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RETHINKING PLANNING EDUCATION USING MASSIVE OPEN ONLINE COURSES: THE CASE OF RETHINK THE CITY

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Abstract

Massive Open Online Courses (MOOC) are becoming a popular educational tool in different disciplines. Urban planning education is no exception and new MOOCs are being released every year. Despite this, it is still not clear how this new learning experience is being developed, delivered, and impacting upon planning education. This article sheds light on this issue using the case of the Rethink the City MOOC organised by the Faculty of Architecture and the Built Environment of TU Delft. The course received the AESOP Excellence on Teaching award in 2017 and serves as an example of how planning education is facing the change towards online education. The article briefly introduces the course and develops on the challenges and results of it. Based on the course team experience of preparing and delivering the course, the article contributes to the debate about online education and supports fellow academics involved with the creation of new MOOCs.

Keywords

MOOC, urban planning education, Global South

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1. Introduction: Learning About the Global South

The world has become predominantly urban in the last decade (UN, 2015). However, this change is not being led by traditional urban centres in Europe and Northern America, but by the extremely accelerated urbanisation processes within the emerging economies of the Global South. Much existent research has pointed out the implications of this change on planning theory and practice (Miraftab, 2016; Roy, 2011, 2016; Watson, 2016a). Not only will planning practice and research have to adapt to this new reality, but also planning education. Accordingly, it is imperative to debate how planning education is dealing with this change. In the same way that traditional planning tools may not be suitable to address the urban challenges of the emerging world, educational strategies may also have to change in order to better address and meet the needs of the Global South. Even though the urban challenges of the Global South have a clear global aspect, the aim of the course is to impact locally. It follows, that a traditional classroom approach is not suitable to connect lecturers and researchers based in Europe with local students and practitioners based in the Global South. Therefore, this paper explores the opportunities and challenges of online education by presenting and making some reflections on the process of developing and delivering an online urban planning course focusing on the Global South.

The concept behind the course was to explore educational strategies that would connect the researchers from TU Delft with practitioners and urban enthusiasts in the Global South. From the beginning it was clear that to be able to reach a great number of participants from the Global South, the course had to be online and affordable. The option to go for a Massive Open Online Course (MOOC) seemed the best fit. The result was the creation of the Rethink the City MOOC, which attracted more than 10.000 participants.

The idea of developing this course emerged as a bottom-up initiative. PhD candidates focusing on research about the Global South within TU Delft wanted to expose and discuss their work with students and professionals working abroad in the field. The aim was to generate a platform to connect the frontline on-going research within TU Delft with people working in Africa, Asia, and Latin America. This first idea developed into a proposal to create an open online course, aiming to connect researchers in TU Delft and (prospective) planners in the Global South. This bottom-up structure with young PhDs presenting their research made it possible to have a stronger connection between participants and lecturers. In this sense, it was easier for the participants to debate the urban challenges of China when the lecture and discussion was led by a young Chinese researcher working in TU Delft. This model was repeated in other cases discussing urban challenges, such as, in Ghana, Chile or Malaysia. This bottom-up initiative led by the PhD candidates triggered both interaction and debate.

The paper is structured as follows. The first section discusses the benefits and challenges of online education in urban planning compared to traditional education. The second section describes the course Rethink the City in terms of learning objectives, pedagogical approaches, and assessment tools. The paper finishes with a discussion of the results regarding critical thinking, theory and practice integration, student engagement, and the challenges to overcome.

2. Online Education in Urban Planning: Benefits and Challenges

2.1. What is the Rethink the City MOOC?

A MOOC, as the name suggests, aims to reach a large audience and provide open education. It was based on these two principles, great impact and affordability, that the course team started to design the course. The idea was to connect to a large audience in the Global South, trigger a critical discussion, and receive feedback from participants. Additionally, as is later discussed, the course was also able to activate some local initiatives, which generated a local impact greater than that which had been expected.

The Rethink the City course was developed during a year and it was delivered during seven weeks of intensive work. The content was divided into three modules based on the thematic expertise of the team in Delft. The majority of the course team was made of PhD candidates developing research on the Global South. The course

was an interesting opportunity to enhance links between researchers in Delft and the habitants of where they were conducting research. Therefore, the course focused on three urban themes relevant to the Global South: Spatial Justice, Urban Resilience, and Housing Provision and Management.

As previously mentioned, existent academic expertise from TU Delft was used to trigger debate around these thematic modules and was presented in a range of challenging case studies from, amongst others, Ghana, Brazil, Malaysia, Chile, and China. In order to have a comprehensive understanding of challenges in the Global South, the course provided a combination of theoretical lessons, a presentation of case studies, and testimonies from practitioners. In addition, students were requested to deliver practical assignments in which they connected theory with their own local challenges. The aim of the course was that students develop a critical perspective about their urban environment and how to translate this knowledge into analytical tools and innovative urban solutions.

