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## **"Exploring AI in Entrepreneurship Education: A Case Study on Adapting Assessments for Digital Literacy"**

### **I. Situation / Context**

Describe the context of this example in terms of subject discipline, year of the course, numbers of students, etc. (approx.100-150 words)

This example focuses on a final-year entrepreneurship module offered by Cork University Business School (CUBS) at University College Cork. This module is designed to introduce students to the practice of entrepreneurship through experiential techniques, helping them develop entrepreneurial thinking and skills relevant to the digital era. The module covers topics such as business models, business model innovation, industry and market analysis, and strategic growth opportunities. It includes approximately 130 students from diverse business disciplines, including accounting, management, marketing, and international business. The module is assessed entirely through continuous assessment methods, consisting of an individual assignment, a group innovative project, and a "live" group pitch. The assessment focuses on entrepreneurship practice and action, aiming to foster communication, critical thinking, digital literacy, and problem-solving skills, preparing students to navigate the evolving business landscape and adapt to the challenges and opportunities of the digital era.

### **II. Task /Goal**

Describe what you were trying to achieve and why you looked to utilise/embed Gen AI in your teaching/assessment practice (approx. 150 words)

In this entrepreneurship module, our goal was to explore how Generative AI (GenAI), particularly ChatGPT, could be integrated into teaching and assessment practices to enhance student learning and engagement. The primary objective was to adapt one assessment (the use of business models in Small and Medium Enterprise (SME) organisation) to reflect AI's growing influence on education and to advance students' skills relevant to the digital era.

According to Lim et al., (2023), integrating GenAI into the classroom offers an opportunity to elevate assessments to higher levels of critical analysis and rigor. This aligns with contemporary pedagogical shifts towards student-centric learning (Grubaugh et al., 2023). By incorporating AI tools into the assessment, we aimed to promote students' critical engagement with AI-generated content and teach them how to navigate and leverage these technologies effectively (Dalalah and Dalalah, 2023). This also addressed concerns about academic integrity in the face of AI tools' growing capabilities (Extance, 2023), encouraging responsible and ethical use of AI in academic settings.

### **III. Actions / Implementation**

Describe how you adopted/used AI to support teaching/learning/assessment. Please provide as much details as possible e.g. sample assessment(s), relevant learning outcomes etc. (approx. 200 words)

Our approach aimed to enhance student engagement, develop critical thinking skills, and advance digital literacy.

We implemented an adapted assessment that incorporated both primary and secondary research, guiding students through a two-part analysis. Students selected a local SME and conducted interviews with the SME leader, assessing the company's business model, industry, and market environment. This enabled students to develop a Lean Canvas (Maurya, 2012) for the SME and suggest complementary business models for future growth opportunities. The approach aimed to blend AI-generated insights with student



analysis and creativity, fostering digital literacy and critical thinking skills (Mollick and Mollick, 2023; Grubaugh et al., 2023).

To encourage students to critically engage with AI tools, they were required to prompt ChatGPT for information on their chosen SME's business model and to critically analyse the output (providing evidence to support). Given the SME context, ChatGPT did not recognise 90+% of SMEs entered. Some students accepted this and did not engage further with ChatGPT, noting that the tool had no information on their SME, so they could not analyse it. For other students, they understood the importance of 'prompts' when using ChatGPT, i.e., the call to action for ChatGPT to generate text (Mollick & Mollick, 2023; Poola, 2023), as outlined in the reflection that the more information on their SME that they provided the tool, the more complete the answer was. This assessment task demonstrated how students needed to learn how to use the tool – the importance of effective prompts, to navigate the benefits and downsides of AI tools, including the recognition of their limitations i.e. hallucinations and confabulations (Extance, 2023; Gill et al., 2024).

Relevant learning outcomes included:

- Developing critical analysis skills through engagement with ChatGPT outputs and its business model suggestions.
- Building on theoretical knowledge through a deeper engagement with SMEs current use of business models and future business model opportunities.
- Engaging with SME leaders and testing business insights.
- Strengthening digital literacy skills by learning to navigate AI tools in a responsible manner.

#### IV. Outcomes?

What were the main outcomes and what forms of evaluation (if any) did you undertake? (approx. 150 words)

- **Deeper Understanding of Business Models.** Students developed a more comprehensive understanding of business models by engaging with both primary and secondary research (Kolb, 1984). The primary research through the SME leader interview brought the SME business model(s) to life for the students (Lave and Wenger, 1991). Through the critical analysis of the interview combined with critical evaluations of ChatGPT outputs, students now had a multifaceted view of business models and their evolution (Mollick and Mollick, 2023, Bloom, 1956).
- **Critical Engagement with AI.** Students learned to critically engage with AI-generated content, recognising the importance of effective prompts (i.e. a set of instructions) (Vygotsky, 1978) and being wary of the limitations of ChatGPT's output (i.e., hallucinations and confabulations) and engage in fact-checking (i.e. through primary data). This engagement fostered their digital literacy and critical thinking skills (Paul and Elder, 2019).
- **Digital Literacy Development.** Students gained a better understanding of how to navigate and leverage digital tools (i.e., ChatGPT), fostering skills relevant to the digital era, such as evaluating AI-generated content and its role in strategic decision-making (Lim et al., 2023). Integrating GenAI in such project-based assessments promotes digital literacy and encourages reflective practices amongst students (Schon, 2017).

