

Louvain School of Management

Teaching models in innovation education based on programs mapping

Appendices

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Declaration Regarding AI Tool Usage in Master's Thesis

We recognize that AI tools might be valuable aids during the master's thesis work, but they are not infallible. Remember that transparency fosters trust, and acknowledging AI's role enhances the credibility of your work.

Therefore, when deciding to use such a tool, you need to adhere to the following principles of responsible use of AI.

1. Critical Evaluation :

- We critically assessed the AI-generated output, ensuring its alignment with our research objectives.
- Any modifications or corrections were made based on our expertise and domain knowledge.

2. Transparency :

- We acknowledge the use of Chat GPT transparently, emphasizing that it contributed to our work but did not replace human judgment.
- Our commitment to transparency ensures the integrity of this thesis.

3. Ethical Considerations :

- We actively monitored for biases or unintended consequences introduced by the AI tool.
- Our ethical responsibility guided our decisions throughout the research process.

Declaration (This declaration is mandatory and must appear on the first page (after the title page) of the document.)

During the preparation of this master's thesis, the author utilized Chat GPT for the following purpose:

1. As English is not my mother tongue, I mainly used Chat GPT to improve my sentence structures. In the appendices, I also used Chat GPT to analyze the programs. For each program, I gave it the information needed to answer each of the five questions and asked it to rewrite it in text form. I always double-checked the text output and modified what needed to be modified.

2. After using Chat GPT, the author diligently reviewed and edited the content produced by the tool. We take full responsibility for the final content presented in this thesis.

By signing this declaration, we affirm that the content of this master's thesis reflects our original work, augmented by the responsible use of AI.

Date: 26 May 2024

Lyne KELLER



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Appendices

A. Program analysis for students

1. Louvain School of Management: Major in Innovation Management

- Why?

The main objective of the LLN Master in Business Engineering with a specialization in Innovation Management is to equip students with the skills and knowledge to effectively manage organizations and regions in environments characterized by constant disruption and innovation. The program aims to prepare students for the challenges of innovation-intensive industries where new partners and knowledge are essential assets.

- For whom?

This program is aimed at students who have completed a degree in business engineering and who wish to deepen their knowledge and skills in the field of innovation management. This includes people interested in management positions in innovative companies, corporate entrepreneurship, new business development, corporate entrepreneurship roles and innovation policy responsibilities.

- For which results?

Assessment methods for this program include written and oral examinations, group reports and presentations. These assessments are designed to measure students' understanding and application of the concepts taught in the program. Desired outcomes include the ability of students to demonstrate analytical skills, presentation skills, problem solving skills, decision making skills and a comprehensive understanding of innovation management theories and practices.

- What?

The content of the program revolves around the management and economics of innovation. The curriculum includes courses such as Innovation Management I and II, Economics of Innovation, Knowledge Management, Innovation Policy and Ecosystems, as well as an elective on International Entrepreneurship. These courses cover a range of topics essential to understanding and managing innovation in contemporary business environments.

- How?

The program uses a variety of teaching methods to facilitate learning, including lectures, pre-reading assignments, case studies, testimonials, and group work. These methods are chosen to provide students with a thorough understanding of innovation management concepts and to encourage active participation and engagement. In addition, students are exposed to real-world scenarios through group projects and case studies, helping them to develop practical skills and a better understanding of the application of innovation management theories. Duration: around 4 months.

- Reference:

UCLouvain. (s. d.). *INNOVATION MANAGEMENT*. <https://cdn.uclouvain.be/groups/cms-editors-lsm/accueil-etudiants/nouvel-etudiant/fiches-majeures-2023/Fiches%20Majeures%20-%20Innovation%20Mngt.pdf>

2. Solvay: Advanced Master in Innovation & Strategic Management

- Why?

The Advanced Master in Innovation & Strategic Management program aims to equip students with the skills and knowledge needed to identify innovation opportunities and understand the dominant strategies in various business sectors. The program focuses on developing an in-depth understanding of management, entrepreneurship and emerging technologies to prepare students for future changes in the business landscape.

- For whom?

The program is aimed at people looking to advance their careers in management, entrepreneurship or innovation. This includes budding entrepreneurs, consultants, business leaders, venture capitalists, business analysts and those looking to play a leading role in change management or innovation projects.

- For which results?

At the end of the program, students are expected to demonstrate their ability to make informed choices about strategy and innovation, to solve complex business problems and radical

innovation issues, to lead teams in change management or innovation projects and to integrate technological advances into existing business models.

- What?

The curriculum comprises five core areas: General Management, Entrepreneurship, Reasoning and Analytical Skills, Innovation and Technology, and Personal Career Development. Courses cover topics such as marketing, finance, project management, leadership, design thinking, data-driven decision-making, innovation management, sustainability, and personal branding.

- How?

The teaching methods used in the program include real-life case studies, workshops, seminars, simulations, presentations, group work, field projects, company visits and on-the-job learning. The emphasis is on practical, participant-centred learning, facilitated by an international faculty and a multicultural environment. In addition, students can participate in study trips to European innovation centres to meet industry leaders, visit innovative companies and gain insight into the dynamics of the ecosystem. Duration: 1 year.

- Reference:

Advanced Master in Innovation and Strategic Management | Solvay Brussels School.
(s. d.). <https://exed.solvay.edu/en/advanced-masters/advanced-master-in-innovation-and-strategic-management>

3. Vlerick Business School: Master in innovation & Entrepreneurship

- Why?

The MSc Innovation and Entrepreneurship program is designed to equip students with the skills and knowledge to challenge conventional thinking and thrive in dynamic business environments. The program aims to encourage innovative thinking and entrepreneurial skills to enable students to lead innovative projects within existing businesses or set up their own.

- For whom?

This program is ideal for recent university graduates with little or no work experience who are passionate about innovation and believe in the transformative power of business. It is aimed at

people who aspire to become innovative leaders or entrepreneurs and who are ready to make a positive impact on society. The program attracts students from diverse backgrounds who share an enthusiasm for innovation and ambition.

- For which results?

By the end of the program, students are expected to have acquired an in-depth knowledge of innovative thinking, built a network of business innovators and potential investors, and developed the skills needed for business development, project management, consultancy and entrepreneurship in a variety of sectors.

- What?

It provides an understanding of the interaction of technological revolutions with financial capital. The curriculum also focuses on the essentials of entrepreneurship, the systematic exploration of business opportunities, the importance of the business model, assessing business viability and pitching. In addition, students acquire knowledge of financial accounting, risk analysis, profitability assessment and management accounting for decision-making. They develop skills in generating new ideas, applying design thinking for user-centred solutions, creating innovative business environments and analyzing innovation processes and ecosystems. Strategic management concepts help companies to develop successfully, while marketing frameworks improve market-oriented approaches. The accelerator component aims to guide start-ups through the guidance of experienced professionals, focusing on progress and adaptability in the pursuit of new business ideas based on validated hypotheses and stakeholder feedback.

- How?

The Masters in Innovation and Entrepreneurship program offers a dynamic curriculum that includes action learning, interactive lectures, business simulations and real-life case studies. Students take part in activities such as the Silicon Valley Disruption Tour, start-up accelerator projects and actual consultancy assignments with companies or start-ups. In addition, personal development sessions focus on leadership, management skills, diversity and career coaching. The program emphasizes practical learning, working in small teams and compulsory attendance to encourage motivation and commitment. It encourages students to think critically, apply frameworks and adapt to the dynamic business environment. Ongoing feedback, coaching,

skills development and networking opportunities enhance students' personal and professional development, promoting a pragmatic, multi-disciplinary approach to learning aligned with the demands of entrepreneurship and innovation. Duration: 1 year.

- Reference:

Vlerick Masters in Innovation and Entrepreneurship. (s. d.). Vlerick Business School. <https://www.vlerick.com/en/programmes/masters-programmes/masters-in-innovation-and-entrepreneurship>

4. Hult international Business School: Master in Entrepreneurship & Innovation

- Why?

The Entrepreneurship and Innovation MSc program aims to equip students with the skills and knowledge essential to create value in a variety of business contexts, from start-ups to established businesses. The program emphasizes a metrics-based approach to designing and delivering new products and services, preparing students to meet real-world business challenges.

- For whom?

The program is aimed at people who aspire to become entrepreneurs or innovators, as well as those looking to enhance their entrepreneurial and innovation skills within existing organizations. It is aimed at students with a keen interest in future thinking, design, business model development, go-to-market planning, investment presentation, leadership and digital marketing.

- For which results?

Assessments on this program focus on practical application and skills development. Students are assessed on their ability to apply the techniques of futures thinking, business model design and development to real-world scenarios. They are also assessed on their skills in leadership, digital marketing, financial literacy and social entrepreneurship. Business challenges and executive pitch presentations are used as practical assessments to measure students' readiness to launch businesses.

