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Establishing and Sustaining National Partnerships in Professional Development and the Recognition of Open Courses in Teaching and Learning Through Digital Badges.

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This article discusses a national partnership in Irish higher education between the National Forum for the Enhancement of Teaching and Learning and the sector. The partnership initiative focussed on the scalable design and development of a suite of open-access professional development (PD) courses in teaching and learning. The empirical work explored the role and value of digital badges as professional recognition for open courses, and in particular the transformative experience of the collaborative course design teams from teachers into teachers-as-designers. Each course has been mapped to Ireland's national PD framework for all staff who teach. This initiative aimed to provide multiple nationally developed access points to PD opportunities and recognise engagement through digital badges. The partnership with course designers from institutions across Ireland was multifaceted, and their transformation from novice creators of digital content is explored here. Lessons learnt relate to developing consensus on national criteria and associated evidence for scalable open courses, ensuring quality assurance and supporting teams working in partnership. A framework of triple-loop learning was used for conceptualising the different phases of development of the collaborating teams and the sectoral learning around partnerships and nationally recognised collaborative course design.

Implications for practice or policy:
- Instructional designers and learning technologists should be included in the development team for early consideration of the concept of badging.
- Explicit planning is required, including a course development workshop, provision of templates for designing the course and guides for developing resources.
- To ensure rigor, the development team should integrate a peer review process for validating the course content.
- Involving human resource and senior managers in exploring PD recognition is vital for sector-wide implementation.

Keywords: digital badges, teachers-as-designers, partnerships, professional development, scalable, triple-loop transformation

Introduction

The focus of the article is a critical discussion and reflection on a national partnership initiative, which took place in the Irish higher education (HE) sector during the 2017-2018 academic year developing badged professional development (PD) courses and materials. The article introduces partners' experience on the transformation of the national teachers' PD digital badge ecosystem. Furthermore, it discusses the extension and importance of the partnership activity, with a focus on engaging key stakeholders in a national policy-making context.

A sector-wide partnership approach was taken to designing and implementing open PD courses to provide accessible starting points for staff to engage with a newly developed national PD framework for all those who teach. In the context of the partnership initiative, the term *teach* is inclusive of all the activities involved in the teaching and the facilitation of student learning and incorporates the principles of student engagement in the learning process. The approach incorporated digital badging to give participants recognition for completing the open course and to support their future employment mobility across the HE sector. The article highlights the transformation of those involved in the partnership of designing and developing PD

open courses as they conceptualised the amount of learning and assessment required for recognition (and gaining a nationally recognised digital badge). This is in contrast to that required by existing processes and guidelines for courses leading to a European credit transfer system–based accreditation of learning (ECTS) (European Commission, 2020).

The development of a PD framework for HE was influenced by the recommendations of the high-level working group on the modernisation of HE (Higher Education Authority, 2013), and the national strategy for higher education (Department of Education and Skills, 2011). Responsibility for the implementation of the national strategy rests with the Higher Education Authority, which has a statutory responsibility, at central government level, for the effective governance, funding and regulation of HE institutions and the HE system. The National Forum for the Enhancement of Teaching and Learning in Higher Education (National Forum) is the national body responsible for leading and advising on the enhancement of teaching and learning in Irish HE and is funded by the Higher Education Authority.

The partnership initiative was led by a team of representatives from the National Forum, who were responsible for the partnership initiative. Specifically, the National Forum team involved the director, the project manager of the PD framework sectoral implementation and the web designer. This team worked closely with 15 collaborating groups of teachers and academic developers from across the HE sector to design, develop and implement a series of PD open-access courses (available under a Creative Commons licence), leading to National Forum digital badges that can be claimed when participants from the Irish HE sector meet identified key criteria. A robust dimension of the PD framework is its recognition and description of various forms of PD. These agreed descriptions provide a useful structure for encouraging those engaging with the PD framework to think about the range of potential activities that constitute PD. Of interest to this study on PD open courses, recent work by Smith et al. (2020) in professional education settings presents a recognition model which seeks to identify and align technology-related procedural and technical, cognitive and sociocultural digital literacies with core affordances and professional competencies.

The article begins with the background on recognition of learning in teachers' PD. It then considers tools and instruments on open digital badges including a short examination of their nature, value and impact for recognition of an individual's development of knowledge and skills in teaching and learning and their potential in recognising non-accredited learning. This includes supporting engagement in PD by those who teach, providing accessibility to particular topic areas, exploring their potential to support employment mobility by agreeing the key criteria to be met with recognised content experts in the HE sector and awarding a National Forum–endorsed digital badge for those who meet the four specified criteria. The article then explains the transformation of the teacher-as-a-designer of open courses for a national rather than an institutional context and for recognition rather than formal accreditation. Although the course developers were selected for the partnership initiative for their expertise in the course content areas, the development process involved much more than identifying the appropriate content. The design process required a variety of issues to be discussed and negotiated, including:

- What quantum of learning should be included?
- What kinds of activities should participants complete to demonstrate they have met the key criteria?
- Who would decide if the criteria have been met to enable participants to claim their digital badge?
- Who could facilitate these open courses?
- How would the open courses be mapped onto the national PD framework?

We used a conceptual model of single- and double-loop learning first outlined by Argyris (1993) as a framework for conceptualising the different phases of transformation observed. However, this conceptual model also incorporates triple-loop learning, which goes beyond both single and double-loop learning. Triple-loop learning was inspired by Argyris and Schön (1997) (Tosey et al., 2012) but was first described by Swieringa and Wierdsma (1992). Triple-loop learning was used in our study as a framework for conceptualising the different phases of the development of teachers-as-designers; it was observed as development teams debated and agreed what national recognition of engaging in PD through any of the developed open courses would encompass. The learning at a national level was also conceptualised by the National Forum using this framework.

