



Innovation in Teaching and Learning in Health Higher Education

Final Report

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Background

The Innovation in Teaching and Learning Project has been a two year joint endeavour between the UK Council of Deans of Health (CoDH) and the Higher Education Academy (HEA). CoDH is the representative voice of UK university faculties engaged in education and research for nursing, midwifery and the allied health professions. The HEA is focused on enhancing learning and teaching in higher education (HE) and is committed to supporting UK HE organisations with an emphasis on improving the student experience. This strong mutual interest in supporting teaching and learning created a natural opportunity to work together to promote innovation across health professional education, from recruitment to initial pre-registration programmes to doctoral studies and lifelong learning.

The project was developed at a time of rapid change for the landscape of health HE. Across the UK, the HE sector faces the challenge of delivering high quality education at a time of financial constraint and increased emphasis on the student as a consumer. Universities also face changing expectations from the health and social care sectors. As health and social care services respond to the changing needs of an ageing population with more complex conditions, there is increasing recognition of both the inter-dependency between the quality of care and the quality of education and the potential for education to support much-needed innovation. Although the differences in the HE and health policy context across the four UK home nations are increasingly significant, these are common challenges for all 85 members of CoDH.

The Innovation in Teaching and Learning Project was born out of two convictions: that despite its importance, educational innovation and research is all too often overlooked, with most policy discussions and most funding focused on innovation in clinical practice; and that there is a wealth of education innovation within the UK's universities that is relatively rarely showcased, either within HE or to a broader policy audience.

The project has therefore had two core objectives:

- To provide a forum through which universities can share and disseminate their innovative practice to a wider audience in HE
- To showcase this innovation to the policy makers who shape the context in which health education is delivered.

The project's first year focused on scoping and identifying innovations, including developing a student journey to provide a framework on to which innovation could be mapped. However, as the design for the case study collection began, it became clear that there were relatively few surveys of the existing evidence on innovation in health HE. A literature review was therefore commissioned, looking across all health professions and outside the UK to give an international context to the case study collection. It was also apparent from the early work of the project that work on innovation often focuses on specific initiatives or technologies rather than on the context in which they develop. The project's second year therefore took culture of innovation as an

explicit focus, including the publication of a second literature review exploring the research evidence on developing and embedding new practice.

Literature Reviews

Two literature reviews were undertaken as part of the project; one in the first year and the second in year two. The purpose of the first literature review was to scope the range of learning and teaching innovations currently in practice across the UK within the higher education of healthcare professionals. The second literature review explored definitions and cultures of innovation.

Literature review¹: Innovation in Teaching and Learning in Health Higher Education

The literature review set out to address:

- What conceptualises and defines innovation in healthcare HE?
- How are cultures of innovation developed?
- What evidence of innovation exists?
- What are the barriers and enablers to innovation, development and dissemination in healthcare HE?

A comprehensive protocol-based approach – Population, Intervention, Comparator, Outcomes and Study (PICOS) – was used to search for and retrieve relevant papers based on pre-selection inclusion criteria. The following data bases were searched: Medline, Cinahl, BEI, ERIC, ASSIA, Index to Thesis and OpenGrey. The search was limited to primary and secondary sources between 2010 and 2013. Papers were screened at title and abstract against inclusion and exclusion criteria generated from the PICOS review protocol (see table 1 below).

Table 1: Review protocol (PICOS)

	Inclusion	Exclusion
Population	Students and practitioners engaged in medicine, nursing, midwifery and allied health professional practice. Higher education setting.	Non-healthcare education. Primary or secondary education. Further education.
Intervention	Technological and non-technological innovations relating to: recruitment and admissions, learning, teaching and assessment, practice placement and career and employment.	Standard and non-innovative practice and interventions.
Comparator	None	None

¹ Dearnley, C., McClelland, G.T., Irving, D. (2013) [Innovation in Teaching and Learning in Health Higher Education](#), Council of Deans of Health and the Higher Education Academy

Outcomes	Social media, digital devices, online and e-learning, simulation, virtual learning environments, learning, teaching and assessment approaches, recruitment initiatives, student support strategies, clinical practice innovations	
Study	International research papers, published in English, between 2010-2013	Non-research literature. Research papers dated prior to 2010

Data were organised and displayed using a student journey framework (from recruitment onto pre-qualifying programmes, to the student experience and teaching and learning practices during the course and then through to graduate employment) and categorised according to whether they were either technological or non-technological innovations.