Even though the course had a high percentage of experienced practitioners, which shows the level of interest on the topic amongst more advanced professionals, the course originally targeted undergraduate, master planning students, and young planners. We considered that the open and online format would allow participants and staff members to be part of an inclusive educational experience in which students from the Global South could really implement, in their own local realities, what they learned in the course.

2.2. View of TU Delft Online Education

Rethink the City is part of a greater TU Delft strategy to improve the quality of education around the world through online learning. In 2014, the university presented its innovative program, which included open and online courses. Since 2014, more than 750,000 students have enrolled in TU Delft online courses (Nelson et al., 2016). The development of TU Delft courses is supported by the pedagogical model called Online Learning Experience (OLE), which strives to increase quality. The OLE is an important guideline that serves all TU Delft online courses and generates the opportunity for knowledge and experience sharing between course teams. The OLE model has eight course design principles that guide the development of TU Delft online courses: to be flexible, diverse, inclusive, supportive, interactive, active, contextual and innovative.

The Rethink the City team followed these principles in every step of the construction of the course. The principle of flexibility involved students receiving all three modules of the course at once; they could choose the order and the time taken to complete the modules. The course not only had a diverse team, but the activities and assessments were developed in a creative way to keep participants motivated. In addition to being free, the course also made provision for the inclusion of non-English speaking communities; it was subtitled in both Spanish and Chinese. Naturally this was a great opportunity for TU Delft to increase its internationalization and enhance its voice on the Global South debate and education. The high amount of participant from the Global South and especially from Latin America shows that there is a great potential to further develop TU Delft presence there.

With 11 PhD candidates on the staff team, the supportive aspect of the course was higher than a traditional MOOC, especially with the daily participation of the staff team on the course platform, on Sketchdrive (a platform for the assignments), on the course Facebook page and Instagram. Regarding interactivity, the course had a vivid discussion forum and more than 10,000 images and comments were uploaded on the assignment platform (Sketchdrive). Every module had two practical assignments plus a final assignment, which made the learner experience quite active whilst also ensuring that they learnt by doing. The contextual aspect was achieved by the PhDs presenting their case studies complemented by three lectures from practitioners working on the ground. This created a good balance between theory and practice. The course was rather innovative. It was created and coordinated by PhD candidates, which is not commonly seen on MOOCs. Additionally, it focused on alternative approaches for the urban challenges of the Global South, while using innovative tools, such as the Sketchdrive platform, to do so.

2.3. Benefits for Urban Planning Education

A general issue in planning education is the need to make links between the “transnational flow of planning ideas and practices” (Healey, 2013, p.1511) and the local embeddedness of planning in its context. This tension originates from the movement of modernist planning as a science based approach to urban and rural development and traditional local practices of planning (Healey, 2012), and means that “the worlds within which an idea arrives and has effects may be far removed from the world which generated the momentum in which an idea was given initial shape and meaning” (Healey, 2013, p.1517). This has even resulted in a physical separation of modern planned cities for the colonial elite and traditional practices for everybody else (Home, 2014; Siame, 2016; Watson, 2016b). As Ratnayake and Butt (2017) indicate:

The internationalization of planning practice and planning education is problematic as it inevitably raises question of the utility of comparison and the embedded nature of local knowledge. Yet these experiences potentially serve three important purposes; by requiring reflection on values, developing cultural literacy and developing a sense of participation in a ‘globalized’ profession (p.53)

One way to address this challenge is by having local planning schools in which teachers form the linchpin between embeddedness in their local context and being active in academic debate. In a recent review of planning programmes in Europe, Frank et al. (2014, p.46) indicate that almost “all planning education programmes in Europe are residential programmes”. Although most European planning programmes have a focus on planning in a national or European context, “a range of institutions still offer international development planning degrees at postgraduate or master level, mostly taught in English” (Frank et al., 2014, p.47). Such a distance between academic institutions and local practices has the advantage of helping to teach ideas that provide new insights to localised practices, i.e., the “reflection on values”, the “cultural literacy” and the sense of being part of “globalized profession” (Ratnayake and Butt, 2017, p.3). Many teachers in these programmes have a true commitment to international development issues, ensuring that the courses stay relevant for localised embedded practices. In some cases, links between international ideas and practices, and local embeddedness may be improved as reasons other than professional development also play a role in choosing to study abroad (Kunzmann and Yuan, 2014). An important issue, however, is that international programmes may only address a small elite of planners and planning students of the Global South. Following a full academic programme is expensive, not only because of tuition fees, but also because of the costs of living in more expensive environments and the opportunity costs associated with not being able to make a living locally. These issues can be addressed by a Massive Open Online Course, which can be followed for free from the home environment, with a relatively small investment in time and effort, whilst still providing opportunities to develop reflections on values and planning thoughts, as well as promoting a sense of being part of a wider, global community. These courses can be followed by novices to the field as well as by professionals who may consider that such a programme, if well designed, is a method of “work-integrated learning [...] in which students learn and develop knowledge and skills through a wide range of interactions with people in the workplace, and through the completion of tasks, which may or may not be prescribed by academic supervisors” (Rosier et al., 2016, p.489).