Origins of the partnership project

An issue emerged from the professional practices of all staff with a teaching role in Irish HE – forming a professional community. The problem of recognising fluid trajectories of professional learning as part of teachers' PD is an issue that has been debated in the literature (McKee & Eraut, 2012; Zgaga, 2015) and is a matter of policy-making in Europe and several national contexts. As the Teaching and Learning International survey (Organisation for Economic Cooperation and Development, 2019) has already highlighted, teachers' PD requires fluid contexts of professional learning, connected to professional practice and to contexts of innovation such as the school and professional communities across institutions. One of the current problems in providing an adult education approach is to orchestrate the several resources, activities and interactions needed in a way that encompasses personalisation and effective professional learning outcomes. The recognition of such activity is another open problem, due to the very informal learning activities usually experienced within the overall context of professional learning (Darling-Hammond et al., 2017).

It is important to acknowledge the state of the art on teachers' PD, and this article is introduced as a contribution to it. Equally relevant to acknowledge is the evolution of the policy context at national and international levels. Digital badges form only a subset of the area of teachers' PD and the recognition of professional learning.

Context for the partnership initiative

The National Forum was established in 2012 to mobilise expertise and inputs from across the entire sector and to extend and shape best practice in all HE institutions in Ireland. A key aspect of its work was the development of a national PD framework for all those who teach in HE (National Forum, 2016). The PD framework defined a typology of PD distinguishing collaborative and non-accredited, unstructured and non-accredited, structured and non-accredited, and accredited PD. Only accredited PD carries ECTS credits. The characteristics of each form of PD are outlined in Table 1.

Table 1
PD typologies (adapted from National Forum, 2016, p. 2)

	Non-Accredited		Accredited
Collaborated and Non-Accredited	**Unstructured and Non-Accredited**	**Structured and Non-Accredited**	**Accredited**
Informal	*Non-Formal*	*Non-Formal*	*Formal*
Conversations with colleagues, peer networking, peer observations, online blog or discussion forum	Reading article, following social media, self-study, watching video tutorials, keeping a teaching journal or portfolio, preparing an article for publication	Workshops, seminars, MOOCs, conferences, summer schools, structured collaborative projects	Professional certificate, Graduate Diploma, MA, PhD, EdD in Teaching and Learning, eLearning, Leadership in Education, Education Policy
Collaboratively led	Individually led	Led by an institution, network, or a membership body	Accredited and affiliated program of study

The PD framework is evidence-based and includes a review of both the accredited and non-accredited PD opportunities (programs, modules, events, activities) that are available across the sector (National Forum, 2015a, 2015b). These reviews found that the vast majority of continuous PD opportunities were non-

accredited and similar across institutions. The national partnership initiative discussed in this article describes an approach to capture the potential of structured, non-accredited PD for recognition. In contrast to accredited provision, which has identified learning outcomes and associated ECTS or professional body endorsement, structured non-accredited PD has clear learning outcomes but does not have ECTS or endorsement from professional bodies.

The National Forum supports digital capacity building across the sector through targeted project funding. One of these funded projects (Allaboardhe.ie) investigated the potential of digital badges to recognise the skill and knowledge acquisition of staff and students in HE (National Forum, 2017). The project found that staff and students responded positively to earning digital badges to recognise their achievements, and many institutions started to introduce digital badging for a range of learning activities. However, although these institutionally allocated digital badges had value within the context in which they were gained, they were not necessarily transferable to other institutional contexts, and so did not directly support staff employment mobility.

The challenge in the implementation of a national PD framework is providing the opportunities, time and space that enable staff to engage in PD and work in partnership. Many staff can be deterred by the commitment to an accredited program because of the demands of their work and the limited time they have available. Staff require accessible, focussed PD opportunities to enable their initial engagement or their ongoing upskilling in particular approaches to teaching and learning.

The series of open courses developed through the National Forum cover some of the most commonly delivered topics offered by HE institutions (National Forum, 2015a). The courses are short (25 hours of learner effort), accessible (available in a number of modes, online, face-to-face and self-study) and provide recognition to participants who have meet agreed criteria by awarding a National Forum digital badge. This national endorsement supports staff employment mobility by giving credibility to these digital badges.

Rationale and scope of the partnership initiative

This opening section of the rationale includes a backdrop summary of digital badges, with a subsequent discussion explaining the aims of the design process for this current initiative of developing badged PD materials.

The use of badging to recognise achievement is not new, with digital badges first used as a type of gamification and considered a recognition of personal achievement among computer games players. These badges are "digital tokens that appear as icons or logos awarded by institutions, organisations, groups, individuals. The badge signifies mastery of a skill or marks of experience" (Casilli & Knight, 2012, p. 1). The validity, authenticity and value of the digital badge can be enhanced by encoding it with information about the skills it represents and the issuing organisation. In order for badges to be respected and recognised as meaningful indicators of learning, they must be linked to evidence of experiences and artefacts developed during the learning opportunity (Mayrath et al., 2012). Looking specifically at PD for educators, a United States of America study with schoolteachers by Acree (2016) found that 97% of post-course survey respondents indicated that they wanted to pursue another digital badge in the future. In HE PD, there does not yet seem to be a clear set of studies for this. A recent report (Oliver, 2019) discussed three aspects for success in implementing digital badges that have resonance for our partnership initiative: building trust, adding value and achieving sustainability. Stronger connections between digital badges and other relevant innovations such as ePortfolios and credit for prior learning seem like promising directions for increasing the perceived value of badges (Hickey et al., 2015).

