



CHOBE Special Interest Group Series
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**“Integrating Sustainability within Built
Environment Higher Education”**

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ABOUT CHOBE AND THE SPECIAL INTEREST GROUP (SIG) PROJECT

CHOBE supports and represents, with a voice of influence, those with strategic responsibility of the development and delivery of graduate and postgraduate education and research within the disciplines of construction property and surveying. CHOBE's objectives include

- Developing communities of practice in built environment education to support heads of department/schools (or nominees) in the UK and Ireland
- Influencing policy consultations through being the collective contact point for issues about built environment education for external stakeholders and Professional Statutory and Regulatory Bodies
- Providing a forum in which people can come together to network, share and address problems in a supportive and collaborative way
- Addressing the practical, day-to-day matters associated with learning, teaching and assessment
- Funding to initiate larger research projects that can have an impact on how we deliver our businesses

In June 2022 CHOBE invited proposals to establish Special Interest Groups (SIGs) for the forthcoming academic year. The purpose was to carry out small, targeted research into specific themes facing Built Environment educators. Each group was led by an expert in that particular field who will worked in association with a number of interested academics to discuss and identify different forms of innovation and good practice. Six SIGs were supported with a grant of £2000 each.

EXECUTIVE SUMMARY

The investigation studied approaches to the integration of Education for Sustainable Development (ESD) within Higher Education (HE). Primary and secondary data, in addition to prevailing literature on the subject, highlighted a range of meanings associated with sustainability. The research further demonstrated ambiguity in attitudes towards sustainability (students and practitioners), but also evidenced a strong desire by students to understand and learn about the subject. Approaches to the integration of ESD that were discussed were linked to real-world learning, understanding student views and allowing student debate and opinions within the classroom, in addition to community involvement. Recommendations were connected to the implementation of actions for bottom-up approaches and frameworks that encourage student ownership towards the integration of sustainable development, empowerment and visibility of theory in practice.

INTRODUCTION

Driven by the seventeen UN Sustainable Development Goals, international and national targets that adhere to the sustainability agenda and the growing concern for the impacts of climate change, education for sustainable development (ESD) has become essential within Higher Education (HE). The foundations and ideas associated with ESD stem from the need to focus on overcoming the challenges to meeting sustainability (UNESCO 2020), where institutions are currently motivated to integrate the key aspects of sustainability into a broad range of university departments and courses. Evidence further highlights there is also a demand by students to understand sustainable development within the HE courses (Advance HE 2021), in addition to students being a driver of ESD in HE (Wright and Horst 2013). It is important to note that ESD can also be referred to as Sustainability in Higher Education (SHE) (Wright and Horst 2013).

ESD is needed within many HE courses across diverse disciplines and require the integration of sustainability principles and concepts relevant to the sector within modules. As approximately 46% of carbon emissions result from the construction sector, there is emphasis on actions by Built Environment courses. This investigation will focus on courses within the Built Environment where the researcher is currently a practitioner.

As institutions integrate ESD within the curriculum, there is a need to consider its successful integration. Prevailing investigations suggest effective application of ESD within the classroom requires practitioners to alter current pedagogical practices (Papenfuss et al. 2019), the approaches adopted for the implementation of ESD (Mazon et al. 2020) or the education system (Venkataraman 2010). These thoughts also align with UNESCO (2020) which emphasises the need for innovative pedagogy and action-orientated learning to raise awareness and develop knowledge for sustainable action.

