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Innovation from necessity: digital technologies, teacher development and reciprocity with organisational innovation

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ABSTRACT

This paper outlines how digital technologies support innovation in teaching and learning the English language across Palestinian Higher Education Institutes. A European project collaborated to build staff capacity in knowledge and skills, shown here through the redesign of curricula, pedagogical training, the design and implementation of interactive textbooks, the creation of language labs, helping to develop expertise in creating and utilising Open Educational Resources (OER) and significantly, the development of individual agency as a form of OER. In this paper, we draw on three years of data to present a model for teacher innovation showing how digital innovation is firstly *personal at a practitioner level* and shaped by need, before becoming driven by *collaboration at an organisational level* with like-minded colleagues. Shared practice at this level can lead to community discourse through practitioner networks, which in turn can lead to dialogue initiating instances of *organisational change*. This resonates with literature which shows innovation has three outcomes: *originality* (practitioner-based agency); *scale* (going beyond the site of creation) and *value* (how this produces benefits for others). We perceive that the resulting capacity-building extends beyond the redesign of curricula mentioned to professional enrichment, collegiality through cascading innovation to other areas, and enhanced practitioner agency.

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Introduction

Project

TEFL-ePal (<https://tefl-epal.ps>) was an Erasmus+ funded project between the University of Wolverhampton (UK), European partnering staff and Palestinian Higher Education Institutes that began in January 2019 and ran until May 2022. Its aim was to innovate local teaching and learning of English as a Foreign Language (EFL) through uses of digital and mobile technologies, which prepared the ground for transformation in praxis. Erasmus+ is a European Union programme that supports education and training, mobility and cooperation opportunities in Higher Education (HE) and beyond. Priorities and activities through these opportunities are aligned to the European Digital Education

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Action Plan and the European Skills Agenda (<https://education.ec.europa.eu>). Palestine was included as a 'Third Country' able to apply for programme funding. The project aims were essentially the innovation of teaching, with digital technologies underpinning that, with higher aspirations to develop local cultures of research, professional development and innovation that Palestinians rightfully recognise and own, and which as capacity-building we draw on for this paper.

Contextual backgrounds

TEFL-ePal faced the challenging aspiration of reifying transformative models of teaching (Biesta & Miedema, 2002). Here, we draw on teachers' insights to plot changes in teaching, broadly moving from didactic practices to a more participatory, dialogic and dynamic curriculum model, supported by online and mobile technologies, to underpin our model of innovation. As a backdrop to this project, the effects of the COVID-19 pandemic must be briefly mentioned. This has naturally been a stress test for the entire world and while it is background to some of the conversations drawn upon later, discussion of its impact is minimised. Nevertheless, we reflect that when this project launched in January 2019, the parallels between Covid's disruption and that which Palestinians ordinarily face in everyday life could never have been foreseen (see Smith et al., 2022). After a year, students, staff and organisations globally faced challenges which Palestine habitually faces domestically: enforced campus and building closures, staff and student absences, a sudden need for asynchronous planning and an emergency scramble for technical expertise to utilise technologies that circumvent disruption, while facing further obstacles in hardware and bandwidth access (Shraim & Khlaif, 2010; Svirsky, 2022).

Palestine, then, is used to the levels of disruption that the pandemic wreaked (Smith & Scott, 2023), with issues such as forced campus closures, roadblocks and society locked down, making timetabling precarious and precipitating a requirement for students to depend on mobile technologies for distance education (Traxler et al., 2019). Against this backdrop, the TEFL-ePal project aimed to 'develop flexible curricula, with face-to-face and online courses to be accessible to all learners, with no restrictions' (TEFL-ePal, 2020). Within that, there was scope for building capacity for an understanding and shared initiative for OEP. Open educational practices (OEP) can be understood as 'openly available' – that is free in terms of cost and easily accessible, but are defined elsewhere as 'the movement and systems based on the notion that there should be no barriers to learning, and that organisations – for example authors, publishers, universities and ministries – should make resources freely available with no restrictions on copying, adaptation and distribution' (Traxler et al., 2020, p. 16). The term has specific connotations with technologies: open source software, for instance, enables programmers and developers to share code and build systems outside the domain of corporate control and allows for open and free file transfer. 'Open' goes beyond technologies and can be applied to resources, educational values, institutional practices and teaching practices (Cronin, 2017), meaning that in practice knowledge is distributed without copyright or licencing restrictions held by conventional gatekeepers (publishers, technology corporations, Higher Education institutes, etc.) that grant access to resources to those with financial, geographical and class privileges. In education, OER (Open education resources) is often used to describe resources, for example open access videos, websites and material. Similarly, Weller et al. (2015) found that Open

