Digital Badges for Teacher Professional Development in India: Interim Project Report

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Introduction

In this report we outline activities and findings from a knowledge exchange collaboration between educational researchers at The Open University (UK) and Tata Institute of Social Sciences (India). This includes preliminary findings from two pilot interventions in which digital badges were use to help support courses that had been adapted in response to the Covid-19 pandemic. Our goal has been to understand the perception and value attached to digital badges and to contribute to discussions that can frame emerging narratives and practice.

Digital badges offer educators a unique combination of affordances. When applied to the domain of Teacher Professional Development (TPD), this technology appears to present a compelling proposition, yet it is not without challenges. In brief, digital badges could help: promote TPD for improved classroom practice at scale; support promotion, career trajectories and the cascading of quality enhancement; increase motivation on the part of the teachers and recognition from managers, colleagues and the wider community; enhance the administration and monitoring of TPD; and give momentum to engagements with and celebrations of TPD achievement and progress.

There is a pedagogic flexibility to digital badges because of their focus on smaller, more bounded units of learning and assessment, and the open and accessible way that they can be created, awarded, managed and shared, and the way groups or collections of digital badges can be created. Open digital badges represent a portable ‘packaging’ of key assessment information, such as who has earned it, the assessment criteria, evidence from the learning activities completed, and the who issuer is. This offers the potential for a more traceable process, a greater variety of assessment and quality assurance processes, open scrutiny, and the ability to use digital badges in combination as micro-credits from which to build more substantial certification.

Global interest in and use of digital badges is growing and this has been accompanied by some research and trials in pre- or in-serve professional development. In India, digital badges are little used in TPD. As a consequence, it is vital that policy makers, educators and practitioners make time to consider the benefits, routes to effective use, and the structural and logistical challenges.

The Mozilla Foundation has defined an open standard for digital badges in education, defining a badge as a ‘digital credential … earned by an individual through specific projects, programmes, courses or other activities’. However, the educational value of using badges extends beyond that of a digital credential, with research indicating value for goal setting, heightening motivation, promoting deeper learning experiences, building confidence, increasing learner appreciation of their achievements, demonstrating commitment to learning, and taking greater control over what is learnt and how this learning is curated and represented in public (Gamrat et al., 2014; Gibson et al. 2015; Lijanagunawardena et al., 2017; Facey-Shaw et al., 2018).

As a distinct educational technology, open digital badges could work well in micro-learning contexts (such as short courses or training), in supporting the assessment and demonstration of skills in practice-based and non-conventional situations where other assessment methods are inefficient or unworkable. They also offer scalability if coupled with automated systems of assessment and are open to local adaptability. Yet learner motivations are nuanced and complex, so care is needed to ensure that the badge has a clear and authentic learning rationale and that that it adds value to the learner, their learning experience, and their professional practice.

Digital Badges: An emerging opportunity?
Introducing the project

Not enough is known about the unique combination of affordances that digital badges offers for TPD and it is recognised that reception and use may vary depending on different education systems and teaching cultures.

Our project has had three key aims: to use two pilot interventions to understand more about how teachers in India respond to open digital badges and how a contextually appropriate framework for badge use could be designed; to hold events to stimulate practice and policy debate; and to build implementation expertise for application in future projects.

Led by a partnership of academics from the Open University UK and Tata Institute of Social Sciences, India, we have built on expertise in online learning, teacher education and digital assessment to develop new insights. The project has been supported by funding from the UK’s Global Challenges Research Fund (GCRF).

Project achievements

The project has successfully piloted the use of digital badges with in-service and pre-service teachers in two scenarios. The first was a short course titled ‘Technologies for Online Learning in School Education’ and the second was a Community of Practice for supporting M.Ed. students.

To achieve this, the project team had to build both the badges themselves and the social and technical environment in which they were to operate. This included: using a model that foregrounded learning design to help determine what each digital badge would be awarded for; instigating a programme of technical development to enable the VLE to track and award badges; communications protocols, and a research instrument to evaluate responses to the badges. Separate sections of this report discuss each intervention and report preliminary findings.

In November 2020, the project team held a two half-day event titled ‘Emerging Opportunities for Digital Badges in TPD in India’. The first day was open to all and over 350 teachers, teacher educators, faculty staff, and government administrators registered to attend. It comprised presentations, a workshop, discussion groups and a plenary session. The second day was attended by invited delegates with strategic or policy roles and comprised presentations, panels and small-group discussions. Feedback gathered from the event will be analysed and used in the development of a context appropriate digital badge framework.