Evaluation of these outcomes was conducted through continuous assessment, including analysis of student performance on assignments, interviews, and critical reflections, revealing the varying degrees of student engagement and the need for further guidance on navigating GenAI tools.

#### V. Reflections?

What did you learn? Is there anything you would do differently? Was there anything which surprised you or which you didn't expect? How could you improve for next time? (approx. 150 words)

The integration of ChatGPT into this entrepreneurship module provided valuable insights. We learned that scaffolding the assignment (i.e., breaking down the assignment into smaller components) enabled



students to build on their learning (Vygotsky, 1978). Plus, offering “how-to” guidance in class on AI prompts was crucial for fostering digital literacy and critical thinking skills (Mollick and Mollick, 2023), thus providing students with a sense of confidence in their learning path.

One unexpected outcome was the varying degrees of student engagement with ChatGPT’s output, revealing the need for further guidance on navigating GenAI tools. This highlighted the importance of emphasising critical thinking and a healthy ‘scepticism’ when working with AI-generated content, given its potential for hallucinations and confabulations (Extance, 2023).

For future iterations, a more comprehensive approach to guiding students in GenAI interactions is essential. Workshops or specialised modules focusing on digital literacy and critical engagement could help address these challenges.

Additionally, incorporating more real-world tasks and hybrid assessments can further support authentic learning experiences, aligning with contemporary pedagogical shifts (Grubaugh et al., 2023; Kolb, 1984). This would provide students with balanced assessments that blend GenAI tools with traditional methods, fostering an equitable and relevant learning environment.

### Further Reading

Bloom, B. S. (1956). *Taxonomy of educational objectives, handbook I: The cognitive domain*. David McKay Co Inc.

Dalalah, D., & Dalalah, O. M. (2023). [The false positives and false negatives of generative AI detection tools in education and academic research: The case of ChatGPT](#). *The International Journal of Management Education*, 21 (2).

Extance, A. (2023). [ChatGPT has entered the classroom: How LLMs could transform education](#). *Nature*, 623 (7987), 474–477.

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Gill, S. S., Shahid, M., Das, T. K., & Kumar, A. (2024). [Transformative effects of ChatGPT on modern education: Emerging era of AI chatbots](#). *Internet of Things and Cyber-Physical Systems*, 4, 19–23.

Grubaugh, S., Levitt, G., & Deever, D. (2023). [Harnessing AI to power constructivist learning: An evolution in educational methodologies](#). *EIKI Journal of Effective Teaching Methods*, 1 (3).

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

Lim, W. M., Long, A. T., & Lee, H. Y. (2023). Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. *The International Journal of Management Education*, 21 (2).

Maurya, A. (2012). *Running lean: Iterate from plan A to a plan that works*. O’Reilly Media.

Mollick, E. R., & Mollick, L. (2023). Why all our classes suddenly became AI classes. *Strategies for Teaching and Learning in a ChatGPT World*. Harvard Business Publishing.



Paul, R., & Elder, L. (2019). *The miniature guide to critical thinking concepts and tools*. Rowman & Littlefield.

Schön, D. A. (2017). *The reflective practitioner: How professionals think in action* (2nd ed.). Routledge.

Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.

#### Digital Resources

Ash Maurya's (2012) Lean Canvas framework [Lean Canvas – 1-Page Business Model \(leanfoundry.com\)](https://leanfoundry.com)

#### Author Biographies

Dr Gillian Barrett is a lecturer in the Department of Management and Marketing, Cork University Business School (CUBS), University College Cork (UCC). Gillian's research interests lie at the intersection of innovation management, open innovation, and entrepreneurship in the context of global high-tech small and medium sized enterprises (SMEs). In 2019, Gillian was awarded the UCC President's Award for her excellence in teaching. Gillian supports several entrepreneurship education initiatives throughout the university. She is also Programme Director for the Postgraduate Certificate in Project Management and the Certificate / Diploma in Management Practice. Prior to academia, Gillian worked for fifteen years in industry in a variety of senior management and leadership roles primarily in innovation and technology management.

Dr. Marie Ryan is the Program Director of the BComm International program and an economics lecturer at Cork University Business School, UCC. In 2023, Marie received the UCC individual President's Award for Excellence in Teaching and Learning. With 15 years of experience in lecturing economics, including five years of international experience, she has developed a pedagogical philosophy shaping her students into critical thinkers creating an environment that values inclusivity, integrity, and lifelong learning. Her leadership in teaching and learning is evident through her work in UDL, inclusive assessments, and academic integrity. She has been involved in three Digital Badge projects and video campaigns and has earned 3 teaching-focused awards and 11 Digital Badges. She is also a '23/'24 Women in Leadership Auroran. As an applied economist, Marie's research spans across health, tourism, and education.

Dr Ciara Fitzgerald is a senior lecturer in Business Information Systems, at the Cork University Business School in UCC. Her research and teaching interests lie at the intersection of Technology Innovation, IS Entrepreneurship and Digital Strategy. Her research investigates (1) strategies used by universities and firms to manage intellectual property and the commercialisation process, (2) strategies to engage citizens and policymakers in responsible innovation and technology assessment, and (3) exploratory and applied research of innovative health information systems. Ciara has published widely in leading journals and



influential volumes such as Research Policy, Journal of Technology Transfer, Information Systems Frontiers, and Communications of the Association for Information Systems. Ciara's industry experience includes consulting experience at Accenture. During her time there she gained valuable experience working on a multitude of projects for clients in the financial services sector. She is co programme director of the BSc Business Information Systems.