The findings revealed a plethora of examples of innovative teaching and learning practices in healthcare HE but these were predominantly in the USA, with far fewer examples from the UK. The studies associated with technological innovations included simulation (Dearnley et al. (2013) pp.11, 13, 15), digital teaching aids (pp.12, 13, 15), online teaching and assessment (pp.12, 14, 15), e-learning (pp.12, 14, 15), virtual learning environments (pp.12, 14, 16) and the use of social media including mobile technologies (p.13). Studies included in the review relating to non-technological innovations related to the full scope of the student journey and included clinical skill development (p.18), approaches to assessment and feedback (pp.18), experiential learning (p.18), involvement of service users and carers (p.18), arts-based learning (p. 18).

There were relatively few studies on assessment or practice-orientated interventions. There therefore appears to be a gap in the available evidence base relating to specific innovative practices in teaching and learning in HE, particularly regarding enhanced student experience and sustainable student outcomes. It is also likely that some innovative practices have not been researched or published and therefore they lack diffusion and adoption across the sector. The review concluded by recommending a further exploration of the literature related to definitions and cultures of innovation.

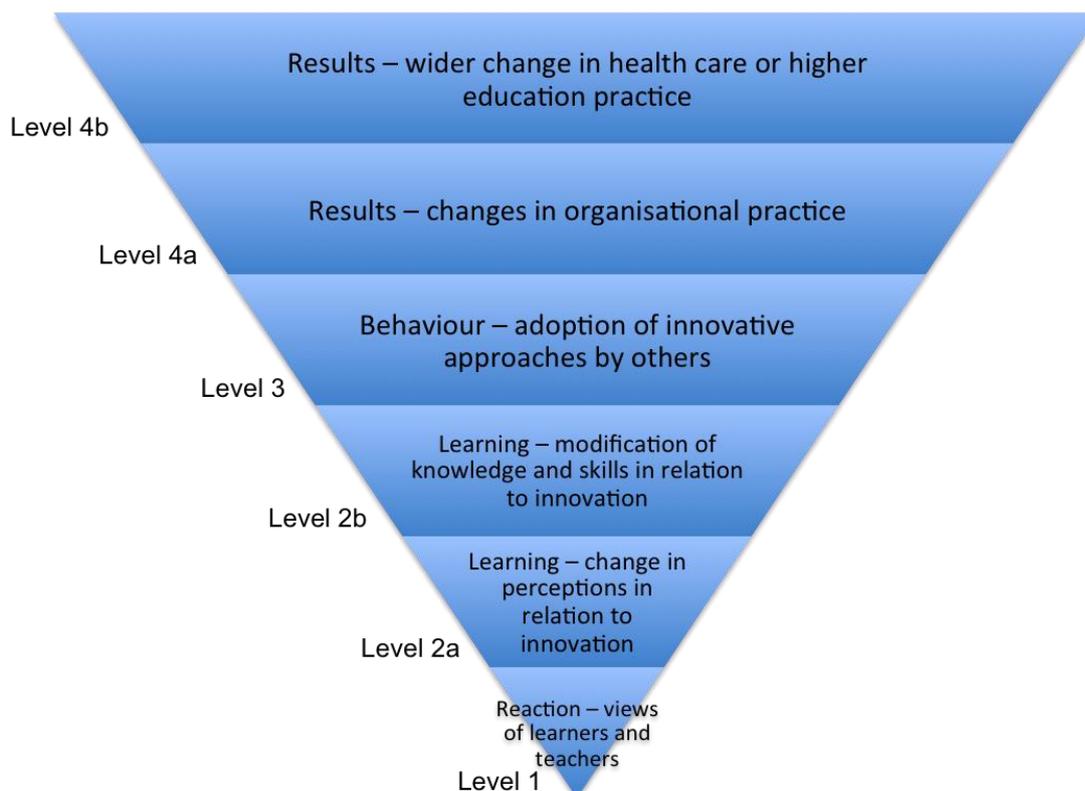
Literature review²: Developing and Sustaining a Culture of Innovation in Health Higher Education

This literature review set out to review the recent literature on cultures of innovation and summarise how they are developed, sustained and extended, including the associated barriers and enablers, in a way that is relevant to health HE and which can be used to inform future practice. The review addressed the following questions:

- How is innovation defined and conceptualised?
- How is innovation developed?
- How is innovation evaluated and disseminated? And included in this, what is the impact on the student experience, the staff, the institution and beyond the institution?
- How is a culture of innovation sustained, embedded and extended?
- What are the enablers and barriers to the development of a culture of innovation?

