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DO QUALITY, INNOVATION AND PERFORMANCE COMPETE OR COMPLEMENT?

Prof Sa'ad Medhat, FIKE, CEO
Professor Medhat is the founder of NEF with an established reputation for driving forward initiatives from policy through to implementation.

Dr Sarah Peers, MIKE, Director of Programmes
Dr Peers leads NEF's professional development programmes for STEM improvement and has extensive experience of engineering education at HE and FE combined with business.

NEF: The Innovation Institute is a professional body, educational charity and a leading provider of SciTech innovation and growth services to business, education and government. Guided by its Innovation Council, NEF: The Innovation Institute influences policy and supports its members, partners and stakeholders to achieve performance excellence and stimulate innovation.

Quality and innovation play vital roles for organisations to remain competitive. Quality aims for high and sustainable performance, while innovation aims for breakthrough. Although these concepts are diametrically opposed (performance equates to consolidation; innovation equates to creation), the need to ensure quality (offers that are fit for purpose) results in these concepts often being intertwined.

Creating value requires organisations continuously to develop innovative and high quality products and services, and deliver them on time and at a lower cost than their competitors. This requires employees to be creative, but also to ensure standards are met.

Equilibrium between quality and innovation is achieved by embedding cultural values and enabling characteristics that drive creativity, efficiency and responsibility. What are these, and can they be systemically nourished?

This paper outlines the role of accreditation. It also describes an approach to achieving a balance of quality, innovation and performance through recognising traits which enhance individual capability.

NEF: The Innovation Institute has developed two accreditation frameworks, namely T-shaped Technologist, and the Innovation and Knowledge Exchange (IKE), recognising that demarcation between work and study is blurring.

T-SHAPED TECHNOLOGIST ACCREDITATION

Demonstrating to prospective learners and employers that the provider supports skills that empower creativity and problem solving is a powerful differentiator.

Is accreditation by a university or college enough? Should the benchmarks used be universal to achieve recognition and value for the user?

Employers, particularly those leading in SciTech sectors, are beginning to be explicit in their requirements in recruits as well as improving the performance of the existing workforce[1]. When recruiting new graduates and technicians, employers look for personal qualities, beyond technical skills, that may be indispensable.

T-shaded Technologist Accreditation is used to demonstrate that a STEM (science, technology, engineering, mathematics) education or training programme produces fit-for-industry individuals. A matrix of capabilities, transferable skills, qualities and attributes describes what a T-Shaped Technologist for the 21st Century looks like[2]. These capabilities can be broadly categorised as:

- Technical knowledge and experience – largely discipline- and sector-specific 'know-how' combined with 'know-why', an

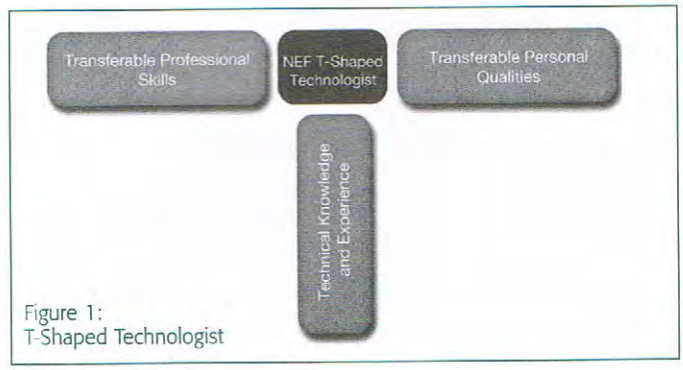

Figure 1:
T-Shaped Technologist

. . . We need to close the gap between education and industry, so as to increase employability and our ability to innovate. But how do we drive this? . . .
Dr Jonathan Reeves, Group Head of Technical Innovation, Britvic

understanding of STEM theory behind practice

- Transferable professional skills – including business acumen, and the skills related to knowledge transfer and innovation
- Transferable personal qualities – including enterprise and initiative, and some highly valued behaviours.

T-SHAPED TECHNOLOGIST

Key benefits to the T-Shaped Technologist Accreditation for providers, particularly in further education, include:

- Identifying the commitment to develop attributes valued in the workplace
- Recognising capability to deliver T-shaped learning, which is forward thinking and able to address future skills for new and emerging sectors
- Supporting employability routes
- Providing STEM programmes with a benchmark
- Delivering a competitive advantage which positions programmes as fit-for-purpose.

