MTU

Ollscoil Teicneolaíochta na Mumhan
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Abstracts

Room 1:
Education Matters and Tourism

Morning Session

Title: Best practice examples of embedding Education for Sustainable Development (ESD) in the Technological University of the Shannon (TUS)

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Keywords: Education for Sustainable Development, Technological University of the Shannon

Abstract: Ireland has continuously demonstrated international leadership in addressing sustainable development and human rights issues. Notably, Ireland played a pivotal role as co-chair in the final negotiations that culminated in the historic adoption of the Sustainable Development Goals (SDGs) in 2015. By developing and implementing an ambitious, adequately resourced, and diligently monitored National Strategy for Education for Sustainable Development (ESD) up to 2030, Ireland can further underscore its global leadership while rallying stakeholders towards the attainment of common goals (HEA - National Strategy on Education for Sustainable Development to 2030). The Second National Strategy on Education for Sustainable Development underscores sustainability and the creation of sustainable learning environments as its fundamental pillars. The Higher Education Authority (HEA) has recommended enhancing staff capacity to embed ESD across the curriculum and adopt pedagogical approaches conducive to ESD. This will be achieved through targeted Continuing Professional Development (CPD) provision, informed by collaboration with the National Forum for the Enhancement of Teaching and Learning. Additionally, there is a focus on strengthening institutional leadership capacity to support the mainstreaming of the ESD agenda across HE institutions, ensuring its recognition at all levels within them (HEA - National Strategy on Education for Sustainable Development to 2030). ESD holds the potential to empower students as it enables them to explore and assess sustainable alternatives within an educational context while honing key skills necessary for managing and marketing innovative teaching methodologies. These methodologies not only promote lifelong learning in sustainability issues but are also locally relevant, serving as agents for positive societal change and the orientation of future generations towards sustainable development (Bartella, 2020). Hence, this paper focuses on cross-institutional collaboration, examining the integration of ESD across different academic departments and campuses within TUS. By following the following methodology, this paper aims to systematically investigate and showcase the best practices in embedding ESD within TUS, providing valuable insights and guidelines for other institutions within the RUN-EU network and beyond. While taking a cross-institutional approach is essential, it is important to bear in mind that the embedding of any educational imperative throughout our teaching and learning infrastructure requires time, space and adequate resourcing. As this paper will identify and showcase best practices in embedding ESD within the teaching and learning

infrastructure of the TUS and its RUN-EU partners, online surveys will be designed and distributed to academic staff, and students so as to gather quantitative data on the prevalence and impact of ESD practices. Potentially if we do not receive sufficient information focus groups will be organised with both staff and students to discuss their experiences, challenges, and successes in embedding ESD. In doing this, a criteria for evaluating best practices based on effectiveness, scalability, and sustainability will be developed. In summary, TUS case studies will be selected that exemplify successful ESD integration, considering diverse disciplines and institutional contexts. These best practices will be examined in detail, including implementation processes, challenges faced, and outcomes achieved.

Title: Advancing Sustainability in Culinary Vocational Education & Training: Insights from the SCOOK Project.

Authors: Clare Newman, Atlantic Technological University; Francesco Noci, Atlantic Technological University; Sarah Berthaud, Atlantic Technological University; Ulrich Hoeche, Atlantic Technological University; Eamonn Hoult, Atlantic Technological University; and Mary Reid, Atlantic Technological University

Keywords: Sustainability, Culinary Education, Vocational Training & Hospitality.