The review itself adopted an innovative approach which was conducted in four phases. Phase 1 involved scrutiny of all the studies included in the first literature review using a modified Kirkpatrick hierarchy (see Figure 1) to identify where each innovation was located on the hierarchy.

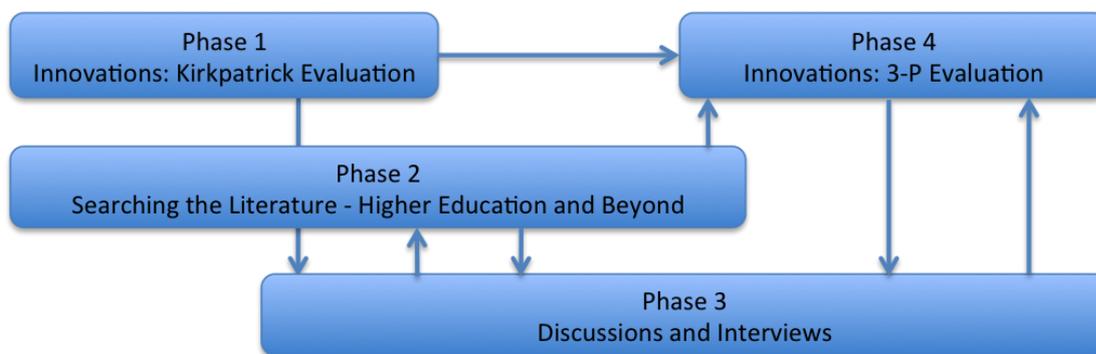
Figure 1: Kirkpatrick's hierarchy of innovation



² Lewitt, M., Snowden, A., Sheward, L. (2014) [Developing and Sustaining a Culture of Innovation in Health Higher Education](#), Council of Deans of Health and the Higher Education Academy

Phase 2 involved a systematic search of the wider HE literature. In Phase 3, discussions and interviews were held with key experts and further sources of literature identified. Phases 2 and 3 resulted in the development of a modified version of the 3-P model – Presage-Process-Product – that was originally developed by Briggs (2003). Presage (or context) is the culture context in which the innovation sits, the characteristics of the organisation, its teachers and learners. Process factors include the approaches to supporting the development of innovation, whilst Product factors (or outcomes) are the innovations themselves, their impact and how they are disseminated. In the fourth and final phase each of the articles from the first literature review was re-scrutinised against this new conceptual framework. These four phases were overlapping and informed each other in an iterative way (see Figure 2).

Figure 2: Illustration of the phases of the literature review



The review found that an environment that is most likely to foster innovation in health HE is one that:

- Encourages interdisciplinary and collaborative approaches
- Is enhancement-led
- Is critically reflective
- Encourages new ideas and their development
- Rewards staff for new approaches.

Unsurprisingly leadership is key to creating such an environment, along with a shared organisational vision that encompasses distinctive impact across and beyond the organisation. The review also found that creative individuals are those who are able to work at the boundaries between disciplines and make connections. A further finding was the importance of involving students, service users and other stakeholders as partners in curriculum design teams.

Methodology

In order to achieve the outcomes of the project, a survey design was adopted as a way of gathering a wide range of data from member institutions. The project objectives were:

- To provide a forum through which universities can share and disseminate their innovative practice to a wider audience in HE
- To showcase this innovation to the policy makers who shape the context in which health education is delivered.

Given that this was a new project, the project steering group designed a pilot survey questionnaire. Of particular importance was the need to understand the innovation, the impact it had had on the student learning experience and to understand how the innovation had been evaluated. The survey questionnaire was piloted with six universities and as a result of this pilot data collection a few adjustments were made to the way in which the questions were worded in the survey. The definition of innovation was key to helping members of CoDH to understand what was expected of them in the questions. For the purpose of this survey the definition of innovation used was;

‘Doing something new in teaching and learning for nursing, midwifery and allied health, in pre- and post-registration, undergraduate or post-graduate courses. This could include recruitment, widening participation, retention and pastoral care, curricula and course development and design, applications of technology, management skills and institution structure, changes to the culture and process of innovation, or improving future employability of students.’