2.4. Challenges and Differences from Traditional Education

On-line education presents us with several challenges. It is difficult to replace face-to-face interaction between teachers and students: there is a reason why people get together to learn. The main problem seems to be the direction of learning: in a classroom environment, the richness of interactions and the diversity of backgrounds guarantees that students learn as much from each other as from teachers, and that teachers also learn from the students. In the MOOC *Rethink the City*, we tried to cater for shortcomings by creating online environments where students could interact and learn from each other. This also allowed teachers to learn from students’ accounts and experiences. By interacting with students through short assignments based on narratives about urban problems, it was possible to create an atmosphere of mutual learning. This is a fundamental aspect of modern education that needs to be contemplated in the design of online courses.

The diversity of backgrounds was emphasized, rather than overlooked. This is relevant because it contributed to the promotion of alternative visions on urban challenges at the local level, privileging local voices. It was essential, therefore, to find ways to let local voices speak in the course. This was done by creating a platform where students uploaded pictures and films about urban challenges, which had been commented upon and discussed by other students.

This fits with contemporary thoughts about flipping the classroom (Graham et al., 2017), which involves teachers being facilitators, rather than dispensers of knowledge. The emphasis must be on learning not on teaching. In this perspective, students are not recipients of knowledge, but co-creators. It also caters to the need to 'de-colonise' planning education. We are aware that this is a very contentious subject. However, we believe that planning systems and planning education in Latin America, Africa and Asia follow excessively European-centred models of knowledge and education, and that local knowledge is generally overlooked in favour of an Anglo-American based literature (Paasi, 2005). We were not able to deviate from this literature in its entirety, and we cannot claim to have 'de-colonised' our planning views, but the inclusion of students' and practitioners' voices in the course gave us the possibility to expand the discussion.

Although the topic of transcultural understanding was not explicitly addressed during the course, we were surprised by the lack of friction in open forums. These forums were moderated, but we did not feel the need to intervene in the conversations that students from very different backgrounds were having in the open platforms. In short, interaction and diversity formed the basis of this course and this translated into a rather cooperative stance from participants.

The great advantage of online education is its reach, and when it comes to education about and for the Global South this is very relevant. We heard several accounts of students in Africa and Latin America who follow MOOCs regularly and hence have access to education that would be difficult to obtain in their home countries. In this sense, MOOCs have the potential to foster transnational understanding and collaborations, if they allow for participation and mutual learning. It is important to highlight that the local practitioners invited to give interviews in the course also worked as academics in local institutions. Moreover, the majority of the PhD candidates presenting built their educational career in the Global South and were financed by institutions from the Global South. This made the connection with local academics stronger than in a regular on-campus course.

3. Course Description and Pedagogical Approach

3.1. Learning Objectives

The focus of the course on today's urban challenges of the Global South was channelled through three themes: spatial justice, housing provision and management, and urban resilience. The aim of the course was to contribute to current urban debate that stresses the importance of going beyond traditional strategies and policies. We discussed questions such as: Is the just city framework applicable in cities with extreme socio-economic inequality? Can community-led housing initiatives provide effective solutions for households in need? How can resilience support development instead of perpetuating a disadvantaged condition?

The purpose of the course was to progressively build-up a critical perspective about local urban challenges in the Global South. Through a combination of short theoretical lessons, the presentation of case studies, testimonies from practitioners, and practical assignments, participants learned how to develop a critical approach to understand their own urban environments and how to translate this knowledge into analytical tools and innovative urban solutions. Therefore, the course had four main learning objectives: (i) identify alternative theories in spatial justice, housing provision and management, and urban resilience; (ii) identify urban challenges in local contexts; (iii) develop a critical perspective about their own urban environment; (iv) translate knowledge into analytical tools and innovative solutions to contemporary urban challenges. By the end of the course, it was expected that the course participants would have learned new perspectives to identify, understand and analyse one urban challenge of the Global South. The learning objectives did not

focus on developing a comprehensive understanding of all urban challenges of the Global South, but rather that the participants could identify, criticize and produce solutions for one of the local challenges that they faced.