Finally, the project team have been successful in securing funding for a new project. Led by the Open University UK and TISS, working in partnership with the Assam state government, the project aims to deliver digitally badged learning modules and activities to up to 1,000 teachers in Assam. Supported by funding from the Open University UK, the Assam state government and Tata Trusts, the course will focus on new approaches and technologies for learning following the disruptions and emerging challenges of the Covid-19 pandemic.

Project background

In January 2019 the Open University team conceived and ran a workshop in New Delhi, India, with the aim of exploring how digital badges might be used to support, capture and validate changes in teachers’ classroom practice. The event was attended by 14 delegates – all senior educationalists from three Indian states who had been involved in some capacity in the TESS-India teacher development programme.
The workshop, which was led by researchers from the UK and India, began by introducing participants to the concept of open digital badges, their creation and use, with examples of their application. An important aspect of our approach was to argue that badges have the potential to deliver critical formative as well as summative functions and to take a holistic view of badge implementation (see p.10 for further reading).

Participants were then invited to draw on the TESS-India OER to design a short online in-service teacher professional development course to support movement towards the more participatory approach advocated in educational policy. As part of this course design process, they were encouraged to propose digital badges to recognise changes in teachers’ pedagogic practice. They were free to decide which area of practice to focus on and which competencies would be badged, as well as the length of course and study time required each week.

An analysis of evidence captured during the event revealed the following:

♦ First, all groups recognised the teacher’s own classroom as a site of professional learning, reflecting an important shift away from traditional cascade-type training and off-site workshops commonly seen in India.

♦ Second, within the learning designs there was an acknowledgement of teachers taking responsibility for their individual learning pathways. Recognition that teachers have differentiated learning needs requiring distinct forms of support represents a significant closing of the gap between the rhetoric of policy and enacted practice in much teacher education in India and an opportunity for digital badges.

♦ Third, and somewhat in tension with the first finding, we observed that participants tended to isolate knowledge of learning strategies or concepts (as assessed by a ‘knowledge’ badge) from pedagogic practice (as assessed by a ‘practice’ badge), rather than linking these together. Through the examples of ‘reflective’ badges, it was clear that participants valued reflection on both theory and practice. This has not historically been integral to the Indian teaching profession.

♦ Lastly, participants proposed a greater range of assessment methods than is currently being employed as evidence for teacher learning. How this evidence might be assessed at scale – whether through peer rating, random sampling by teacher educators or assessment by a trusted local educator (e.g. the headteacher) - was not resolved in the workshop.

The workshop revealed considerable enthusiasm for digital badges, while also suggesting that the process of defining them may be helpful in prompting teacher educators to pay attention to - and potentially disrupting - their existing understandings of teacher learning and practice in a number of important ways. For more about the event and research findings visit: http://oro.open.ac.uk/69896

Project initiation meeting in Mumbai

Following the success of the New Delhi workshop, the OU team secured GCRF funding for a one-year project partnering with colleagues in TISS. The project began in Summer 2019.

In July 2019, the OU project lead visited partners at TISS to initiate the project and participate in knowledge sharing activities. Regular online meetings facilitated knowledge exchange and helped the team identify two candidate pilot interventions. This work coincided with the outbreak of the 2020 Covid-19 pandemic. Since then, the team have continued to meet online weekly to deliver, monitor and report on these interventions.
Implementation 1: Technologies for Online Learning in a School Education Course

Overview

As a response to the COVID-19 Pandemic and the massive shift in the school education system from physical classroom space to online teaching-learning, CEIAR at TISS, Mumbai started the COOL Initiative in April 2020. This constituted various online activities for both teachers and students to help them in this transition.

Under the COOL Initiative, various online courses and resources from existing courses were released on the TISSx VLE platform for teachers to enrol on and access. Based on the concept of a webinar series for teachers and teacher educators on orientation on distance technologies for online learning conducted as part of the COOL Initiative, a free online course named 'Technologies for Online Learning in School Education: TOL01' was developed by a team at CEIAR and released on TISSx on 8 May, 2020.

This 8-10 hour course was chosen by the team as the focus of their first pilot. It consisted of four units which covered various aspects of online learning: its history, how it can be used by teachers to enable active and collaborative learning among students on online platforms, how different kinds of assessment activities can be conducted and how to use and curate Open Educational Resources during online teaching learning processes.