- What?

The program covers a series of core modules, including Ideate, Plan, and Launch. These modules cover essential topics such as teamwork and collaboration, future thinking, design thinking for customer discovery, financial literacy for innovators, social enterprise, business model strategy, influencing others, and financing innovation.

- How?

The program's teaching methods emphasize hands-on learning through immersion experiences, teamwork, communication, collaboration and practical business challenges. The curriculum incorporates real-world business challenges, simulations, innovation hackathons, executive pitch presentations and the design of new business models. Students benefit from a combination of lectures, workshops, case studies and interactive exercises to develop their entrepreneurial and innovation skills. Duration: 1 year.

- Reference:

Master's in Entrepreneurship and Innovation - Masters | Hult International Business School. (s. d.). Hult International Business School. <https://www.hult.edu/masters/entrepreneurship-innovation/>

5. University of California, Irvine (UCI): Accelerated Certificate Program Innovation Management and Entrepreneurship

- Why?

The master's program in Innovation and Design Thinking aims to equip students with the skills and knowledge they need to effectively implement innovative ideas in businesses large and small. The program focuses on using proven innovation and design thinking methods to generate ideas, better understand customers, manage creative teams and drive growth.

- For whom?

This program is aimed at people from a wide range of backgrounds, including international students, professionals, entrepreneurs and business leaders. It is aimed at those seeking to bring innovative solutions to market, develop businesses through applied innovation and new technologies, create new businesses or shape businesses with a social impact.

- For which results?

The program assesses students' abilities to use creative thinking methodologies, examine business models, develop marketing plans, create business plans and demonstrate functional business skills. In addition, an internship with a US company allows students to gain practical experience and improve their competitiveness in the global job market.

- What?

The curriculum covers topics such as leadership, design thinking, innovation, business model design, the entrepreneurship ecosystem, economics, marketing, business development and managing innovative teams. These courses provide the practical information and skills needed to implement innovative ideas and grow businesses.

- How?

The program's teaching methods include seminars, practical application of design thinking and innovation methodologies, case studies, exploration of iconic business models, discussions of entrepreneurship ecosystems, practical marketing and business development strategies, and preparation for managing innovative teams. In addition, an optional internship enables students to apply academic theory in real business contexts and improve their practical skills. Duration of the program: 3 months.

- Reference:

ACP Innovation Management & Entrepreneurship | UCI DCE. (s. d.).
Uci. <https://ce.uci.edu/programs/international/acp/innovation-management-entrepreneurship>

6. Challenge EDHEC open innovation

- Why?

The EDHEC Open Innovation Challenge aims to provide students with practical experience in applying the principles of open innovation to solve real-world problems presented by corporate partners. It offers an opportunity for students to explore and test ideas, collaborate with internal and external experts, and develop innovative solutions to address the challenges faced by participating organizations.

- For whom?

The program is designed for Master 1 Business Management students, totaling around 670 participants, who are organized into working groups. These students work closely with corporate partners such as Capgemini, Carrefour, Deloitte, Galeries Lafayette, La Redoute, and Renault to find solutions to innovation-related problems.

- For which results?

Prizes are awarded based on the quality and content of the pitches, encouraging students to strive for innovative and sustainable solutions.

- What?

In this program, students form working groups to tackle innovation-related challenges presented by partner companies. They interact frequently with experts, including professors and business professionals, to explore different ways of solving problems. Students apply methodologies to co-create prototypes with companies, focusing on tangible solutions and addressing sustainable innovation issues.

- How?

Students take part in practical exercises in which they analyze problems, conduct research and develop innovative solutions in collaboration with partner companies. They receive expert advice and use methodologies such as design thinking and lean start-up to stimulate creativity and incorporate customer feedback. The competition culminates in presentations in which students showcase their solutions to business leaders and external specialists, demonstrating their ability to effectively apply the principles of open innovation. Duration: 2 days.

- Reference:

Open innovation. (s. d.-b). EDHEC BUSINESS SCHOOL. <https://www.edhec.edu/fr/lp/relations-entreprises/open-innovation>

7. Circle U European Universities Alliance: The hackathon series; learning innovation by doing & Ecole Polytechnique de Louvain : Classes d'innovation

- Why?

The purpose of the program is to provide students with a unique educational experience focused on innovation and addressing real-world challenges. By participating in multidisciplinary and multicultural teams, students can tackle concrete innovation challenges, observe and evaluate the innovation process, and co-design new approaches to learning innovation.

- For whom?

The course is open to second-year master's students at EPL and other faculties, including architecture and management, as well as international students. The goal is to form multidisciplinary teams comprising students from diverse cultural backgrounds to address innovation challenges proposed by professors and industrial partners.

- For which results?

Throughout the program, students will engage in face-to-face events such as a hackathon, an international test lab, and a demo day. They will work collaboratively to come up with solutions/projects that address real-life issues. Students will be assessed based on individual summaries of their learning at each project stage (50% of the final grade) and group presentations of their final project (50% of the final grade).

- What?

The program introduces students to various innovation methodologies, including Design Thinking, Lean Startup and Effectuation. Students will learn to clarify requests or problems, explore creative solutions, prototype solutions and communicate their ideas effectively through pitches. Project management in a multicultural context is also emphasized.

- How?

The course includes a two-day kick-off session to introduce students to innovative design concepts, followed by a 10-week project with activities. The program fosters a "Learning by doing" approach, encouraging students to engage in testing, rapid prototyping, and communication throughout the course.

- Reference:

Classes d'innovation (LFSA 2212). (s. d.). UCLouvain. <https://uclouvain.be/fr/facultes/epl/classes-d-innovation-fsa-2212.html>

The hackathon series : learning innovation by doing. (s. d.). <https://www.circle-u.eu/open-campus/students/hackathon-series/>

8. University of the West of Scotland: Kick Start Student Innovation Programme

- Why?

The aim of the Kick Start Student Innovation program is to give students the knowledge and skills they need to recognize the power of innovation and entrepreneurship to drive change in their chosen sectors. The program aims to go beyond traditional classroom learning by offering students the opportunity to unleash their creativity, develop innovative ideas and acquire a set of reusable skills that will be useful in their future endeavors.

- For whom?

The program is aimed at all students who are interested in innovation and entrepreneurship and who want to develop their creative and unique ideas. It welcomes students from a wide range of backgrounds who aspire to develop their ideas, boost their creative confidence and innovate their ambitions.

- For which results?

The Kick Start program's evaluations focus on promoting an entrepreneurial spirit among students. Outcomes include the development of new knowledge, skills and experience through workshops, competitions and acceleration programs. Participants can refine their business ideas, gain valuable feedback and eventually turn them into viable business plans with the support of mentors and industry experts.

- What?

The program covers a range of topics related to innovation and entrepreneurship. Content includes idea generation, creativity, innovation, business modelling and presentation skills. The program encourages students to explore their business ideas and helps them to develop and refine them.

- How?

The program uses a hands-on approach through workshops, competitions and accelerator program. Workshops aim to provide participants with new knowledge, skills and experience, while competitions such as the Business Idea Competition and the 3-Minute Pitching Competition offer students platforms to present and refine their ideas. The accelerator program offers participants support from mentors and industry experts to develop and refine their ideas into viable business plans.

- Reference:

Kick Start Programme | *StudentInnovationHub*. (s. d.).

StudentInnovationHub. <https://www.i3uws.co.uk/kick-start-programme>

9. eit Digital: Innovation & Entrepreneurship Program for US students

- Why?

The Innovation & Entrepreneurship Program for US Students aims to immerse participants in the realm of digital innovation and entrepreneurship. The program seeks to provide a transformative experience by offering dynamic workshops, collaborative projects, and hands-on experiences that address real-world challenges faced by global companies. Its primary goal is to equip participants with the skills and knowledge needed to thrive in the digital age and contribute to economic growth through innovative solutions.

- For whom?

The program targets young professionals, Bachelor, or Master students from the USA who are eager to explore emerging digital technologies and learn how to leverage them for business innovation and entrepreneurship. It welcomes individuals with diverse backgrounds, regardless of their technical expertise or coding knowledge, who aspire to become innovators, entrepreneurs, designers, developers, or founders in the field of digital transformation.

- For which results?

The evaluations and assessments of the program focus on several outcomes for example the participants gain practical skills and knowledge in digital technologies and entrepreneurship through collaborative projects and expert lectures. Participants develop innovative solutions to concrete challenges presented by partnering tech companies, demonstrating problem-solving

abilities and practical applicability. Participants receive 4 ECTS credits, recognizing the academic rigor and practical applicability of the experience.

- What?

