Case Study 16: University of Brighton

Fostering Critical Thinking and Creatively in Spatial Design through AI Image Generation

What issue were we trying to address and why?

In 2021 students began to explore AI image generation as a curiosity without a real application. A rapid advancement of the technology however meant that by Autumn 2022 when a student openly tested DALL-E in our welcome week design charette everything changed. The only reference point other students had for the images they saw were those created through highly accomplished 3D modelling. Their immediate reaction was that the images represented hours of work, with an added presumption that this was therefore also strong design work.

Two things became clear, firstly image generation had huge potential in terms of rendering if this could be harnessed. Secondly, and foremostly, it was vital that students are introduced to what AI image generation really was, what it wasn't, and how it might productively be engaged with in the design process. At the time DALL-E and Midjourney were free and easily accessible. Students were encountering these and, to do so without guidance, might mean that image generation was confused with, or nefariously used as, design development. There is often a point of anxiety when the ideas for a design proposal need to make that first step into a spatial proposal and reaching for AI at that point looked such an obvious step students might take. The aim therefore was to introduce these tools whilst clearly identifying a place for them within design teaching practice.

What we did

Since 2022 the place of AI image generation within spatial design teaching practice, rooted within an ontological design methodology, have been explored through both annual workshops and design teaching sessions within the MA Architectural and Urban Design course. Ontological design places emphasis on the critical position of the designer for evolving a spatial proposal. Within this context form is not seen as neutral, but as a cultural artefact that informs our understanding of the world.

A workshop comprising of 3 sessions over a two-week period was set at the start of each academic year and also opened to students from the University of Universities (UoU). Initially set up in lockdown due to the suspension of Erasmus exchange programmes, the UoU enables postgraduate architecture students from different nations to collaborate within workshops via online platforms. This wider engagement offered an international perspective on student responses to the latest iteration of AI image generation tools within spatial design.

The workshop begins with two talks, the first demystifies the technology and is delivered by a computing lecturer specialising in the application of AI. The second talk introduces the principles of ontological design as applied to spatial design and sets out the importance of the critical position. Over the length of the workshop students collaborate in small groups on a design project rooted in their critical position. At key points in the process, they are asked to use image generation and to reflect on the outcomes. In the most recent year, students were given free rein to document their use of image generation at any stage of the process within the supportive environment of the workshop. This enabled students to find out for themselves why they might make certain choices, learning through experience to further engender deep learning.

A second intervention was made within design teaching practice during the semester to identify a place for image generation tools within the design process. The point selected was that at most risk of AI being applied problematically, the terror of the blank page at the start of spatial design development. Aims for the student's proposal were typed into an image generator during the teaching session, initially in 2022 this was Midjourney. As opposed to seeing the generated images as legitimate proposals, something they do not have the capacity to be, they were instead positioned as something to react against. It can often be easier to say what is not right, and image generation offered visuals to react against, starting a conversation over what the design therefore might be. This led more easily to the first sketches, and the jump into the traditional spatial design process, taking away the stress of the blank page. The process revealed the limitations of image generation tools whilst giving them a clear place in the design process. As the technology advanced over successive years approaches to harness image generation's rendering capabilities using sketches as reference images, and then how this might be evolved into an animation were also explored whilst ensuring retention of authorship.

Who was involved

As course leader and design tutor on the MA Architectural and Urban Design Course Dr Sarah Stevens led this exploration with our students from 2022 to 2025. The workshops also included international students on the UoU programme, Dr Marcus Winter, a computing lecturer specialising in the application of AI, and in 2025 Sarah was also joined by Edward Crump, an ex-student and now lecturer at Kingston University who is exploring the potential of AI.

Measures of success

The aim of the work has been the informed development of students' relationship to AI image generation. Each stage incorporates critical reflection and feedback. The critical application of AI within the design module and workshop submissions is seen as a measure of success.

How do you plan to develop the intervention/activity?

Each year the design teaching practice evolves to explore the latest tools and identify their place within an ontological design methodology for spatial design. This is therefore an ongoing process that ensures students are at the forefront of technological developments in AI readying them for practice. The exploration continues to inform an enquiry into the future of spatial design practice in the context of the ongoing evolution of AI tools and the implications for design teaching.