditions was the force that united them, 'in a unique way' as she states. She also mentions having realised that 'walk the others' shoes' is important in order to unite people.

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"Working together to improve living conditions united us in a unique way. ... I realised how important it is to really walk the others' shoes." (Interviewee-B, 18.06.2019, Skype)

In accordance with his latter quotes, Interviewee-E states that co-creating a project, rather than imposing solutions, was the unifying force.

"Because in [Favela-Lead] *we were not coming to say how the community should do things, but to really work in co-creating a project with and for them."* (Interviewee-E, 05.07.2019, Skype)

In conclusion, according to the last interview's quotes, the main force that brought the underprivileged and the privileged together to collaborate towards sustainable urban development is likely to be 'building something together to improve life conditions'.

4.B.5 – Favela-Lead emotions activation

As discussed under section 2.2.B, experiential learning is likely to activate emotions that raise the sense of community and bring people together (Senge et al. 2004, Wals and Corcoran 2006, Scharmer 2007), consequently engaging students in more authentic sustainability (Shrivastava 2010). 'Emotions' are mentioned by Interviewee-A, under section 4.B.4, as a key force that helped students engage with the Favela-Lead programme and connected diverse people to collaborate towards sustainable urban development. 'Emotions' were mentioned recurrently by all interviewees. Thus, to understand more precisely how interviewees perceive such emotions, they were asked to express them verbally. These were emotional moments during the interviews. Faces and tones of voice were expressively positive. Six years after the Favela-Lead programme implementation, such emotions are still alive in students. Terms (which were not introduced by the interviewer) such as 'most amazing', 'lifetime', and 'life-changing', were repeated in the answers (as previously mentioned in some quotes). Quotes were as follows. Interview-C mentioned 'workdays' many times in the interview, which reinforces section 4.B.4's conclusions (working together was key in Favela-Lead process).

"Best educational programme and work days of my life." (Interviewee-C, 24.06.2019, Skype)

Interviewee-A expresses the idea of a cycle specifically, as a system which is fed by emotions and real work and empower people to overcome challenges.

"[Favela-Lead] *was one of the most amazing experiences of my life. I am obviously very emotional about it. Emotions enabled us to work together uniquely. Overcoming all barriers, language, culture, struggles. And working together triggered more emotions, and it's an infinite cycle which is difficult to express"* (Interviewee-A, 15.06.2019, Skype)

Interviewee-B specifically drives attention to 'human potential'. As discussed under sections 1.1 and 2.2B, authors such as Dewey (1938), Wals and Corcoran (2006), Shrivastava (2010) claim for a humanization of education and the activation of emotions in order to release authenticity, and inspire and engage students, also towards sustainability (Dewey (1938) mentions social commitment).

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"I will never forget [Favela-Rio]. *We were visibly emotional. ... Both personally and professionally* [Favela-Lead] *was an experience of human potential. The human potential that we were being was being demonstrated every day in every interaction. ... It was amazing."* (Interviewee-B, 18.06.2019, Skype)

"After six years it's still being life-changing really." (Interviewee-D, 03.07.2019, Skype)

"There was lots of emotions involved. We got happy, sad, happy, angry, happy ... the emotional experience was very important ... In the top three training programmes ever. All the participants felt the same way. It was a unique, rich, and significant experience in their lifetime. It had a lot of meaning. ... I know from communications with all those who were involved that they still talk about that as a highlight of their learning experiences through their lifetime. (Interviewee-F, 18.07.2019, Skype).

"The most inspiring programme in my twenty years' career in international development."
(Interviewee-E, 05.07.2019, Skype)

The latter quote was triangulated with Interviewee-C's interview in the aforementioned public video[9] from 2013 (minute 12:57):

"After working twenty years in international development, I didn't think that anything could inspire me until I took this programme"

In conclusion, the latter expressed emotions are likely to be those activated by the process of working together to improve living conditions as concluded under section 4.B.4. Such emotions play a key role in engaging diverse people within themselves and in further actions that foster sustainability, also concerning cities. For instance, 'listening to diverse people' is an example of further actions that foster sustainability, as analysed as follows under section 4.B.6.