The survey utilised open ended questions which allowed respondents freedom to express the purpose of the innovation and how it was used. A student journey framework was used as a means of helping members frame the types of innovations they might wish to submit. In the instructions for completion members were asked to think of innovations surrounding the whole student journey, from recruitment to graduation. Members were also encouraged to think about innovations across the whole spectrum of the student learning experience, from undergraduate to postgraduate and across the range of disciplines within nursing, midwifery and the allied health professions.

A particular focus of the survey was also around the culture of innovation; exploring the enablers and barriers to innovation, understanding the culture of innovation within the university department or wider university and understanding how the innovation had been disseminated through publication or peer reviewed national/international conferences. The literature reviews within the project supported the overall approach and eventual design of the survey, putting the results in a wider context. The project steering group are unaware of any previous surveys that collected such a range of rich data regarding the pedagogical approaches and design of innovations in health HE in the UK.

Data collection and analysis

Following the completion of the pilot survey and subsequent amendments, the revised survey (see Appendix I) was sent to the 85 member institutions of CoDH via the organisation's membership database. Members had an eight week window in which to return the completed surveys and were asked to complete a new survey form for each innovation. The project officer sent e-mail reminders to members at the four week, six week and eight week periods of the data collection timeframe as well as making calls to member universities as a prompt to aid a successful completion rate. A total of 123 surveys were completed and submitted from 40 universities.

Data analysis was carried out by an external analyst, mainly due to time constraints on the part of the project steering group. One advantage of this approach was the externality to the project and increased objectivity to the innovations submitted. Surveys were categorised manually by number of submissions per institution, country of submission, type of university (post 92, pre 92), level of academic study and professional group.

In addition a thematic approach was taken in relation to the core content of the innovation. Five different types of technological innovation were identified (see Table 5). The non-technological innovations also fell into five key areas: curriculum design; programmes; modules and units; workshops and seminars; and teaching and learning methods (see pp.12). The initial data analysis was conducted over an eight week period and early findings were discussed with the project steering group to ensure that any issues within the submissions were resolved. Following a meeting of the project steering group with the data analyst a number of minor amendments were made and the final findings were agreed.

Findings

Overall findings

This exercise revealed a diverse array of innovations in teaching and learning in health HE, which were located across the student journey, although there was a strong emphasis on pre-registration education. While nursing featured in a large proportion of the innovations, other professional groups were well represented, and a substantial number of innovations had an inter-professional focus. However, with a few exceptions, there was insufficient evidence available to support a robust independent assessment of the novelty and impact of the innovations.

Table 2: Overall responses

40 universities (total 123 innovations)	Number	Percentage
Pre 1992	17	43%
Post 1992	23	57%

Table 3: Innovation by professional group

Group	Number	Percentage
Nursing	44	61%
AHPs	15	21%
Other (HV, SW, psychologists, HCSWs, carers)	8	11%
Midwifery	5	7%

N.B. HV= health visitors, HCSWs= health care support workers)