The program content revolves around digital innovation and entrepreneurship, covering topics such as emerging digital technologies, business concept design, problem-solving skills, and cross-cultural dialogue.

- How?

The program employs a dynamic and immersive approach that combines collaborative projects, expert lectures, workshops and hands-on experiences. Participants work in teams to tackle real-world challenges, fostering collaboration and innovation. Renowned experts provide insights into business concept design and entrepreneurship, while participants can present their innovative concepts directly to partnering tech companies. Cross-cultural dialogue is encouraged, providing participants with a global perspective on entrepreneurship styles and options.

- Reference:

Innovation & Entrepreneurship Program for US students. (s. d.). EIT Digital. <https://summerschool.eitdigital.eu/innovation-entrepreneurship-program-for-us-students>

B. Program analysis for professionals

1. UCL: Gestion de l'innovation programme exécutif (LOUVINNO)

- Why ?

The LOUVINNO program is designed to enable participants to unleash the potential for innovation within their companies, in alignment with their corporate strategies. It aims to mobilize and sensitize teams to the challenges of innovation, which go beyond the simple generation of ideas, and to improve the performance and time-to-market of innovation projects. This program offers a unique opportunity to acquire key skills and apply innovative methods directly in the participants' professional context.

- For whom?

LOUVINNO is aimed at business managers and professionals who want to develop their innovation management skills and become drivers of change and innovation within their organizations. These managers must have a university degree and at least 5 years' experience.

- For which results?

Participants can expect to develop a shared vision of innovation aligned with their company's strategy, identify and seize innovation opportunities within their ecosystem, and improve the management and performance of their innovation projects. It concludes with a business project enabling participants to apply the methods and tools they have learned within their own companies. The integration workshop concludes the program in October, to accelerate the implementation of the objectives formulated at the end of the course. An exchange and follow-up session concludes the program to accelerate the implementation of what has been learnt.

- What?

LOUVINNO is structured around six main modules, each covering essential aspects of innovation management: from developing a shared vision to mobilizing for change, via managing the innovation ecosystem, project evaluation and the innovator's responsibility. These modules are supplemented by testimonials from companies, case studies and an integration workshop to consolidate what has been learned. The program concludes with the presentation of a business project, to give practical expression to what has been learnt.

- How?

Spread over several months, the program alternates theoretical sessions, case studies, testimonials and work on a company project. This multidisciplinary and practical approach is designed to engage participants in an active learning process, enabling them to integrate the tools and methods they have learned into their professional practice. The final integration workshop aims to accelerate the implementation of the objectives formulated during the course. Duration: 13 days.

- Reference:

Devenez un champion de l'innovation. (s. d.). UCLouvain. <https://uclouvain.be/fr/facultes/lsm/louvain-innovation/programme-executif-gestion-de-l-innovation.html>

2. Imperial College Business School: Innovation: A Design Thinking Approach

- Why?

The Imperial Innovation: A Design Thinking Approach program aims to transform participants into champions of innovation within their organizations. Its main objectives are to instill an innovative mindset, provide practical tools for transforming ideas into business propositions, nurture and develop innovative thinking, manage the complexities of change, enhance creative thinking for product and service design, and foster strategic design for innovation within the enterprise.

- For whom?

This program is aimed at middle and senior managers wishing to strengthen their innovation capabilities and encourage intrapreneurship¹ within their teams. It welcomes participants from a wide range of sectors and nationalities, with an emphasis on those wishing to develop innovations in products, services and processes, without the need for technical training.

¹ The term intrapreneurship refers to a system that allows an employee to act like an entrepreneur within a company or other organization.

(Kenton, W. (2022, 7 July). *Intrapreneurship : Definition, Duties, and Responsibilities.*

Investopedia. <https://www.investopedia.com/terms/i/intrapreneurship.asp#:~:text=The%20term%20intrapreneurship%20refers%20to,an%20innovative%20product%20or%20service.>)

- For which results?

Participants are expected to immerse in an innovation experience and learn to identify new business opportunities. Specifically, they will learn to craft stories around these opportunities, build suitable business models for innovation, navigate organizational contexts, and negotiate for internal resources.

- What?

The program includes a comprehensive introduction to innovation, addressing the rapid pace of change and its implications for competitive advantage and innovation strategy. It presents Design Thinking as a human-centered approach to solving complex problems and includes modules on the different phases of Design Thinking: Discover, Define, Develop and Deliver. In addition, it discusses responses to uncertainty, disruptive thinking about business innovation, and leading and collaborating with people for innovation.

- How?

The program uses a hands-on learning approach, emphasizing practical experiences and workshops to cultivate an innovative mindset. It uses the Design Thinking framework, guiding participants through its four key phases with an emphasis on real-world application. The course also facilitates networking opportunities, encourages the use of critical and lateral thinking for idea generation, and involves fieldwork to concretely apply the phases of Design Thinking. The methodology is designed to be immersive, enabling participants to immediately apply the tools and concepts learned to real-life challenges. Duration: 4 days (on-campus).

- Reference:

Innovation : a design thinking approach. (2024, 11 july). Imperial College Business School. <https://www.imperial.ac.uk/business-school/executive-education/marketing-innovation-strategy/innovation-a-design-thinking-approach-programme/campus/>

3. Cegos: formations innovation et créativité

- Why ?

Cegos's innovation and creativity training course aims to equip participants with the skills needed to develop a creative mindset in all areas, with a particular focus on the design of innovative products and services. The aim is to strengthen the capacity for innovation within companies. The course also focuses on the importance of creativity as a key to business success and performance.

- For whom?

This course is designed for a wide range of professionals involved in innovation and the development of new offerings, whether tangible products or services. It is aimed at designers, marketing managers, project managers, team managers, and any employee playing an innovative role within a company. The program is particularly relevant for R&D managers, marketing product managers, sales managers and sales directors.

- For which results?

Course participants are assessed on their ability to implement the design thinking approach to product and service innovation, and to apply design thinking tools at every stage. The assessment is carried out via an online questionnaire, including role-playing exercises, to measure the acquisition of the skills required for effective innovation and creative management of product and service design.

- What?

The program covers the 6-step design thinking process, emphasizing customer empathy, defining needs, imagining solutions, prototyping, and testing solutions. It also teaches stress and time management techniques, integrating the use of different tools for each stage of design thinking, including developing customer empathy, defining needs, stimulating creativity, and prototyping/testing innovative solutions.

- How?

The course uses a practical, interactive approach, including self-diagnosis, group work and real-life implementation sessions. It combines methods such as case studies for team practice, customized activities adapted to participants' needs, and an e-learning module to reinforce

learning. The program is designed around action, operational implementation and idea testing, drawing on the three pillars of design thinking: empathy, creativity and prototyping, to maximize the value delivered to users. Duration: 2 days.

- Reference:

Formation Design Thinking - CEGOS. (s. d.). <https://www.cegos.fr/formations/innovation-creativite-2/innover-avec-le-design-thinking>

4. Trinity College Dublin: Design Thinking for Strategic Innovation

- Why?

The program aims to equip middle managers with the tools and methodologies needed to foster a culture of originality, ingenuity and creativity within their organizations. By focusing on human-centered design, it seeks to improve problem-solving and innovation processes, ensuring that the products, services and policies developed are user-centered, respond effectively to tangible problems and are rooted in human empathy. The goal is to increase the likelihood of creating viable solutions that have a significant impact, thus guaranteeing a competitive edge in a constantly evolving business environment.

- For whom?

This program is specially designed for middle and senior managers who wish to play the role of innovation ambassadors within their organization. It is aimed at people with at least three years' experience in human resources management, particularly those wishing to instill a culture of creativity and innovation within their teams and throughout their organization. No prior knowledge or training in creative problem solving or design thinking is required, making the program accessible to a wide range of professionals keen to improve their strategic and change management practices through innovation.

- For which results?

Participants are expected to leave the program with a clear plan for implementing and integrating human-centered design thinking into their organization's processes, strategies and culture. Assessments and reflections throughout the course encourage participants to apply

what they have learned to real-world challenges, fostering practical skills alongside theoretical knowledge.

- What?

The program covers a range of topics essential to creative problem solving and design thinking, including: the principles of creative thinking and the creative problem-solving model, techniques for fostering convergent and divergent thinking, fundamental principles of design thinking, focusing on understanding customer needs and developing empathy, methods for rapid idea generation and knowledge acquisition, strategies for applying design thinking at organizational level for effective strategy and change management. These topics are explored from the perspective of human-centered innovation, with the aim of preparing managers to meet modern business challenges creatively and effectively.

- How?

