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Entrenching the enterprise message through innovative incubators: Asserting pedagogical principles towards assisted academic practice

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ABSTRACT

Enterprise Education (EE) continues to inspire institutions and champion creativity amongst staff and students. As the taught and research fields advance, EE activity is now increasingly facilitated and developed within central university-based incubators, where expertise and knowledge meet ambitious ideas and aspirations across subject disciplines. With this combining of expertise and knowledge from within the university environment, key skills and outcomes are evident which move typical forms of EE within classroom contexts beyond pedagogical considerations of content and assessment strategy. This paper investigates the role of incubators with a case study of recently developed incubation spaces at a Scottish university, involving 10 academics, 3 departments, and over 500 students across all academic levels. Reflecting on an academic year of activity, ranging from formal sessions, mentoring and student-focused events, to engaging with external partners through national programmes, this case study highlights several key themes. The themes of realised attributes, encountered behaviours, and contexts (A-B-C), which appreciate immediate and responsive qualities within the HE sector, result in outlined principles. These principles encourage the duties and responsibilities conducive to innovative incubator-specific Assisted Academic Practice (AAP). This marks differences between EE educators and AAP individuals within active incubation spaces. Emphasising the need for consistent enterprising engagement with regional and national partners, seeking alignment with best practice frameworks, and confirming industry recognition, AAP individuals and groups entrench the enterprise message from the university through phases of design, development, and destination. This paper outlines fresh understandings for university educators and incubator professionals, in centralising EE within staff development and ongoing academic practices.

Keywords: enterprise education, incubation, ecosystem, industry engagement, professional development

Introduction

Where literature regarding Enterprise Education (EE) has focused on relevant education as being offered as co-curriculum or extra-curricular activity through specific courses or thematic sessions (Fiet, 2000; Fayolle, 2005; Henry et al., 2005; Crammond, 2020; 2023a), the notion of cross-departmental incubators (Hassan, 2020; Pellegrini & Johnson-Sheehan, 2021) as industry-reflective spaces posits the paper's unique term of Assisted Academic Practice (AAP). AAP emphasises attributes, behaviours, and contexts which Higher Education (HE) staff encounter, towards achieving added value education for those participating. Through a case study analysis, I witness that the role of incubators is an increasing, innovative feature within universities, in both being competitive, and responsive to the needs of industry (Culkin, 2013). This equips not only students with contemporary and enterprising skills, but adequately prepares staff to engage with

other sectors and transfer key knowledge from the classroom environment. A notable progression of EE, through activities and incubators across a multi-campus strategy, is witnessed within my own institution, the University of the West of Scotland (UWS).

This paper focuses on a timely case study of EE activity, reflects on innovative advancements within the Scottish university UWS, whereby new incubation spaces and an enterprise team have bridged academic and support towards realising professional development and timely communities of practice for innovative education. Throughout academic session 2022-2023, a series of activities, designed and facilitated by me and members of the enterprise subject area team, and including taught courses and practical engagement, increased the entrepreneurial intention of staff and students and attracted renewed enthusiasm for enterprise across academic schools, within the institution, and surrounding region. I observed that these were enhanced by new innovations from incubator-led spaces. The motivation of this case study research is to reflect on existing EE-relevant practice and realise both systematic and productive routes for skills development and legacy building. This has enabled a significant contribution, involving new pedagogical principles for EE, to be presented. These are as a result of observed activity, and thematic reflections.

The structure of this paper firstly includes a brief discussion of the intersection of enterprise within the HE sector, its advances in topicality, teaching approaches, and research focus. Following on from this, I explain incubators within universities, and their role in assisting EE. I detail the context of this paper, as emergent *'A-B-C'* themes from the stated period are presented. My reflections and an analysis of these themes result in the asserting of *pedagogical principles* being offered as this paper's contribution to educators, programme leaders, and university management. I close this paper with implications of this case study, followed by conclusions for both practice and policy.

