Digital badges - what is the state of play within the New Zealand Higher Education sector?

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The importance and influence of digital technologies as a mediator and facilitator of learning is fundamentally changing education; what it encompasses, what counts as learning, who has access, where and when it occurs, and the ways in which skills, knowledge and capabilities are recognised. One technological innovation that has emerged within the last few years is digital badges. Developed to act as indicators of accomplishment, skill, or interest, they are being used in a variety of contexts for purposes such as to motivate, capture achievement, or credential learning. Digital badging is a technology that has the potential to change how we engage learners, deliver content and acknowledge learning. Internationally, digital badge use is growing particularly in Higher Education. However, to-date, it is difficult to determine how many institutions are using digital badges and for what purposes. This is particularly true within the New Zealand Higher Education context where little research is currently available. The focus of this study was to identify the 'current state of play' of digital badge use (i.e. which tertiary institutions are using badges, and the perceived benefits and drawbacks associated with their use) within the public New Zealand Higher Education sector.

Keywords: Digital badges, Technology, Higher Education, Tertiary, Learning, New Zealand.

Background

The importance and influence of digital technologies as a mediator and facilitator of learning is fundamentally changing education; what it encompasses, what counts as learning, who has access, where and when it occurs, and the ways in which developed skills, knowledge and capabilities are recognised. One technological innovation that has emerged in recent years is digital badges. Digital badges are "a representation of an accomplishment, interest or affiliation that is visual, available online, and contains meta-data including links that help explain the context, meaning, process and result of an activity" (Gibson, Ostashewski, Flintoff, Grant, & Knight, 2013, p. 404). Digital badges have the potential to open up new possibilities for engaging learners, innovative assessment practices that capture various kinds of achievement, recognition of learning and sharing accomplishments.

Badges can be used to complement existing formal accreditation systems (Reid, Paster, & Abramovich, 2015). However, it is their ability to recognise non-formal, informal and professional learning achievements, via the capture of meta-data associated with the achievement, which presents new learning opportunities (Fields, 2015). For example, digital badges can be used to acknowledge achievement of the learning and development of meta-skills such as critical, systems or strategic thinking, or communication skills at the granular level (Ahn, Pellicone, & Butler, 2014; Finkelstein, Knight, & Manning, 2013). They also allow learners to determine in which virtual contexts (e.g., social or professional networking sites) they choose to share their accomplishments or competencies (O'Byrne, Schenke, Willis Iii, & Hickey, 2015).

Internationally, digital badge use is growing particularly in Higher Education (Grant, 2016). Pilot studies indicate that current adoption practices vary considerably and range from use at the micro level to promote learner motivation, engagement and signal progress within stand-alone courses, all the way through to the introduction and implementation of entire badging systems for institutional recognition and beyond at the macro level. However, to-date, it is difficult to determine how many institutions are using digital badges and for what purposes (Grant, 2016). This is particularly true within the New Zealand Higher Education context where little such research is currently available. Given the increasing interest and use of digital badges, coupled with their disruptive potential "there is a need for a comprehensive research agenda" (Grant, 2016, p. 9) that identifies which institutions are using digital badges, who decides if and when they are used and for what purposes.

Methodology

This project represents the starting point for a programme of research that centres on digital badge use in various education and learning contexts. Specifically, it seeks to explore new digital technologies (i.e. digital badges) in terms of how and why they are currently being adopted and used to promote, support and recognise learning. The overall project uses a mixed methods research design, specifically, an explanatory sequential design (Creswell & Plano Clark, 2011), where phase one involves a national survey of current digital badge use within New Zealand public tertiary institutions and phase two complements and enhances the survey dataset with a series of follow-up, in-depth interviews. This paper reports on initial findings from the phase one survey.

The focus of this first phase was to identify the 'current state of play' of digital badge use and implementation (i.e. which tertiary institutions are using badges, which tertiary institutions are using badges, and the perceived benefits and drawbacks associated with their use) within the public New Zealand Higher Education sector. An anonymous online survey was distributed to staff in all 27 public tertiary institutions within New Zealand (i.e. 8 Universities, 16 Institutes of Technology and Polytechnics (ITPs) and 3 Wānanga[1]). The survey questions were developed with reference to the digital badge literature and comprised two sections. The first section consisted of demographic questions of an individual (e.g. age, gender) and professional nature (e.g., qualifications, professional role, employing institution etc.). The second section asked questions related to the respondents' knowledge and use of digital badges (note: only a subset of the findings are reported here). The final survey question asked respondents if they would be willing to take part in a follow-up interview (phase two of the overall project). The survey was hosted via suverymonkey.com and was pilot tested prior to distribution.