The program uses a mix of theoretical instruction and practical learning experiences. Each 4-hour session includes a one-hour "Greenhouse" segment, during which participants work collaboratively to apply their learning to specific work-related challenges in a supportive, non-judgmental environment. This structure is designed to facilitate the application of skills acquired during the program directly in the workplace, enhancing the practical relevance and impact of the learning experience. Reflective questions and facilitator-led collaborative sessions encourage participants to experiment with new ideas and receive feedback, ensuring that the learning process is both engaging and directly applicable to their professional context. Duration: five days (every Thursday during five weeks).

- Reference:

Trinity College Dublin. (s. d.). *Design Thinking for Strategic Innovation - Tangent, Trinity's Ideas Workspace* | Trinity College Dublin. <https://www.tcd.ie/tangent/programmes/shortcourses/design-thinking-for-strategic-innovation/>

5. Stanford University: Learn & Drive Strategic Innovation with Design Thinking Course

- Why?

The main objective of the "Learn & Drive Strategic Innovation with Design Thinking Course" is to equip professionals with the knowledge and tools they need to solve complex business problems using a user-centered approach. By integrating design thinking and hypothesis-driven innovation processes, the program aims to develop viable solutions that address unmet user needs. As a result, participants can enhance their ability to innovate, create impactful new organizations and achieve operational excellence.

- For whom?

This program is aimed at a variety of professionals, including intrapreneurs, product managers, designers, marketing professionals, Internet business leaders, budding entrepreneurs, design thinking consultants and business professionals. It is suitable for people who are intrigued by solving complex business problems centered on unmet user needs, and who are keen to develop a user-centered mindset in the creation of products and services.

- For which results?

The program includes 10 assignments and a final reflection assignment, along with weekly mentorship and feedback on assignments to ensure effective application of design thinking principles. The course leads to a certificate of completion issued by the Stanford Graduate School of Business Executive Education.

- What?

The curriculum covers the entire framework of the design thinking process, including human-centered design, needs research, techniques for interviewing and developing empathy, making sense of observations and ideas, defining a point of view, ideation, developing and testing prototypes and defining and testing business models and business cases. Participants engage in activities such as observation, interviewing, brainstorming, prototyping and testing throughout the course.

- How?

The program adopts a structured approach with live interactive sessions conducted by tenured faculty from Stanford Graduate School of Business Executive Education. Participants engage in peer-to-peer learning, discussions, community problem-solving, and network building. The curriculum is designed based on the 'Innovation Process' to foster a creative problem-solving mindset. Weekly feedback and mentorship on real-world projects ensure effective application of design thinking principles. Duration: 14weeks (7-8 hours weekly commitment).

- Reference:

Great Learning. (s. d.). *Best Stanford Design Thinking Course online [2024]* - Great learning. <https://www.mygreatlearning.com/design-thinking-course>

6. University of Cambridge: Managing Innovation Strategically

- Why?

The program aims to equip senior executives and strategy leaders with the skills and frameworks needed to drive innovation within their organizations. It addresses the challenges of innovation adoption, the importance of customer-centricity, and strategies for capturing and leveraging the value of disruptive innovation. Ultimately, the aim is to create more agile and efficient businesses, able to thrive in dynamic environments.

- For whom?

This program targets:

- Leaders aiming to cultivate greater creativity and agility within their organizations.
- Strategy managers seeking to implement new business models.
- R&D executives or marketing managers with a focus on innovation.
- Executives interested in learning about new product or service development.
- Marketing managers involved in innovation initiatives.

- For which results?

Participants will develop the ability to manage innovation effectively and understand the factors necessary to support creativity and innovation in teams and workplaces. They collaborate with

leading members of the University of Cambridge to blend rigorous academic research with real-world expertise. They will learn frameworks and processes to organize and implement innovation within their organizations. They receive a certificate of completion from Cambridge Judge Business School Executive Education.

- What?

The program content covers four modules:

1. Why innovation is hard to achieve, and the role of the customer.
2. Disruptive innovation and capturing value from innovation.
3. How to think about innovation and the innovation process.
4. Fostering a creative organization and operationalizing innovative business models.

- How?

Participants can choose between two delivery styles:

1. Face-to-face sessions in Cambridge, involving debates, guest speakers, group exercises, role-play and discussions.
2. Live Online sessions providing an immersive virtual environment with debates, guest speakers, real-life case studies, and group activities.

The participant delves deep into disruptive strategies and applies frameworks to assess their organization's potential for change. The program emphasizes small group learning, interaction with faculty, and peer engagement to ensure a rich learning experience. Duration: 2days.

- Reference:

Cambridge Judge Business School. (2023, 20 septembre). *Managing Innovation Strategically - Innovation & Technology - Cambridge Judge Business School*. <https://www.jbs.cam.ac.uk/executive-education/innovation/managing-innovation-strategically/>

7. Harvard Division of Continuing Education: Innovation and Strategy

- Why?

The program aims to equip organizations with the strategies and frameworks needed to drive innovation effectively. By integrating innovation into their strategic approach, companies can adapt to the rapidly changing business landscape, capitalize on emerging opportunities and maintain a competitive edge. The emphasis is on practical, actionable content that can be implemented immediately to deliver tangible results.

- For whom?

This program targets business leaders committed to integrating strategic innovation into their organizations, professionals from established companies seeking to develop new revenue sources and professionals from scale-ups aiming to systematize non-core growth.

- For which results?

To assess participants' learning results, the program includes individual presentations: Innovating inside or outside the box. During these presentations, participants demonstrate their understanding and application of concepts learned throughout the program. This assessment enables participants to demonstrate their ability to innovate both within the existing organizational framework (inside the box) and by thinking creatively beyond conventional boundaries (outside the box).

- What?

The program covers topics such as: ensuring that innovation remains a strategic priority, fostering a culture of innovation within the company, identifying innovation opportunities and assessing their potential, developing a toolbox of innovation frameworks such as design thinking and tasks, putting in place the right structure for innovation, managing and measuring a strategic innovation portfolio, and addressing the organizational challenges inherent in innovation programs.

- How?

The program uses interactive group exercises, real-world examples and case discussions to facilitate learning. It incorporates practical frameworks and methodologies such as design thinking and lean startup frameworks. Participants engage in one-on-one presentations and

discussions to apply their learning to real-world scenarios. The program emphasizes a hands-on approach, enabling participants to immediately deploy the knowledge and skills acquired in their organizations. Duration: 4 days.

- Reference:

Innovation and Strategy - Professional & ; Executive Development | Harvard DCE. (2024, 18 mars). Professional & Executive Development | Harvard DCE. <https://professional.dce.harvard.edu/programs/innovation-and-strategy/>

8. Design Sprint Academy: Design Sprint Hackathon

- Why?

The Design Sprint Hackathon aims to address strategic business challenges through rapid ideation and prototyping, aligned with core business objectives. It emphasizes the importance of structured creativity, user-centeredness and tangible results in driving innovation within organizations.

- For whom?

The target audience includes diverse teams from organizations seeking to innovate strategically. They may include senior managers, subject matter experts and change agents committed to fostering innovation in line with the company's strategic objectives.

- For which results?

Evaluation of the program takes place mainly at the demonstration day following the hackathon when prototypes are presented to key stakeholders and solutions are fine-tuned on the basis of feedback.

- What?

The program includes strategic problem framing sessions with executives, information gathering, team building and concept validation, the formation of a core team of design sprint facilitators, a two-day hackathon involving rapid ideation, prototyping and usability testing, and a demo day to present refined solutions to key stakeholders.

- How?

The methods and pedagogies used include in-depth preparation involving problem framing workshops and information gathering, immersive learning experiences, standardized manuals and tools, a structured hackathon format with four teams working on distinct business challenges, the use of uniform frameworks, toolkits and slides for design sprints, facilitation by experienced design sprint facilitators ensuring cohesion between teams.

- Reference:

Innovation Hackathon : Combining Hackathons and Design Sprints.

(s. d.). <https://www.designsprint.academy/innovation-programs/innovation-hackathon>

9. La Guilde de l'Innovation : Workshops innovation: explorez, innovez et construisez

- Why ?

The aim of the Innovation Workshops is to explore, innovate and build solutions using the principles of Design Thinking and Design Sprints. These workshops aim to stimulate creativity, solve the challenges of finding new growth opportunities, and foster a culture of innovation within

- For whom ?

The target audience includes all types of companies and organizations looking to explore new opportunities and innovative solutions. Whether they are start-ups looking for new ideas, SMEs seeking to diversify their activities, or large corporations striving to remain competitive in an ever-changing market, these workshops are for everyone.

- For which results ?

The evaluations and assessments include different rapid prototyping concepts to test and validate before full implementation, a deep understanding of user needs for more tailored solutions and stimulated innovation culture within the organization to promote sustainable growth.

- What ?