means the empowerment of staff first, since the harnessing of OER stems from teacher proficiency, not just in locating and reusing high-quality OER, but in designing and adding to a pool of culturally appropriate OER (Pulker & Kukulka-Hulme, 2020).

Despite arguments around the shortcomings of OER to affect changes in education (Knox, 2013), a bank of OER curated locally in Palestine was a project target. But this was seemingly against the grain of local practice. Palestinian language teaching across the Four HEIs involved in TEFL-ePal was a restricted terrain, predicated on textbook knowledge as sacrosanct, albeit often from archaic resources, with teachers delivering content didactically based largely on copying phrases in longhand and rote memorisation through repetition. Researchers report general student dissatisfaction with teaching and learning approaches and resources (Bakeer, 2018; Bianchi & Hussein-Abdel Razeq, 2017; Dwaik & Shehadeh, 2009), while management and leadership strategy have also been critiqued as narrow in scope (Abusamra, 2023), with resources and the modes of assessment of learning tending to be heavily prescribed by management.

Nevertheless, innovation underscored the TEFL-ePal project though the term itself was not securely agreed during the project. Various discussions of innovation, for instance Ellis et al. (2023), give account of it as *willed intervention*, *creative contributions to fields of practice* and of theories related to *human development*. Elsewhere, Cohen and Ball (2007, p. 19) state that innovation is a 'departure from current practice – deliberate or not.' Yet despite the appeal of those views, we did not wish to extol, nor enforce the epistemology of western and European reference points on to Palestinian ontology (we have written previously about our keenness to support our colleagues' development as Palestinians, not tell them what we, as Europeans, thought was best – see Smith & Scott, 2023; Smith et al., 2022). Rather, we wanted to extrapolate the meaning of innovation and examples of change directly from the different contexts involved in the project. The almost total lack of any mention of innovation related specifically to individual need, in (Ellis et al., 2023) systematic literature review on the subject, was surprising. 'Need' as driving innovation was something that was made very clear to us by our partners: personal innovation as having specific purpose arising because of conditions and circumstances: what Harris and Albury (2009) call the 'Innovation Imperative'. We argue this absolutely cannot be segregated from exploring innovation in its diverse forms for, as Pring (2004) notes, professional innovation, educational activities and practices can only make sense in broader frameworks, such as the cultural contexts these are based within. In Palestine, the need for innovation is commonly pragmatic (e.g. Scheidgen et al., 2022), whether that is done to increase opportunity to engage with education when campuses or roads have been closed or to overhaul curricula and resources that are deemed not fit for purpose. Essentially, it could be argued that Palestine, and the challenges it faces, offers a powerful case study to demonstrate that social and political contexts and – crucially – the necessity for teachers to innovate and adapt to these, which have commonly been neglected in the literature on pedagogic innovation, need to be foregrounded.

Project specifics

TEFL-ePal was a highly collaborative project, involving numerous stakeholders from multiple countries. Table 1 below gives an overview of the meetings between partners in each country with brief description of the participant activities.

Table 1. Timeline and overview of main meetings and workshops.