Development of the digital badge took place in parallel with the release of the course and were available to all those who completed the course over its three-month presentation period. Learners had to complete specific course activities to earn a badge.

Designing the badge criteria

The original design of the course did not have assignments that would support automated issuing of badges, so the course team had to plan, write and set up detailed criteria for earning the badge. This process involved following a design framework supported by the Open University team wherein key learning design aspects such as learning outcomes, activities, assessment metrics, learning analytics and teaching intent were considered. Learners had to complete one activity from each of the four units to earn the badge (two activities in the case of Unit 3) which included two MCQ quizzes, one peer assessment and two narrative responses to claim a digital badge.

Promoting the badge

The course was free and open to all. In June, the CEIAR website for TPD courses featured an announcement that digital badges for interested participants had been added to the course. The course was already underway when the badge was introduced, so enrolled learners were contacted about the badge and award criteria by the course team via email and the Course Updates section on the TISSx platform.

End-of-course feedback found that 77% of respondents (most of whom completed the course) said that they had been interested in earning the digital badge. It is possible that that adding a digital badge made the course more attractive to some learners.
Graphic design of the primary badge

The visual appeal and the information communicated on the digital badge graphic was thought important for inspiring interest in the badge and for encouraging learners to share with colleagues or employers. A review of other badge designs and consultation supported the development of the course badge.

For the design team, the embedding and placement of all the fields necessary whilst keeping the overall appearance of the badge elegant was challenging. The shape of the badge was kept symmetrical and shield-like to signify a durable and virtually tangible victory. The shield was decorated with an electronic circuit-like design to highlight its technological nature. The final designs were saved as a vector image so that all the logos and decorations of the image could be resized and reused.

The following information needed to be included in the badge graphic: (a) name of the course, (b) statement of achievement (‘Completer’), (c) year of issue, (d) name (with logo) of the issuing organisation, and (e) indication of the ‘scale’ of commitment and achievement by stating the length of the course.

Issuing the badges

The first set of digital badges for the ‘Completer’ of the course was released to 31 learners in mid-July. We faced some technical challenges during the badge release because badges had never been issued by the TISSx platform before. This meant we had to ungrade the course assessment alongside adding new code. This has provided valuable insights into the potential technical challenges of implementing badges.

Based on discussions within the course and technology team, the criteria for the badge were revisited. The new criteria required a score average over the course of at least 70%. This was communicated to the course participants through email and Course Announcements section on the VLE.

Preliminary findings: Implementation 1

A total of 90 learners have received the ‘Completer’ Digital. This represents the majority of those who completed all four units of the course.

Most respondents to the COOL badged course survey reported a positive impression and future outlook for digital badges in their professional development. 82% of respondents said that they thought digital badges could be useful in the future whilst 73% said this was the first time they had seen a digital badge.

Offering a digital badge appears to have had an impact on motivation and participation in the course. 75% of respondents said that the opportunity to earn a badge had encouraged them to continue and finish the course, whilst 55% said the badge prompted them to do things they otherwise would not have done. This would appear to indicate that the badge helped motivate some participants to engage more substantially in the course.

The image size was set by the issuing platform - Badgr - as 400 x 400 pixels. Several ideas for improving on the generic format and for improving post-award verification were discussed but not practical for this implementation.
There was strong support for the future role of digital badges. 86% rated badges as having good or high value in encouraging them to do more professional development and learning, and 82% considered that they could be useful for sharing and discussing achievements with colleagues. Indeed, some respondents already had plans to share their success in achieving the badge, with one respondent writing ‘I’m going to make it my profile photo’.

Respondents shared a range of views when asked about the potential value of digital badges and achievements (see box on right for selected quotes). Most comments were positive, although a minority of around 15% had reservations. For the most part this was because learners felt it was too early to take a view or wanted more information about how they could be used or shared. Furthermore, one respondent who felt that having a ‘mere symbol of participation’ was unnecessary because the most important outcome was “[the] knowledge that I have gained.” The comments reveal learners associating both intrinsic and extrinsic motivation to badges.

Further analysis of the results will be undertaken to explore further questions. For example: what is the relationship between course completion, badge uptake and survey response; are there sub-groups of respondents with interests in different affordance of badges; and is there any indication that the subject of the course (with a focus on technology) may have resulted in self-selection of participants with a positive predisposition to new innovations such as open digital badges.

Suggestions for improving the implementation of badges in the course included clear signposting of the required learning activities.

