ASPIRE Recognition of Excellence in Technology Enhanced Learning in a Medical, Dental, Veterinary School

CRITERIA

1.Definition

1.1   There is no 'universal' definition of Technology Enhanced Learning (Kirkwood & Price 2014) but a useful broad definition is that used by the AMEE Technology Enhanced Learning Committee:

"enhancing teaching and learning by the use of general education technologies with special emphasis on the education pedagogies underlying their use."

https://amee.org/amee-committees/tel

1.2 Technology is increasingly used in both simulation and in the provision of healthcare (medical informatics) but applicants are advised to carefully consider the appropriateness of activities in their application for ASPIRE Recognition of Excellence in Technology Enhanced Learning:

- Simulation. The ASPIRE Recognition of Excellence in Simulation documentation provides a definition that states simulation is a "technique, not a technology that replaces or amplifies real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner" (Gaba 2004) but it is highlighted that simulation may include a range of technologies. **Many educators are extensively using technology in simulation but it is expected that applications for the ASPIRE Recognition of Excellence in Technology Enhanced Learning will provide broad evidence of the use of technology in education that is in addition to any examples of the use of technology in simulation.**

- Medical Informatics. - Medical Informatics has been defined as "the field of information science concerned with the analysis, use and dissemination of medical data and information through the application of computers to various aspects of health care and medicine".

https://www.nlm.nih.gov/tsd/acquisitions/cdm/subjects58.html

The use of technology in medical informatics can have an educational purpose, such as the integration of diagnosis and decision aids in teaching clinical

decision making and the teaching of telemedicine (virtual medicine) skills, but it is expected that applications for the ASPIRE Recognition of Excellence in Technology Enhanced Learning will provide broad evidence of the use of technology in education in addition to any examples of the use of technology in medical informatics.

The Panel will exercise their judgment as to the scope of any institutional submission to ensure that the main focus is on Technology Enhanced Learning.

1.3   There is increasing awareness of the importance of institutions in developing the "Digital Literacy" for all faculty /teaching staff and students, since it is essential for future healthcare (Frenk et al 2010) and is also it is an essential and integral aspect of Technology Enhanced Learning. These considerations apply across the continuum of medical education, from basic to postgraduate to continuing professional development.

Digital Literacy has been defined as "the capabilities that fit someone for living, learning, working, participating and thriving in a digital society".
https://www.hee.nhs.uk/our-work/digital-literacy

Six key Digital Literacy capabilities have been proposed:

1. Digital identity, wellbeing, safety and security
2. Communication, collaboration and participation
3. Teaching, learning and self-development
4. Information, data and content
5. Creation, innovation and research
6. Technical proficiency

An essential aspect of Digital Literacy is the appropriate and responsible use of social media by both faculty/teaching staff and students in an institution.

https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/doctors-use-of-social-media

The use of social media has become ubiquitous in the personal and professional lives of many faculty /teaching staff and students. Social media can be considered to be any online interaction that involves a conversation, participation, sharing content or networking. Examples include:

- social networking (eg Facebook, Whats App)
- blogs and microblogs (eg Twitter)
- collaboration (eg Skype, Zoom)
- content sharing (eg Instagram, YouTube)
- membership or interest groups (eg doctors.net, FOAMed)

However, there are important ethical principles that apply to the use of social media, which highlight the need to maintain appropriate professional boundaries, take care not to breach patient confidentiality and to respect patients and colleagues in any comments.

References

Kirkwood A, Price L. Technology-enhanced learning and teaching in higher education: what is 'enhanced' and how do we know? A critical literature review. Learning, media and technology. 2014 2;39(1):6-36.

Gaba DM. The future vision of simulation in health care. BMJ Quality & Safety. 2004 1;13(suppl 1):i2-10

Frenk J, Chen L , Bhutta ZA , Cohen J , Crisp N, Evans T, Fineberg H et al. 2010. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. The Lancet 376(9756): 1923-1958.

2. Scope

2.1   The provision of Technology Enhanced Learning by an institution (a medical, dental or veterinary school) will be influenced by a variety of factors, including
- the cultural, geographic and social context
- the availability of resources, including financial, technology and infrastructure (such as internet connectivity)

The reviewers of applications for ASPIRE Recognition of Excellence in Technology Enhanced Learning will take due consideration of these factors when evaluating excellence. Excellence in TEL can be equally identified and recognised in institutions within both high and low resource settings.

2.2   The effective provision of Technology Enhanced Learning by an institution is achieved when there is alignment between a variety of inter-related factors:

- **Technologies**
  A wide variety of technologies are used nd these will depend on the context and available resources. The range is from learning management / virtual learning environments to social media to MOOCs to Virtual Reality to Artificial Intelligence, and across a range of different platforms, including mobile devices and online.