Abstract: The SCOOK project is an Erasmus+ initiative[1] aimed at enhancing sustainability awareness and digital readiness in culinary vocational education and training (VET). The project collaborates with partners from Ireland, Spain, France, and the Republic of North Macedonia, focusing on the integration of sustainable practices within the culinary sector. This project focuses on sustainability in culinary training, but the broader hospitality and tourism sectors are affected by these efforts, as they are all intertwined in promoting environmental sustainability. The project envisions a greater understanding of sustainability in culinary education and foster innovative teaching and learning methods that align with the evolving industry demands. It outlines the growing need for sustainable practices in the hospitality and tourism sectors, particularly in food production and consumption. The project's research approach is diverse, combining survey data and expert input to assess the effectiveness of sustainability education in the culinary field. Additionally, SCOOK looks to explore how more effective methods can be employed – or where they may be a challenge in culinary training and the wider hospitality and tourism sectors. With the aim to assess current attitudes, beliefs, and needs on food sustainability education, the presentation analyses the results of a pilot survey that examined the perspectives of 117 participants ranging from chefs, food producers, culinary students, experts, and teaching staff from the four partners countries. The results offer a valuable insight into current food sustainability practices in the culinary education and wider professional settings. A refined and condensed survey, following the pilot, which is currently ongoing, has reached over three hundred industry professionals and academics across the project's partners. The refined survey will provide a more detailed understanding of the impact of sustainability on culinary education. The results will inform both educators and industry professionals in Ireland, France, Spain, and the Republic of North Macedonia about the effectiveness of the current educational practices and industry standards. Furthermore, this research will provide a guideline for advancing sustainability in culinary education and practice, promoting a more environmentally conscious hospitality and tourism industry.

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[1] For further information, please see https://scookerasmusplus.weebly.com

Title: Waste to Taste: Embracing a Circular Strategy for food waste management

Authors: Siobhán Gough, MTU; Noel Murray, MTU; Colum Gibson, MTU/CTC

Keywords: Food waste; anaerobic digestion; bio-fertiliser.

Abstract: Tourism is one of Ireland's most important sectors estimated at €10 billion in value in 2019 and supporting approximately 280,000+ jobs throughout Ireland (CSO, 2023). However, the sector is also known for its high consumption of resources and climate impact (Gössling & Peeters, 2015). Considering current EU and Irish government policies and targets regarding climate and the circular economy, it is imperative that the sector plays an active role in Ireland's response. Supporting the tourism sector, the foodservice sector has a value of €8.2 billion in 2022 (Bord Bia Foodservices Market and Consumer Insights, 2022) and is an area of the tourism industry that can (and now must) improve its sustainability credentials through food waste reduction.

The circular economy approach to economics is primarily grounded within manufacturing industries (Ünal & Shao, 2019), however, circular economy offers great potential for higher levels of sustainability and profitability across all sectors of the tourism industry (Sørensen & Bærenholdt, 2020). Circular economy in the tourism sector typically refers to a model of tourism that aims to prevent and reduce waste and promote sustainability (Rodríguez et al, 2020; Zorpas et al., 2021). This model focuses on the efficient use of resources, reducing the environmental impact of tourism activities, and promoting the local economy. The authors aim to use this model to guide food waste management and reduction in real terms. Given that Ireland produces an estimated 157,000 tonnes of food waste in the restaurant and food services sector (which includes hotels and workplace canteens)[2], and with the updated Waste framework Directive have a binding target to reduce the level of food waste by 30% (per capita) by 2030[3], this work could not be more timely.

Using quantitative data collection and measurement methods, the overall goal of this research is to examine the impacts of a holistic approach that incorporates food waste measurement, prevention and the sustainable use of unavoidable food waste. The Department of Tourism & Hospitality, at Munster Technological University has implemented a food waste reduction strategy including sustainable solutions to measure and reduce food waste within the delivery of academic food related programmes. The focus of this research paper is to specifically examine the impact of one of these initiatives- finding a use for unavoidable food waste, so that learnings can be applied to the broader tourism sector.

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2 https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/food/
3 https://food.ec.europa.eu/food-safety/food-waste/eu-actions-against-food-waste/food-waste-reduction-targets_en

In early 2024, the Department installed an anaerobic digester (funded through N - TUTTOR) called MyGug. This digester uses the natural process of anaerobic digestion to convert the food waste produced within the Department into two by-products: 1) a usable biogas and 2) a liquid bio-fertiliser. The biogas is used to heat water, which is then used to irrigate edible plants within the Department's (recently installed) greenhouse. The liquid bio-fertiliser is also used to fertilise the crops which are in turn used in the departments training kitchens. Drawing on insights from the inter-disciplinary team involved in the installation and set-up, there are several important learnings which have an educational, academic and industry application.

The key outcome of the research is expected to be that while food waste reduction and management is multi-faceted and requires an almost fanatical focus on continuous improvement to be effective, it is not an endeavour that necessitates high levels of investment or extra work to be successful. Furthermore, the practical, inclusive approach taken by the department of Tourism and Hospitality ensures that students go into industry with applicable knowledge and an understanding of how to improve food waste management from the ordering of raw materials right through to the final stages of sale and consumption.