3.2. Pedagogical Approaches

TU Delft has been involved in urban planning education for decades. The Faculty of Architecture and the Built Environment is not only an international authority on the matter, but also has a tradition of being on the frontline of innovation in education. Given this, it seemed natural to transfer that experience of urban planning education to the virtual world.

Based on the aforementioned OLE educational model in section 2.2, the course aimed to deliver the same quality of the on-campus courses, while also taking advantage of the flexibility of the internet. The course was developed in a manner that it would make it possible to debate the urban challenges of the Global South including those people who were on the ground living such challenges. The lecturers from TU Delft had direct contact with participants worldwide. Taking advantage of this communication technology, the course connected TU Delft researchers to students and practitioners in 160 countries. Even though we have been working with online education for a few years, the pedagogical experience created through the Rethink the City course was quite special as we could extend the scale and impact of discussions.

The course used two online platforms that were constantly fed during the course, and promoted an intensive knowledge exchange experience. The first platform was based on edX and aimed at ensuring text discussion and communication between staff members and participants. This platform hosted discussions on varying topics, from fostering development while protecting heritage, to how to plan resilient cities with low financial resources. In order to have a more vivid debate and because of the technical constraints of edX, another platform (Sketchdrive) was used just to upload images.

The two platforms were the core space for knowledge exchange. The Rethink the City staff¹ strategically relied on this pedagogical tool as one of the main aspects of the course. Given its large scale it was impossible for the teaching staff to reply to all the questions raised in the forum. Therefore, the team designed and moderated the two platforms in order to potentiate this knowledge exchange aspect. Since we had an extremely diverse group participating from different parts of the world, the discussions were very rich and based on the participants' local knowledge.

In this sense, it is important to understand some changes on the lecturer's role when working in such a large-scale course. Besides triggering discussions with the video lectures, the lecturers had to steer and moderate the discussions to promote knowledge exchange between the students. This differs from the traditional role of a lecturer in on-campus education where every question or student observation is addressed by the lecturer. On a MOOC, knowledge is not generated by the lecturer alone; it is a collective construction made by both lecturers and participants.

3.3. Course Structure

As previously mentioned, the course was structured in three thematic modules (see figure 1 and 2). This structure offered a flexible setup, and the three modules were simultaneously available from the beginning of the course. This meant that participants had freedom to follow the course according to their own pace while also following it according to their own thematic preference. Nevertheless, workload estimations and fixed deadlines for assignments were incorporated in order to ensure an appropriate allocation of time per module and in order to define the main stages of the course.

1 The course was supervised by Prof. Willem Korthals Altes and coordinated by PhD candidates Igor Moreno Pessoa and Luz Maria Vergara. In total 11 PhD candidates and three guest practitioners from outside TU Delft gave lectures.