However, published work has also highlighted a number of issues with the credibility of digital badges as a form of recognition on learning (Mewburn et al., 2014). These include concerns around quality due to a perception that digital badges are ubiquitous. This extends to digital badges being perceived as carrying more weight depending on the issuer and that the interactions around the badges are open, not proprietary. In the context of this partnership initiative, the badge issuer was the National Forum, which provided required credibility through its endorsement. In addition, the sectoral collaborative development of the badge content ensured recognition by potential badge earners. In the Australian HE context, Ross (2019b) reported on micro-credentials being given formal recognition in the qualifications system. However, in recent moves to regulate micro-credential credit, guidelines were considered necessary to guarantee the

quality of the assorted micro-credentials now offered or being developed by 36 Australian universities and a host of other colleges, professional bodies and certifying agencies (Ross, 2019a).

Authors have previously highlighted a concern with the lack of clarity on how these smaller units of learning fit with conventional qualifications (Gallagher, 2016). Greenberg (2018) argued for the need to be transparent about what digital badges are and what they represent. The process of discussion, negotiation and agreement of how the open courses recognised by National Forum digital badges were positioned with existing provision across the sector led to a transformation for course developers in their design role.

Aims of the PD partnership

This national approach to developing PD open courses with recognition by a digital badge that was endorsed by the National Forum (2018) aimed to:

- establish a national approach to developing accessible professional development opportunities for those who teach in higher education;
- support the implementation of the national PD framework within intuitions;
- negotiate the characteristics of accessible open PD courses including e.g. quantity of learning, badge criteria and related content and assessment;
- provide opportunities for participants to achieve recognition for their commitment to and completion of PD opportunities;
- develop a shared open-access resource for the sector;
- distinguish between recognition of learning using digital badges and formal accreditation of learning;
- provide leadership in supporting teaching and learning enhancement in HE.

The scalable PD open courses development process

The development of PD open courses and digital badges at national level is an important initiative for Irish HE. Table 2 provides a step-by-step delineation of the process by which the PD open courses were developed, including the nature of the design teams for each course, details on how many people were involved, what roles they undertook and how the process was managed by the National Forum.

It was important to the National Forum that this national initiative be undertaken in collaboration with teachers who would be the designers of the PD open courses to ensure that the sector had ownership of the courses developed and that the courses could be integrated into existing institutional structures for PD across the sector. It is interesting to note the work by Lakkala et al. (2015), where a group of self-selecting university lecturers redesigned their courses by applying theory-based pedagogical design principles emphasising collaborative knowledge creation supported by digital technology. They identified a need for teachers to model authentic professional practices, and our study on open courses aimed to provide this.

The development of the suite of PD open courses involved six stages outlined in Figure 2 extending from an initial call (Stage 1), selection of development teams (Stage 2) developing the short course (Stages 3 & 4), peer review (Stage 5) and implementation (Stage 6).

In all, 75 applications were received, with 15 topics being chosen for development based on the most common themes of the non-accredited PD already available across the sector. The successful applicants, who subsequently became known as the lead developers were a mix of lecturers from particular disciplines, academic developers and senior management. Where an expression of interest for one topic was put forward by a number of individuals, the National Forum encouraged those involved to work in partnership as a team to design and develop the PD open course. Therefore, each team had a lead developer and between one and three collaborating partners. Collectively, the design teams included representatives from 20 HE institutions. The materials developed were peer-reviewed by subject experts who were not involved in the development process.

Table 2
Nature of the design teams' partnerships (National Forum, personal communication, March 2020)

How many people were involved	What roles they undertook	How the process was managed (by the National Forum)
3	National Forum support staff	**Stage 1:** Expression of interest sent out across the HE sector: 75 applications received
15	**Lead developers** of PD short courses based in these institutions/organisations: • Maynooth University • Trinity College Dublin • NUI Galway • Hibernia College • AHEAD • Union of Students Ireland • Campus Entrepreneurship Enterprise Network • University College Cork • Griffith College Dublin • IT Tralee • IT Letterkenny • Cork Institute of Technology	**Stage 2:** Decision on which PD short courses are funded for development; 15 selected **Stage 3:** • All applicants contacted with the decisions • National Forum face-to-face workshop run to bring all lead developers and collaborating partners together for the first time to explore and discuss the key issues to take on board in the PD program and digital badges development
25	**Collaborating partners** based in these additional institutions: • University of Limerick • University College Dublin • GMIT • Dublin Business School • Dublin City University • Dundalk IT • WIT • DIT	**Stage 4:** Develop subsequent online support strategies for collaborating teams for the full process: • FAQs resource on program development and digital badges • Guidelines for good practice • Review workshops • Marketing and dissemination guides • Webinars and social media for promoting the initiative
30	**Peer reviewers** were drawn from a number of the above institutions plus AIT, NIC	

This design role involved each team working together to develop the content for the open course, including guidelines that would enable others to facilitate the future delivery of the course in their own institutional context. All materials developed were then made available to download under a Creative Commons licence for use by all institutions across the sector.

These partnering teams of teachers-as-designers were supported by the National Forum through the provision of activities (e.g., workshops, an online collaborative space) that enabled developers to share their approaches, negotiate and develop a common understanding of the level and quantity of learning, and evidence of achievement required for one of these open courses. This process necessarily required that questions about the relationship between recognition and accreditation were considered.