Date & Location	Event description	Participants
January, 2019/ Anadolu University, Turkey	Kick-off project; partner institutions coming together; knowledge exchange and identification of limitations, barriers and underpinning project methods, while addressing the objects and delegating responsibilities to different partners.	Hosts from IT and computer sciences in Turkey; 4 UK teacher educators and researchers; 2 German linguistic teachers and researchers; various Palestinian classroom teachers, project leads, researchers and linguists.
April, 2019/ Wolverhampton University, UK	Observations of language teaching in UK post-16 colleges; University of Wolverhampton-led workshops showcasing good practice on pedagogical practice and embedding of digital technologies used in and out of classrooms for learning and assessment.	15 Palestinian teachers and department or faculty leads and UK teacher educators.
July, 2019/Various Palestinian HEIs	Palestinian meetings and field visits to sites, exploring current resources; exploring a needs analysis report; establishing pedagogical values for transformative teaching and learning practice.	All visiting partners from Turkey, Germany and UK.
October, 2019/ Wolverhampton University, UK	Visit with tours showcasing problem, project- and inquiry-based learning in different disciplines; technology for differentiation; assessment for learning.	Approximately 15 Palestinian teachers and department or faculty leads visiting the UK, (including new visiting staff who didn't attend the first trip).
March, 2022/ Various Palestine HEIs	Final data collection and field visits for evaluation of language laboratories, meeting students and teachers to see resources in situ and gauge impact of project.	2 German linguistics teacher/researcher and 2 UK teacher educators and research staff.
May, 2022/Anadolu University, Turkey	Conclude the project; focus on achievements and future collaborations and continued research.	All partners from UK, Germany, Palestine and Turkey.

Methods

For this paper, we were guided in our examination of the data we collected throughout the project lifetime by the following research questions, which we respond to through the sections that discuss the data analysis:

- Where would you say innovation stems from generally among teachers?
- How does it happen from start to finish – is it possible to say?
- In what ways can innovation influence educational cultures and organisations?

Research design

The research had a qualitative design, employing a variety of data collection formats to capture periodic reflections on teaching practices and transformation. These broadly fit with the Constructivist Grounded Theory approach, described by Charmaz (2006) where data is analysed according to distinct rounds, described below, in order to allow for theoretical concepts to emerge.

Data collection took several formats. Google forums were used to explore the advantages and barriers that technologies represent in local teaching practices throughout Covid, which gleaned insights into the mechanisms of organisations and administrative resistance to pedagogical changes sought by practitioners. This involved about 15 respondents having several exploratory questions about their practice posted each week over 2 months. During visits between countries, we conducted focus groups and

small group interviews at different stages of the project ranging from the first to the final weeks, in order to have participants sharing examples of good practice and perceptions of their internal cultures, colleagues, opportunities and obstacles they confronted and how they negotiated those, while being able to compare responses across the period of time. We also draw from free writing journals that colleagues wrote about their experiences of the project.

All ethical standards in accordance with guidelines of the British Educational Research Association (BERA) were explained, with consent signed by participants and the right to withdraw and the right to anonymity assured. The researchers ensured permission was granted through strict ethical application within their own institution.

Participants

As described above, data was collected in a variety of formats across the project lifetime, and from a large set of participants: senior managers, university policymakers, teaching staff, administration staff, project coordinators, technical staff, and – not least – students on English language courses at each Palestinian institution. For this particular study, we have used data from the teaching staff who were involved in the project, deliberately choosing their answers from our original questions at the start about their motivations and beliefs, right through to the final data collection events after the project had been completed. Through this we hoped to gain a sense of participants' developing thinking across the three years of the project.

Our participants varied in age (from 21 to 65). There were approximately the same number of male and female teachers who responded to the various data collection events, and these teachers differ by length of service, experience, level of engagement on the project, the level of English they taught, etc. Although none of these are the focus of this study, and we will not particularly note these specifics when discussing individual responses, we felt it important to point out that there were no marked patterns in response between age groups or genders: all participants involved themselves fully in the project and felt it had had an impact both on their teaching and on their students.

Results

Data was collated and analysed separately by the two researchers here at the University of Wolverhampton in the first instance. This comprised establishing a protocol for open coding, which is a primary treatment, or initial coding in Grounded Theory approaches (Charmaz, 2006). This has resulted in a plethora of first reading codes (Creswell & Creswell, 2017) from the data that allow for the emergence of conceptual categories. Not all of those pertain to innovation of teacher development, as many codes described other events, such as 'institutional barriers to technologies' and 'culturally-situated pedagogy'. Please note here that the data was a broad overview and contained a wide range of codes, many pertaining to students and technologies specifically, as well as the recognition and measurement of change, the impact of perceived change, its dissemination and the implications for professional development. However, as these are not the specific concern of this study, we have focused our analysis on teacher development.