- **Settings**
  Technology Enhanced Learning occurs in formal and informal settings, even within institutions, and can be across the continuum of medical, dental and veterinary education, from basic education to postgraduate education to

continuing professional development. Examples of informal teaching and learning can include the use of social media.

- **Application**
    - **Purposes:** Encompasses a variety of teaching and learning processes, including information provision, collaboration assessment, learning games, portfolios and data analytics of teaching and learning
    - **Alignment:** Effective learning using technology requires the explicit and skilful alignment of context, learner needs, learning objectives and content, educational design and the technology.

- **Institutions**
Effective Technology Enhanced Learning requires institutional strategies and policies, including the development of digital literacy for both faculty/teaching staff and students, with appropriate use of any available multi-disciplinary supportive expertise, such as learning technologists and computer scientists.

- **Iterative Development for high quality Technology Enhanced Learning interventions**
The development, delivery, implementation and evaluation of Technology Enhanced Learning interventions require understanding of both the outcomes and the processes, including usability and context, and this requires iterative approaches for the development, delivery and implementation of Technology Enhanced Learning interventions.

3. Criteria for determining excellence in Technology Enhanced Learning

3.1   The criteria have been developed by members of the ASPIRE Recognition of Excellence in Technology Enhanced Learning panel and have been informed by their broad range of educational experiences and the domains within the Quality Assessment for E-learning: a Benchmarking Approach

> *Kear, K; Rosewell, J; Williams, K; Ossiannilsson, E; Rodrigo, C; Angeles Sanchez-Elvira P, Santamaria L, M; Vyt, A and Mellar, H (2016). Quality Assessment for E-learning: a Benchmarking Approach (Third edition). Maastricht: European Association of Distance Teaching Universities. https://eadtu.eu/home/policy-areas/quality-assurance/publications*

- The domains within this document cover the main domains identified in a review of similar benchmarking tools.
> *Kear, K; Williams, K and Rosewell, J (2014). Excellence in e- learning: a quality enhancement approach. http://www.learning-innovations.eu/sites/learning- innovations.eu/files/2014/LINQ 2014 Proceedings final.pdf*

The panel is aware of current trends and challenges in the wider use of Technology Enhanced Learning in Higher Education. The Horizon Reports – Higher Education by EDUCAUSE continue to highlight importance of developing digital literacy skills of both faculty /teaching staff and students, and also the development of faculty /teaching staff in the effective use of technology for the enhancement,

The panel is also aware of the challenges for effective and sustainable implementation of Technology Enhanced Learning within low resource settings

> *Barteit S, Jahn A, Banda SS, Bärnighausen T, Bowa A, Chileshe G, Guzek D, Jorge MM, Lüders S, Malunga G, Neuhann F E-Learning for Medical Education in Sub-Saharan Africa and Low-Resource Settings: Viewpoint J Med Internet Res 2019;21(1):e12449*
>
> *Daniela, L.; Visvizi, A.; Gutiérrez-Braojos, C.; Lytras, M.D. Sustainable Higher Education and Technology-Enhanced Learning (TEL). Sustainability 2018, 10, 3883.*

3.2   There are 4 criteria of excellence in Technology Enhanced Learning: Criterion 1.

> Strategic Management
>> A high level view of how the institution plans its use of Technology Enhanced Learning, including strategies and policies.
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> Criterion 2. Design, delivery, implementation and evaluation of Technology Enhanced Learning interventions
>> How the technology is used to enhance education, including formal and informal settings.
>
> Criterion 3. Staff Support
>> The support and training provided to faculty /teaching staff
>
> Criterion 4. Student Support
>> The support, information and guidance provided to students

3.3   The 4 criteria of excellence in Technology Enhanced Learning are expanded for greater information:

Criterion 1. Strategic Management
How the institution plans its effective use of Technology Enhanced Learning, including
- a Technology Enhanced Learning strategy aligned to institutional mission and vision;
- a digital literacy (including use of social media) strategy and policies for faculty /teaching staff and students;
- a quality improvement system to ensure the effective use of Technology Enhanced Learning within the institution, including feedback from student and faculty / teaching staff users;
- a strategy and policy for sustainability of new innovations and 'horizon scanning'

for awareness of emerging trends.

Criterion 2. Design, delivery, implementation and evaluation of Technology Enhanced Learning interventions

How the available technology is used to effectively enhance education in the institution across a range of different educational challenges, with

- alignment of context, learner needs, learning objectives and content, educational design and the choice of technology;
- use of 'best practice' to inform approaches.

Criterion 3. Staff Support

How the institution provides support and training to faculty /teaching staff in the effective use of Technology Enhanced Learning , including

- digital literacy (and the use of social media);
- support to faculty / teaching staff through multidisciplinary expertise e.g. learning technologists.