In terms of design, collaborative agreement was reached that each open course represented approximately 25 hours of learner effort and all courses would have the same components:

- identification of four criteria that must be met to be awarded the badge;
- a short video outlining content and target audience for the open course;
- materials and links to useful websites and resources;
- a resource package to enable others with expertise to deliver the PD open course;
- a facilitator's guide to support future delivery: the materials developed are for the use of other facilitators (including educational developers) to run their own open courses using these curricula, materials, and digital badges;
- the design of a series of digital badges clearly branded to the National Forum that incorporated a visual mapping of the particular open course to the PD framework.

Teams had flexibility in relation to each individual course structure, with each team agreeing the mode of delivery that they would develop the materials to support (face-to-face, blended or fully online). The 15 open courses broadly clustered around four themes which emerged from key areas captured in the National Forum's (2015) snapshot of accredited PD provision report (p. 19): reflective practice, teaching methods, digital pedagogy, and pedagogical research skills (Table 3).

Table 3
Open-access PD courses

PD Reflective Practice	Commitment to professional development (PACT)
	Reflective practice in teaching
Teaching Skills	Teaching and learning strategies for (new) lecturers
	Getting started with online teaching
	Postgraduate research supervision
	Mentoring essentials in teaching and learning
Specialist Expertise	Digital policy development for teaching and learning
	Entrepreneurship Education
	Academic writing in higher education
	Developing intercultural awareness
Curriculum Design	Programme design in higher education
	Universal design in teaching and learning
	Programme-focussed assessment
Student Focussed	Enabling student volunteering
	Student engagement

Two of the open access PD courses are targeted at staff beginning their PD journey using the PD framework as their guide (PACT and Reflective practice in teaching). Lecturers new to teaching, or staff who want to develop delivery strategies in the face-to-face and online classroom, can select from a range under the Teaching Skills cluster. For more experienced teaching staff who may wish to explore professional areas of interest, Specialist Expertise, Curriculum Design, Student Focussed open courses are available.

From the outset, it was agreed by the National Forum and the course development teams that experiences of the process would be captured as the initiative progressed and that undertaking an evaluation of the teacher-as-designer experience at each stage (outlined in the Scalable PD open courses development process section) was important. It was envisaged that the experience and feedback from those who participated could inform the future development of guidelines and infrastructure for embedding digital badging nationally on a sustainable basis.

Methodology

The methodological approach was a national case study based on empirical inquiry that investigated the contemporary phenomenon of partnerships in designing and developing PD open courses with digital badges in depth and within its real-life context in Irish HE. As Yin (2009, p. 18) advocated, the boundaries between the phenomenon and context are not clearly evident. At one early stage, we also explored design-based research (Anderson & Shattuck, 2012; Baumgartner et al., 2003) in the context of the loops design process. However, as the design-based research approach encompasses an experimental design that repeats adding and/or removing and/or changing specific variables (design elements) in order to improve the solutions provided within an educational setting, the National Forum decided that a case study was more suitable to our needs. This work was approved by the National Forum Ethics Committee in January 2017.

Online surveys and group interview

In terms of how the empirical work was undertaken for the national case study, data collection took place in 2017 with three online surveys being distributed, at the end of the three different stages (see the Scalable PD open courses development process section) of the design and development life cycle. All participants of the course development teams were surveyed twice (February and June), and the facilitators and peer reviewers were surveyed once in October. The questions were developed through engagement with the literature on best practice in designing open PD courses in different delivery formats and the implementation of a digital badges ecosystem (Acree, 2016; Brinthaupt et al., 2014; Casilli & Knight, 2012; Ellis & Phelps, 2000; Mewburn et al., 2014) as well as the National Forum's own expertise in delivering PD in this area for a number of years. There were three sections in the first survey, with the first asking closed questions to establish the profile of the participant – their discipline, current engagement with digital badging and the nature of their expertise in the open course topic. The second section focused on the open course that they designed in relation to meeting the needs of all those who teach in Irish HE as a form of current PD. It asked open-ended questions to establish participant motivations for designing the open course as well as the different areas of expertise that were considered important for each member to bring to the collaborating development team. The third short section consisted of open-ended questions on the participant's technological skillset and experience. In the second survey, two open-ended questions were included to ascertain participant perceptions and understanding of their key design skills before they joined the development team and after they had completed its development. Further open-ended questions aimed to build a picture of what participants considered makes a quality open course and what the facilitator could do to support participant learning in the delivery of their own course. After the train-the-trainers' facilitator development workshops in late October, an online survey was sent to all attending participants with questions on the experience and potential impact of the open course facilitator training. A 5-point Likert scale and open-ended questions were included to establish the extent of the impact that the training had on participants' confidence and skillset to deliver the open course in their own institution.

A semi-structured group interview asking open-ended questions regarding participants' prior skillset with designing multimedia resources generally and in relation to designing PD courses was conducted with all the development teams in November.

Transcripts of the open questions in the surveys and the group interview data were analysed using procedures for qualitative thematic analysis (Braun & Clarke, 2006). As part of steps taken to ensure the trustworthiness of the emerging codes and analysis, we coded 25% of the transcript separately and then compared codes. This helped to clarify and confirm the codes and negate any potential for bias before coding was finalised.

The aim of collecting this data was to capture the experiences of the partnering teams as they proceeded though the design and development process. The effectiveness of the open course development as process of reification of design knowledge connected to learning recognition, importance of reflexivity, professional learning, technology acceptance, and the process of transformation based on Argyris' (1993) theory emerged as important themes.