A subsequent second round of coding took a selective, or focused, lens that further examined the data for substantive categories according to an emergent selective lens based on the Open Coding stage, which looked at the data for references to:

- research-informed theoretical pedagogy implemented,
- collaboration in practice,
- autonomy in practice,
- institutional sharing,
- teacher development communities,
- uses of technology enabling new forms of teaching,
- uses of technology enabling new forms of assessment.

The second round of coding of the data allows thicker and richer (Geertz, 1973) focus with more data attributed to the initial codes and other codes set aside in order to reduce it. This sorting of data is a third round called constant comparison (Charmaz, 2006), which arranges participants' responses that correspond closest to the labels above to be substantive. Following the filtering of this remaining data, we finally sorted the data into three main categories that were present throughout discussion:

- (instances of) Personal and professional change,
- (instances of) Informal and collaborative knowledge exchange of changes in practice,
- (instances of) Organisational change and transformation, according to practitioners.

Examples of representative codes that were collated to each category above included, respectively: 'a renewed view of subject knowledge', 'opportunities for enacting innovation alongside collegiate support', and 'alternative mode of teaching reached'. In the first category, we noted examples where teachers were stimulated to try new things themselves, but they also acknowledged some barriers, such as students' low motivation. Our focus was not primarily on student accounts here, but teachers, though we often found examples of innovation occurring in concert with them. Allowing for innovation and being collaborative with students first helped support a different perspective for both teachers and students of what language learning can be, with more experimentation and creativity. Category two was about collegiate innovation, and included early codes that showed instances of 'new and young teachers embracing change' through the types of tools they use. They are eager to start and TEFL-ePal seemed to give them 'licence for innovation beyond the institute' (as early codes demonstrated). This fed into the final category, where colleagues had shared innovation in which they were able to tweak institutional norms, through 'changed assessment methods', 'increased chance for flexible delivery' or 'extra opportunities for student learning'.

We will now give further examples of these with discussion that relates to the context. Following that, we move on to show how these categories relate to the stages of our Model of Innovation in Technology-Enhanced Pedagogy (MITIP).

Personal and professional change

Examples of this were fairly extensive among our categories, most likely because we invited partners to share examples of practice on numerous occasions, which itself

becomes the basis of the model wherein free knowledge exchange promotes a level of practitioner convergence. Responses here were characterised by levels of enthusiasm from more experienced practitioners who have elsewhere described practice with levels of attrition and fatigue and now find opportunities for deliberate interventions in their routines emancipating and energising:

During my early career, I followed the syllabus that I was given by the course coordinator step-by-step. The syllabus itself had nothing interesting as it focused mainly on grammar and making students memorize important lexis in order to pass their exams. Teaching the same thing repeatedly in such a way that students and I found boring started affecting me negatively. This routine and lack of interaction between my students and me made me feel unproductive, lazy, even self-loathing. I started thinking that my formal education is worthless and that any undergraduate student majoring in English Language can do the things that I do. I lost motivation to teach, and stopped planning for my lessons because I had already known what I was going to say by heart because I had repeated it three times a day!

These personal cases show the impact of prescriptive practice and dated resources, with the individual above explaining how the testing of institutional boundaries at the practitioner level seems to invigorate the teacher's commitment with renewed agency: *'in one of the semesters, I asked students not bring any textbook on Thursdays to make it a free lesson where students practised their listening and speaking skills.'*

Others elsewhere stated on their innovations: *'I can claim that my motivation has been rekindled now that I have access to such educational equipment.'*

Such responses within this category tend to belong to the individual, who make incremental improvements to their everyday practice and may be discreet and even covert about it to start with. We saw examples where innovation happened in isolation, without any adjacent recommendations for colleagues. The reasons for this can be familiar, such as time constraints or teaching to the test. In other cases, the circumstantial becomes clear:

The whole situation in Palestine controls our dreams and objectives to be creative since the situation is governed by political, economical and social issues that limit our creativity and our willingness to work hard. In some cases, we tend to think not more than our daily life and how to feed our families under the current pandemic with the severe conditions caused by the Israeli occupation.