Enterprise and Education

Enterprise Education (EE) promotes idea generation, skills development, and social change through innovative problem solving (Jones, 2011; Blenker et al., 2012; Crammond, 2020; 2023a). The embedding of entrepreneurial activity, adopting innovative forms of teaching, leads to pragmatic forms of delivery and engagement with enterprise and business creation. However, this is commonly witnessed by me and others in the EE community in isolation through standalone programmes or by rarely found 'champions of enterprise'. Additionally, the evidencing of these relevant skills, such as creativity, market awareness and engagement, and business management, are desired by the modern university. They assist in transforming lives and shaping both immediate communities and nations overall. Notably, I have observed the national picture concerning EE, and the institutional response to industry and student need that has resulted in both increased and improved measures which are promoted and sustained through allocated resources. Examples of these resources include of course financial investment, introducing new or enhanced programmes of study, and the implementing of key and periodic activities. However, from my experience these are successfully put into practice through the emergence and assistance of several key academic personalities. These personalities range from the educator, facilitator, researcher, and surrounding business support professional – comprising explicit responsibilities that I and team members routinely undertake.

In reflecting market need and business reality (Fetters et al., 2010; Culkin, 2013), the resultant approach now taken by universities involves a blend of academic practices, in providing optimal and timely EE (Clarke et al., 2020; Crammond, 2020). Modules and short courses, enterprise competitions partnering with external organisations, external engagement, and responding to national initiatives and programmes are all

examples of formal and inclusive EE activity within universities. Significantly, however, is the sustaining of a physical space on campus, whether it is incubation or accelerator departments, which facilitate and champion this activity. For universities, including my reflections of the UWS context, incubators and accelerators are a source of practical learning, new business, external collaboration for start-ups and scale ups, increased funding, and useful data from research.

This case study, and analysis of the UWS context, crystallises these activities and captured observations towards conceptualising EE practice and confirming definitive roles and responsibilities.

Context: Incubation and Innovative Teaching

In my previous and current professional roles, I have learned rapidly that incubators, physical and digital spaces designed to support new business ideas, business creation, and innovation, advance existing elements of an enterprise ecosystem, and utilising networks for EE (Beresford & Beresford, 2010; Hassan, 2020).

As highlighted, the case in this paper refers to recent, entrepreneurial developments within a Scottish university, UWS. This involves a team of 10 academics including myself, three academic and central departments, and over 500 undergraduate and postgraduate students. A series of academic and industry-focussed activity was facilitated over the 2022-2023 academic session and was hosted within cross-campus incubation spaces. These activities include:

- business support and 1-to-1 mentoring
- idea brainstorming and pitching
- individual or group-based exercises
- formal modules or thematic workshops
- programmatic courses, credit and non-credit bearing
- continuing professional development (CPD) sessions
- external engagement with partners and company representatives
- annual enterprise competitions.

The academic year witnessed strong engagement with the following staff members and roles.

- Academic teaching staff (AS)
    - Module and short course facilitators
    - Programme leaders
- Research staff (RS)
    - Reader and Associate Professors
    - PhD Students
- Project Coordinators (PC)
    - Business Engagement
    - Digital Marketing Executives
- Student Engagement Lead (SE)

In achieving EE objectives of design and delivery, I witnessed that the above roles span business school specific, and central university departments, linking relevant education by subject with timely support with external-facing colleagues. These activities span the academic session over a period of 9 months (see

appendix Table 1) of formal teaching and campus engagement. Term 1 (September to December inclusive) and term 2 (January to April inclusive) allows two opportunities for staff and students to engage in EE-relevant courses and activities.

Subject to a variety of resource and institutional factors impacting the delivery of EE within universities, the role of the assisting EE educator and responsive incubation spaces play a mediating role towards heightened engagement and assisting entrepreneurial outcomes. The UWS context emphasises that incubators are a culmination of enterprise skills, experience and action, and responding to both the culture and circumstances within the HE sector and willing industries.

Incubators, as part of EE activity within universities including UWS, are a multi-stakeholder endeavour (Crammond, 2019). With the delivery of these offerings, the personalities and experiences of academics and business support professionals are displayed (Advance HE, 2022b; Crammond et al., 2023). Incubators also provide a route for improved CPD opportunities amongst staff, which were previously not available (CABS, 2022), and encourages on-campus AAP which harnesses staff experience (CABS, 2022) and university-wide resources (Crammond, 2020; 2023a) towards mutual goals of education, innovation, and regeneration. AAP appreciates the centralisation of enterprise within universities, as it is the culmination of shared expertise and values, and is driven by a number of objectives.