Discussion

Findings indicated areas that the teachers-as-designers found challenging:

- aligning the assessment activities of the digital badge align with the PD framework;
- keeping the course content to an introductory and manageable level for the participants and thinking about their cognitive load;
- thinking about how their open course best fits into the badging ecosystem – designing badges to work together in context to measure and acknowledge related sets of skills rather than isolated skills;
- considering the longevity and sustainability of their open course content for teaching and learning in the Irish HE sector.

Stages of scalable support of the teacher-as-designer experience

In the interview, participants acknowledged the initial support for the teachers-as-designers provided through a badge development workshop as a key initiation step for encouraging these individual teachers as content experts to think about how they could work together in a genuine, informed partnership:

> The development workshop for all designers was vital for giving the opportunity to discuss content with fellow collaborators, to begin designing the badge, and to ask questions to clarify process/product details. (Group interview participant, Academic Writing team)

> The discussion we had about the parameters, the remit, how it would work in practice and time frame were all useful. Then having space to discuss this with colleagues and the opportunity to get feedback on plans meant that this was a genuine consultation re process and development. (Survey participant, Reflective Practice team)

> The leadership provided in our badge worked very well along with the Forum's design input and technical hosting/guidance. (Survey participant, Entrepreneurship Education team)

Research by Casilli and Knight (2012) and Hickey et al. (2014) showed that badges work better where content and technology already exist in a field. It was important for the success of the initiative that those involved in the design process had an immediate sense of working in partnership and being in a learning community that together would develop something new and important for those who teach in Irish HE.

Following the one face-to-face support workshop in February 2017, course development teams subsequently negotiated when, where and how often to meet and kept the National Forum informed of their schedule. During the 4-month development phase, and in agreement with the course development teams, a peer review process was included to bring a further layer of collaboration and discussion to the initiative. The National Forum issued a second call to the sector asking for expressions of interest in joining a peer review panel for this national initiative. Peer review in this context is the improvement process by which course content is evaluated for quality and significance to a field. The project manager coordinated the selection of the peer reviewers (30) based on their expressed expertise and interest in the topics and selected two peer reviewers, who worked independently on each of the open courses being developed. As identified experts (whose professional interests and expertise aligned with the open course content), each reviewer was invited to look at the content and offer constructive, supportive feedback for the development team to take on board before the course design was completed. The peer review panel was important for validation in the course development process. The reviewers provided their feedback directly to the development teams:

> Working with colleagues across the sector was extremely useful to capture what we are doing already and bring it together in a very coherent way. The peer review process was integral for this and provided key feedback to advance badge development. (Group interview participant, Academic Writing team)

On receiving this valuable commentary, the development team had the opportunity, if required, to revise and improve their course content based on the constructive suggestions. The review had the intention of encouraging open dialogue on the course content areas between the peer reviewers and the development teams, with some identified benefits for both parties; for example, in the Teaching Strategies for New Lecturers course, the peer reviewer saw the materials produced as a resource for lecturing staff:

> I really enjoyed reviewing the material and it is obvious there was a huge amount of work and effort involved; will make a great resource for new lecturers; hope the review is constructive for this team. (Survey participant, peer reviewer)

The course developers appreciated the feedback in term of content and level:

> Appreciate reviewing the materials – was great to have fresh eyes to look and bring new ideas. A main issue we had was with the amount of content and level to include. We wanted it to be a light touch so on their suggestion, we moved content to another future badge. They reminded us that the aim is to help new lecturers by giving guidance without overwhelming them. (Survey participant, lead developer)

There was mixed expertise across the development teams in terms of prior knowledge and the use of digital badges:

> I felt a fair degree of uncertainty with the technical side at the beginning. Having a clear technical template assisted. (Survey participant, Mentoring in Teaching and Learning team)

> As new designers, development of materials wasn't a challenge, but making it accessible in an interactive, digital environment was. I was very comfortable in designing content and was able to make a significant contribution to this element of the process. Moving it into a digital format was the most demanding aspect. (Survey participant, Academic Writing team)

The National Forum provided dedicated support to all groups to ensure everyone involved in the development process had a good understanding of open badges (https://openbadges.org/), and of the technical standard (the open badge framework) which specifies the types of information to be encoded within the badge – this had to be met by all National Forum badges being developed. The facilitator role is a key one for the delivery of the open courses across the sector, but the relationship between the original teachers-as-designers and the roll-out of the facilitator's course is important to clarify:

> No-one felt they could now deliver the open course as a facilitator, but that they would have to take the open course themselves first and then be a facilitator. While the badge and the content were deemed valuable, the potential Facilitators would not be motivated by receiving a badge themselves (because in this course, as middle and senior managers, they feel they have enough qualifications as it is, apparently!). There was also the suggestion that, again because it was aimed at middle and senior managers, the open course should be facilitated by an outsider to the institution because it would be sensitive for a staff member to facilitate. (Survey participant, Digital Policy Development team)

As these open courses were to be produced as a series, guidelines for branding and formatting course materials and a promotional video for each course was also provided through the National Forum. Once all courses had been developed, a 2-week series of face-to-face facilitator development workshops were delivered to the sector.