Intended participants were academic and professional staff in the public institutions who had some knowledge or experience of the implementation and/or use of digital badges as part of their professional role. Late in 2017, an invitation to participate in the survey was distributed, via email, to key people within each institution (e.g. e-learning managers/directors, academic/professional development managers, teaching and learning directors, educational support staff) and a request made for them to disseminate the invitation to staff within their organisation. The email contained a direct link to the survey. To ensure a broad representation of individual and institutional views, informal networks were also used for survey dissemination These included the researcher's contacts with professional networks such as the Flexible Leaning Association of New Zealand (FLANZ) and social media channels such as Twitter and Facebook.

Preliminary Findings

A total of 124 responses were received from 24 of the 27 New Zealand public tertiary institutions. Staff from two of the wānanga and one of the ITPs did not respond to the survey. Not all respondents answered every question. The number of responses is stated when this is the case. In terms of the breakdown across different types of institutions, 58% of the 119 responses (five skipped the question) came from the university sector, 37% from the IPT sector and 1% from the wānanga. The remaining 4% of responses consisted of people who did not identify with a specific institution because they worked for an organisation affiliated with the tertiary education sector more generally (e.g., Ako Aotearoa - a government-funded organisation that supports New Zealand's tertiary sector educators). Respondents worked in a range of disciplines including Education, Business, Health, Foundation Studies, Science, Humanities and Social Sciences, and Arts and Design.

The majority (90%) of respondents listed their age as 40 years old or above. The gender mix of the group was 60% female, 39% male and 1% preferred not to say (1 person skipped this question). Respondents were asked to identify their highest qualification and results indicated that 91% had completed a postgraduate qualification ranging from a postgraduate certificate or diploma (18%), master's degree (45%), or a doctorate (28%). Figure 1 shows the breakdown of the professional roles of respondents with the majority holding academic, academic development, education support or leadership roles.

Over 54% of respondents indicated that their institutions were using digital badges or planned to do so in the future (see Table 1). Of those who responded, 15% were unaware of whether their organisation was using badges or not or whether they planned to do so in the future. For participants who answered 'other', comments such as "only if individual lecturers choose to use them" and "some programmes/courses, with no centralised organisation to use" were indicative of responses received.

[1] A *wānanga* is a publicly owned New Zealand tertiary institution that provides education in a Māori cultural context.

Survey participants were also asked about the platform being used to implement digital badges within their organisation (see Table 2). Of the 107 responses, 43% used Moodle, 23 % did not know, 15% chose other and 10% used Mahara. Responses in the other category identified a range of systems including iQualify, EdX edge, Credly, BadgeOS, and PeerWise.

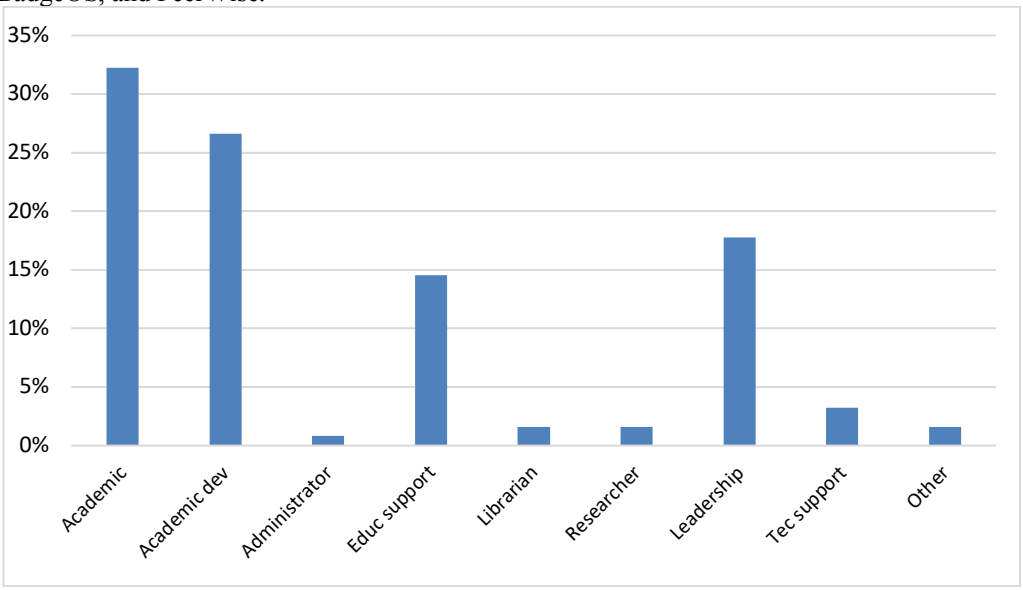

Figure 1: Professional role of survey respondents (n=124)