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<thead>
<tr>
<th>Implementation 1</th>
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<tbody>
<tr>
<td>I think digital badges could be useful to me in the future</td>
<td>82%</td>
</tr>
<tr>
<td>I completed all the activities necessary to earn the ‘completer’ badge</td>
<td>71%</td>
</tr>
<tr>
<td>The badge prompted me to do things I otherwise would not have done</td>
<td>55%</td>
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<tr>
<td>The opportunity to earn a badge helped encourage me to continue and finish the course</td>
<td>75%</td>
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Strongly agree or Agree (n=55)
Implementation 2: Supporting the Teaching and Learning Community (TALC) of Practice

Overview

The Teaching and Learning Community (TALC), is a Community of Practice (CoP) of teacher educators that was setup by the Centre for Education, Innovation and Action Research, Tata Institute of Social Sciences and Department of Education, University of Mumbai during the COVID-19 lockdown period in India. TALC was expected to support M.Ed. students (aspiring teacher educators) to continue their learning in the event of their institutes being closed, as well as for faculty of education to engage in furthering their learning and share practices and ideas. A key objective of TALC was to revitalise the teacher education sector by supporting local action and agency among teacher educators and teacher education institutes.

TALC was initiated as an online group open to interested teacher educators who registered for the TALC 2020 webinar series. Synchronous webinar sessions were organised once a week from 21 April 2020 to 23 June 2020. Eminent educators from across the country were invited to speak on topics mapped on to the M.Ed. curriculum. Questions that were raised during the talks by participants and speakers were taken up for further discussions in the group offline. Some of the group members also began to initiate conversation on their areas of interest such as research.

Introducing the digital badges

Digital badges were introduced three weeks after the TALC first session. They were intended to be a visual token of contribution and achievement that members could use to display their learning and accomplishments beyond simple attendance certificates at events. Two badges were piloted - a Contributor badge and an Explorer badge. The course design was revised in order to integrate the badges, and when creating the 'Explorer' badge the course team used the opportunity to review and develop their course design.

The aim of the ‘TALC Contributor’ badge was to encourage learners to contribute actively to the TALC CoP. To earn the badge, evidence of sharing three posts with the community was required. These had to show evidence of one or more of the following activities:

- Posing a question relating to the concept or practice related to the readings shared during the community webinar series
- Reflections about any of the webinar sessions linking to their own learning and practice
- Responding to questions posed by presenters
- Summarising three key learnings from any session
- Submitting a KWL chart on what they already knew about the topic, what more would they like to learn and what they learnt through the session.

In August a related course title 'Introduction to Foundations of Education' was made freely available on TISSx. The 'Explorer' badge was open to anyone, even if not part of TALC. Learners were required to achieve 60% total scores for quizzes in nine units of the course.
Preliminary findings

The ‘Contributor’ badge was open to TALC members and launched in May 2020 with notifications on the TALC Google Group forum. The ‘Explorer’ badge was launched in August with notification by registration emails and on the TISSx platform. At time of writing, a total of 20 learners have applied for and received the ‘Contributor’ digital badge and 11 learners have received the ‘Explorer’ digital badge. Further analysis will determine what portion of active contributors applied for a badge but it will be difficult to ascertain what the relative rate of participation would have been had the badge not been offered.

The project team conducted a survey of TALC members in August. The following analysis reports the responses of those who were aware the badge was offered. Over half said this was the first time that they had heard about digital badges and 66% said they were interested in earning a badge. Less than half (46%) said they had completed the necessary activity to earn the badge indicating the survey captured a range of views from those who did and did not qualify for the badge.

Many survey respondents reported a positive impact of digital badges on their level of participation and interest in TALC. 51% said the opportunity to earn a badge had encouraged them to contribute to the CoP and the badges prompted 44% of respondents to undertake activities they otherwise would not have done.

66% of respondents said that they thought digital badges could be useful to them in future, 77% thought that badges had good or high value in encouraging them undertake more professional development and learning in future, and 77% thought that badges could help them recognise and track their own learning achievements.