The content and theories related to this program include: exploration, problematization, ideation, prototyping, and valorization using the double diamond method of design thinking and the workshops adapt to the specific needs and demands of the organization.

- How ?

The methods and pedagogies used include the utilization of the Design Thinking method through the Double Diamond approach. It is important to mention that the workshop is tailored to the requirements of the company, ensuring relevance and effectiveness in addressing their challenges.

- Reference :

Workshop Innovation. (s. d.). La Guilde. <https://lagilde-innovation.fr/nos-workshops/workshop-innovation/>

C. Program analysis for academics

1. European Research and Innovation (R&I) Days

- Why?

The aim of Research and Innovation Week (R&I Week) is to celebrate the 40th anniversary of the Research and Innovation Framework Programs. It aims to debate the future of research and innovation, identify contributions to EU policy priorities and commemorate past and present achievements in this field.

- For whom?

The target audience includes stakeholders and professionals involved in research and innovation, policymakers, researchers, academics, industry representatives, and members of the European Commission.

- What?

Content related to this event may include workshops and discussions on topics such as regional innovation ecosystems, the association of third countries with EU research programs, innovation in the bioeconomy and food systems, and public procurement of innovation. Presentations and panels highlighting achievements and advances in research and innovation over the past 40 years.

- How?

Workshops, panel discussions, and presentations led by experts and stakeholders in the field. Interactive sessions to encourage collaboration and exchange of ideas among participants. Keynote speeches to address overarching themes and challenges in research and innovation. Duration: 2 days.

- Reference:

Research and Innovation Week. (2024, 13 February). Research And Innovation. https://research-and-innovation.ec.europa.eu/events/research-and-innovation-week_en

2. University College London: Innovation and Public Policy PhD

- Why?

The aim of the Innovation and Public Policy PhD program is to train the next generation of interdisciplinary researchers in economic and public policy, focusing on innovation and its governance. The program aims to encourage doctoral researchers to combine different disciplinary tools to offer a truly interdisciplinary analysis of how public and economic policy can harness innovation to effectively address global challenges.

- For whom?

The target audience includes individuals with a minimum of an upper second-class UK bachelor's degree and a master's degree, or equivalent qualifications, in relevant subjects. Applicants should have a passionate interest in economic and public policy, organizational innovation, and the economics of innovation.

- For which results?

Assessments include progress reviews and feedback provided by supervisors, with regular meetings to review research progress, provide advice on literature review, research design and methods. Upgrading assessment from master's to PhD, usually within 18 months of enrolment for full-time students, to assess ability to complete the program to a satisfactory standard and within a reasonable time. Thesis evaluation, demonstrating the ability to conduct original research based on a sound understanding of research techniques and concepts specific to the discipline.

- What?

The content and theories related to this program include research areas focused on innovation, public value and inclusive growth, driven by cross-cutting themes. Theories related to economic growth, innovation policy, public policy and governance. Multidisciplinary perspectives integrating economics, philosophy, political science, design, anthropology and natural sciences to rethink economics and economic policy.

- How?

The methods and pedagogies used in the program involve: independent research over a period of 3 to 4 years for full-time students, with compulsory training in research methods in the first year. Supervision by a minimum of two supervisors, with regular meetings to provide feedback

and advice on research progress, literature review and research design. Training in research techniques, including a series of courses on research methods and regular PhD seminars enabling peers to present their new work, as well as a series of research seminars with guest speakers.

- References:

Innovation and Public Policy MPhil/PhD. (2023, 11 October). Prospective Students Graduate. <https://www.ucl.ac.uk/prospective-students/graduate/research-degrees/innovation-and-public-policy-mphil-phd>

3. University of Sussex: Technology and Innovation Management Integrated PhD

- Why?

The aim of the Integrated PhD program in Technology and Innovation Management is to equip PhD students with advanced skills and knowledge to understand and effectively manage technological change. The program aims to foster innovation in various types of organizations and sectors, improving their ability to strategically manage innovation processes within and across organizations, while fostering rigorous research capabilities.

- For whom?

The target audience for this program includes people interested in researching and influencing technological change, innovation management and science and technology policy. Potential students are those with relevant experience in science and technology policy or equivalent professional experience.

- For which results?

Assessments for this program revolve around the acquisition of advanced research skills and the ability to make a significant contribution to solving global problems. Success is measured by the achievement of core and pathway modules, the development of research proposals and the achievement of a research thesis.

- What?

The program covers a range of content and theory related to technology and innovation management, including quantitative, qualitative and analytical methods, empirical design,

programming, advanced qualitative methods and introduction to theory in the context of innovation, management and policy.

- How?

The program uses several pedagogical methods including teaching modules, research training, stakeholder engagement and ongoing support. Pedagogical approaches include lectures, workshops, research seminars and practical exercises aimed at developing research and employability skills. Duration: 5years.

- References:

Team, W. (s. d.). *Technology and Innovation Management Integrated PhD at the University of Sussex*. University Of Sussex. <https://www.sussex.ac.uk/study/phd/degrees/technology-and-innovation-management-integrated-phd>

4. Luleå University of Technology: Entrepreneurship and Innovation, Ph.D

- Why?

The program aims to advance the field of entrepreneurship and innovation through rigorous research and practical application. It seeks to develop perspectives on entrepreneurship and innovation at individual, team, organizational and national levels, addressing current challenges. The aim is to contribute to the development of innovative products, services, business models and production solutions that can foster company growth and competitive advantage in a rapidly changing global marketplace.

- For whom?

The program is designed for people with a master's degree in industrial engineering and management, innovation management, business administration or equivalent fields. It is designed for candidates with a keen interest in entrepreneurship and innovation. Ideal candidates are those who wish to engage in research that has both academic and practical relevance, contributing to the advancement of knowledge and the innovation capabilities of leading companies.

- For which results?

Expected outcomes include the development of new theoretical and practical knowledge in the fields of entrepreneurship and innovation, publication of research findings in academic journals and presentations at conferences and workshops, contributions to the academic community and industrial practices, some direct contributions to the innovation management capabilities of partner companies through hands-on engagement and collaboration, and the completion of a PhD thesis that addresses important issues in the field of entrepreneurship and innovation.

- What?

Content and theories related to the program include entrepreneurship and innovation as drivers of organizational development and competitive advantage, digitization, AI and the impact of automation on industry, with a focus on developing sustainable and innovative product and service offerings, the business ecosystem and alliance management strategies to integrate external knowledge and foster collaboration.

- How?

The methods and pedagogies used include collaborative research projects with industrial partners to ensure the practical relevance and impact of the research, engagement in data collection and analysis, both independently and as part of a research group, to develop a holistic view of entrepreneurship and innovation, participation in postgraduate courses that provide theoretical and methodological foundations in the field, departmental tasks, including teaching, to develop pedagogical skills and contribute to the academic community, and engagement with the research and policy communities through academic publications, conferences and workshops to disseminate findings and encourage dialogue. Duration: 4years.

- Reference:

Entrepreneurship and Innovation, Ph.D. | Luleå University of Technology | Luleå, Sweden.
(s. d.). https://www.phdportal.com/studies/427996/entrepreneurship-and-innovation.html?ref=search_card#content:requirement

5. Georgia Institute of Technology: Management - Strategy and Innovation

- Why?

The aim of the PhD program at Georgia Tech's Scheller College of Business, particularly in strategy and innovation, is to prepare students for teaching careers in research-intensive academic institutions. The program aims to equip graduates with the ability to explain and predict differences in company-level performance through the prism of strategy and innovation. Given the essential role of technological capabilities and innovation as sources of competitive advantage, particularly for technology companies, the program seeks to train academics capable of contributing to meaningful research at the intersection of these fields.

- For whom?

The program is designed for individuals who aspire to an academic career in research-intensive institutions and who have a keen interest in the study of strategy, innovation and entrepreneurship. Ideal candidates are those seeking highly autonomous and intellectually stimulating careers that involve teaching, conducting research and working with bright students. Prospective students should have a strong academic background, research interests compatible with those of the faculty.

- For which results?

The program evaluates students on their participation in research projects, their publications and their ability to secure a faculty position after graduation. Assessments also consider students' contributions to the academic community, including participation in leading research conferences and seminars. The program's success is marked by the development of innovative and impactful research at the intersection of strategy and innovation.

- What?

The program covers advanced topics in strategy and innovation, focusing on the role of technological capabilities in achieving competitive advantage and the importance of innovation for technology-based companies. The program integrates economics, sociology, psychology and management, reflecting the interdisciplinary nature of the research conducted. Students can customize their studies by taking courses from Georgia Tech and partner institutions, giving them access to a wide range of theoretical and methodological perspectives.

- How?