Yet in other instances, practitioners even working in Gaza with next to no chance to travel abroad and limitations on engaging with the wider world thought how augmented and virtual reality could transcend a closed world, one participant explaining how he was *'looking forward to the more advanced, new ways of teaching that the Metaverse would help us in teaching English. The new ways have even new methods. There will be some kind of new meta universities, new meta classrooms, where we can interact with students, interact with speakers and take our students to a major city, university or let's say a club in London to talk with others.'*

In some instances, it was possible to see where practitioners attempted to change systems through practices: *'I try to mix between both forms of assessments (exams, projects, research papers, videos, presentations, etc.) in my courses whenever I am allowed to create a course syllabus from scratch. However, if I am teaching a university requirement, then I must stick to the pre-designed syllabus.'*

Underpinning these responses we can return to the question of the need for innovation, which appears to be implicitly understood by teachers who appear weary of the load and rigmarole that teaching can entail and who work in systems their professional instincts have outgrown: *'I've noticed that students like to use e-learning if the facilitator knows a lot about technology and use it well. So, this promotes me to learn more, and as a result, we developed our technological capacity'* and a view that innovation means *'To extend students' learning beyond the classroom by including knowledge building, keeping oneself educated about new trends and technology in education, and problem-solving in today's world.'*

From this we may surmise that 'teacher innovation' depends on knowing students' needs and being responsive to the outside world.

Illustrative examples in practice:

- One classroom practitioner teaching medium-level English utilised the immediate environment around Bethlehem and its plethora of tourists to overcome the need created by a scarcity of native speakers to practise speaking with. Her instructions were for students to conduct interviews in the city, filmed with their mobile devices, then posted to the social network for educators Edmodo (edmodo.com) where they received peer and teacher feedback. This was an illuminating method of bridging theory (mobile learning; peer review) into praxis, which was undertaken intuitively and without direction.

Informal and collaborative knowledge exchange of changes in practice

The essence of this category might be noted best in the response below, which reveals a renewed commitment to practice and lifelong learning: *'this project was the real beginning of my professional career. I learned that teaching is more about having teaching skills rather than having decent knowledge of the subject matter, and I realized that there is always room for development.'*

We posit that the personal transformations resulting from innovation extend to collegiate practice, as Ellis et al. (2023) note the need for interventions and for innovation to have associated scale (beyond the site of its creation). This quote shows that this begins with the self and a reflection that re-learning is at the heart of innovation, but that the social element of a community approach enables that. This collegiate support is manifested as technical and pedagogical practicalities: *'There were many instances where some participants who lacked experience with technology were quite dependent on those who were skilled. Assisting them in facing their obstacles was always at the expense of learning something.'*

The practical and technical skills are definitely important in innovation; but surprisingly what is missing are the ludic attitudes sometimes noted in research literature, where experimentation and educators learning together with students to acquire and develop technical skills through co-creation and problem-solving can be prevalent. In Palestine, it looks as if teachers must be ready first, at least in the eyes of leadership: *'Modernization necessitates mastering digital skills, and as the Dean of the Faculty of Educational Sciences, I value this is [sic] one of the factors to be considered in designing a faculty development program. Some educators were excluded from the project because they lack digital*

competences and could not improve them.' This final sentence shows that a degree of professional innovation is expected. Coming as it does from a project lead working as Dean at one of the HEIs, this shows the emphatic importance of having progressive leaders on board in order to support classroom practitioners to initiate cultural changes, as noted by, for example, Cameron and Green (2020).

There is a degree of capacity-building that becomes reified once individuals share what they do, what they know and how they test the boundaries of what is deemed acceptable, and we return to that in a later section. It is important to note here that this knowledge exchange between practitioners within institutions is an important aspect of capacity-building but this knowledge exchange is also based on values, which Ellis et al. (2023) identify as the benefit of innovation for others. This is noted here: *'For me as a technician and lecturer at Engineering and IT department, the most important value of the project is that we trained all the staff at our university how to design the interactive content and materials for different courses in particular the difficult one. Such as math and law courses.'* This was reinforced by others at different HEIs, who also noted how this cascading of knowledge travelled through organisations was led through example: *'I think the most important value of the project is the capacity enhancement of the staff members that enable us to integrate tech in teaching and learning and also assisted our academic staff to develop almost from scratch parts of the newly developed curriculum.'* Here, we can see how the examples shared helped other staff since innovation was predicated on aspects of the curriculum itself.

