Case study: Accrediting innovation - How disruptors meet standards

Building new partnership with PSRBs as we design education of the future

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1 Introduction

This case study examines the experiences of Kay Bond, Academic Head at the Dyson Institute of Engineering, and her involvement with three emerging engineering education providers in the UK: the Dyson Institute, TEDI London, and NMITE (New Model Institute for Technology and Engineering). As both an accreditor with the Institution of Mechanical Engineers and the Institution of Engineering Designers, and an academic leader responsible for obtaining accreditation, Kay offers a unique dual perspective on the accreditation process for innovative engineering programmes.

2 Context: Post-2017 engineering education providers

Three relatively new engineering education providers form the focus of this case study:

1. **Dyson Institute** (est. 2017)
    - Initially partnered with Warwick Manufacturing Group until 2024
    - Offers BEng in General Engineering (as a degree apprenticeship) and recently introduced an MEng programme
    - Features immersive, work-based learning in partnership with Dyson
    - Developing new programmes in engineering systems and software engineering
2. **TEDI London** (opened 2021)
    - Offers bachelor's and master's degrees in Global Design Engineering
    - Emphasises social responsibility in engineering
    - Features project-based learning with very few traditional examinations
    - Recognised with IHE awards for curriculum innovation
3. **NMITE** (opened 2021)
    - Offers integrated engineering programmes
    - Recently introduced mechanical engineering specialisation
    - Focuses on inclusive, project-based learning approaches

3 Common characteristics of new engineering providers

Despite differences in their specific approaches, these institutions share several innovative characteristics:

1. **Disruption of traditional admissions criteria**:
    - Some programmes don't require traditional prerequisites like mathematics and physics
2. **Broad disciplinary approach**:
    - Focus on general or integrated engineering rather than narrow specialisations
    - Aim to produce versatile engineering graduates
3. **Innovative pedagogical approaches**:
    - Project-based learning
    - Work-integrated learning
    - Immersive, contextual education
    - Coaching rather than traditional teaching
4. **Learning environments**:
    - Collaborative and social spaces that minimise use of traditional lecture theatres
    - Reduced power dynamic between educators and students
    - Closer proximity between learners and staff
5. **Institutional characteristics**:
    - Small cohorts of students
    - Closer integration between academic and professional services staff
    - Attention to individual student needs
    - Diverse student populations with varied learning needs

4 Accreditation experience and process

All three institutions pursued accreditation through the Institution of Engineering and Technology (IET), with TEDI London also gaining accreditation from the Institution of Engineering Designers. Kay highlights several key elements for successful accreditation:

1. **Programme design and outcomes focus**:
    - Clear articulation of graduate outcomes and competencies
    - Demonstration of academic rigor despite innovative teaching methods
    - Alignment with AHEP4 (Accreditation of Higher Education Programmes) output standards
2. **Approach to accreditation**:
    - Treating accreditation as a partnership rather than an inspection
    - Communicating effectively with Professional, Statutory and Regulatory Bodies (PSRBs)
    - Using PSRB requirements as aspirational goals rather than constraints
3. **Organisational culture**:
    - Developing academic staff through involvement in accreditation processes
    - Building relationships with accrediting bodies
    - Avoiding single points of failure by involving multiple staff members

5 Advantages and challenges

The case study highlights specific advantages and challenges for new engineering providers:

Advantages:

- Starting with a "blank piece of paper" makes initial accreditation more straightforward
- Opportunity to design programs from the ground up with accreditation requirements in mind
- Freedom from legacy systems and established practices

Challenges:

- Programme updates require careful planning (big bang vs. progressive rollout)
- Need for staff to gain experience with accreditation processes

- Resource investment for planning and communication
- Managing the disproportionate impact of small numbers of students on metrics

6 Key insights

1. **Output-focused accreditation**: Engineering accreditation bodies are primarily concerned with graduate capabilities rather than prescribing specific teaching methods, creating space for pedagogical innovation.
2. **Professional body vs. regulatory body**: Engineering benefits from having professional bodies rather than regulatory bodies, allowing more flexibility in approaches to education.
3. **Student-centred approach**: The primary purpose of accreditation is to benefit students through enhanced graduate outcomes and employability.
4. **Parental interest**: Parents often inquire about accreditation more frequently than students themselves, indicating the importance of accreditation for reputation and perceived value.
5. **Cultural change**: Successful accreditation requires fostering collaborative relationships between academic staff, professional services, and accrediting bodies.

7 Conclusion

This case study demonstrates how innovative engineering education providers can successfully navigate accreditation processes while maintaining their distinctive approaches. Rather than viewing accreditation requirements as constraints, these institutions have embraced them as quality benchmarks that can coexist with pedagogical innovation. The experiences of the Dyson Institute, TEDI London, and NMITE suggest that engineering accreditation is evolving to accommodate diverse educational models focused on producing graduates with the skills and competencies needed for modern engineering practice.

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