- Firstly, I witnessed that AAP alerts students to societal themes, digital and transformative environments (Crammond et al., 2022), and student-led activities through enterprise.
- Secondly, this case study displays that AAP must encourage inclusive and reflective scenario appreciation with business (Clarke et al., 2020).
- Thirdly, I learned that AAP staff maintain pragmatic community-based learning and mentoring as essential qualities (Gimmon, 2014; Walker, 2023).
- Finally, I acknowledge that AAP embeds the social reconstruction message in inspiring graduate entrepreneurs (Murray & Crammond, 2020) and maintaining healthy start-up rates (Culkin, 2013).

Evidenced from the case study, AAP differentiates (see appendix Table 2) between existing EE facilitation and the influence of incubators. With the intervention of increasingly utilised incubators within universities, there is an impact on staff development needs, and requisite skills which redefine the EE academic and university enterprise colleague. As opposed to traditional roles related to EE, and aspects of facilitation, during the case study investigation AAP aspects highlight curating support and opportunities for the wider university, an emphasis on external assistance and expertise, and strategising for longer term impact both regionally and nationally.

In addition, the variety of activities within modern incubators appreciate the circumstances and situations which impact EE. This leads to differing modes of pedagogy, impacting design, delivery, and assessment (Blenker et al., 2012). Incubators innovate these considerations towards formal or informal EE offerings.

The purpose of this case study was to document EE practice through exploring and witnessing relevant teaching and learning activities, towards prescribing productive routes for skills development and legacy building via expertise and resources. With these key reflections, the following three phases: design, development, and destination, arise from the case study and inform the concept of AAP describing EE practice within incubators and beyond.

Entrepreneurial Attributes: Design

The first theme of the case study is the attributes of AAP educators and facilitators influencing EE design. Each academic year presents fresh opportunities, for all involved in the EE learning journey, but potentially interrupting challenges. During the academic session 2022-2023, I observed and engaged with the roll out of the enterprise team's taught, incubator, and research activity. This involved crafting session planning and addressing both themes and topics which are central to conveying the enterprise message from incubation spaces. Therefore, assuring flexibility in theoretical courses and ensuring concepts and understandings are addressed with more comparatively practical sessions were acknowledged as important areas to evaluate concerning EE design.

From the early 2000s, literature had evolved to defining EE (Hytti & O'Gorman, 2004), introducing the taught or not debate (Henry et al., 2005), and measuring both entrepreneurial intentions and assessing impact (Fayolle, 2005). Therefore, the case study displayed confident efforts to demystify sometimes confusing descriptions of EE, where terms such as enterprise and entrepreneurship were previously used interchangeably. In addition, appreciating pedagogies of EE (Blenker et al., 2012), the role of advancing digital technologies (McKinnon et al., 2015; Crammond et al., 2022), and the responsibility on suitable and skilled educators (Penaluna et al., 2015). As a result, the embedding of EE is now regarded as part of a necessary and transformative strategy, providing a link to industry and a mentoring pathway for all within the university (Gimmon, 2014). Whether it be through acquiring resources, and allocating staff to incubator-based operations, a series of attributes or enterprising skills emerged across the team-based approach.

There are notable differences in the nature of offerings, and modes of delivery, from the incubator spaces. What I found was that this therefore relies heavily on the breadth of experience and subject knowledge, in designing and delivering content, workshop sessions, roundtable events, and competitions.

With this in mind, the following attributes contributed to the design of activity:

- planning and decision making
- confidence and communication
- ecosystem and external engagement awareness
- stakeholder management
- entrepreneurial character
- regular incubator review and impact reporting
- institutional resilience and adaptability to change.

EE instigates change within organisations and society, as well as encouraging innovation which originates from exposure to relevant and timely education (Crammond, 2023c). Concerning design, objectives of module or course orientation, including instances of theory to practice reflection, and assessment support are all important when leading forms of short course or programmatic EE. The emergence, development, and impact of EE now plays a fundamental role in achieving these design-specific objectives. Seminal research of EE included a series of reviews of perspectives, teaching approaches, and the effect of EE on small business engagement (Gorman et al., 1997; Vesper & Gartner, 1997). This has grown exponentially to providers of EE, including what I have witnessed at UWS, improving on the design with external professionals and regional or national organisations (EC, 2015; Crammond, 2020; 2023). Additionally, witnessed during the academic year were evident instances of collaboration across the three central and

academic departments. Out with taught courses and research responsibility, it was viewed that the incubation space bridged job roles and duties and provided periodic partnerships.