Graduates of T-shaped programmes are eligible for a certificate showing they are a T-shaped Technologist which:

- Provides employers with assurance that the learner is work-ready, with a level of commercial awareness and with skills beyond the purely technical
- Delivers a much more rounded package for the learners to promote themselves so increasing self-esteem and self-confidence
- Provides a differentiation for the learner when competing for positions.

The value of the T-shaped Technologist lies in articulating capabilities of interest to an employer. These capabilities can be fostered and assessed.

NEF advocates the embedding of the T-shaped Technologist model in programmes of STEM-related training at schools, colleges and universities. This supports the development of more than just technical skills. Other attributes such as initiative, learning to learn, responsibility, teamwork, the love of their discipline, an awareness of different cultures, are also encouraged. The model can be used to unearth hidden skills such as knowledge of another language, or a practical technical skill from a past job or work experience, which add value for a potential employer.

... We are passionate about teaching and learning to transform lives. Helping learners to develop skills for success beyond college is essential and T-shaped Technologist accreditation supports in this...

Simon Friend, Head of Science and Technology, South Devon College

THE IKE ACCREDITATION

To address issues of performance and growth of business and industry, NEF: The Innovation Institute has developed the IKE Accreditation framework. This integrates quality and innovation into a coherent package.

IKE Accreditation demonstrates the value and relevance of innovation skills within professional development programmes. The framework recognises the diverse needs of employers and sectors in terms of characteristics and skills required, both in new recruits or the existing workforce. It overcomes the difficulty that educational providers have in translating specific requirements of diverse sectors as well as enabling employers to articulate their needs.

...Innovation is the lifeblood of any successful company...

Ana Andres del Valle, IT R&D Manager, Jones Lang LaSalle

In addition, the IKE framework supports employers, particularly those from large SciTech industries, to develop skills not currently being used. This is yet another way in which quality and performance can drive innovation.

Graduates from IKE accredited training can obtain a Certificate of Professionalism in Innovation. This provides recognition to employees who have led and driven innovation.

IKE ACCREDITATION FRAMEWORK

Concluding remarks

Something innovative has synonymity with improved performance and through that quality of the product is implied. Is this always true? Can the connection of innovation be enough for high quality? Is performance a determinant of quality?

...We have been through many developments, from improving design to quality management. These don't guarantee performance improvement. The glue that holds quality and innovation together and links to performance improvement is behaviours...

Dave Drury, Chancellor, EDF Energy Campus

IKE Accreditation benefits employers and education providers by:

- Signifying the value of creativity and innovation within a training or CPD programme
- Maintaining a high level of consistency in the quality of training or CPD provision
- Identifying organisational ability to improve continually
- Offering reputational and competitive advantage.

There is an argument of a trade-off between quality, innovation and performance. They may compete within an organisation, depending upon strategic direction and availability of resource, but when used in a systematic way they become complementing forces that provide the organisation with a powerful position and unique capability.

References

1 Open Innovation in STEM Learning, NEF Report, Dec 2012

2 T-shaped Learning for the New Technologist, NEF White Paper, Dec 2012

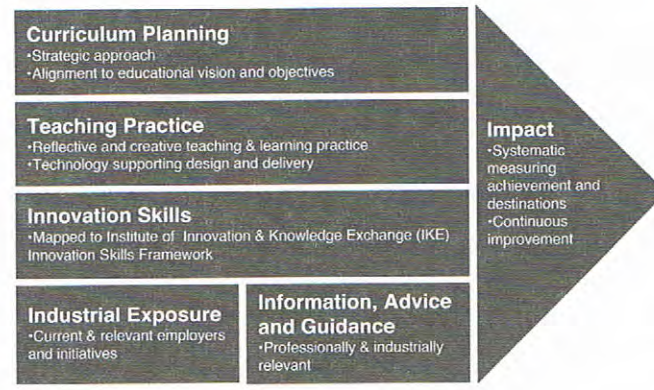

Figure 2: IKE Accreditation Framework

NEF
The Innovation Institute

IKE ACCREDITATION

Recognising innovation & knowledge exchange skills

T-SHAPED TECHNOLOGIST ACCREDITATION

Balancing employer-valued skills, attributes and capabilities

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