Opinion: The Pursuit of Truth and Beauty in Lighting Education

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Abstract:	The collective pursuit of truth and beauty is the answer to most of the challenges faced in lighting education today. In this article I distil my observations of pressing wider cultural issues directly affecting education, and what we should prioritise to address these problems. There are of course, very many more barriers to genuine education, however, here I have chosen to discuss three key themes: • Challenge One: Over Reliance on Artificial Intelligence at the Expense of Our Own. • Challenge Two: Promoting Dialogue When Many Prefer to Hide Behind the Screen. • Challenge Three: Learning How to Address Complexity in a World Where Information is No Longer Scarce. Whilst the challenges are presented as barriers to be overcome, each provides an opportunity to push the boundaries of lighting education further than ever before.

Opinion: The Pursuit of Truth and Beauty in Lighting Education

The collective pursuit of truth and beauty is the answer to most of the challenges faced in education today. In this article I distil my observations of pressing wider cultural issues directly affecting lighting education, and what we should prioritise to address these problems. There are, of course, very many more barriers to genuine higher education, however, here I have chosen to discuss three key themes:

- Challenge One: Over reliance on artificial intelligence at the expense of our own.
- Challenge Two: Promoting dialogue when many prefer to hide behind the screen.
- Challenge Three: Learning how to address complexity in a world where information is no longer scarce.

Whilst the challenges are presented as barriers to be overcome, each provides an opportunity to push the boundaries of lighting education further than ever before.

1 Over reliance on artificial intelligence at the expense of our own.

Students use AI to write their essays, and soon, if not already, they will also be using it to complete their creative design projects. This creates a twofold problem. Firstly, an erosion of confidence — if we become overdependent on something else to do our work, then over time we will become less sure of our own abilities. Secondly, we don't benefit from being involved in the creative act, which, in the case of lighting design, directs us towards the pursuit of beauty. This creative act creates meaning in our lives, particularly if achieved through the mutual interaction between people towards a shared project-based goal. Therefore, lighting education must encourage as much “hands-on”, practical, creative activity as possible, preferably in groups, where discussion and experimentation build consensus and confidence. Full scale mock ups, on site sketches of our observations of lit effects as well as our own designs, and the creation of physical as well as virtual models, help to build a palette which can be used to articulate our instinctive recognition of beauty, and to further develop and characterise this. Large language models may be very clever, but have you ever seen a robot trying to build simple flat-pack furniture? As soon as AI is embodied, it is less impressive, and whilst these capabilities are probably not far on the horizon, this is the space humans (not our avatars) must fight for. We should make a case for designing projects ourselves, even if the AI is good, because our ability to design increases our agency, and ability is gained through practice. The creative journey helps establish our own aesthetic sense, is motivational, and is therefore necessary to human thriving. If our research can be planned to prove this then we will have made a convincing case for lighting education.

2 Promoting dialogue when many prefer to hide behind the screen.

Free dialogue between individuals, whether students or staff, is the best way to ensure that the ideas we pursue in research and teaching remain interesting and beneficial to society. High quality research is essential to science, and we are encouraged by the university, to continue to push the envelope through research-led teaching. For this, ideas should be allowed to flow freely, refined through continuous dialogue, which, to use a cliche, differentiates the wheat from the chaff. It is the process of voluntary and truthful speech between individuals face-to-face, that gives the physical university an advantage over the increasingly excellent virtual education space. Some of the lectures to which I have listened online have changed my life, however the power of the real-life encounter is still lost and with it the shared experiences which create the memories that give us a place in a social world. As a social species, we cannot live fully without this.

Since Covid, the convenience of the screen has often led to a preference for online communication, where whatever else on the screen can provide a ready distraction, giving artificial control over an encounter which results in less risk, however ultimately less reward.[1] Students like to watch online lectures because they don't have to deal with the uncertainties of a classroom encounter, where they may be required to speak. However, it is in this process of speaking that ideas flow, great projects are created and research questions are formed. Therefore, students should be encouraged to speak out loud at any cost and learn that their ideas conveyed through speech contribute to the scientific endeavour. The process of scientific inquiry is a quest for truth in which staff and students can participate as equals. Therefore, curiosity-driven research employing the scientific method should continue to be taught to students and preserved at any cost.

3 Learning how to address complexity in a world where information is no longer scarce.

More information is at our fingertips than ever before, and with this comes almost infinite complexity. The best way to address complexity is to have a clear aim which enables the stratification of information by its effectiveness in meeting that aim. This is, in essence, a value system, made possible through the lens of a goal. An illustration of how to distil complexity to be able to make decisions can be found in the subject of how to increase biodiversity whilst meeting the needs of people, and is outlined, as just one example among many, below.

We are becoming increasingly aware that the human perceptual orb is not the only one which matters and that other species, both plant and animal, sense the same world very

differently. The expansion of cities has led to unprecedented levels of light pollution which touch nature in uninvited ways. Bats, birds, insects and turtles have had their daily routines, migration patterns, biorhythms and hatchling routes disrupted by light created for people at night, which is sometimes necessary, however is often not. Lighting education is mostly centred around human factors in lighting, which essentially prioritises the needs of people. Whilst entirely sensible, in order to retain or increase biodiversity we must also consider the *Umwelt*[2] of other species, of which students should also be made aware.

However, what should be done with all this additional knowledge and how should it be used to make important decisions about how, when and where to light? It is difficult to argue for reduced lighting in residential areas, when the journey home from the bus stop for a night shift worker could become less reassuring. The answer lies in communities making decisions based on what is relevant to their context specific needs at the local level.[3] The over- illumination of urban sprawl is unnecessary. However, if people are required to work at night, then they must be able to see. If communities are given the agency (supported by competent lighting designers), to decide to what extent and how their streets should be lit, then their needs can be met based on their own requirements and values. Here, the pursuit of truth is, as far as possible, in the understanding of value laden concepts such as “useful” versus “obtrusive” light. “Useful” for who, and where and why? The conservation of a view of the stars in the dark night sky, where possible and practical, is worth pursing in the name of beauty. If students have honed the skill of building relationships through dialogue and shared projects aiming towards beauty, then they will surely be able to help communities navigate an abundance of information to make local decisions which aim to inform and increase our equilibrium with the natural world.

References

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