4.B.6. Listening to diverse people
Under section 4.B.3, Interviewee-B and Interviewee-D both mentioned that they were inspired by Favela-Lead to change their methods of working with communities, and consequently enhanced their urban projects' impact on urban sustainability. The main change was listening to diverse people in the communities they were working with. They elaborated as follows:

"After [Favela-Lead] *I became more focused on bringing interdisciplinary expertise and community members people from different socioeconomic backgrounds to the table, and listening more actively to them, and I believe the impacts regarding urban sustainability have improved, as more diverse people's inputs are considered in the projects."* (Interviewee-B, 18.06.2019, Skype)

"So, it is best for sustainable urban development as a whole to actually spend time in those neighbours to be affected by our projects, listen to the community members of all ages and

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[9] https://www.youtube.com/watch?time_continue=531&v=S4x9Sw5n9-o (last accessed 29 August 2019)

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diversity, consult with them to find out what are their real concerns, what may be working well, and how they would like to see things improve." (Interviewee-D, 03.08.2019, E-mail)

In conclusion, Favela-Lead engaged professionals, who influence how cities are shaped, to listen more actively to diverse community members and consider their voices (their lay knowledge) in their urban projects. Ultimately this would improve the underprivileged representativeness in our social systems. The latter arguably contributes to the avoidance of tokenistic practices (Arnstein 1969) that are a key problem for sustainable urban development (Healey 2007, Cornwall 2008, and Ledwith 2011) as discussed under section 2.2.B. However, experiential learning is not exempt of challenges, as analysed as follows under section 4.C.

4.C. Experiential learning challenges

As analysed under section 2.2.C, authors such as Dewey (1938), Sipos et al. (2008), Shrivastava (2010), and Kolb (2015) argue that traditional education rigidness, bureaucracies and inefficiencies can be problematic. Experiential learning demands flexibility and resources. Interviewee-C raises bureaucracy, political issues, and the required resources as the key challenges to engaging educational institutions in experiential learning. He states that such challenges can be overcome as he was able to do. The methods employed are, however, non-conventional and unofficial. Moreover, as Dewey (1938) states under section 2.2.C, experiential learning must be tailor-made and requires a deeper individual attention to students, which is unlikely to interest education institutions that are economically-driven as stated by Wals and Corcoran (2006) under section 1.1.

> *"Academic universities are perhaps one of the most bureaucratic, political and irrational decision-making entities in the world. So it's almost impossible to get anything done. With that said, there are ways around it. [S]ometimes if you don't ask permission, just go ahead and do it, and it's successful. Well then, the hierarchy above you provides accolades and they get activated for that work and maybe that's the trick in all organizations. ... I think the resources required are an issue to some schools. It is difficult to replicate experiential learning, and to deliver it to big groups.*" (Interviewee-C, 24.06.2019, Skype)

Interviewee-B states that methods that require time, such as experiential learning, can be problematic for educational institutions. Educators would need support in order to develop experiential learning, which implies resource consumption that our 'efficient' systems are unlikely to support.

> *"Time is probably the largest barrier to implementing experiential learning. ... [Educators] need more support (systematically and potentially training on why experiential learning is so important if we want to shift how we live on this planet and address the wicked problems we are facing)"* (Interviewee-B, 26.07.2019, E-mail)

Interviewee-F mentions that the flexibility demanded by experiential learning is a barrier to such programmes, as previously discussed under section 2.2.C. Flexibility is likely to be an issue if educational institutions are bureaucratic and political.

"I always remember the agile flexibility to adapt plans on the go. The process was adaptable as we went along. We changed sessions when students asked and it made sense. I remember you telling me: Let's change it now, because we can do it better, not tomorrow, but now. I confess that the first time it was shocking to us." (Interviewee-F, 7.8.2019, Skype)

Dewey (1938) and Lundholm (2006) state that experiential learning can cause trauma for students, which can in turn disengage them from sustainability. All interviewees were asked if they had experienced any trauma due to the Favela-Lead programme. No trauma was identified.

In conclusion, challenges to implement experiential learning that have been identified, include the resources demanded and flexibility in contraposition with economically-driven, inefficient, highly political, rigid, and bureaucratic traditional models of education.

5. Conclusions

Our cities are likely to be unsustainable, in part, because education is failing to contribute to students' development towards urban sustainability. Experiential learning was explored as an educational method to tackle such inefficiency.