However beyond this, it appears that innovation can exemplify a utopian hope to become realised: *'Collaboration with partners and sharing information with professionals through exchanging visits and conducting workshops enabled the trainees not only to develop skills to execute project activities, but also to gather insights and arrive at informed conclusions by interpreting these insights on how to set minds free, accelerate innovation and creativity, and open new visions and horizons for genuine liberation for a country restricted inside its borders.'* This position strikes the authors as need manifest in transformation; here we see hope enabled through action and the teaching professional reclaim their agency and become empowered and trusted professionals.

Illustrative examples in practice:

- In Palestine a classroom practitioner of English language teaching invited her students to do free-writing exercises using the online platform Flipsnack, where students' writing is open and visible to others and collected into an anthology. This approach has been shown to develop confidence and create cohesion among students as 'Open Publishing' (Scott, 2018). Following this practice, the teacher shared this with others in their department to show possibilities with technologies, both informally to support innovation among her team, and later at a formal level in CPD events to share practice.

Organisational change and transformation, according to practitioners

This was a category that initially looked insubstantial; in evaluating the project as a whole after it has concluded, we are often asked about impact and this can be difficult to ascertain. In some ways, working in the use of digital technologies in teacher development has a degree of the gimmick to it, with novelties that arise, are grappled with, then discarded when practitioners revert to type. We hope that our input for our partners and

students results in radical rethinking of what education, teaching and learning constitute. This is shown in a response that declared *'Capacity-building for me means we have to work on changing the mind-set of the teachers, students and administration in order to ensure sustainability of the project.'* For this to best occur, clear discourse on values must be established; in other words, it is important to identify existing problems in practice, such as outdated resources, that enable changes to work upon. Where those are based on convergent values, a concerted approach can assist in innovative praxis. Again, we note the need for bold leadership in the respondent's insight below which recognises that trust and investing in development in practitioners underpins autonomy: *'A learned lesson is that decentralisation is a key factor in the process of decision making for development'*. The suggestion of 'decentralisation' is key here: the Dean is noting that all contexts are different and contingent on local circumstance, so we might infer that what is indicated is that teams in specific situations, prone to local conditions, may best govern their own development.

Practitioners reiterated that technical skill development is a fundamental and pragmatic need for innovation, but recognised that ultimately developing and flourishing as professionals is the priority.

Capacity-building is the act of acquiring and honing the skills, instincts, abilities, processes, and resources that organizations and communities require to survive, adapt, and prosper in a rapidly changing environment and a method to ensure that the teacher has the intellectual and interpersonal abilities necessary to teach successfully.

We must be mindful of these messages in cultures where prescribed methods of professional working are becoming more prominent. This will inevitably lead to the feelings of attrition and powerlessness in practitioners described earlier, which will undoubtedly be harmful to organisations who value professionalism. We note how affective tone (*'amazing'*) in responses reflects a renewed vigour for practitioners' work: *'Language on Eng1 was more active and it was amazing for us compared to the English before.'* Merely having ownership of the design and creation of materials, rather than integrating what is directed for use was substantial in transforming TEFL teaching. But being able to change the ways students were assessed was a big step-change in culture and was owing to the buy-in of leaders convinced by practitioners' instincts.