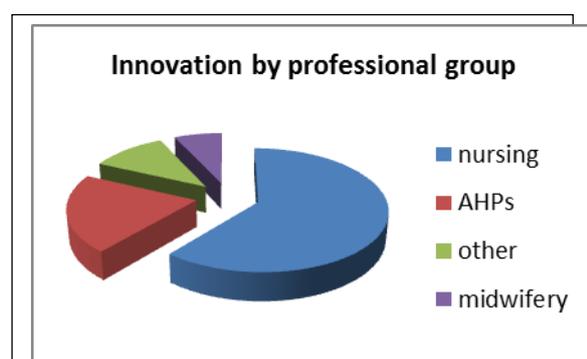


Table 4: Innovation by level

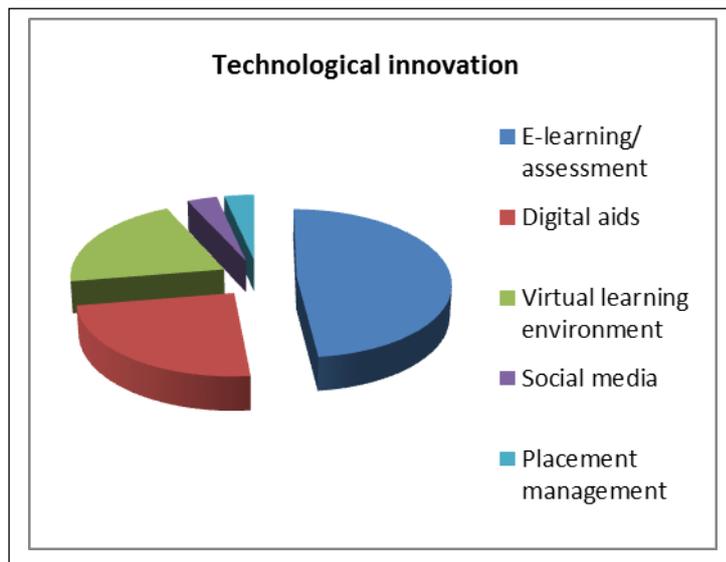
Prequalification	106	86%
Pre and/ or post qualification	31	25%

Type of innovation

Types of innovation were diverse; perhaps predictably at this point in history, a reasonable number (29 = 24%) involved technological innovation with a range of initiatives that related to blended teaching, learning and assessing approaches, use of virtual learning environments as well as use of devices.

Table 5: Technological (29 = 24%)

E-learning/ assessment	14	48%
Digital aids	7	24%
Virtual learning environment	6	21%
Social media	1	3.5%
Placement management	1	3.5%
Of the above, supporting IPE	18	62%

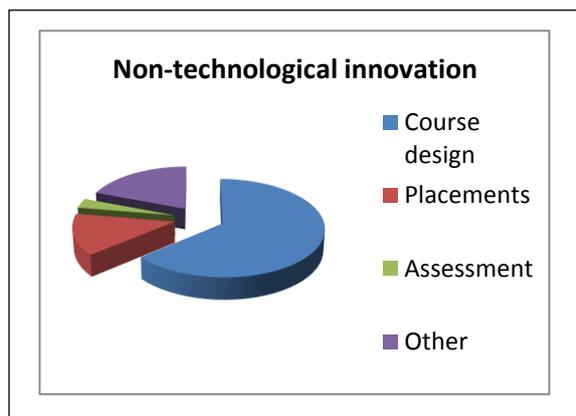


The main non-technological innovations related to course design and can be divided into five categories: curriculum design; programmes; modules and units; workshops and seminars; and teaching and learning methods. Although these categories are derived from some commonality in the innovation, the case studies provided are incredibly varied and it is only possible to provide some particularly distinctive contributions in this paper. Examples of non-technological innovations include a theatre company presenting a play about the effects of dementia on three generations of the same family; midwifery students teaching medical students about labour and birth, playing roles as woman, partner, midwife and narrator; adult nursing and social work students spending a day together discussing the integration of services and care for older people; student construction of learning biographies to review progress, identify priorities and negotiate learning agreements for the future; a 'Dragons Den' type business proposal pitch by occupational therapy students to a panel of peers; and visual spider mapping of learning

outcomes and syllabus content for a whole nursing curriculum to increase clarity and reduce fragmentation.

Table 6: Non-technological (94 = 76%)

Course design	60	64%
Placements	13	14%
Assessment	3	3%
Other	18	19%



(N.B. 'Other' includes activity relating to: widening participation, recruitment and admissions, non-clinical work experience, student support, evaluation)

Cultures of innovation

The case studies provided important insights into the characteristics within HEIs that facilitate or impede the development and implementation of innovatory ideas in relation to teaching and learning. The characteristics identified by respondents are broadly consistent with those highlighted in Lewitt et al's (2014) review of the literature on developing and sustaining cultures of innovation. Perhaps predictably the most frequently cited facilitator was a "supportive culture", which encourages and values innovation and embraces change in relation to teaching and learning.

Table 7: Enablers to innovation (118 responses)

Supportive cultures that embrace change	45
Open senior managers	26
Receptive colleagues	22
External networks / partnerships	21
Funding for innovation e.g. internal pump priming	17
Approachable innovators	16
Forums for sharing	11
Good relationships with students	10
Inclusive team approaches	8

Alignment with institutional strategic aims	7
University awards / prizes for innovation	6
Involvement in pedagogic research	5
Time to develop and implement ideas	4
Flexibility in curriculum design	3
CPD	3
IT support	1
Project steering group	1
Commitment to equality and diversity	1

Table 8: Barriers to innovation (116 responses)