I think digital badges could be useful to me in the future

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<tr>
<th>Implementation 2</th>
<th>Strongly agree or Agree (n=59)</th>
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<tbody>
<tr>
<td>I think digital badges could be useful to me in the future</td>
<td>66%</td>
</tr>
<tr>
<td>I completed all the activities necessary to earn the ‘Contributor’ badge</td>
<td>46%</td>
</tr>
<tr>
<td>The badge prompted me to do things I otherwise would not have done</td>
<td>44%</td>
</tr>
<tr>
<td>The opportunity to earn a badge helped encourage me to contribute</td>
<td>51%</td>
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‘[Digital badges] are a useful analogy for pathways towards accomplishment because, while they can offer us some award over time, the emphasis is on the journey and not solely the destination. I am still on the road less travelled.’

‘It would help me for the professional development’

‘It will add weightage to career portfolio. More confidence. Proud about own achievements’

‘Govt. Organisations should also be encouraged to use Digital badge for recognition of potential among teacher educators, it could also link with service terms and conditions.’

‘Credit-based badge systems in college courses be introduced [in future]’

‘It was observed that student teachers were reluctant to express their views publicly on discussion forum, lest it is judged, but digital badges will encourage them to participate with more reference and study, can be implemented in discussion forums, seminar presentations, academic reading and reflections and participate in study circles’
Looking ahead: Managing the challenges of embedding digital badge technologies and practice

**Giving purpose to digital badges**

In our study, digital badges were generally well received by those who earned them. However, many who studied the course or participated in TALC did not earn or apply for a badge. In some cases this was expected because participation fell short of what was required of the badge (i.e. the learner either failed to complete enough posts, quizzes or score highly enough - and we have seen that badges did encourage some to complete who otherwise may not have), but in others there may have been uncertainty about the utility and value of the badge, lack of interest or perceived need for badges, or lack of confidence working online.

The question ‘What is a badge for?’ has no easy answer, not least because badges, like any form of assessment, can serve multiple and complementary purposes. It does, however, highlight the importance of a clearly articulated learning design and badge issuing system and strong structures, practices and perceptions that help give value, meaning and legitimacy to the badge. These may be formal (e.g. issued by credited bodies or agreed at state or regional level), semi-formal (e.g. issued by groups or individuals with sector recognised expertise and stature), and or informal (e.g. developing organically through communities or issued at local level - even within a classroom).

There are in addition a range of specific challenges relating to particular elements of badge design, processing, issuing and use. Some are practical, others conceptual, and others practice-based. Partnerships between issuers, badge content developers and researchers will be very important in taking this forward. The project described in this report, and our future project in Assam, represent attempts to build such collaborations.

There are a variety of ways in which digital badge technologies can be utilised for TPD. Below we outline five example scenarios in which badges could support teachers.

- **State badge collections**
  A selections of badges aligned with state objectives for meeting NEP, 2020 requirements. Refreshed annually, these could help states monitor and report on state targets for TPD whilst engaging teachers.

- **Badges as a bridge**
  Digital achievement badges could be used to recognise prior learning for, and as a route in to, larger certificate courses. This could establish a pipeline of micro-recognition that can build over time.

- **Badges for community-building**
  Badge earning and sharing is used to build teacher communities and even reach out to local communities by asking them to co-develop and award badges for what matters locally.

- **Badges for personal journeys**
  Teachers identify badges that meet their personal development needs and use to record and celebrate incremental progress. Badge earning is seen as fun and enjoyable experience.

- **Badges for career progression**
  Managers considering promotion and career development applications are encouraged to take into account badges and the evidence of practice that they recognise.
Digital badges represent a unique form of digital recognition with a pedagogically flexible, potentially scalable, and varied range of applications for TPD. They have the potential to augment and enhance existing TPD process yet also could have utility in helping rethink, constructively disrupt and evolve these processes. With digital badges being increasingly promoted globally by providers of skills and professional development training, now is a good time to consider their use for TPD in India. Careful and considered planning will help exploit beneficial affordances whilst resolving practical challenge to embedding and valuing use and preventing gaming of the process. There may also be a need for greater diversity in the terminology used for digital recognition. At present referring to everything as a ‘badge’ can be confusing and other terms, such as ‘digital stamps’ to refer to smaller units or terms for larger units representing achievement of multiple badges could help.

Our project has demonstrated that within months, institutions can adapt their VLEs to manage and automatically award digital badges. Our preliminary findings show that most of those earning badges are supportive of the principal although many want to learn more and understand the wider context for future use. Our implementations were comparatively small-scale and were not situated within wider recognition structures that could have given legitimacy. Nonetheless, preliminary finding indicate an interest and potential that should be taken forward. Our new project located in Assam is one such next step.

References

Findings from our New Delhi workshop


Further reading