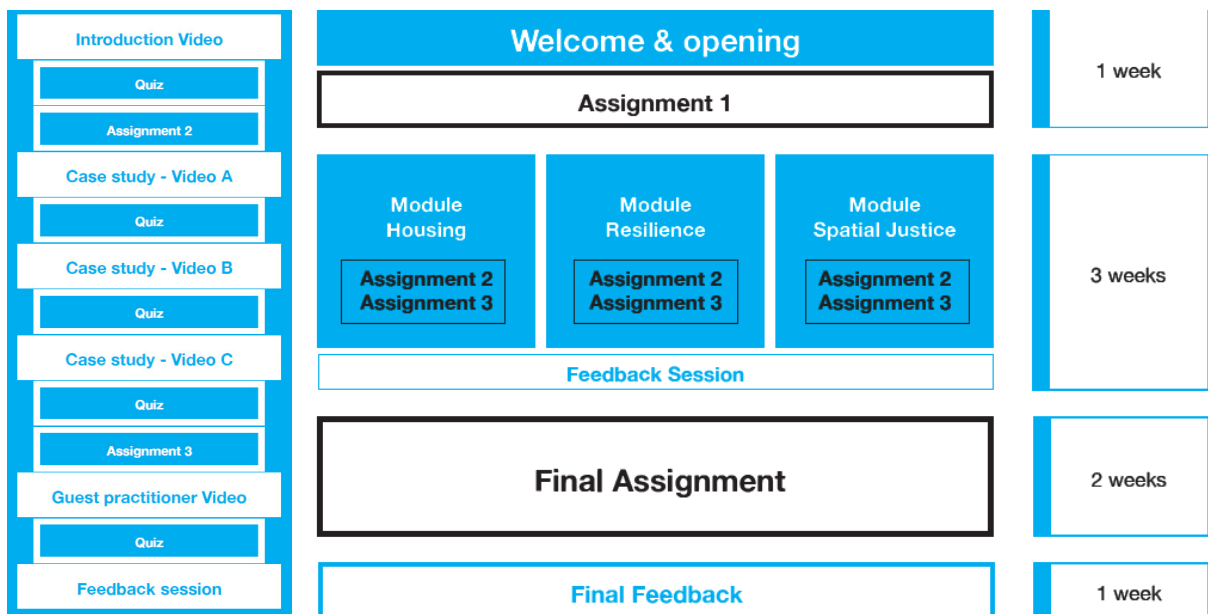


Figure 1 - Module Structure

Figure 2 - Course Structure

Therefore, during the seven weeks for which it ran, the course was chronologically ordered into four stages, starting with an introduction and opening section (week 1), the three modules (weeks 2 to 4), the final assignment (week 5) and the closure of the course with final feedback (week 7). Apart from the general structure, each module of the course followed the same structure: first, a more comprehensive theoretical presentation was given by a professor from the faculty; thereafter, a series of three lectures, presenting cases studies, were given by PhD candidates; finally, the third part of each module was a lecture by a local practitioner exploring the challenges faced when implementing the theory and research presented. Additionally, during the modules, the students had to do practical exercises where they had to engage with their local context and explore an urban challenge mentioned in the lectures (see Figure 1).

The thematic selection of the modules was based, firstly, on the inclusion of topics that addressed the most contingent urban planning challenges for the Global South, and secondly, on the academic expertise of TU Delft lecturers. This led to the creation of three modules addressing spatial justice, housing, and resilience. The module on spatial justice analysed concrete cases of spatial justice and injustice in the Global South and discussed how contemporary theories apply. It aimed to address issues of spatial justice in the booming metropolises of the South, where spatial fragmentation and inequality are extreme (Pessoa et al, 2016), and to emphasise what is different from issues of spatial justice in the Global North.

The module of housing discussed the role of the State, society, markets and third sectors in housing policies, exploring opportunities for ownership and rental models in different contexts. Some topics of interest were; social innovations in housing, collaborative housing approaches, and the role of third sector organisations. In the module, two different angles of the topic were discussed. First, the relevance of alternative models that had flourished in previous decades to solve the increased demand for new houses for specific groups in the society; secondly, new challenges with regard to the management of increasing housing stocks and how to avoid quick neighbourhood deterioration and devaluation (Vergara et al., 2019).

Finally, the module on urban resilience introduced students to the concept and shed some light on case studies of resilience and risk management that applied alternative approaches to the topic. The module aimed to go beyond the simplistic notion of resilience as a struggle for survival, which is based on the idea that communities in the emerging world are more resilient since they have more complex social, economic and environmental challenges than the Global North. Instead, this module explored the possibilities of the Global South as a fertile ground to conduct research on how to use these complex threats as an opportunity to build better urban environments. Table 1 provides an overview of the lectures per section.