Entrepreneurial Behaviours: Development

Universities, equipped on how to teach entrepreneurship (Fiet, 2000; 2001), and through what means (Jones, 2011; 2013) now emphasise enterprising activity as a source of institutional and skills development (Advance HE, 2022a). However, experiential or engaged EE relies on networking and confirming the purpose and scope of EE courses and activities (Beresford & Beresford, 2010). This provides a better understanding of university-based ecosystems for enterprising activity (Fetters et al., 2010). Consequently, several cultural considerations within institutional environments for EE are established (Crammond, 2020). As seen within this context, these include confirming the capacity for enterprise within universities through existing resources, addressing the level of capability from staff and departments, the level of digital and physical space mobility to reach and educate all, and realising levels of durability and resilience amidst sector change and societal demand.

As observed in this case study, in navigating the enterprise landscape, both within and out with the university, AAP is the promotion of incubator-based offerings, to the wider university regardless of subject specialism. This supports existing teachers, researchers, and academic school or faculty management. In addition, incubators are agile, and provide an ‘open door’ policy for willing participants of EE and business creation. Thirdly, combined creativity is witnessed as incubators encourage the development of new ideas and the application of courses and programmes to real-world settings and industry expectations.

Different walks of life influence towards a business entity or public service organisation (Crammond, 2023b). With this in mind, enterprise and forms of EE, supported by central departments of universities, are linking to courses and programmes more than ever as incubators grow in number within the HE sector (Pellegrini and Johnson-Sheehan, 2021; Advance HE, 2022a). This includes aligning to existing policies and best practice initiatives, including the Advance HE Professional Standards Framework (Advance HE, 2023). EE highlights the importance of employability and honing graduate skills (Fitzgerald, 2016; Smith, 2016).

The progression of incubators and innovative practices for EE establish institutional roles within universities. These roles which span education, research, and business development services for students reaffirm the enterprise message within the institution and emphasise their unique value for businesses and society.

Entrepreneurial Contexts: Destination

Lastly the third, and overriding theme from this case study, is the importance of entrepreneurial context. Educating, mentoring and professional development (Walker, 2023), and ongoing knowledge transfer rely on the understanding of the given circumstances.

The case study indicated that a group of known academics, and professional support staff focusing on enterprise strengthened the institutional agenda. This, in turn, increased validity of the EE offering and aided in the building of intellectual and social capital. Reliant on a number of professional staff, with a range of skills, incubators possess a notable team-based approach (Advance HE, 2022b; Crammond et al., 2023) which enhances staff development and evidence institutional objectives through enterprise. This, with the growing engagement and rate of start-up activity, has created greater connectivity between the university, industry, and partners in public and private organisations. Incubators result in the building of legacies and established university processes (McAdam et al., 2006; Culkin, 2013) They assist in the understanding of

institutional and market trends, as staff and students engage with graduates and businesses (Fayolle, 2005; Murray & Crammond, 2020). Conceptualisations based on EE activity, including incubators, confirm motives, utilise methods, and engage via the most appropriate message for EE moving forward (Crammond, 2020; 2023a).

Moving beyond EE within a classroom setting, national and international attention is now paid to the links between EE, industry, and government (EC, 2015; HEPI, 2022). There is now a realising of enterprising skills which cross subject areas and specialisms. This includes creativity and innovation, the start-up process, as well as engaging with duties commensurate to intellectual property management (Crammond, 2023b). Hosted by a series of Virtual Learning Environments (VLEs) and modes of study, the intervention of incubators shifts the pedagogical paradigm for universities and the attributes required from EE educators assisting in entrepreneurial activity. This is important as universities become more responsive to industry, and their demands, by instil mechanisms such as incubators and support services, for practical forms of education.

Pedagogical principles for assisted academic practice

The themes of attributes, behaviours, and contexts illustrate this contextual blend of multiple colleagues (Advance HE, 2022a; 2023), and the pooling of skill sets, align educational frameworks (such as Advance HE's PSF, EEUK's 'Toolkit', and NCEE's compendium of approaches) with industry (policy implementation and assisting knowledge exchange mechanisms). These themes combine the nature and practice of EE for AAP to respond to with codes or principles of best practice. In recent years, institutions have asserted their visions and principles in becoming more aware of stakeholders and organisations within the enterprise network (Crammond, 2019; 2022).

Table 3 (see appendix) lists the principles in practice for AAP, central to the creation and development of university-based incubators. These principles are also considerate of existing EE practices and priorities (Blenker et al., 2012; Smith, 2016; Murray & Crammond, 2020) and through the prism of assisting EE through AAP-led innovative incubators.This paper recounts this ongoing case of UWS incubators combining available resources and staff capability towards innovative practice and have led to these principles being developed from evident themes of attributes, behaviours, and contexts.