Teachers-as-designers: Learning loops leading to transformation

The national digital badge partnership project was a new and innovative initiative for the HE sector in Ireland. There was no template to follow, and both the National Forum team and the course developers had to negotiate the way forward. Consequently, the agreement of the development process, the participant hours required and the assessment of the four key criteria identified for each open course and the positioning of recognition in the context of formal accredited provision raised a number of issues. Although single-loop learning has previously been used in different contexts, such as using the concepts to interrogate

student responses to feedback (Carless, 2018), triple loop in the context of diversity management (Kwon & Nicolaides, 2017) and the organisational learning literature (Tosey et al., 2012), this is an opportunity to use triple-loop learning in exploring transformation for teachers in a design role. Tosey et al. (2012) argued that conceptualisations of triple-loop learning are diverse, and often have little theoretical rooting. They cautioned against the uncritical preference for higher levels of learning that is sometimes discernible in the literature and in practice of triple-loop learning. Kwon and Nicolaides (2017) asserted that triple-loop learning can produce transformation in individual and organisational capacity for curiosity, compassion and courage, which goes beyond the cognitive dimensions of double-loop learning.

Although it is clear that Argyris (1993)'s work was aimed at organisational learning, his work is of relevance for learning and development professionals (Wheeler, 2014). When an individual makes a decision, they act based on their current experience or knowledge (Mintzberg, 1994). They use this knowledge to improve efficiency to obtain established objectives (i.e., doing things right). Double-loop learning changes the objectives themselves (doing the right things) (Cartwright, 2002, p. 68). Triple-loop learning goes beyond double-loop learning to a stage where "the principles on which an organisation is founded comes into question and involves the development of new principles with which an organisation can proceed to a subsequent phase" (Swieringa & Wierdsma, 1992, p. 42). The interrelationship between single-, double- and triple-loop learning is outlined in Figure 1.
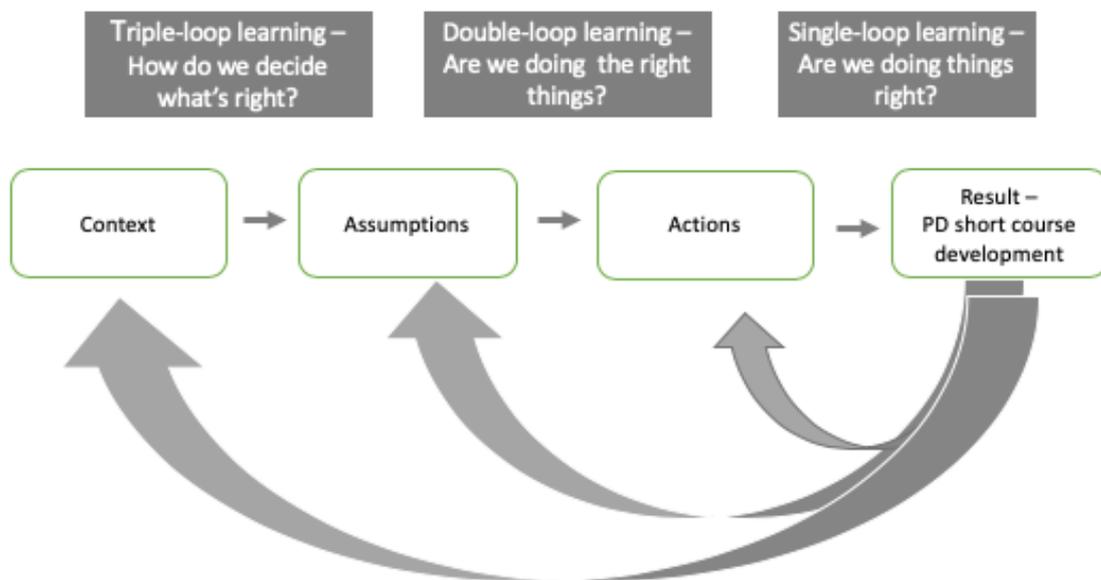
Figure 1. Single-, double- and triple-loop learning (National Forum, personal communication, March 2020)

The development teams were made up of the teachers and academics who were experts in their subject area. They were confident of their own knowledge and skills to develop a PD course for their peers. However, their expertise was situated in an institutional context where course development was modular, quality assured, institutional-based and a highly accountable.

Consequently, the initial discussions within and between the teams about the open courses being developed was informed by this institutional experience, the quantum of learning related to ECTS, the assessment of the learning and the quality assurance processes. This national collaborative initiative of open PD courses was new, and all institutions would potentially benefit from the process; Ireland would have a series of nationally recognised PD opportunities available to all HE institutions, thereby exemplifying Cartwright's (2002) description of single-loop learning as changing methods and improving efficiency to meet established objectives. The fact that the teachers were requesting ECTS-bearing, quality-assured courses shows that their focus was on what Cartwright described as wanting to do things right.

A challenge for the teacher-as-designer in this development process was the discussion and subsequent negotiation around how and who would determine if participants did or did not meet the key criteria. Issues raised included:

- Who was qualified to do the assessment?
- How much evidence would be required?
- How could all the incidents of the course in different institutions be moderated across all HE institutions?

One of the pivotal discussions concerned the nature and type of evidence that participants would be required to provide to show that they met the key criteria to enable the digital badge to be awarded. Through these discussions, the teachers-as-designers were in fact beginning the process of differentiating between recognition and accreditation. They began to change their mental model through a shift in their understanding, from their own institutional context to a national context and from the concept of accreditation to a newly negotiated concept of recognition that could be facilitated by digital badging.