Table 1: Outline of Lectures

Section	Lecture title	Content description
Introduction	Rethink the City: an introduction to the content	<ul style="list-style-type: none"> • Introduction presenting the main goals of the course and the approach towards the Global South.
	Rethink the City, but with care	<ul style="list-style-type: none"> • Discussion of methodological and ethical problems of exporting ideas about planning, especially in countries of the Global South.
Spatial Justice	Spatial Justice. What is it and why should we discuss it?	<ul style="list-style-type: none"> • Introduction to the concept and its theoretical underpinning • Presentation of spatial justice as a framework for decision-making and action.
	The relevance of human rights for planners	<ul style="list-style-type: none"> • Definition of human rights and their relevance for the practice of urban planning. • Discussion of the differences between negative and positive rights and how this impacts on the built environment.
	Diversity in the city. Promises and pitfalls	<ul style="list-style-type: none"> • Definition and analysis of the concept of diversity through a critical lens. • Relevance of diversity in urban policy, identifying promises and pitfalls.
	Public space and spatial justice	<ul style="list-style-type: none"> • Interrelation between digital media and physical spaces in contemporary societies, focusing on social media as a tool for demonstration. • Presentation and analysis of the Bersih movement in Malaysia.
	A practitioner's view: Quito, Ecuador	<ul style="list-style-type: none"> • Interview with a housing planning and advisor for the Municipality of Quito, Ecuador. • Discussion of main challenges to achieve a more sustainable and just city such as participation, inequality, housing provision, informality and gender unbalance.
Housing Provision and Management	Housing in the Global South. An introduction	<ul style="list-style-type: none"> • Background elements to understand the main issues that countries in the Global South are facing with regards to the provision and management of social and affordable housing today. • Presentation of main challenges and description of the elements needed for a comprehensive housing policy.
	Affordable housing in China: the role of public and private sectors	<ul style="list-style-type: none"> • Evaluation of the trends of housing development in China between 1949 and 2015, introducing the dynamic roles of the state, the local municipalities and the real estate developers. • Presentation of three current initiatives: Governmental developers, urban villages and housing rental companies.
	Challenges of public housing management. The case of local authorities in Ghana	<ul style="list-style-type: none"> • Description of the State role in the production and management of affordable housing in Ghana and presentation of major weaknesses in Ghana's public housing management. • Discussion and analysis of opportunities for reform of the sector in order to achieve improved quality.
	Social Housing in Chile. Lessons from a homeownership perspective	<ul style="list-style-type: none"> • Description of housing policies based on ownership, presenting the new challenges regarding the quality, maintenance and management of this housing stock. • Discussion of opportunities for bottom-up approaches and the inclusion of new actors in housing policies.
	A practitioner's view: Co-housing project in Delft, The Netherlands	<ul style="list-style-type: none"> • Case of community-led initiative of housing provision presented by the architect of the project. • Visit to the building complex and conversations with residents.
Urban Resilience	Introduction to Urban Resilience	<ul style="list-style-type: none"> • Urban Resilience definition, origin and theoretical approaches. • Discussion of the implications for urban planning and management.
	Resilience thinking when planning in the South	<ul style="list-style-type: none"> • Theoretical perspective on resilience thinking in planning for the Global South. • Discussion of common challenges related to planning for resilience in the Global South.
	Exploring resilience possibilities	<ul style="list-style-type: none"> • Use of mapping as a tool to understand complex spatial problems and to help populated regions to be more resilient. • Analysis of the spatial development of the Pearl River Delta in China using mapping techniques.
	Resilience in transition. Changing water values in delta cities	<ul style="list-style-type: none"> • Discussion of resilience in the context of urbanizing delta cities and the integration and balance of diverse values of water. • Relevance of resilience thinking with the understanding of history and the local context by using a Chinese case study. • Discussion of elements for future planning strategies in changing contexts.
	A practitioner's view: Santiago, Chile	<ul style="list-style-type: none"> • Interview with the Deputy Resilience Officer of Resilient Santiago, a project created to improve the resilience capacity of Santiago, Chile. (The project is part of the programme 100 Resilient Cities from the Rockefeller Foundation.) • Presentation of the challenges faced in the creation and implementation of such a comprehensive resilience project.
Closure	Reading the City	<ul style="list-style-type: none"> • Overview of the process of understanding and representing an urban environment. • Presentation of four-steps process of design thinking: description, interpretation, reduction and abstraction.
	The New Urban Agenda: a roadmap for fair and sustainable cities around the world	<ul style="list-style-type: none"> • Presentation of the New Urban Agenda 2016-2036 • Discussion of the role of planning professionals, academics and urban activists in implementing the new agenda.

3.4. Assessment

Assessment of students' work is one of the challenges that remains unsolved in MOOCs, especially with regard to the value of using automated grading software, the validity and consistency of the peer assessment, and how to avoid fraudulent practices (Hew and Cheung, 2014).

Acknowledging these limitations, we highlight two main challenges regarding assignments and assessment that were frequently discussed during the planning of this course. First, it is important to acknowledge the impossibility of offering individual assessment to students given the high number of participants. Secondly, the design of a fair grading system was needed, so as to create a threshold for those participants who approved the course and wanted to pursue a certificate. Furthermore, the grading formula needed to be clear enough to avoid misinterpretations. Therefore, assessment and assignments were carefully planned so that the course page would incorporate these requirements before published.

The course had two main types of assignments: quizzes and practical assignments. The quizzes were placed right after the lectures and had the purpose of checking students' understanding of the videos. Quizzes were graded through an automated system and the participants could immediately check if they had answered the questions correctly. The practical assignments had the goal of helping students to understand the main topics discussed by presenting applied examples. Each module considered two theme-based practical assignments in which participants had to upload a combination of visual content and an explanatory text on Sketchdrive. These assignments were self-assessed by the participants using either a checklist or a rubric. In addition to the theme-based assignments, the course considered an introductory (and optional) assignment and a final assignment. While the first one was designed to foster participation at the beginning of the course, the final one would consist of a visual essay in which students had to offer a critical perspective on the theories and challenges explored during the course. The assessment of the final assignment was through a peer-review process using a rubric. In order to successfully pass the course, participants had to fulfil three requirements: approve two out of the three modules, complete the final assignment, and have a final grade of 60% or more.

Some measures were taken to deal with the challenges mentioned. First, automated grading was confined only to the quizzes, limiting their weight in the total grade for the course. Second, the rubric was consistently used first for the self-assessment and then for the peer-assessment, reducing mistakes when it was applied to peer evaluation. Third, the use of a multi-criteria requisite to pass the course reduced fraudulent practices. Finally, a higher weighting for the final assignment as part of the total overall grade, created a natural filter for those students who were auditing the course rather than wishing to obtain a certificate.