The case study evidence has shown that, with the offering of EE activity across the university, distinct principles in practice advance the educator role to that of AAP-specific qualities (Principle 1). In addition, they highlight programmatic and periodic (Principle 2) initiatives, which promote an entrepreneurial culture (Principle 3) which is consistent and cognisant of its impact locally, regionally, and nationally (Principle 4). Subsequently, this strategic approach improves EE practice, by becoming inclusive, AAP built on self-reflection, engagement, and personal development (Principle 5).

Table 4 (see appendix) provides further detail concerning the phases of *design*, *delivery*, and *destination* as influencers to the concept of AAP.Aligning principles of AAP to phases of new or improved EE, and being cognisant of regional and national concerns, enables incubator spaces to be agile in advancing and enhancing staff roles, the student experience, and affirming productive enterprise contexts. Significant here within this case study, is the timely intervention of incubator offerings (see Table 1) such as formal teaching to business mentoring on demand, coupled with periodic reflection and review (Clarke et al., 2020). Successful reflection and review increase the likelihood of positive perceptions of enterprise and achieving

incubator-based progress through increased intentions and raised proclivities (Murray & Crammond, 2020) towards creativity and entrepreneurialism.

Implications

Reflections and results of this case study contribute to existing literature about incubators within universities, and the role of several academics and HE professionals. The case provides insight into the attributes, behaviours, and circumstances experienced within the entrepreneurial context of live UWS incubators. These A-B-C themes of active incubators alert academics and researchers, and more specifically those managing incubators, of central considerations which strengthen and embolden enterprising spaces and EE learning experiences.

Subsequently, the asserting of pedagogical principles for AAP involves the defining of these considerations for EE in practice through regenerative phases of design, development, and destination. The five principles (Table 3) within this paper, emphasise the need for AAP educators to combine expertise, hone enterprising skills, and seek added value in incubator activities by encouraging external engagement.

This wider ecosystem intervention, influencing timely programme creation and practical EE opportunities, digital platform adoption, and experiential learning confront volatility and promote institutional agility. For staff, these principles and phases of regenerative AAP prioritise professional development and better EE practice, presenting an opportunity for entrepreneurial development within educational communities.

Recommendations

With an acknowledgement of these themes, longitudinal research of incubation spaces should be encouraged to monitor and measure academic practice and staff/student achievement. Assisted academic practice extends the role of the EE educator, as related activity requires a champion who emboldens the university community to apply skills and learned knowledge. In investigating incubators, a series of exploratory methods are applicable which are commonly adopted in EE research. Enterprising journeys and academic development by staff, instigated by incubators, can be gauged through documenting perspectives and opinions through qualitative approaches as well as conducting quantitative data collection to compare and contrast academic sessions. The sequential mixing of these approaches can also be rationalised in responding to the fundamental *why?* and *how?* questions of EE, extending from what EE is and where it is best placed in universities.

Educators facilitating within incubation spaces and entrepreneurial settings, within university, should also adopt the principles of this paper, in reviewing and revising ongoing EE activity. This includes the creation of programmes and when engaging with new or growing businesses. Senior management and business support advisors, commonly interacting with incubators for university-wide operations, are also relevant in influencing these principles as university-based incubators build meaningful legacies and inspire assisted academic practice towards community and regional endeavours.

Biographies

Robert James Crammond is a Senior Lecturer in Enterprise at the University of the West of Scotland. He teaches a number of subjects including entrepreneurship, leadership, and organisational change. An author, researcher, and speaker, he also edits several journals and leads enterprise development, small business, and knowledge transfer projects.