THE PROBLEM

There are many investigations that have studied how to integrate ESD within the curriculum and further provide valuable insights on the challenges for higher education institutions. Prevailing studies can generally be split into three themes that can be actioned: adaptations to teaching practices; perceptions, knowledge and attitudes of the practitioner; and the approach to the integration of sustainability within the curriculum. There is a great deal of literature on teaching practices and pedagogical approaches (Seatter and Ceulemans 2017), in addition to studies that have discussed perceptions and actions for ESD integration within the curriculum with practitioners (Anastasiadis et al. 2021). There are also a number of investigations that appear optimistic for successful integration and student engagement with ESD through a bottom-up approach (Littledyke et al. 2012) where students become active players (Mazon et al. 2020). There appears, however, a lack of knowledge on how to adopt a bottom-up approach. There is a lack of clarity to the type of activities associated with this approach and how institutions collaborate with practitioners, students and the community. Furthermore, there are few studies that discuss successful integration of ESD from the views of the student. Due to the need to understand student knowledge and attitudes prior to studying the subject, there are many studies that focus on student perceptions of sustainability (Hay et al. 2019), but little on the practices and actions to develop engagement of sustainability. As there is a great focus on students being central and active players to ESD, it would be valuable to gain insight on student understanding and perceptions of its integration.

RESEARCH AIM

The aim of the investigation was to explore effective approaches to integrating sustainability within Built Environment higher education. The research further proposes methods for promoting student-led actions towards sustainability, engaging students as active players and enhancing their understanding of sustainability within the wider society.

RESEARCH DESIGN AND METHODS

The qualitative study adopted an interpretivist approach to the research. Secondary data collection was carried out to study the prevailing literature for ESD insights and integration with HE, in addition to relevant reports detailing ESD and its incentives. Primary data collection consisted of semi-structured interviews with key actors surrounding the integration of ESD within HE and the local community, as well as focus groups with students currently studying aspects of ESD. In addition, current HE courses within the construction discipline were analysed, along with a review of documentation detailing ESD integration. Data analysis consisted of identifying themes from within the primary data, guided by both the themes from the literature and aims of the study.

KEY FINDINGS AND DISCUSSION

The current understanding of sustainability

Many investigations studying pedagogy for teaching sustainability attempt to understand the definition of sustainability due to its influence underpinning the teaching practices adopted (Seatter and Ceulemans 2017), as well as providing foundational insights on existing student knowledge of the topic. An understanding of the term sustainability was linked primarily to environmental sustainability during discussions with university students, where waste management and recycling were mentioned. Similarly, both the local authority (LA) and Higher Education (HE) Professor connected sustainability to its environmental aspects, but the social element of sustainability was also dominant during these conversations. The finding of involvement by the community within teaching practices (stated by the LA) discussed below, may have been due to this emphasis on the 'social pillar' of sustainability. This insight resonates with the literature that claims a dominant focus on environmental sustainability, but also ambiguity in definitions and meanings associated with the term (Wright and Horst 2013). It is interesting that empirical work with practitioners further claim an understanding of sustainability with the pillar of 'culture,' in addition to environmental, social and economic pillars (Wright and Horst 2013). To extend this idea, the research also associated sustainability with being considerate.

In addition to a multitude of ideas associated with sustainability, the findings stress a lack of understanding of the meaning of sustainability from students, as well as little experience of the topic in school or early stages of university. This was highlighted by students stating 'I wished I had known more about it [sustainability] at school' and 'I had heard of sustainability but didn't really know what it was.'

The perceptions and attitudes of sustainability

A theme within the secondary data emphasised the need for student opinions to be valued and an indication of understanding existing perceptions of sustainability. The prevailing literature offers a range of insights on perceptions of sustainability by students, where there appears to be the potential for resistance to the adoption of behaviours associated with sustainability (Hay et al. 2019). Similarly, findings found a difficulty in getting people to engage in the concept of sustainability and questioned the importance of sustainability to individuals. It was further emphasised by the HE Professor, however, that engagement is beginning to change and this action is required for future ESD teaching.

In contrast, a recent study with architecture students found motivation on a personal level to study sustainable design. Equally, this study demonstrated a strong desire to learn about sustainability, as well as adopt practices to support future employment prospects and aid personal understanding of sustainable actions.