4. Results

4.1. Critical Thinking

The course encouraged learners' critical thinking through lectures, assignments and instructors' feedback. Students were progressively guided from the theory to the real-life challenges and from a descriptive perspective to an analytical perspective, as a means by which to prepare them to analyse their own realities with a critical lens. One of the main goals was to tear down prejudices and general approaches that do not contribute to a comprehensive perspective about the urban challenges of the Global South. One example is the inclusion of the term Global South at the beginning of the course, as an umbrella term to refer to regions and countries that face, to some extent, similar urban, social and political challenges. It was a deliberate decision of the course team to avoid terminology such as developing countries or third world, in order to provide a concept richer in terms of political and empowerment connotations as well as being less hierarchical than its predecessors (GSSC, 2015).

Similarly, the course reflected on the relationship between global theories and local embeddedness as two different layers to understand the challenges and the solutions. The students were confronted with different case studies as examples of problems and opportunities of regions in the South. They were encouraged to learn

and extract lessons from these cases, while also being aware of local realities and contextual variables. The subsequent step was to make students get in touch with their own realities regarding spatial justice, housing, and resilience. To do this, practical assignments encouraged them to systematically analyse their own cities or neighbourhoods from different topics, understanding the complexity of their urban challenges, while at the same time foreseeing solutions from a planning perspective. At the end of the course, students were more aware of the nature of the urban challenges selected as well as the solutions needed to tackle them. These solutions were conceived from a local perspective, transforming the available resources into opportunities and enabling thinking 'out of the box'.

Other important elements on the development of critical thinking were the peer review process and the spontaneous interchange between students in the two platforms of the course. These discussions referred to more complex issues while the course was in progress confronting the theory. The staff participated in the discussions, answering questions and opening new debates, while the students were able to provide valuable and relevant feedback for their peers. An interesting example was the discussion started by a male student from Egypt about the meaning of gender discrimination in the use of public space. The discussion, which started as a question, evolved into a rich debate in which female and male students from different countries contributed their own perspectives, interchanging their own understandings and experiences about the topic. At the end of the course, the student who had started the question did his final assignment on this topic, enabling him to showcase a new perspective by which to understand the *right to the city* and the use of public space.

4.2. Theory and Practice Integration

The course combined the presentation of the most up-to-date theoretical debates and academic research with testimonials from practitioners who were implementing real cases relating to such debates. The course tried to not only have a balance between theory and practice, but also to connect them in each thematic module. This combination provided an interesting learning path in which participants could understand the main barriers and difficulties of their cities as well as the successful elements when frontline theories are used in practice.

Additionally, the practical assignments required real engagement from the participants in applying the theories to their local contexts using a critical lens. After the course, students were more aware of the complexity that lies behind the urban challenges in the Global South. As future professionals, actual urban planners, urban designers or architects, they have learned the risk of adopting foreign solutions without questioning the impacts at a local level as well as the dangers of using general and standard approaches to solve local problems.

As mentioned in the introduction, we had a surprisingly large group of working professionals taking the course (41% of participants). One of the positive outcomes of this was the knowledge exchange between them and the undergraduate students. It was possible to observe constant discussions on the online platform between more experienced professionals and bachelor students. We believe that this connection with planning professionals was extremely fruitful to the students. Additionally, we also had lectures given by practitioners in the field sharing real case studies. As witnessed in some testimonials after the end of the course, the practitioners' lectures were very well received by the students.

4.3. Students' Engagement and the Creation of an Online Community

In the field of online education, scholars have pointed out the relevance of establishing a collaborative learning community between students and instructors as one of the "essential components for improving the quality of online courses and student outcomes, satisfaction, and learning" (Kurucay and Inan, 2017, p.21). The role of building a learning community is relevant in order to address elements of traditional education such as face-to-face classroom engagements or fieldwork, both of which are difficult to replicate online (Shapiro et al., 2017).

The course's attracting of more than 10.000 students represented a positive starting point, but also entailed new challenges to the course team with regards the management of this community. By the end of the course,

there were between 15 percent and 20 percent active students, a high number for Massive Open Online Courses. This definitely required closer support from the whole team in giving feedback and moderating the online forum. In total, we had 11 staff members replying and solving issues on the platform daily. This not only required extensive coordination, but also some personal dedication, especially as the forums were extremely active on weekends.

The course forums and Sketchdrive provided the platforms to consolidate an online community. They represented the main space of knowledge exchange and interaction with the course team, as well as between participants. The latter used the course platforms intensively to discuss their local urban challenges with peers in different parts of the world. While 1,500 students participated in the forum, 10,000 visuals were posted and commented on Sketchdrive. This exchange was one of the strengths of the course, which was highly appreciated by the participants in the post-course survey. Students highlighted “the connection between students and the feedback videos”, the existence of different platforms “to give our opinion to others’ work and to have so many people of the course concerned on the different assignment and our comments”, and “the exchange of opinions between people who lives around the globe in very different circumstances and conditions”.