References

Advance HE. (2022a). *Centralising enterprising skills development and emphasising course relevancy in universities through entrepreneurial personalities*. https://www.advance-he.ac.uk/news-and-views/centralising-enterprising-skills-development-and-emphasising-course-relevancy

Advance HE. (2022b). *Enhancing the enterprising university experience: reflections from an academic team-based approach*. https://www.advance-he.ac.uk/news-and-views/enhancing-enterprising-university-experience-reflections-academic-team-based

Advance HE. (2023). *The importance of university-based incubators and evidencing PSF-relevant enterprising attributes.* https://www.advance-he.ac.uk/news-and-views/importance-university-based-incubators-and-evidencing-psf-relevant-enterprising

Beresford, R., & Beresford, K. (2010). The role of networks in supporting grassroots good practice in enterprise education. *Research in Post-Compulsory Education, 15*(3), 275–288. https://doi.org/10.1080/13596748.2010.503998

Blenker, P., Frederiksen, S. H., Korsgaard, S., Müller, S., Neergaard, H., & Thrane, C. (2012). Entrepreneurship as everyday practice: Towards a personalized pedagogy of enterprise education. *Industry and Higher Education*, *26*(6), 417–430. https://doi.org/10.5367/ihe.2012.0126

Chartered Association of Business Schools (CABS). (2022). *The benefits of continuing professional development for business school academics*. https://charteredabs.org/continuing-professional-development-within-the-business-school/

Clarke, A. P., Cornes, C., & Ferry, N. (2020). The use of self-reflection for enhanced enterprise education: a case study. *Education+ Training, 62*(5), 581-598. https://doi.org/10.1108/ET-03-2019-0050

Crammond, R. (2019). Progressing Enterprising Education within Universities: Asserting Principles of Stakeholder Engagement. *Journal of Higher Education Service Science and Management (JoHESSM), 2*(2), 1-10. https://joherd.com/journals/index.php/JoHESSM/article/view/30/22

Crammond, R. (2020). *Advancing Entrepreneurship Education in Universities: Concepts and Practices for Teaching and Support*. Springer Nature. https://link.springer.com/book/10.1007/978-3-030-35191-5

Crammond, R. (2022). The entrepreneurial university: processes & principles. *Entrepreneurial Mindset Network eZINE, 5*(3). Available at: https://entrepreneurial-mindset.network/ezine

Crammond, R. (2023a). *Entrepreneurship and Universities: Pedagogical Perspectives and Philosophies*. Springer Nature. https://link.springer.com/book/10.1007/978-3-031-18243-3

Crammond, R. (2023b). Developing intellectual property management skills and the entrepreneurial university element: an educator perspective. *International Journal of Intellectual Property Management.* http://dx.doi.org/10.1504/IJIPM.2023.10057335

Crammond, R. (2023c). Encouraging innovation: Universities are implementing impactful entrepreneurship education. *Research Features, 148*. https://researchfeatures.com/encouraging-innovation-universities-implementing-impactful-entrepreneurship-education/

Crammond, R., Omeihe, I., & Murray, A. (2023). *Re-evaluating Entrepreneurship Education Through a Team-Based Approach: Activities and Archetypes Within a Scottish University*. In J.H. Block, J. Halberstadt, N. Högsdal, A. Kuckertz, & H. Neergaard (Eds.) *Progress in Entrepreneurship Education and Training. FGF Studies in Small Business and Entrepreneurship*. Springer. https://doi.org/10.1007/978-3-031-28559-2_6

Crammond, R., Scuotto, V., Omeihe, K.O., & Murray, A. (2022). *Reframing University-Level Entrepreneurship Education Through Digitisation and Transformational Technologies: An Institutional Case Study*. In D. Hyams-Ssekasi, & F. Agboma, (Eds.) *Entrepreneurship and Change*. Palgrave Macmillan. https://doi.org/10.1007/978-3-031-07139-3_5

Culkin, N. (2013). Beyond being a student: An exploration of student and graduate start-ups (SGSUs) operating from university incubators. *Journal of Small Business and Enterprise Development, 20*(3), 634-649. https://doi.org/10.1108/JSBED-05-2013-0072

European Commission (EC). (2015). Entrepreneurship Education: A Road to Success. A compilation of evidence on the impact of entrepreneurship education strategies and measures. *Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.* https://www.prois-nv.ro/docs/ENTREPRENEURSHIP_EDUCATION_Final%20report-EE-a%20road%20to%20success-final.pdf

Fayolle, A. (2005). Evaluation of entrepreneurship education: behaviour performing or intention increasing? *International Journal of Entrepreneurship and Small Business*, *2*(1), 89–98. https://doi.org/10.1504/IJESB.2005.006072

Fetters, M., Greene, P. G., & Rice, M. P. (Eds.). (2010). *The Development of University-Based Entrepreneurship Ecosystems: Global Practices.* Edward Elgar Publishing.