The last word in this category and section belongs to a respondent who recognised that the best resource for an organisation is an innovative individual practitioner and that the values are shared by everyone where they have opportunities to be recognised for their skills. This goes beyond being able to transform mode of delivery, type of resources, creating interactive textbooks or changing the forms of assessment (though those were all noted as having valuable impact on organisations involved), to an openness with acknowledging the need for change at every level: *'If we want to conceptualize capacity-building, it fundamentally means improving effectiveness at the organisational level and at the individual level as well. It purports to make my profession more adaptive and responsive to changing conditions. This can be done if we, the staff, are provided with greater access to resources, training programs, consultations and expert advice. All this can be coupled with strategic planning and networking opportunities.'*

Illustrative examples in practice:

- A classroom practitioner was able to write in a project-based learning unit, which set out a student brief to explore their local contexts and present their findings through blends of different technologies. This supported a more personalised approach to curriculum that enabled students more choice in what they studied and how they were assessed (through video presentation, through written report, or through a collection of artefacts). The result of this gave cause to the organisation to embed more flexible approaches designed by teachers into future syllabus structures and to award grades formally leading to qualification, based entirely on the teacher's innovation. Against cautious organisations, which tend to restrict teacher agency and prescribe pedagogical practice, this approach was transformational. It came about through the teacher evaluating carefully before and after the intervention to show improved student motivation and satisfaction, which helped to convince a less risk-averse management that this can have benefits for staff and students.

Model of innovation in technology-enhanced pedagogy (MITIP)

We briefly present our new model for technology-enhanced pedagogy, explaining its design, then demonstrate how this worked in practice on the TEFL-ePAL project. This model has been created as a representation of our understanding of the processes that this project underwent, and we present it as substantive of our subsequent thinking on its application for academic praxis generally.

Our model (see [Figure 1](#), below) purposefully encapsulates a bottom-up design. We have argued that innovation comes from necessity: teachers needing ways to engage their learners beyond the strictures of policy-imposed parameters. Barriers can be identified by individuals in their own contexts. However, individual educators working alone creates friction among teams and departments, and a lack of parity of experience for learners. Our model describes, then, how agency needs to be built in to a system: policy-makers and managers need to allow space for teachers to be creative. Of course, this freedom needs to be parameterised and reasonable, but without creativity teaching is stifled and learning stymied. However, we posit that it is in finding like-minded practitioners that individuals can best effect operative change.

It is important to note that this innovation is not wild surmise and aimless grasping for what works; rather it is theoretically informed. We suggest that most innovation arises from reading about pedagogy and sensing the content-specific, cohort-specific and contextual possibilities in the aesthetic of teaching. We also argue the case for the continued professionalisation of teaching and for spaces for teacher communities to come together, rather than operating in isolation divorced from research and scholarly discourse. This resonates with the theory of Communities of Practice (Lave & Wenger, 1991), in which key dimensions include the shared repertoire, joint enterprise and mutual engagement of members. It also takes account of the reflective and reflexive praxes of effective teachers (see, e.g. Cunliffe, 2016). We use 'reading' here to incorporate the effective sharing of practices amongst professional educators – we also expect professional development, mutual observation and informal sharing to take place amongst teaching communities as a matter of course. All of this, in combination with reflection on

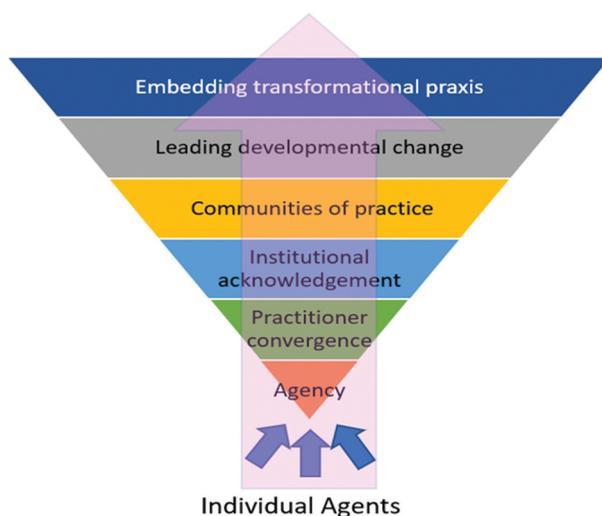


Figure 1. Model of innovation in technology-enhanced pedagogy (MITIP). [Readers of the printed journal are advised that the full colour version of this image can be viewed online].

how this will work ‘for me in my context’ leads to iterative and experiential change, which can be further shared and reflected upon. This leads us to ‘convergence’.