Learning methods include direct involvement in research projects with internationally renowned professors from the outset, fostering a hands-on, mentoring approach to doctoral training. The program is interdisciplinary, drawing on economic principles and integrating knowledge from different disciplines. Students engage in collaborative research, participate in seminars and conferences, and are encouraged to publish their findings. The teaching method is designed to develop strong analytical and research skills, with an emphasis on creating knowledge that is both academically rigorous and practically relevant. Duration: 5years.

- Reference:

Strategy and Innovation. (s. d.). Georgia Tech Scheller College Of Business. <https://www.scheller.gatech.edu/explore-programs/phd/academics/concentrations/strategy-and-innovation.html>

D. Program sorting criteria

Disciplinary vs. interdisciplinary:

Methodological approach:

Does the program integrate knowledge, methods and perspectives from a specific field?

Does the program integrate knowledge, methods and perspectives from several disciplines?

Collaboration and partnerships:

Does the program primarily promote collaboration between experts in the same field?

Does the program encourage collaboration between researchers and practitioners from different fields?

Experimental vs. Analytical:

Methodological approach:

Does the program emphasize experimentation and prototyping to explore new ideas and approaches?

Does the program focus on rigorous analysis of problems and data to generate new knowledge?

Innovation objective:

Does the program aim to produce practical solutions and prototypes to solve real problems?

Does the program focus on acquiring new knowledge and theories?

E. Interview transcripts

- Julie Hermans (24.04.24 via Teams)

Student : Dans ma revue de littérature, je me suis basée sur l'analyse des programmes d'éducation à l'innovation répondant aux 5 questions suivantes : why ? for whom ? for which result ? what ? and how ? Pour la question how j'ai pu abordé les quatre modes de Seidel, qui reposent sur deux variables : l'interdisciplinarité ou la disciplinarité, et l'aspect expérimental ou analytique conceptuel. Ensuite, j'ai analysé environ 25 programmes proposés pour l'innovation en répondant à chacune des 5 questions, j'ai aussi utiliser des critères pour déterminer quel(s) mode(s) de Seidel correspondrai(en)t à chaque programme. Pour chaque programme, j'ai identifié les objectifs, l'audience, le contenu et aussi un ou deux modes de Seidel. J'ai ensuite créé un inventaire basé sur deux variables : le public (les étudiants, les professionnels en tant qu'individus, les professionnels en tant que membres d'une entreprise ou d'une organisation, et les académiques) et le modes de Seidel. Pour chaque mode de Seidel et chaque audience, j'ai fait correspondre les programmes, les objectifs, les formats. Ensuite, j'ai formulé des recommandations pour aider les développeurs de programme.

Julie Hermans :

J'aimerais commencer par poser quelques questions sur le mémoire pour mieux comprendre le contexte. Pourquoi avez-vous choisi ce cadre analytique plutôt qu'un autre ?

Student :

Je me suis basée sur un article qui a été écrit, notamment, par monsieur Gailly. Où ils ont réalisé un travail similaire au niveau de l'entrepreneuriat. J'ai réalisé mon inventaire en me basant sur une dérivé d'un modèle des sciences de l'éducation en répondant aux cinq questions.

Julie Hermans :

Il pourrait être intéressant d'explorer d'autres cadres théoriques, comme celui de Kolb, qui se concentre sur les différents styles d'apprentissage. Une autre limite de votre travail est peut-être de ne pas avoir exploré suffisamment la dimension interdisciplinaire. En choisissant d'analyser des programmes dans leur ensemble plutôt que de se concentrer sur des unités plus petites comme les cours, mais cela pourrait être une piste intéressante pour approfondir. Avez-vous réussi à identifier le profil des étudiants impliqués dans ces programmes ?

Student :

La majorité des étudiants sont en master principalement dans le domaine du management, business, gestion. Il y a aussi quelques programmes plus spécifiques comme un hackathon qui prend place sur deux jours.

Pourriez-vous me décrire votre expérience et votre rôle dans le domaine de l'éducation et de l'innovation ?

Julie Hermans :

Je suis Julie Hermans, professeure d'innovation et d'entrepreneuriat à la LSM enseignant dans ce domaine depuis plus de 10 ans maintenant. Ma thèse de doctorat portait sur les pôles de compétitivité, un réseau regroupant des universités, des entreprises de toutes tailles et des centres de recherche, qui contribue à la mise sur le marché d'innovations, qu'elles soient radicales ou incrémentales, soutenu notamment par la Région wallonne. En ce qui concerne mon enseignement, j'interviens à différents niveaux, du baccalauréat où je donne cours sur la créativité et l'innovation dans le cadre de la mineure en esprit d'entreprendre, jusqu'au master où je participe à la majeure en innovation management en enseignant le cours de knowledge management. Actuellement, la majeure partie de mes cours se concentre sur l'entrepreneuriat, un domaine vers lequel mes recherches se sont également orientées.

Je codirige également le certificat de gestion de l'innovation avec Benoît Gailly, ce qui me permet de rencontrer la diversité d'audience mentionnée toute à l'heure. Pour ma part, j'ai plutôt une approche dite d'articulation. Étant passionnée par les concepts, j'apprécie passer mon temps passé dans les idées. Pouvoir partager ces concepts cela permet d'agir de manière plus éclairée et intelligente. Pour moi, l'essence de mon métier d'enseignante en innovation consiste à fournir aux acteurs les outils conceptuels nécessaires pour prendre des décisions éclairées et agir en connaissance de cause. Cela implique un va-et-vient constant entre l'analytique et l'expérientiel, car il est essentiel de se poser les bonnes questions sur ce que nous faisons, avec qui et pourquoi.

En ce qui concerne la dimension disciplinaire ou interdisciplinaire, elle revêt une certaine complexité en science de gestion. En innovation, l'interdisciplinarité peut prendre différentes formes, selon les perspectives de chacun. Pour certaines audiences, notamment les

organisations et leurs employés, l'intérêt réside dans la capacité à faire dialoguer des personnes issues de métiers différents, plutôt que de disciplines scientifiques distinctes. L'innovation est par nature intégratrice, nécessitant une collaboration étroite entre des métiers variés. Pour moi, l'éducation à l'innovation doit nécessairement être interdisciplinaire, mais en partant toujours du point de vue de la discipline du chercheur ou de l'enseignant.

L'enjeu réside dans la capacité à véritablement connecter ces différentes disciplines et à favoriser un dialogue constructif, plutôt que de simplement les juxtaposer. C'est un aspect sur lequel je me concentre dans mon approche pédagogique et de recherche.

Student :

En effet, cette question d'interdisciplinarité apporte une perspective que je n'avais pas vu pour mon mémoire. En travaillant sur la recherche des tendances générales et en me basant sur plusieurs audiences je n'ai pas su aller autant dans les détails dans chaque programme.

Julie Hermans :

La question des limites est un élément sur lequel j'insiste beaucoup avec les étudiants, car c'est fondamental dans le métier de chercheur. Le chercheur est souvent perçu comme celui qui repousse les frontières de la science, mais il est important de se rappeler que les frontières sont aussi des limites. C'est une notion essentielle à intégrer dans notre travail de recherche. En tant que chercheur, nous ne pourrions jamais atteindre la perfection dans nos recherches, et c'est tout à fait normal. C'est intrinsèque à la nature même du travail de recherche. Assumer ces limites et reconnaître qu'elles existent est déjà un signe de recul critique qui sera apprécié par le jury.

Student :

Je ferai attention à être bien précise à ce niveau-là. Nous pouvons maintenant passer à la partie inventaire et recommandations. Ici, j'aimerais avoir votre avis global sur la recommandation et voir si vous vous retrouvez dans les recommandations. Ma première recommandation était de bien définir l'audience cible. En effet, un programme ne peut pas être conçu sans prendre en compte l'audience visée. Les attentes d'un étudiant, d'un professionnel ou d'un universitaire sont différentes. C'était donc ma recommandation générale. Ensuite je me suis concentrée sur chaque audience séparément. En ce qui concerne les étudiants, j'ai identifié deux modes principaux. Le premier mode était le mode expérimental et interdisciplinaire, avec pour objectif le développement de compétences pour être capable de manager dans un environnement

dynamique et disruptif. Ce mode incluait différents formats tels que des ateliers, des simulations et des études de cas sur des problèmes réels. Le second mode était interdisciplinaire et conceptuel où là on avait un objectif développer et comprendre les concepts théoriques.