Fiet, J. O. (2000). The theoretical side of teaching entrepreneurship. *Journal of Business Venturing, 16*(1), 1–24. https://doi.org/10.1016/S0883-9026(99)00041-5

Fiet, J. O. (2001). The pedagogical side of entrepreneurship theory. *Journal of Business Venturing*, *16*(2), 101–117. https://doi.org/10.1016/S0883-9026(99)00042-7

Fitzgerald, P. (2016). Embedding Employability into the Curriculum: An Enterprise Based Module for the Biosciences. *Journal of Perspectives in Applied Academic Practice, 4*(2), 33-39. https://doi.org/10.14297/jpaap.v4i2.205

Gimmon, E. (2014). Mentoring as a practical training in higher education of entrepreneurship. *Education and Training, 56*(8/9), 814–825. https://doi.org/10.1108/ET-02-2014-0006

Gorman, G., Hanlon, D., & King, W. (1997). Some research perspectives on entrepreneurship education, enterprise education and education for small business management: a ten-year literature review. *International Small Business Journal, 15*(3), 56–77. https://doi.org/10.1177/0266242697153004

Hassan, N. A. (2020). University business incubators as a tool for accelerating entrepreneurship: Theoretical perspective. *Review of Economics and Political Science*. https://doi.org/10.1108/REPS-10-2019-0142

Henry, C., Hill, F., & Leitch, C. (2005). Entrepreneurship education and training: can entrepreneurship be taught? Part I. *Education and Training, 47*(2), 98–111. https://doi.org/10.1108/00400910510586524

Higher Education Policy Institute (HEPI). (2022). *The entrepreneurial university by design: a reflection on recent reporting and guidance*. https://www.hepi.ac.uk/2022/12/15/the-entrepreneurial-university-by-design-a-reflection-on-recent-reporting-and-guidance/

Hytti, U., & O'Gorman, C. (2004). What is "enterprise education"? An analysis of the objectives and methods of enterprise education programmes in four European countries. *Education and Training, 46*(1), 11–23. https://doi.org/10.1108/00400910410518188

Jones, C. (2011). *Teaching Entrepreneurship to Undergraduates.* Edward Elgar Publishing. https://doi.org/10.4337/9781781002001

Jones, C. (2013). Teaching Entrepreneurship to Postgraduates. Edward Elgar Publishing.

McAdam, M., Galbraith, B., McAdam, R., & Humphreys, P. (2006). Business Processes and Networks in University Incubators: A Review and Research Agendas. *Technology Analysis & Strategic Management, 18*(5), 451-472. https://doi.org/10.1080/09537320601019578

McKinnon, S., Smith, A. MJ., & Thomson, J. C. (2015). A Window to the World: Using Technology to Internationalise Entrepreneurship Education. *Journal of Perspectives in Applied Academic Practice, 3*(3), 15-23. https://doi.org/10.14297/jpaap.v3i3.178

Murray, A., & Crammond, R. (2020). Witnessing Entrepreneurial Perceptions and Proclivity in University Students: Developing a Process Model. *Education + Training*, *62*(4), 459-481. https://doi.org/10.1108/ET-03-2019-0052

Pellegrini, M., & Johnson-Sheehan, R. (2021). The Evolution of University Business Incubators: Transnational Hubs for Entrepreneurship. *Journal of Business and Technical Communication*, *35*(2), 185-218. https://doi.org/10.1177/1050651920979983

Penaluna, K., Penaluna, A., Usei, C., & Griffiths, D. (2015). Enterprise education needs enterprising educators: A case study on teacher training provision. *Education+ Training, 57*(8/9), 948-963. https://doi.org/10.1108/ET-03-2015-0016

Smith, S. (2016). Embedding Graduate Attributes into the Undergraduate Curriculum: Reflection and Actions. *Journal of Perspectives in Applied Academic Practice, 4*(2), 12-19. https://doi.org/10.14297/jpaap.v4i2.174

Vesper, K. H., & Gartner, W. B. (1997). Measuring progress in entrepreneurship education. *Journal of Business Venturing, 12*(5), 403–421. https://doi.org/10.1016/S0883-9026(97)00009-8

Walker, A. (2023). A critical exploration of approaches to professional and leadership development to break the gender bias in academic practice and progression. *Journal of Perspectives in Applied Academic Practice, 11*(1), 42-49. https://doi.org/10.56433/jpaap.v11i1.549