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Title: Redesigning Assessments in Hospitality Education: Integrating AI-Resistant Strategies and the Principles of Universal Design for Learning (UDL).

Author: Pamela Likely, Shannon College of Hotel Management.

Abstract: The increasing use of artificial intelligence (AI) has introduced both opportunities and challenges within hospitality education (Iskender, 2023). While AI tools can enhance learning experiences, they also raise concerns about academic integrity and the validity of traditional assessments (Evmenova et al, 2024). As the hospitality industry and its related academic institutions adapt to this rapidly evolving landscape, it is essential to develop AI-resistant assessment strategies that maintain parity, accessibility, and inclusivity. Amid a global shortage of skilled staff, the hospitality industry urgently needs to recruit, develop and retain talent capable of thriving in its dynamic environment. Redesigning assessments in hospitality education by integrating AI-resistance strategies and Universal Design for Learning (UDL) principles, offers an innovative approach to ensuring students are equipped with authentic and industry-relevant skills. This paper explores the intersection of AI-proofing assessments and the Universal Design for Learning (UDL) framework within the context of hospitality education. The goal of which is to encourage the future proofing of assessments by adopting certain AI resistant strategies while staying true to the principles of Universal Design for Learning (UDL). These assessment strategies will foster an equitable educational environment that prioritises both academic integrity and inclusivity and should better prepare graduates for the challenges of the future, supporting student success and long-term retention in the hospitality industry (Shi, et al, 2022). The Universal Design for learning framework (UDL) emphasises the creation of flexible learning environments that accommodate individual differences, focusing on three main principles: providing multiple means of engagement, representation, and action & expression (Meyer, Rose, & Gordon, 2014). These principles align closely with the need to design assessments that are both inclusive and resistant to AI misuse. AI-proof assessments require innovative approaches that prevent students from relying solely on AI tools, while still upholding the accessibility and flexibility promoted by UDL. When considering strategies to prevent the misuse of AI among hospitality students for an assessment, reverting to the traditional pen and paper invigilated exams as a means of AI-proofing assessments, seems like a simple solution. However, it ignores important pedagogical, equity and inclusivity concerns. These traditional assessments contradict the principles and goal of Universal Design for Learning (UDL) of allowing students to express their understanding in various ways e.g., multimedia projects, oral presentations, or interactive assignments. These pen and paper exams can be rigid and only benefit students who are comfortable in this traditional exam setting. Reverting to this examination method could create inequity by creating obstacles for students with

disabilities such as dyslexia or visual impairments, who benefit from digital tools such as text-to-speech, dictation software, or larger fonts. Pen and paper assessments limit the UDL principle of providing Multiple Means of Action and Expression. These exams typically measure a narrower range of skills, focusing on recall rather than deeper critical thinking, creativity, or application of knowledge (Gundu, 2023). Integrating AI-resistant strategies and UDL principles is essential to creating equitable, accessible, and effective assessment methods in this AI age (Saborío-Taylor et al, 2024). By rethinking assessment design through this lens, educators can uphold academic integrity while ensuring all hospitality management students have the opportunity to demonstrate their learning authentically. This approach not only addresses the challenges posed by AI in hospitality education but also further embeds the commitment to inclusivity and fairness in assessment methods. The research methodology uses a qualitative case study approach, analysing current assessment practices in hospitality education courses. In-depth interviews with educators, focus group discussions with students, and an analysis of AI tools commonly used in academic settings will inform the development of innovative, AI-resistant assessment strategies. These will be evaluated against the UDL principles to ensure they promote equity and inclusivity while addressing academic integrity concerns. Additionally, the research examines the limitations of traditional pen-and-paper exams, which may undermine inclusivity by restricting students' ability to express understanding through diverse means such as multimedia projects, oral presentations, or digital tools. It is hoped that the findings from the in-depth interviews with educators and focus groups with students, will uncover practical recommendations for educators in hospitality programs, encouraging the adoption of AI-resistant, UDL-aligned assessment strategies. These strategies will in turn, support deeper critical thinking, creativity, and the authentic demonstration of knowledge, preparing students for the dynamic challenges of the hospitality industry while maintaining academic fairness.

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