Julie Hermans :

Je me permets de faire un lien avec une situation qui peut servir d'exemple. Avec mes collègues Amélie Jacquemin, Émilie Malcourant, nous avons analysé notre dispositif de gamification en utilisant des simulations et des éléments ludiques dans notre enseignement. Nous avons constaté qu'il était essentiel d'articuler les moments de jeu - donc l'aspect expérimental pour faire le lien avec ton mémoire - pour captiver l'intérêt des étudiants et susciter des émotions liées à l'apprentissage, telles que la curiosité et l'intérêt avec des moments plus théoriques – donc cet aspect plutôt conceptuel. Lorsque les étudiants jouent, ils réalisent souvent qu'ils connaissent moins qu'ils ne le pensaient, ce qui génère de la confusion, une source d'apprentissage importante. Nous avons donc articulé ces moments de jeu avec des activités plus théoriques, telles que des journaux réflexifs ou des cours magistraux, pour asseoir les concepts et encourager la réflexion analytique.

Ce qui est important selon moi, c'est que d'une part, il y a les acteurs de l'innovation, ceux qui sont sur le terrain et agissent pour identifier et mettre en œuvre des opportunités. D'autre part, il y a les observateurs de l'innovation, tels que les étudiants destinés à travailler dans des bureaux d'étude, des banques ou le service public, qui ont besoin de comprendre les aspects théoriques du phénomène. Il est crucial d'être clair sur l'objectif du programme et de distinguer clairement entre l'acteur et l'observateur. Cela permet de gérer les attentes et de s'assurer que chaque programme répond aux besoins spécifiques de son public cible.

Je pense qu'il est important d'articuler les deux aspects, tout en donnant un sens plus fort à l'un ou à l'autre selon les objectifs du programme. Cependant, le besoin d'articulation sera probablement plus marqué pour les acteurs que pour les observateurs. Les acteurs doivent être bien équipés tant au niveau pratique que théorique pour réussir dans un environnement changeant, tandis que les observateurs ont surtout besoin d'être outillés sur les aspects analytiques pour être de bons observateurs.

Une recommandation importante selon moi est d'encourager les responsables de programme à concevoir des dispositifs favorisant l'interdisciplinarité, comme des workshops ou des travaux

finaux réalisés en équipe interdisciplinaire. Cela permettrait aux étudiants d'acquérir une compréhension plus globale et nuancée des enjeux de l'innovation. Il faut vraiment que les composantes du programme soient interconnectées.

Student :

D'accord, ensuite concernant l'audience des professionnels, j'ai remarqué qu'il y avait deux tendances et j'ai donc fait le choix de séparer cette audience en deux. Tout d'abord, il y a les professionnels en tant qu'individu. Encore une fois, les approches interdisciplinaire, expérimentale et conceptuelle étaient mise en avant. L'objectif étant de développer les compétences nécessaires pour agir en tant que champion de l'innovation et promouvoir une culture de l'innovation au sein de son organisation, tout en acquérant les concepts théoriques fondamentaux. Ensuite, pour les professionnels qui participent en équipe, j'ai remarqué que les approches disciplinaire, expérimentale et conceptuelle étaient mise en avant. Le but était souvent de générer une solution pour relever un défi ou saisir une opportunité spécifique, tout en restant dans le même domaine d'activité.

Julie Hermans :

Je pense que cela dépendra en grande partie des types de contenus qui seront inclus dans ce cadre. Personnellement, je trouve que c'est assez complexe de dresser une tendance générale quant à ce qui pourrait être intéressant. Pour le programme que je connais bien, celui de Louvain Innovation, par exemple, nous avons plusieurs modules qui pourraient être assimilés à ces éléments, répartis dans le temps. Nous favorisons l'interdisciplinarité à la fois par le contenu et par les types de participants.

En ce qui concerne les équipes, cela dépend vraiment de l'approche décidée par l'organisation demandeuse et de la manière dont les équipes sont constituées. Parfois, il s'agit uniquement d'équipes financières, parfois ce sont des équipes qui contiennent un mélange. Il est donc difficile de répondre à la question en termes de tendance générale, car cela dépendra des besoins spécifiques de chaque organisation.

Ce qui est important c'est que les formateurs s'assurent qu'il y ait une adéquation entre ce qu'ils proposent et les attentes du donneur d'ordre, puisque souvent le contenu est co-crée avec cette personne. Il est donc essentiel de bien définir les objectifs, les participants et leur motivation. Nous observons souvent une grande disparité entre les participants qui ont choisi

volontairement la formation et ceux qui y sont contraints par leur employeur, ce qui peut avoir un impact sur leur engagement dans l'apprentissage. Il est également crucial de clarifier les attentes dès le départ, afin de s'assurer que toutes les parties sont sur la même longueur d'onde et partagent les mêmes objectifs.

En outre, il est important de reconnaître que parfois, la formation en innovation est utilisée de manière détournée pour différents objectifs, tels que le développement de compétences, l'élaboration de stratégies pour la génération d'idées ou même pour imposer un agenda caché sous couvert de participation. C'est une préoccupation courante des participants, qui craignent que leur voix ne soit pas réellement prise en compte et que la formation serve uniquement à justifier un agenda préétabli.

Student :

Oui je vois donc ici on est plutôt sur un format qui varie aussi en fonction de l'audience qui est présente au sein de l'équipe et c'est important de l'expliquer. Enfin la dernière audience, est celle où j'ai identifié le plus de modes disponibles et c'est pour ça que je voulais avoir votre avis. Tout d'abord, il y avait le mode analytique et interdisciplinaire, qui visait à fournir les bases théoriques et méthodologiques pour l'avenir, tant dans le domaine de l'innovation que dans les domaines connexes. Ensuite, il y avait le mode expérimental disciplinaire, axé sur la contribution à l'avancement des connaissances dans un domaine spécifique de l'innovation, impliquant des activités de recherche, de publication et d'enseignement. Enfin, il y avait le mode expérimental et interdisciplinaire, qui visait la collaboration interdisciplinaire pour aborder les défis sociétaux, englobant plusieurs domaines en lien avec l'innovation.

Par exemple, le programme de master "Innovation and Public Policy PhD" proposé par le University College London illustre le mode analytique et interdisciplinaire en intégrant des disciplines telles que l'économie et la philosophie. De même, le programme de doctorat en entrepreneuriat et innovation offert par l'Université de Luleå en Suisse représentait à la fois le mode analytique et interdisciplinaire, ainsi que le mode expérimental disciplinaire, en se concentrant sur des domaines spécifiques de l'innovation et de l'entrepreneuriat. Enfin, le programme sur la gestion, la stratégie et l'innovation aux États-Unis offrait un exemple du mode expérimental et interdisciplinaire, en proposant une variété de pratiques pour aborder ces domaines.

Julie Hermans :

Pour les services publics, on est en plein dedans. Ca va être aussi le point de vue des économistes, politiques publiques. Et donc là, le fait d'avoir un mode analytique et interdisciplinaire, ça a vraiment beaucoup de sens.

Je trouve que c'est intéressant de trouver très peu de programme dans l'expérimentation interdisciplinaire. En fait, cela vient confirmer la règle de façon littérale et on voit que l'on est encore très fort chacun dans nos silos. On est clairement majoritairement dans une approche disciplinaires lorsque l'on est au niveau expérimental. Ca peut être intéressant ici dans les recommandations de montrer qu'il existe déjà des exceptions et d'essayer d'expliquer en quoi c'est important de pouvoir aller vers plus d'interdisciplinarité, voire transdisciplinarité. En sachant que l'un des grands enjeux aujourd'hui en termes d'innovation, ce sera quand même de pouvoir identifier des innovations qui soient soutenables, qui créent de l'adhérence malgré parfois des diminutions de confort, notamment liées aux enjeux de sobriété. Un petit point à souligner, c'est que parfois aux États-Unis, tu vas avoir des doctorants qui sont encore des étudiants et qui ne sont même pas payés.

L'idée c'est d'avoir les grandes tendances ici disciplinaire et expérimentale, mais ça ne doit pas empêcher de faire des sortes d'aller-retour pour compléter les différentes approches. Là, dans la recherche on s'attend à ce qu'il y ait une sur spécialisation du chercheur dans une discipline, mais ce serait vraiment bien d'avoir des activités qui permettent de créer cette approche interdisciplinaire.

Et alors, je peux te donner un exemple, dans le programme Circle U. La première année, ils avaient comme audience des bacs 3, des Masters, mais aussi et surtout des doctorants. Ils ont abandonné l'idée de travailler avec les bac 3 parce que ils n'étaient pas suffisamment avancé dans le domaine et c'était vraiment compliqué pour eux de suivre le programme. Donc pour l'instant, ils fonctionnent avec les Masters et les doctorants. Ils se posent la question de ne garder que des doctorants. Mais justement ça permet cette interdisciplinarité qui les sort un peu de leur ordinaire. Et donc c'est un peu la valeur ajoutée du programme. C'est un autre exemple d'exception qui montre en quoi ces enjeux de développement durable et de transition amènent le besoin de l'interdisciplinarité.