Appendix

Table 1 Incubator Activity: Month-by-month offering

Term	Month	**Activity** *(relevant staff responsibility)*
1	September	• *Term 1 Staff resourcing (AS)* • *Term 1 Module / programme orientation (AS / PC)* • *Session opening of incubator (all)* • *Communication of Term 1 events and competitions (PC / SE)* • *Pitching competition: open call (SE)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*
	October	• *Business support and prescribed mentoring (all)* • *Pitching competition: sessions and developmental workshops (AS / PC)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*
	November	• *Business support and prescribed mentoring (all)* • *Pitching competition: pitching presentations and awards (AS / PC)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*
	December	• *Business support and prescribed mentoring (all)* • *Business Idea and Innovation competition marketing (PC / SE)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*
2	January	• *Term 2 Staff resourcing (AS)* • *Term 2 Module / programme orientation (AS / PC)* • *Communication of Term 2 events and competitions (SE)* • *Business support and prescribed mentoring (all)* • *Business Idea and Innovation competition: workshop 1 (AS / RS / PC)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*
	February	• *Business Idea and Innovation competition: workshop 2 (AS / RS / PC)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*
	March	• *Business Idea and Innovation competition: workshop 3 (AS / RS / PC)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*
	April	• *Business Idea and Innovation competition: awards presentation (all)* • *CPD course facilitation (AS / RS / PC)* • *National course delivery – e.g. Help to Grow and SFEDI certification (all)*

	May	• *Close of term support and external enterprise organisation referral (AS / PC / SE)*

Table 2 EE Facilitation vs. Incubator Influence responsibility

EE Facilitation	Incubator Influence and AAP
Teaching formal (short) course and programmes	*Curating appropriate support, on campus*
Delivering student-centric events and competitions	*Confirming business stage-relevant opportunity*
Supporting business development	*Providing timely start-up and scale-up expertise*
Encouraging external engagement	*Analysing the existing entrepreneurial context towards participation*
Gaining experience of consultancy, guest speakers, and entrepreneurship	*Hosting knowledge transfer opportunities towards timely impact and practical outcomes*

Table 3 Principles in Practice: *Assisted Academic Practice (AAP) through Incubators*

AAP Principle in Practice		Educator Perspective	Assisted Academic Practice (AAP) Perspective
1.	Subject to activity, highlight the fundamental attributes necessary of academic and professional staff, in encouraging EE.	*Developing EE roles, through practice and reflection, subject to HE internal resourcing.*	*Combining key expertise, both HE internal and external, through the shared vision and goal(s) of incubator-led EE activity.*
2.	Ensure that inclusive EE activities, which are both programmatic in nature and periodic, are confirmed for all staff and students.	*Formal teaching activity, within a fixed term or trimester.*	*Legacy building operations which respond directly to regional and national agenda.*
3.	Promote an entrepreneurial culture, through student-centric and/or staff developmental curriculums.	*Providing pedagogical relevancy through content creation and session planning.*	*Asserting a team-based approach, in confirming knowledge rich, and multistakeholder responsive learning and opportunities.*
4.	Remain cognisant of the entrepreneurial culture within the institution, and the impact of external forces and socio-economic conditions.	*Organising staff/student feedback, and periodic reporting.*	*Embed external engagement and encourage expert-led initiatives.*
5.	Respond to external forces and socio-economic conditions, by reflecting on and learning from entrepreneurial contexts for meaningful EE.	*(Short) course and/or programme creation, and review of scheduled in-house incubator activity.*	*Confirm institutional specialism, subject focus, and incubator-led values towards HE accreditation and industry recognition.*

Table 4 3D Regenerative Phases of EE

Factor	Relevant Principle	Reference(s)

1.	**Design**	*1. Subject to activity, highlight the fundamental attributes necessary of academic and professional staff, in encouraging EE.* *2. Ensure that inclusive EE activities, which are both programmatic in nature and periodic, are confirmed for all staff and students.*	(Beresford & Beresford, 2010; Smith, 2016)
2.	**Development**	*3. Promote an entrepreneurial culture, through student-centric and/or staff developmental curriculums.*	(Blenker et al., 2012; Gimmon, 2014; Hassan, 2020)
3.	**Destination**	*4. Remain cognisant of the entrepreneurial culture within the institution, and the impact of external forces and socio-economic conditions.* *5. Respond to external forces and socio-economic conditions, by reflecting on and learning from entrepreneurial contexts for meaningful EE.*	(Clarke et al., 2020' Crammond, 2023a; 2023b; Murray & Crammond, 2020)