Workload / competing demands	53
Reluctance to adopt new ways	22
Knowledge and skill deficits re: planning/ bidding/ finance	13
Excess bureaucracy	13
External resistance from partners and regulators / internal structures	10
Lack of evidence base for innovation	6
Speed of technological change / inadequate IT infrastructure	5
Lack of confidence	4
Need to communicate to diverse professional groups	4
Pedagogic and practical challenges for students	3
Insufficient start-up funding	3
Lack of management support	1
Short termism	1
Competition cross faculty	1
Need for new systems / tools	1

Ultimately, the development of supportive cultures which nourish innovation (so-called cultures of innovation) derive from senior managers who create the institutional frameworks within which innovative projects can flourish, including determining the strategic priorities with regard to the curriculum and creating cultures within which teaching and learning is valued and where outstanding contributions to its improvement can be recognized and rewarded. Arguably, most of the other enablers of innovation identified in the case studies flow from such a culture, whilst the barriers to innovation stem from its absence.

The submissions suggest that cultures of innovation exist to varying degrees in some HEIs but, as one would expect, there is very little detail in the reports relating to how these cultures are developed and sustained. Given the lack of an evidence base around cultures of innovation (Dearnley et al 2013; Lewitt et al 2014), research in this area should be a key priority of funding agencies that support innovation in teaching and learning in HE.

Discussion

The Innovation in Teaching and Learning Project has been an exciting and pioneering insight into current pedagogical innovations across the whole of the UK which has uncovered a wealth of creative practice in teaching and learning. At a time where the media portrayal of health HE can sometimes be negative, the findings from the survey demonstrate that innovation is thriving. A number of key points can be drawn from the findings.

- *Volume of innovation:* It was clear from the project findings that there is a rich and varied spectrum of innovation within health HE across the UK. Given that the response rate was 40 per cent from members of CoDH, the project team are confident that this represents only a small part of the total breadth of current innovation in the UK.
- *Implications for policy:* Firstly, the findings demonstrate the value of HE in delivering learning and teaching that is equipping students across a range of health policy priority areas in the UK. These include patient and service user engagement, care and compassion, resilience and quality improvement, to name but a few. Many of the innovations had been evaluated and published in peer reviewed journals and demonstrate the importance of innovation to both the student experience and the value-added skills of students within HE. Secondly, the findings demonstrate the strong contribution of health professional education to wider HE goals. Health HE is actively supporting universities to achieve against many of the key HE policy drivers, including graduate employability, skills, student co-production and widening participation. The findings therefore speak both to the potential impact of health HE innovation on the delivery of health and social care and to the wider academic identity of these professions.
- *The richness of the case studies:* a core contribution of the project has been the development of a “bank” of knowledge regarding the creativeness of the sector. This can now be harnessed to support discussions with a range of stakeholders, including regulators, employers, politicians and the broader HE community. Used well, the case studies have the potential to inform those that shape policy that there is a thriving, creative and robust culture of innovation within the health HE sector and to support the influencing conversations that CoDH has with a range of partners.

Project Limitations

- Directing the request for data to the most appropriate people within each university proved difficult, not least because each university has a different structure and innovative practice happens at many different levels. We cannot be sure if the 40 per cent response rate is attributable to the survey request not reaching the key initiators and drivers of innovation within university departments. Initial requests went to Deans/Heads of School who are members of CoDH but who are also responsible for a wide range of other strategic responsibilities often with very tight deadlines. Perhaps targeting a different

group of academic staff would have resulted in a higher response rate, e.g. programme leaders.

- There is also some uncertainty about how members “viewed” this project. The value and importance of this project and the role it could play in shaping engagement with policy makers was key to the discussions with the project steering group. However, the importance of the case studies to a wider influencing agenda may not have been the perception of the members submitting the data.
- The project undertook two separate literature reviews. Whilst this can be seen as robust and rich in supporting the pedagogical drivers of the project and survey, it could be argued that perhaps a more detailed literature review at the beginning of the project could have addressed both the issues of current innovation in the UK health HE sector as well as looking at the culture of these innovations.
- Within the questionnaire it was clear that the definition of “culture of innovation” as used in one of the data gathering questions was difficult to define. Fewer than 50 per cent of respondents chose to answer this question which perhaps highlights the complexity of the question asked.

Recommendations

The project's steering group managed the innovation project over a two year period. At the end of the project an external facilitator worked with the group on a process of reflection on their own contribution to the project, their ideas of what worked well and not so well and what else could be taken from the work they had been a part of. This process has contributed to the shaping of the following recommendations.