Table 1: Institutions' digital badges use

Answer	Responses	
Yes	37.1%	43
Plans to implement in future	17.2%	20
No	18.1%	21
Don't know	15.5%	18
Other	12.1%	14
	Answered	116
	Skipped	8

Table 2: Digital badge platforms used

Answer Choices	Responses	
Moodle	43.0%	46
Don't know	23.4%	25
Other	15.0%	16
Mahara	10.3%	11
Blackboard	5.6%	6
Canvas	4.7%	5
In-house system	2.8%	3
Totara	0.9%	1
Not applicable	16.8%	18
	Answered	107
	Skipped	17

Respondents were asked to indicate (choosing all statements that applied) what value digital badges offered (see Figure 2). Over half of the 110 respondents rated the following as valuable aspects of digital badges: as a display of achievement, as a motivation aid for learners, as digital evidence of leaning, encouraging participation and as recognition of informal learning. Only four people indicated they had no value. Of the 18

who chose other, responses included “all OERu micro-credentials are mapped to official academic credit”, “immediacy of feedback & recognition” and “allows recognition of contributions to community/society” suggesting badges have value at both micro and macro levels.

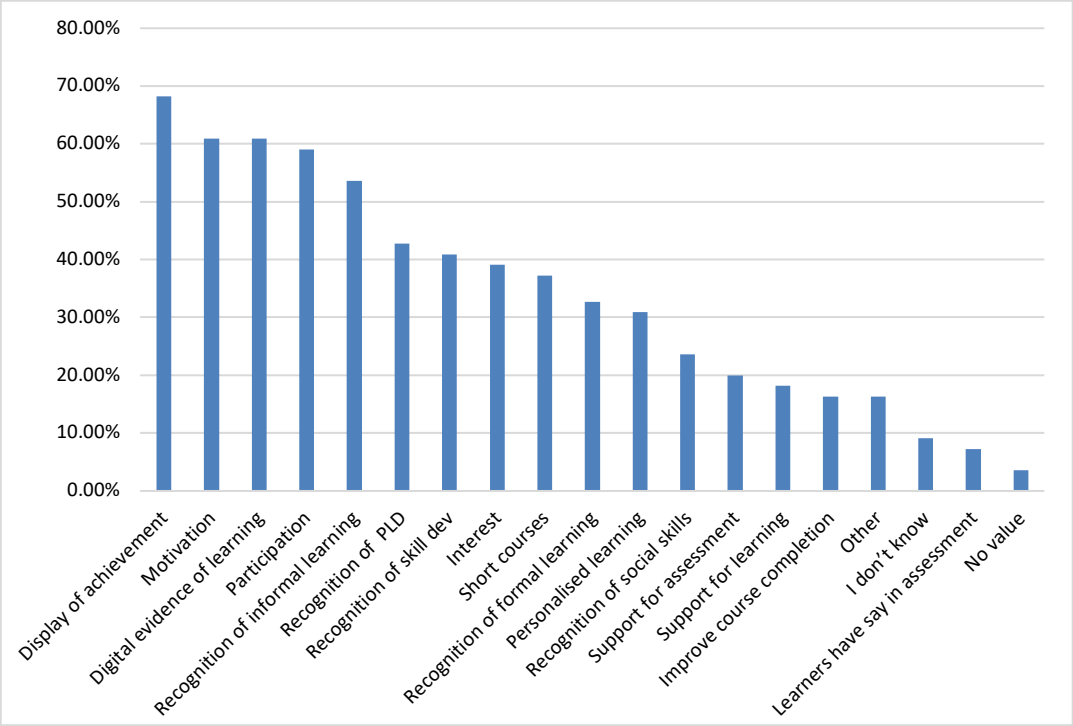

Figure 2: Perceived value of digital badges (n=110)

Respondents were also asked about the main drawbacks of digital badges (see Figure 3). Over 40% of respondents rated the following as the main drawbacks of digital badges: lack of (personal) knowledge, inconsistent use and lack of formal recognition. In addition, lack of regulation, the lack of wide recognition and lack of training were considered drawbacks by over 35% of respondents. Five participants saw no drawbacks associated with digital badges. Of the 20 who chose ‘other’, responses included “some teachers have never heard of e-badges let alone considering implementing it into their teaching. In fact, when I raised this possibility of recognition of soft skills (in the faculty of science) some mockingly said why not display those on the lab coat”, and “badges as used on quizzes as 1:1 analogues for score. Other poor uses that put students off, as they see through the "game" mechanism as manipulation. That's a sure sign of poor implementation”.