This stage of development was very challenging for the teachers-as-designers and was strongly supported by the National Forum team. A number of workshops were held, which provided the opportunity for the development teams to discuss and negotiate the way forward. The subsequent course development also provided some challenges to the teams as they had to agree the purpose of their particular open course and the main audience they were targeting. They had to agree the content to be included and the recommended activities to be incorporated in its delivery to enable participants to demonstrate they had met the key criteria. In almost all cases, the peer reviewers felt what had been included far exceeded what could be achieved with 25 hours of learner effort. In essence, peer review comments provided further challenges to the teams in terms of the volume of content and activities. The teachers-as-designers then reviewed the materials they had developed, decided what elements of the materials would remain and what could be excluded and subsequently then thought about more appropriate (less demanding) assessment activities.

The National Forum facilitated a number of discussions within and between teams to negotiate and agree how participants could demonstrate they had met the badge criteria. Again, the course developers were challenged to rethink their current view of assessment, from one contextualised in their institutions with the associated quality assurance processes and procedures, to consider a more appropriate and proportional approach. This new approach needed to have rigour, sufficient to maintain the credibility of the badges that participants would receive, and at the same time, not putting a huge workload on the facilitator in terms of identifying whether the criteria had been met or not:

> Most certainly getting the balance of assessment correct was my biggest challenge. We are accustomed to designing courses/assessments within an ECTs structure and developing the badge certainly forced me to think deeply about what makes for useful PD. (Survey participant, Mentoring in Teaching and Learning team)

Through negotiation, all teachers agreed that a collaborative peer triad system was sufficiently rigorous to satisfy themselves that the criteria were met and so maintain the credibility of a national PD digital recognition system, but at the same time light touch to encourage participants to claim their digital badge and for their facilitators to support this process. Although all teachers involved had expertise relevant to the PD open course they were designing, for many, the experience of developing content for their peers to deliver was new:

> Writing a course for someone else to deliver was demanding … It compelled us to be 100% clear about our ideas. (Group interview participant, Universal Design team)

Designing materials for other colleagues to deliver meant that the teachers-as-designers had, for example, to reflect on why they structured and ordered their materials in a particular way, and they had to ensure that the courses were suitable for use in a range of institutional contexts. The development process of these PD open courses challenged individuals to think beyond their local context, to question their assumptions around how to conceptualise recognition and accreditation and the rigour, level and quantity of evidence that distinguishes recognition from formal accreditation. In summary, in the context of this partnership initiative, single-loop learning is captured by the process to develop the content of the PD course based on

participants' previous experience of course development. Double-loop learning is exemplified by their focus on learning outcomes, assessment load and quality assurance, and what works for course development at an institutional level. Triple-loop learning captures the stage where the teachers became designers of something new and identified principles that they negotiated through discussion.

Triple-loop learning involved a shift in perspective and transformational change. According to this view, actions and behaviours will be changed based on the changed perspective (Cranton, 1994). Triple-loop learning in this work was transformative of the individual's learning, as shown in Figure 2.
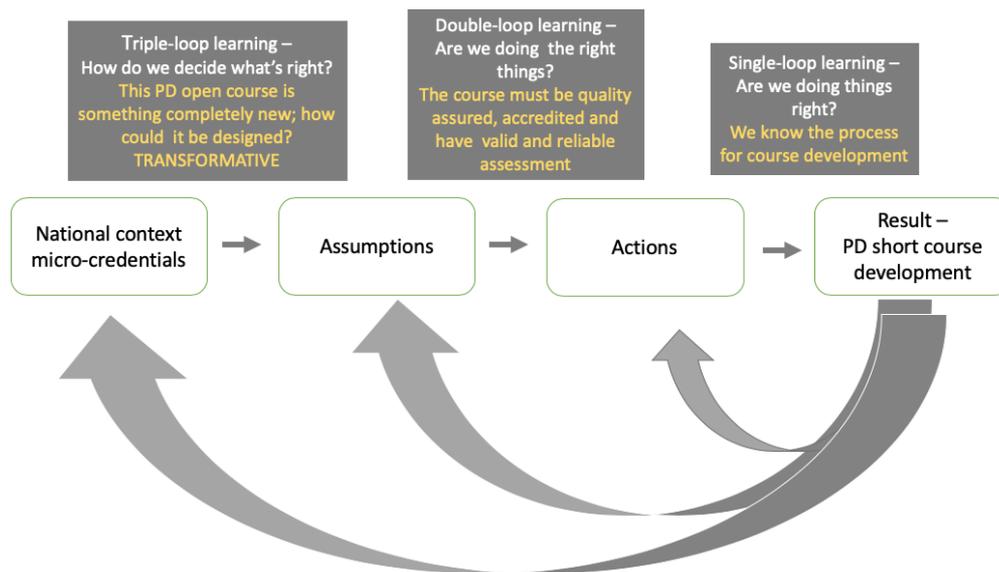
Figure 2. Triple-loop learning in the context of this partnership project (National Forum, personal communication, March 2020)

The development and subsequent roll-out of the national partnership initiative has helped to develop the National Forum's understanding of sectoral needs in relation to PD and digital badging. The whole process has been comprehensively negotiated. The teachers involved in the design of a national digital badging system as a means of continuous PD were provided with the opportunity to reflect on the process and on their new learning, as well as evaluate what they have developed. Through this initiative, the differentiation between recognition and accreditation at a national level has been discussed and negotiated. There is a clearer understanding of the potential role of using digital badges to recognise an individual's engagement in PD. The teachers-as-designers in the process developed an enhanced mental model for open course development. The partnership afforded conceptualised provision for accessible, structured non-accredited nationally recognised PD opportunities for the Irish HE sector.

Reflection on the partnership

From the National Forum's partnership perspective, there was benefit in having a cross-sectoral representation in the course development teams – ensuring that the team membership is representative across the full sector in Irish HE (the universities, institutes of technologies and private education colleges).