Criterion 4. Student Support

How the institution provides support, information and guidance to students in the effective use of Technology Enhanced Learning , including digital literacy (and the use of social media).

Evidence will be required to support each of the Criteria.

4. Further reading recommended to inform submissions and the provision of required evidence

4.1 All applicants are advised to consider the scope of digital literacy (as described in the HEE digital capabilities framework and the use of social media) to inform their evidence of digital literacy (including the use of social media).

https://www.hee.nhs.uk/our-work/digital-literacy
https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/doctors-use-of-social-media

4.2 All applicants are advised to consider :

- ''best practice'' approaches for the design, delivery and implementation of effective Technology Enhanced Learning, such as: *Sandars, J., Correia, R., Dankbaar, M., de Jong, P., Sun Goh, P., Hege, I.,Pusic, M. (2020). Twelve tips for rapidly migrating to online learning during the COVID-19 pandemic.*

MedEdPublish, 9(1), https://doi.org/10.15694/mep.2020.000082.

- "best practice" approaches for the evaluation of effective Technology Enhanced Learning, such as: *Sandars J, Goh P (2020) How to make it work: a framework for rapid research to inform evidence-based decision – making about the implementation of online learning during the COVID-19 pandemic.*
  MedEdPublish, 9, [1], 154, https://doi.org/10.15694/mep.2020.000154.1

4.4 All examples should give more than a broad description and copies of relevant documents and details should be provided to justify the answer. Details expected include the number of years of provision, the number of courses and times run, the numbers of attendees, the results of any evaluations.

5 Criteria and examples of evidence

5.1 Criterion 1. Strategic Management

How the institution plans its effective use of Technology Enhanced Learning , including a Technology Enhanced Learning strategy aligned to institutional mission and vision; a digital literacy (including use of social media) strategy and policies for faculty/ teaching staff and students; a quality improvement system to ensure the effective use of Technology Enhanced Learning within the institution, including feedback from student and faculty/teaching staff users; a strategy and policy for sustainability of new innovations and 'horizon scanning' for awareness of emerging trends.

Examples of evidence
- Institutional Technology Enhanced Learning strategy document
- Institutional digital literacy strategy document, including use of social media
- Institutional digital literacy (including use of social media) policy document for faculty / teaching staff
- Institutional digital literacy (including use of social media) policy document for students
- Example of the institutional level quality improvement system for Technology Enhanced Learning that demonstrates how the institution identifies the user requirements (students and faculty/teaching staff) for Technology Enhanced Learning provision and how it responds to these identified user requirements
- Institutional strategy and policy document for sustainability of new innovations and 'horizon scanning' for awareness of emerging trends

5.2. Design, delivery, implementation and evaluation of Technology Enhanced Learning interventions

How available technology is used to effectively enhance education in the institution across a range of different educational challenges, with alignment of context, learner needs, learning objectives and content, educational design and the choice of technology; use of 'best practice' to inform approaches

Examples of evidence

- Three different examples from the institution, which can include modules, programmes or wider institutional ventures.
- Each example should demonstrate how available technology has been used to enhance teaching and learning in the institution, with specific demonstration of:
  - the expected benefit to users (students and faculty / teaching staff)
  - the use of 'best practice' for the design, delivery and implementation. This includes justification of both the choice of technology and its intended benefit to users. The justification must also include a discussion of the existing evidence base or guidelines for effective use of technology to enhance teaching and learning
  - an evaluation, including any important lessons learned and subsequent changes made.

5.3 Staff Support

How the institution provides support and training to faculty/ teaching staff in the effective use of Technology Enhanced Learning, including digital literacy (and use of social media); support to faculty / teaching staff through multidisciplinary expertise e.g. learning technologists.

Examples of evidence

- Examples of how the institution provides continuous and 'just in time' support to faculty/ staff, such as help-desk and online resources
- Examples of how training is provided by the institution for faculty / teaching staff in the effective use of Technology Enhanced Learning. There must be several examples that cover different aspects, but there is no specific requirement for the number of examples
- Examples of how training is provided by the institution for faculty / teaching staff in the development of their digital literacy (including use of social media), but there is no specific requirement for the number of examples
- Description of the multi-disciplinary support available in the institution to support faculty / teaching staff in the effective use of Technology Enhanced Learning. Examples of support include learning technologists, web designers, educational developers.

5.4 Student Support

How the institution provides support, information and guidance to students in the effective use of Technology Enhanced Learning, including digital literacy (and use of social media).

Examples of evidence

- Examples of how the institution provides continuous and 'just in time' support to students, such as student help-desk and online resources
- Examples of how training is provided by the institution for students in the effective use of Technology Enhanced Learning. There must be several examples that cover different aspects, but there is no specific requirement for the number of examples
- Examples of how training is provided by the institution for students in the development of their digital literacy (including use of social media), but there is no specific requirement for the number of examples