Student :

Effectivement, cette approche est définitivement une exception. Merci pour votre temps et vos nombreux conseils.

- Françoise de Viron (01.05.24 via Teams)

Student :

Pour commencer, je vous propose de vous expliquer le sujet de mon mémoire et ma méthode de travail. Mon mémoire porte sur l'enseignement de l'innovation. L'objectif est d'analyser et de classer différents programmes. Pour cela, j'utilise un cadre théorique issu des sciences de l'éducation, basé sur cinq questions clés : pourquoi, pour qui, pour quels résultats, quoi et comment? Mon travail s'appuie sur les recherches de Monsieur Gailly, mon promoteur, qui a déjà appliqué ce cadre dans le domaine de l'entrepreneuriat. J'ai également intégré les modes d'apprentissage proposés par Seidel, qui distingue quatre modes en fonction de leur interdisciplinarité ou disciplinarité et de leur approche expérimentale ou conceptuelle. Donc, pour chaque mode, j'ai pu déterminer celui/ceux qui était/étaient le(s) plus présent(s) dans chaque programme. Le but de mon mémoire est de compiler un inventaire final sur base des audiences cibles et des modes de Seidel. Pour chaque combinaison audience-mode, je propose une liste des programmes correspondants, ainsi que leurs objectifs et formats. L'objectif est de fournir des recommandations aux concepteurs de programmes afin de les orienter dans le choix du mode d'enseignement en fonction de l'audience et des objectifs visés.

Françoise de Viron :

Votre public se compose-t-il d'étudiants de master ou d'exécutifs?

Student :

En fait, l'audience est très variée car elle inclut à la fois des étudiants, des professionnels et des universitaires. Parmi les étudiants, on retrouve principalement ceux en gestion. Concernant les académiques, on retrouve les doctorants, les chercheurs, les professeurs.

Tout d'abord, pouvez-vous me parler un peu de votre expérience et de votre rôle dans le domaine de l'éducation et de l'innovation ?

Françoise de Viron :

Alors, en ce qui concerne l'innovation, j'ai été impliquée dans la création du programme bien connu de gestion de l'innovation. Auparavant, pendant environ quinze ans, j'ai travaillé au sein du groupe Tractebel, au charge d'une équipe de recherche et d'innovation en intelligence artificielle. C'est là que j'ai commencé à explorer et à apprendre comment gérer l'innovation au sein d'une équipe. J'en suis arrivée à la conclusion bien établie que l'innovation doit être intégrée dans une stratégie, à la fois stratégique et opérationnelle. En outre, j'ai également beaucoup enseigné dans le domaine de la formation des adultes, en particulier en sciences de l'éducation. J'ai observé que la motivation des professionnels à suivre une formation se résume souvent à trois aspects : le sens, les compétences et le certificat. Ils cherchent soit à donner un sens à leur expérience professionnelle. Le deuxième aspect qu'ils viennent chercher est d'acquérir des compétences pratiques applicables dans leur travail. Ils sont à la recherche de cadres d'analyse, de mise en pratique sans trop de théorie. Les concepts ici doivent être rapidement applicables. Il y a aussi un petit nombre de participant qui sont à la recherche de diplôme ou de certificat. Dans une formation en gestion de l'innovation, la prise en compte de ces aspects est cruciale dans la conception d'une formation mais aussi dans sa réalisation. Pour moi cet aspect est essentiel pour les concepteurs de programmes.

Student :

Merci, ensuite j'ai formulé des recommandations pour chaque audience et j'aimerais en discuter avec vous. Pour la première audience, les étudiants, ce qui est revenu le plus souvent, ce sont deux types d'apprentissage : le mode analytique interdisciplinaire et le mode expérimental interdisciplinaire. J'ai également discuté de cela avec Madame Julie Hermans, et nous avons constaté qu'il était important de faire attention aux aspects interdisciplinaires, étant donné que le programme concernait plusieurs disciplines. Il fallait donc aborder le fait que ces disciplines pouvaient être juxtaposées ou réellement articulées entre elles. En ce qui concerne le public professionnel, j'ai pu le diviser en deux catégories : les professionnels individuels et ceux venant en équipe.

Pour les professionnels individuels nous retrouvons les même modes que les étudiants avec un focus sur l'aspect expérimental. Lorsqu'ils viennent en équipe, par exemple dans le domaine de la finance, le programme est généralement plus disciplinaire, axé sur la recherche de solutions à des problèmes spécifiques.

En ce qui concerne les académiques nous avons surtout des doctorants, des chercheurs. Ce que j'ai remarqué, c'est que lorsqu'il s'agissait de l'approche expérimentale, elle se concentrait

généralement sur un domaine spécifique et était donc principalement disciplinaire. Cependant, j'ai trouvé une exception aux États-Unis, où l'approche expérimentale commençait à devenir plus interdisciplinaire. Madame Hermans a souligné l'importance de mettre en avant cette évolution vers plus d'interdisciplinarité dans l'approche expérimentale, notamment pour les chercheurs, même si cela n'était pas encore généralisé. Sinon les modes les plus présents sont le mode analytique/interdisciplinaire et expérimental/disciplinaire.

Françoise de Viron :

Je suggère d'introduire le concept de transfert dans ton travail car cette distinction entre l'approche expérimentale et conceptuelle doit être abordée délicatement. Selon moi, les deux approches se nourrissent mutuellement. Un expert, pour mener une expérience rigoureuse et scientifique, doit s'engager dans une réflexion analytique approfondie. C'est pourquoi il est essentiel de combiner ces approches pour obtenir des résultats optimaux.

Au niveau de l'interdisciplinarité, elle peut se retrouver au niveau de l'audience mais aussi au niveau du contenu. C'est important de bien justifier si l'on parle d'une des deux ou des deux. Au niveau de l'interdisciplinarité, c'est vrai que la distinction entre multidisciplinaire et interdisciplinaire est importante. Multidisciplinaire signifie que différentes disciplines sont mobilisées, mais qu'il n'y a pas d'intersection entre elles. En revanche, l'interdisciplinarité implique une véritable intégration.

Pour revenir sur cette notion de transfert, je peux vous envoyer un document qui pourrait vous aider. Cela provient d'un article que nous avons rédigé avec Emmanuel Petit, dans lequel nous examinons différentes définitions du transfert. En effet, le transfert peut être la réplique, l'adaptation, la généralisation, ou la construction. Nous avons exploré les facteurs qui influencent le transfert dans des dispositifs pédagogiques de formation d'adultes. Je peux vous envoyer le document pour que vous puissiez rapidement comprendre ces différentes notions de transfert. Dans ce document, il y a la présence de l'approche pratique et théorique, qui peut faire le lien entre les modes expérimentaux et conceptuels que vous abordez. Je vais vous envoyer le document en PDF.

Student :

Merci. Enfin, pour vous quel est l'aspect le plus important à prendre en compte lorsque l'on est concepteur d'un programme en éducation de l'innovation ?

Françoise de Viron :

Pour moi, lors de la conception d'un programme, il est crucial de prendre en compte les motivations des participants. Si le groupe est trop important pour analyser individuellement ces motivations, je recommande d'inviter les participants à écrire leurs motivations. Cela leur permettra de prendre du recul sur les raisons de leur inscription au programme et de constater le chemin parcouru à la fin de la formation, facilitant ainsi l'exploitation des différentes opportunités d'apprentissage. Ce travail, appelé analyse des besoins en ingénierie de formation, peut être et devrait être effectué par les concepteurs, c'est très important.

Dans l'étude que je vous ai envoyée, il est souligné qu'il est important que les participants prennent conscience de leurs objectifs afin de rester attentifs à ce qui les intéresse tout au long de la formation. Cela ne signifie pas que tout sera planifié à l'avance ni qu'il n'y aura pas de surprises, car la formation implique de travailler avec des humains et offre des opportunités d'apprentissage. Il est donc essentiel pour les concepteurs de programmes ou les enseignants de faire preuve de modestie, en créant ces opportunités d'apprentissage avec soin mais aussi avec humilité, car si les objectifs sont mal définis, les apprentissages risquent de ne pas se produire. Les apprentissages consistent en un changement d'habitudes, de pensées ou de comportements, initié soit par l'individu lui-même, soit par son environnement. Ces idées, discutées notamment avec Jean-Marie Barbier, professeur en sciences de l'éducation au Conservatoire National des Arts et Métiers à Paris, mettent en lumière l'importance de l'aspect motivationnel dans l'apprentissage, tant pour les adultes que pour les enfants. Il est essentiel d'intégrer cet aspect dans la conception des programmes de formation.

Student :

Je prendrai soin d'intégrer cette recommandation dans mon travail. Cette dernière question conclut cette interview. Merci pour votre temps et vos nombreux conseils.