Discussion and Conclusion

Survey responses were received from 24 of the 27 public tertiary institutions in New Zealand. Participants were predominantly in academic, academic/education development or in leadership roles, were 40 years or older and the majority held a postgraduate qualification. Comparison with the Ministry of Education (2017) workforce figures show that university staff were slightly under-represented in the survey (58% versus 69% of the tertiary sector workforce); ITP staff were slightly over-represented (37% versus 26%) and wānanga were under-represented (1% versus 5%).

Findings show that over half of respondents indicated that their institutions were already using digital badges or planned to use them in the future and a range of badging platforms were being utilised. Digital badges have a range of valuable attributes according to the majority of survey participants. The most prominent being as a display of achievement, as a motivational aid for learners, as digital evidence of learning, encouraging participation and as recognition of informal learning. These findings reflect the literature that highlights the potential of badges to positively impact learner motivation (Abramovich, Schunn, & Higashi, 2013), as evidence of learning (formal/informal) and achievement in digital form (Fields, 2015; O'Byrne, et al., 2015) and to encourage participation (Chou & He, 2016). Badges were also seen to have some notable drawbacks that included a participant’s own lack of knowledge and training, inconsistent use, as well as the lack of formal recognition and regulation. The fact that tertiary education professionals are aware of potential drawbacks with using digital badges is an important finding and highlights that badges need to be an integral part of the learning

experience to ensure they are not simply viewed as tokens (Abramovich, 2016).

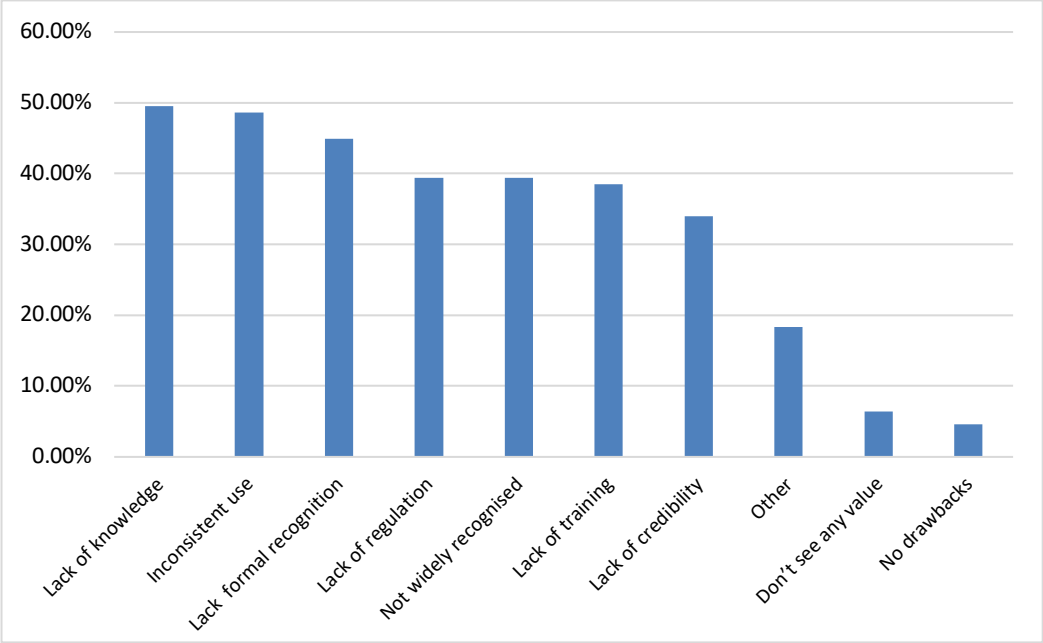

Figure 4: Main drawbacks of digital badge use (n=109)

While these preliminary findings cannot be considered representative of the tertiary education sector that includes a workforce of over 30,000, of which 60% are classified as non-academic positions (Ministry of Education, 2017), they do offer some valuable insights into current digital badge use, their perceived value and potential drawbacks. As a result, they represent an important first step in identifying and understanding digital badge use within the New Zealand public tertiary Education system. These findings will also help to inform subsequent phases of research as current digital badge users within the higher education community are well-placed to identify issues requiring further investigation.

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