Additionally, the course coordinators used social media to complement the promotion of the course, and to create informal spaces of interaction beyond the edX environment. The Facebook page rapidly became a key tool to start building-up this community before the course began. Now, with almost 2,000 followers, it is the main communicational channel with the community considering that the course has finished and the edX platform has been closed. One of the main challenges that remains is to keep this community captive and engaged in new versions of the course or in future projects of the Faculty of Architecture and the Built Environment regarding urban planning in the Global South.

4.4. Challenges to overcome

The course demonstrated several positive aspects, but also some pitfalls. Starting with the more challenging side, it was already apparent during the development of the course that the tools offered on the edX platform were not sufficient to promote the learning experience of disciplines that require more visual and spatial content. The use of a second online platform to upload and display the images sent by the participants was fundamental in enabling the course to go beyond the learning experience of watching videos and debating in text. Urban planning, even in a virtual environment, needs maps and images. Sketchdrive was a positive asset to overcome this technical limitation of edX; however, there is a natural loss when hosting a course on more than one platform. This limitation will definitely be overcome as edX and other MOOC online platforms develop to better support courses (such as architecture, urban planning and industrial design) which are dependent on visual aspects.

Another point that the experience of the Rethink the City can contribute to understand this educational phenomenon is the lack of control over the participants’ profiles. Even though the designed strategy was aimed at young students and urban enthusiasts, the course attracted many experienced professionals. This is part of being an open course. Rethink the City showed that it is important to have a course structure to accommodate this rather unpredictable factor. To stimulate the knowledge exchange aspect of the course was absolutely fundamental in this regard. More experienced professionals can be an important asset in forum discussions.

5. Conclusions

Massive open online education is a relatively new phenomenon. The two major platforms hosting MOOCs in English were only founded in 2012 (edX and Coursera). Therefore, we are still trying to grasp the impact of this new learning method and are also still trying to identify how to get the most out of it. In planning education its adoption is even more recent. It is still not clear how this step from the physical world to the virtual one will happen in disciplines – such as urban planning – that are so connected to spatial references.

Notwithstanding, and despite being a novelty and having many uncertainties, it is clear that there is no step back. Online education is here to stay.

Furthermore, it can be seen from the Rethink the City experience, that knowledge exchange was not only a strategic tool to manage a diverse and massive group of participants, it also became the core educational aspect of the course. This is quite unique in planning education, especially in Europe where planning courses are still very 'residential' (Frank et al., 2014). The capacity to break the boundaries of the local context and connect it to a global scale is absolutely unprecedented. In this way, the transfer of a planning course from the physical helm to the virtual one is already a step towards a less residential type of planning education. It is vital to approach this global scale as an opportunity to promote knowledge exchange and not a unidirectional educational experience from lecturers to participants.

Moreover, the change of scale from local to global also brought insights on the possible impact of an urban planning MOOC. Having 10.000 participants from 160 countries gives a completely different dimension to the societal impact of a planning course. A MOOC is not forming new urban planners, but has the capacity to influence a diverse and broad range of people. The course was designed to foster critical thinking, to provide grounded examples of theory and practice integration and, despite the challenges of the massive participation, to create an online learning community even beyond the edX environment. Throughout the delivery of the course, it was already possible to witness how participants were taking practical steps to implement in their local contexts the knowledge produced in the course. In this regard, and as mentioned in section 4, the final assignment was the materialization of this knowledge transfer from theory to practice.

As the aim mentioned in the introduction was to create a local impact connecting the researchers from TU Delft to urban enthusiasts of the Global South, the experience of the Rethink the City MOOC seemed successful. This is not only because it managed to extend and enrich the debate being undertaken in TU Delft with a global audience, but also because it demonstrated that a different educational approach with higher exchange and knowledge co-creation is possible. This has a special meaning in the context of the Global South, since the access to low cost good quality higher education can be a challenge. Additionally, it also points to a possible change in the role of higher education institutions, from being less centres of knowledge production to more moderators and virtual hosts of a collective knowledge exchange process. The broad and open discussions of topics such as the right to the city, access to a good public transport system, gender discrimination or spaces of protest can have great local impact in places where these debates are not that disseminated.

Even though it is still hard to measure the societal impact of the Rethink the City, based on the participants' testimonies it seems safe to affirm that the course had the capacity to influence many more people and places than any other course that the staff team are involved with. The effects of such a massive and open planning education is still not clear; however, the Rethink the City MOOC enabled the opportunity to experience, first-hand, the potential of a truly global urban planning course.

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