As reviewed in this study, experiential learning has always been a controversial subject in the literature. For instance, it could be used to reinforce the current unsustainable system. Experiential learning is a method, a tool, and as such, is susceptible of being applied for variegated objectives.

However, in this study analysis over the Favela-Lead programme, experiential learning, in combination with traditional education methods, contributed to our cities' sustainability in a way that traditional education is unlike to do, as follows.

Experiential learning contributed for the individual learner development towards sustainable urban development in a unique way. As concluded under section 4.A, students acquired deep, new and actionable knowledge to foster sustainable urban development worldwide.

Also, experiential learning contributed for sustainable urban development in itself. As concluded under section 4.B, students learned how to contribute to social and economic development in cities in a sustainable way. Moreover, experiential learning brought the privileged and the underprivileged people together to collaborate for sustainable urban development. In such collaboration it is central stage to highlight that the underprivileged lay knowledge was authentically recognised.

Regarding concrete impacts unlocked by experiential learning, a real urban sustainability project was co-created with and for the community. Moreover, inspired by the Favela-Lead, students adopted sustainable practices (such as engaging diverse people in citizen-consultation process) in cities worldwide, and created new training programmes (in which authentic sustainability-driven models were adopted). Thus, arguably, Favela-Lead had an exponential scalable impact.

However, though possible, implementing experiential learning in traditional education can be challenging as analysed under section 4.C. Experiential learning requires flexibility and resources such as time, whereas traditional education model is likely to be economically driven, inefficient, highly political, rigid, and bureaucratic.

Finally, as this study central-stage finding, working together (in real-work-projects) to improve living conditions was the cornerstone for the Favela-Lead programme outcomes towards sustainable urban development. Because the emotion of being improving living conditions together built trust, raising in turn awareness about lay knowledge, ultimately leading people to actively listen, experience, and understand the 'other' as the same, as a human being.

Final note:

This study challenges educational institutions. However, apparently paradoxically, Favela-Lead would probably not be understood in such a way without the unique privilege of having the University of Oxford support it. Thus, education institutions' roles seem to be complex and relative. Education institutions' blurry relationships with sustainable urban development demands more research. For instance, to what extent can educational institutions, which consist of groups of people, really influence human behaviour towards sustainability? However, the latter does not exempt educational institutions from their responsibility to help develop the individual learner, and by extension society, which are key pillars of any form of urban sustainable development. Specific forms of experiential learning, such as Favela-Lead, can enhance the impact of educational institutions on sustainable urban development.

Appendix

1. Further potential research emanating from this initial study

- Analyse the impact of experiential learning programmes on the relevant communities. This analysis would involve a community-based-learning approach.
- Approach education for sustainability from a behavioural economic point of view. For instance, how to align sustainability-based experiential learning programmes with the participants' needs. Such approach would presuppose that human beings only really change when their individual interests are fulfilled:
    - Kahneman, D. 2011. *Thinking, fast and slow*. New York: Farrar, Straus and Giroux.
    - Thaler, R. and Sunstein C. 2009. *Nudge: improving decisions about health, wealth, and happiness*. London: Penguin Books.
- The intersection between experience, education, sustainability, and emotions.
- Explore why education institutions are unlikely to be sustainability driven.
- Explore the feasibility of bringing higher education down to grassroots level.
- Visit and analyse the projects that this study's interviewees undertook, and that were inspired by Favela-Lead. What have been some of the actual impacts of such projects?
- Follow different groups of students along the sustainability experiential learning process. Interview different groups of participants (with different profiles and backgrounds, from different programmes) before (in order to define a baseline) and after going through a sustainability experiential learning programme to do a comparative analysis. Would MBA students perceive experiential learning impacts as well as the Lead students in Favela-Lead did?
    - Participants could be, for instance MBA students, artificial intelligence experts, sustainability stakeholders, industry workers, and academics.
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Notes

1. John Dewey is the key seminal thinker in experiential learning theory, who in 1896 founded the progressive education movement (Putnam and Putnam 1993, Kolb 2015). Dewey's thoughts on 'experience' were largely influenced by William James' (1912) philosophy of radical empiricism (Mezirow and Taylor 2009, Passarelli and Kolb 2011, Kolb 2015). Even though they may be considered twentieth-century foundational scholars of experience learning theory, Mary Follet, Paulo Freire, Carl Jung, Kurt Lewin, Jean Piaget, Lev Vygotsky, Carl Rogers (Mezirow and Taylor 2009, Passarelli and Kolb 2011, London 2012, Kolb 2015), publish on topics that are less central in this research than Dewey's publications. For instance, Freire's (1970) book 'Pedagogy of the Oppressed' is a seminal publication on the relation between education and power, and dialogue as a tool for education (Passarelli and Kolb 2011, Kolb 2015). Though tangentially related to this research, these topics are not the central focus of this study.