- **CoDH should continue to collect case studies of innovative practice:** The project design was centred on gathering information about “innovation” in the health HE sector. As a result of the model developed in this project, there is the potential for CoDH to gather targeted information to expand the bank of knowledge about innovative pedagogical practice with its members. For example, CoDH could seek targeted information on innovations within postgraduate programmes, or targeted information on specific health disciplines. This would help the sector in both responding to and influencing *specific* agendas.
- **Attention should be given to establishing the evidence base for the impact of education:** The project team would be wise to think forward from this project about how CoDH could gather establish an evidence base of impact, not only in relation to practice but also impact of these innovations and future innovations in relation to our position within the HE sector. From a policy perspective there was consensus among the advisory group that evidence of impact is crucial.
- **Robust evaluation should be a pre-requisite of funding educational innovation:** Whilst it is clear that members were able to articulate their innovations and describe their contribution to the learning experience, it was the view from the steering group that not all innovations were being researched and that a greater emphasis on the pedagogical research would help the standing of health professional education within HE. In addition whilst many members had presented their innovations at national or international conferences, a smaller number had published their work.
- **There should be more support for research into innovation in teaching and learning:** This report highlights the need for greater funding opportunities to support research into innovation in teaching and learning. This was a jointly funded project with the HEA that was largely opportunistic in its origin; structured opportunities could therefore yield even greater benefits for developing health HE.

Conclusion

This two-year project has demonstrated the richness of innovation currently within the health HE sector across the UK. As a result, CoDH has been able to establish an online database through its web site which allows members the opportunity to search the innovations, make contact with other members across the UK and support the dissemination and implementation of ideas across the sector.³

There is future potential to target the information we gather about innovation within our membership, which could be strategically important for targeting conversations and influencing agendas. In addition the project, its design and methodology and its findings have been disseminated at national and international conferences, which has stimulated significant interest in the approach that the project has taken. There are now several publications planned to support the dissemination of this work and its future contribution to the ongoing work of CoDH.

³ <http://www.councilofdeans.org.uk/heacodh-innovation-teaching-and-learning-project/>

References

Dearnley, C., McClelland, G.T., Irving, D. (2013) *Innovation in Teaching and Learning in Health Higher Education*, Council of Deans of Health and the Higher Education Academy

Lewitt M.S., Snowden A., Sheward L. (2014) *Developing and Sustaining a Culture of Innovation in Health Higher Education*, Council of Deans of Health and the Higher Education Academy

Appendix 1



Council of Deans of Health & Higher Education Academy Innovation in teaching and learning project Data collection template

Introduction

This project aims to support the exchange of innovative practice amongst CoDH members across the four nations, highlighting examples of innovation from the academic literature and those provided by members. The project findings will be used to raise the profile of healthcare education in the UK.

What do we mean by innovation?

We have defined innovation broadly as:

Doing something new in teaching and learning for nursing, midwifery and allied health, in pre- and post-registration, undergraduate or post-graduate courses. This could include recruitment, widening participation, retention and pastoral care, curricula and course development and design, applications of technology, management skills and institution structure, changes to the culture and process of innovation, or improving future employability of students.

For the purposes of the project, innovative practice is defined as a new, sustainable approach that has led to an overall improvement in the student experience, and which is supported by evidence (for example student evaluations, commendations by internal or external review processes).