All the development teams also indicated experiencing issues with the intensive time frame for the work and highlighted a need for a more spaced out development phase so that they could manage it along with the academic workload in their institutions. An important finding from the group interview was highlighted by all teams – this was the need to have a learning technologist as a member from the beginning of the design process and a learning designer and/or an instructional designer available to draw upon for advice to the team.

While the case study methodology has been useful for studying this educational partnership innovation for the HE sector in Ireland and evaluating the open courses development teams as teachers-as-designers, there were a number of limitations. A key issue is recognising that the data collected in the case study cannot

lead to conclusions regarding causality. As data is collected on new cases (new development teams' experience), it will be important to always refer back to previous data in order to build on existing knowledge and ensure findings are as applicable to the study as possible.

Scalability of national PD open courses and digital badging

Since the first phase of the open courses has been successfully delivered to the sector, in 2019–2020 the second phase is being rolled out. A number of new courses have been developed and added to the original suite of 15 (the badge ecosystem). We have been building capacity, with a view to growing the variety of open courses for the future and offering fully online versions – the original partnering teams have been funded further to develop their existing face-to-face and blended delivery materials as both self-study and online versions. This means that there are three ways for individuals to access the PD framework though the open course and digital badging process, and uptake has been very positive across the sector and continues to develop.

We need to now make explicit some of the assumptions the teams had about delivery of the open courses and are continuing to consider ways to make this happen. We are considering further ways of how best to engage the sector to undertake this. A specific challenge will be how to set up parameters to maintain quality in the open courses, despite those that may be outside institutional quality assurance mechanisms. The National Forum also suggests that if there is a demand within HE institutions to do so, the digital badges can be integrated into programs within the institutions, and as such must comply with assurance requirements in this regard.

Conclusion

This article has looked at the partnerships in Irish HE, with a focus on the concept of teacher-as-designer and applied it to the context of developing a suite of nationally recognised PD open courses in teaching and learning. This was the first time a national partnership approach was taken to recognising engagement in structured non-accredited PD for the sector and was implemented with digital badges. A triple-loop model was adopted as a reflection on the process of developing open courses and agreeing standard parameters for such. From the evaluation of the process, those who participated found the experience to be stimulating and it offered them a different perspective on planning courses and materials.

Insights were gained into how teachers who were collectively expert in the subject content of the open courses they were designing acquired new expertise in developing open courses with associated recognition using digital badges.

In partnership, the National Forum team and the badge developers have designed a robust process for the development of further open courses for the Irish HE sector. The way in which the National Forum views opportunities for development of accessible, nationally recognised PD for those who teach in essence was a triple-loop learning (learning how to learn) process in action.

A number of important lessons were learnt specifically from supporting partnerships of teachers-as-designers. This initiative was novel for everyone involved – the National Forum, the teachers-as-designers, the peer reviewers, the badge facilitators and the teachers as learners undertaking the open-access courses to earn a PD digital badge. Findings from Shagir's (2017) study showed that collaborations are perceived as one of the important components of academic and PD. In this National Forum initiative, all helped to develop the process collaboratively as they were engaged in the learning curve together.

Reflecting the learning loops in the conceptual model, this initiative challenged the content developers to move from being teachers-as-designers of learning to teachers as learners and subsequently to designers of resources for the PD of academic staff in the future. The National Forum team were challenged in supporting academics in these roles (with a particular need to emphasise the value of recognition rather than accreditation). This involved a changed mindset in terms of the development of the open courses and associated badges (evidenced by the early materials drafted). A new design process had to emerge to give teachers the confidence that this was something different (that rigour is not lost), but that they had the flexibility to think in a different way.

Partnerships of national digital badges were new work that needed to have quality, but at the same time were forging new pathways in terms of national recognition of PD. Confidence-building issues did not appear initially as the participants were leaders in teaching and learning nationally. However, lessons have been learnt from the process of balancing support for content development and technical dimensions as well as alleviating any anxieties about assessment. If teachers are going into this space, they are not designing for themselves, but for other teachers to deliver the open courses. We argue for a looser structure (recognition and light touch). As Pilkington (2013) has argued, the question of how experienced academics might gain recognition as professional educators without completing a course is not well explored, and this work is offered as one approach to counter this.

There are practical and policy recommendations offered for similar partnership initiatives with the intention of learning from our work:

- A shared design process enables a deeper exploration of practice and assumptions across different contexts in relation to course design.
- PD open courses should include opportunities to explore and enhance participant practice as they complete the course.
- Integrating a high level of support to the process for the open course development team is key. Many teachers have limited experience of using digital badges to recognise PD completed and are unaware of the opportunities for innovative approaches to course design that are open to them.
- The integration of a peer review process for the validation of the course content is important to ensure the content is appropriate and applicable to a range of institutional contexts.
- The evolution of thinking that emerged through partnership enabled the subsequent implementation of policy to be meaningful, flexible and appropriate to individuals and to a range of institutional contexts.
- Policy should both inform and be informed by practice, and this is rooted in shared understandings and mutual goals.

This article has presented two key insights: Firstly, a process is documented for enabling the transition of contributors from academics at institutional level to developers of PD materials at national level. Secondly, strategies within each conception of the model can be useful in supporting a diverse cohort of HE teachers in their developing understanding of the difference between badged provision (recognition) and credit-bearing provision (accreditation). Ultimately, this partnership project has been useful for both the participants and the potential end users of the courses and resources produced.

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