2. Curiously, though attention is driven to the Brundtland (1987) sustainable development definition, which is: "meeting the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs" (1987:292), Brundtland (1987) claims that "in order to take the necessary decisions we need new vision, new courage, a strong political will, and determination. In short, we need a mobilization of human ingenuity" (p 291). Are we becoming too 'smart' and 'well-educated'? Should not education be directly linked to Brundtland's values such as human ingenuity, collaboration and cooperation, rather than 'smartness' and competition? Such an approach may be both ingenuous and much needed. Would Brundtland publish such a statement if it had no truth to it?

3. Specifically from an urban development perspective, authors such as Lefebvre (1976), Oldenburg (1989), Young (1990), Harvey (1992), and Mattson (1999) have talked about the importance of harmonious and authentic urban public spaces where people from different socioeconomic and cultural backgrounds can engage in meaningful encounters. Meaningful encounters foster the sharing of experiences (such as experiencing life moments together and exchanging life stories), ultimately raising tolerance, mutual comprehension and acceptance of 'the other', thereby furthering social justice and enhancing democracy quality.

4. This research partially assesses the Favela-Lead experiential learning education programme. Assessing the whole project would require more time and financial resources. The Favela-Lead is a fully experience-based social project for urban sustainability. The social project was triggered by my own early-life experience in the favelas. Such experiences taught me that the people who live in the favelas are likely to have lay knowledge and collaborative behaviour that I would not be able to find among the upper classes.

5. The project co-created under the Favela-Lead framework is a favela sewing cooperative. Income generation is a key component of urban sustainability in the community. It would enable further sustainability projects, selected by the community themselves, as opposed to being imposed on the community by financers. The incomes generated through the sewing cooperative could help the community build the square they want, finance their terrace urban garden initiative, create an educational centre with a kindergarten, and mitigate the children's vulnerability to criminality.

6. Favela-Lead has broader aims that are out of the scope of this research:

   a. Empowering leaders at a grassroots level as follows:

      i. It helps them gain experience working (and raise grassroots leaders' confidence that they can work) with the 'well-educated' professionals who ultimately contribute to shape 'sustainability' (and unsustainability). It is also about helping change the perception that financers are efficient decision-makers, and the people from the favelas are lazy and incompetent (Silva et al. 2012). A central-stage Favela-Lead activity is sharing among the team (Favela-Lead students, grassroots leaders, and financers' employees) how to *co*-create, structure, present, and implement a sustainability project plan (that is one reason why Favela-Lead students had to *co*-create a project with grassroots leaders as their final examination in order to obtain the Lead fellowship). The whole team gets to experience how to develop a social project according to the financers' modus operandi. Social projects that are planned by the 'well-educated' decision-makers (usually without listening to project beneficiaries) largely fail and raise frustration among the locals (Silva et al. 2012, Tommasi and Velazco 2013).

      ii. Networks are created, not only by introducing the grassroots leaders to the key sustainability players (such as the Favela-Lead students, Banco Santander, Light, and representatives from the Rio public administration), but also by bringing them together to share experiences. Experiential learning initiatives would help build emotional bonds.

      iii. Bringing visibility to the grassroots leaders' initiatives. For instance, the Governor of Rio received the favela's dwellers after acknowledging

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that they were in touch with Lead, which is a UN consultative body. As a consequence, housing projects were able to be completed. Through the Favela-Lead's project video, a leading sports company identified one of the leaders who participated in the project to be their partner to implement a project under Rio's Olympic Games framework locally.

b. Raising consciousness among other stakeholders' (such as Banco Santander and Light) employees about how to work authentically and collaboratively (rather than imposing extractive projects as businesses are commonly doing (Ledwith 2011, Silva et al. 2012, Piló 2017)) with the people who live in the favelas.

More research is needed in order to assess Favela-Lead's impact on the favelas.

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