A bottom-up approach

As mentioned previously, a primary aim of this research was to investigate methods to be adopted for a bottom-up approach within the ESD teaching environment. A common theme within this study was linked to the type of learning used, more specifically 'real-world learning.' This can be linked to 'something concrete' that allows students to envisage and connect what they are doing to reality and its challenges. This empirical finding resonates with the literature that supports the use of 'real-world' assessments (Grover et al. 2020). Creating bespoke assessments linked to perhaps buildings or organisations within teaching is not new. Considering the connection of assessments and activities to the real world that students are able to relate to or visualise is a new perspective for ESD teaching. Further, during a focus group, a conversation of sustainability activities that students wanted to know about was linked to the university. It was stated that students were aware of university initiatives but little knowledge towards what they consist of. There was a real desire to understand this, which possibly highlights a 'real world' that is visible or where students spend their time.

The action that is proposed from this finding is linked to the support by the School of Estates to discuss their involvement in sustainability for the university, e.g. their projects on campus. In connection, primary data highlighted the success of real-world bottom approaches undertaken by another university, where students become active players within their assessments. Students interviewed Estates and those involved in sustainability within the university, analysed actions and gave recommendations. It was stated this method is time consuming and challenging to set-up but works effectively to encourage engagement in ESD.

Another link to teaching for a bottom-up approach was associated with embodied learning or experiential learning. Primary data discussed these methods of learning and their effectiveness as it allows students to change their environment and 'get away from the desk'. This could be another benefit of real-world learning. How to carry out this method and its challenges were also discussed.

In connection, another bottom-up approach involved altering the classroom environment to promote student views, giving them a voice and encouraging a debate within the classroom. This action is connected to students being active players, feeling involved in their learning and perhaps providing insight for practitioners into student thoughts and perceptions on ESD.

A final dominant theme within the research was connected to community involvement, or a 'community involvement approach' (LA Officer) as 'they have a stake in things.' Suggestions were associated with community projects in assessments, talks that involve insight from the community and community case studies. As stated by the LA Officer '...a kind of interested connected community...a community event...' Similar to other bottom-up approaches, there were conversations that discussed challenges of community engagement. There is a need to understand how universities, communities and local authorities can work together.

CONCLUSIONS

The aim of this research was to seek effective approaches to integrating sustainability within Built Environment education. Prevailing literature suggests adaptations to pedagogical practices, investigating attitudes of practitioners and adopting a bottom-up approach for successful integration of ESD. As there appears to be a lack of insights and few examples on what a bottom-up approach involves, the research further looked specifically at possible methods that can be adopted for a bottom-up approach. Key findings highlighted a variety of different themes associated with sustainability, including being considerate and culture. There was also a contrast in the data associated with attitudes to sustainability. Prevailing literature highlights a resistance to ESD, whereas primary data emphasised motivation and desire by students to understand sustainability. The investigation further demonstrated the potential for bottom-up approaches to consist of real-world learning, visualising theory in practice and giving students a voice. Finally, the study consisted of conversations around community involvement and ESD within HE.

RECOMMENDATIONS

From the findings and discussions there are recommendations that can be suggested to practitioners and HE educators:

- Visibility of sustainability and sustainability in practice. Using real-world examples in teaching or for assessments would be of value. For example, within an institution there could be an energy team, facilities management team or projects reducing energy demand that could be analysed by students. Students could be active learners by being part of the project e.g. making decisions for projects within an assessment.
- Giving students a voice. This was discussed within the investigation, where examples consisted of debates in the classroom or space to voice opinions. The development of sustainability ambassadors within the School could also be another method to provide opportunities for students to offer views on sustainability and further learning.
- Community involvement. Taken from a case study used within a HE institution and CityStudio concept, there is a framework that can connect the university, local government and the community (advised in this study). Students are given time to interact with the community and ask what projects could be of benefit to enhance sustainability within the local area. It is the co-design between students and the community that make it unique. The framework can empower students to feel part of the community, the projects and concerns with sustainability. This ownership appears to be at the heart of active learning.

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