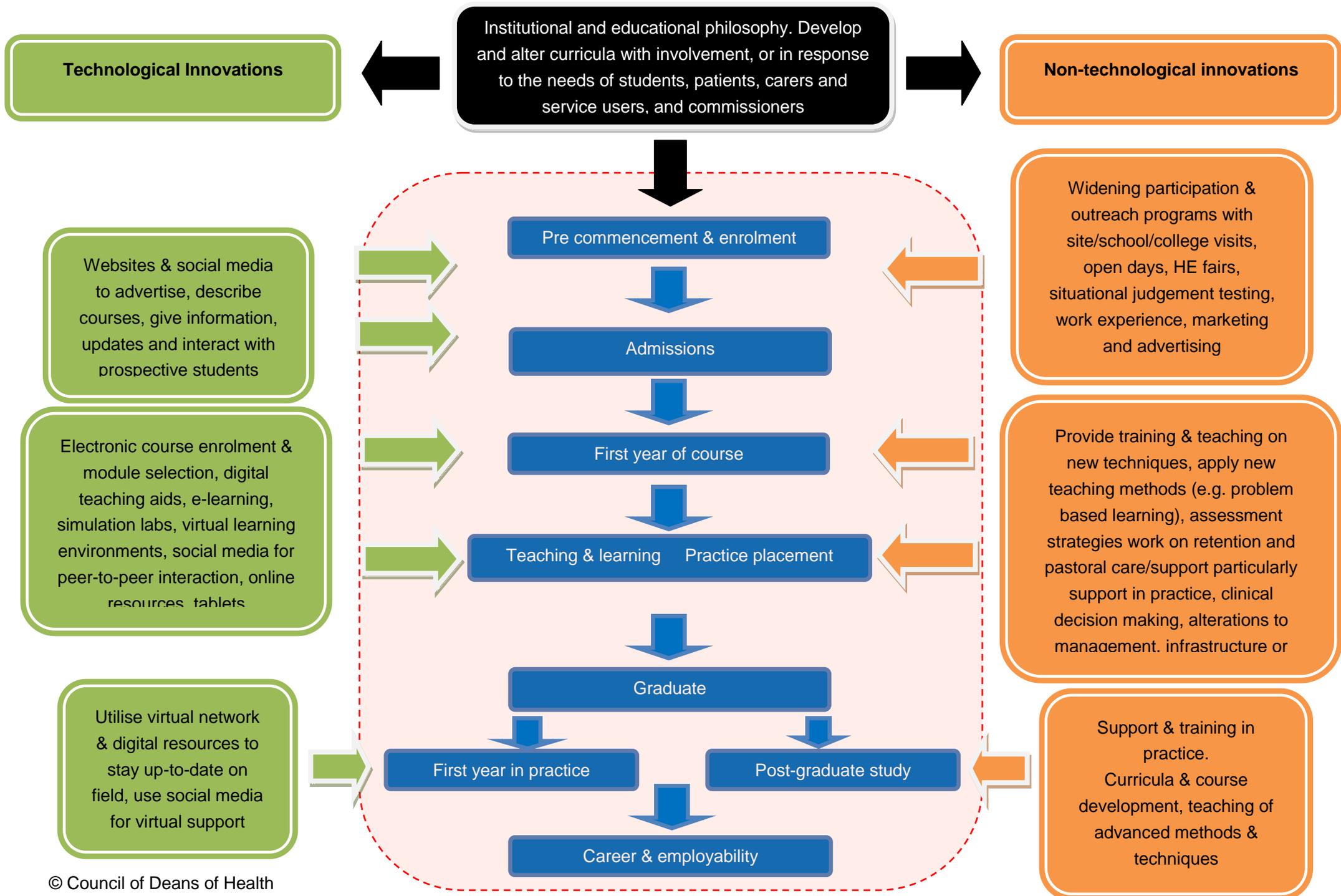
We have structured our approach to looking at innovation through a student journey (p. 2) and are keen to capture examples from across the student experience.

This document

The first set of questions asks you about your innovation. Following this section there are two questions on the culture of innovation. If you want to tell us about more than one innovation please fill in a separate form for each innovation, a university can submit several forms.

If you have any questions on this data collection template please contact: Sanja.Nivesjo@cod-health.ac.uk, 0207 419 5602

The Student Journey



Name:
Job Title:
Faculty/Programme:
Higher Education Institution:

This innovation concerns education for (please tick all relevant boxes):
Nurses Midwives AHPs Other:

Tell us where your innovation falls on the student journey (please see p.2)

Describe the innovation you have developed

What prompted the development of this innovation?

In your view, what is it about this idea that makes it different?

How has this innovation resulted in changes in practice? Please give examples

What evidence do you have of the impact of this innovation? This may include recognition in internal periodic programme review, student evaluation, or commendation from an external regulatory/professional body

How has this innovation been disseminated in your organisation or elsewhere?

Questions on developing a culture of innovation
What characteristics within your organisation have facilitated innovation?
What barriers do you think people within your organisation face in developing and fostering innovation?

How we plan to use the data we collect		
The purpose of the project is to share learning between institutions and showcase the work of HEIs to other stakeholder. Please indicate below if you are happy for us to share the data from this template in the following ways:		
	Yes	No
Have this data shared with other Council members		
Have this data used to inform other stakeholders		

With many thanks to the University of Greenwich, whose template for collecting good practice in teaching, learning and assessment has informed this work.



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