The next level of our inverted pyramid is that of practitioner convergence: where these individuals pool ideas and allow for feedback from others. This was particularly evident amongst Higher Education staff during the early stages of the pandemic, where people shared strategies for online practices. In congruent instances, this allows for the drawing together of convergent values of internal professional development and leads to both supportive praxes becoming normalised and more engaging teaching and learning as individuals iterate and develop more innovative praxis both individually and with their peers.

As has been acknowledged by, for example, Kotter (2012), no changes are feasible or possible without management support, hence the next rung of our model: institutional acknowledgement. This could be on a spectrum from a line manager’s simple approval for such practices to be used/utilised in the learning environment (be that face-to-face, online or hybrid) to support for CPD and financial investment in resources, all the way up to policy change at the highest level. However, where institutional approval or acknowledgement is withheld, the practice/idea/innovation may go no further through lack of support – or, potentially, active suppression. This acknowledgement of agency – management’s tacit acceptance that 1) creativity, experimentation and innovation is going to happen with or without approval, especially amongst the best teachers who are trying to meet the needs of their learners; and 2) there is a place and a need for risk and autonomy – allows for the community to exchange knowledge, identify and analyse needs and to rethink existing practices.

Where these innovations are supported effectively and shared, we see this as enabling Communities of Practice (Lave & Wenger, 1991), which is the next stage of the diagram. This is where the wider staff are able to trial these praxes in their classrooms,

autonomously put these innovations into practice in their own ways, reflect on successes/failures, update each other and identify best practice and expertise.

The top layers of the model involve leading developmental change, as the diffusion of the innovation/s (Rogers, 1962) leads to more effective practice, gaining acceptance from institutional leadership and – in some cases – leading to further cascading of praxis and expertise through internal CPD, and embedding the transformational practice (anchoring the changes, cf. Cameron & Green, 2020; Kotter, 2012).

We now demonstrate the levels of this model as exemplified through the TEFL-ePAL project (see Figure 2). This is not overly or needlessly descriptive; but shows how the model can be used to explain how innovative pedagogic change can have large-scale impact. As previously, the model needs to be read from the bottom up.

As is evident, innovations were happening anyway, but this project gave a legitimacy to practitioners' autonomous agency and rewarded it. Whilst this will, obviously, not always be the result, where creative pedagogy is permitted, nurtured and shaped through recursive feedback and external support and supported by management it can result in effective change, transforming teaching and learning.

This was clearly the case in Palestine, where the didactic, teacher-centric approaches in TEFL classes (often of 60 students or more being taught by a 'sage on the stage') were unfit for purpose, students were dissatisfied and disengaged, and teachers were seeking more innovative open and digital pedagogical solutions. The move to asynchronous and digital learning using dialogue and talk, culturally-relevant curriculum materials, the use and creation of videos, blogs, podcasts etc., has had an invigorating and empowering effect on both the teachers and students, as discussed in their comments, above.

Discussion

We have shown how the Model of Innovation in Technology-Enhanced Pedagogy was exemplified by the project work we were involved with in Palestine. It is important to note that this model is descriptive rather than prescriptive: it serves as a framework to explain innovation and takes into account the work, comments and perspectives of the Palestinian educators who enacted the project, yet the characteristics of this model may be familiar.

In looking through the data collated from teachers across three years of the TEFL-ePal project, we note that capacity-building is most obvious when it comes to staff talking about their personal professional development. This is evident in the cluster of examples shared, which we have drawn in here, as well as the statements of impact upon their own professionalism. This chimes with the earlier observation from Adam (2019) that the learning designer can themselves be regarded as an OER. When designing and developing technologies in practice, professionals are imbued with a sense of ownership, invigorated creativity and renewed purpose in their work. The conviction with which professionals go about their individual innovation can shape organisational structure, as noted in this response *'in previous semesters they [teachers] had zero choice because 100% of the grades were allocated for exams only. In the present semester, 20% of the grades are allocated for participation and I can assess them [students] how I please. In 10% of the grades, I am willing to ask students to choose how they will be assessed.'* This comes about from teachers committing to innovation and showing organisational leaders how this impacts positively. It was inconceivable

Level of Model	Key features	Model in practice on TEFL-ePAL project
Embedding transformational praxis	Anchor changes	Universities using new curricula and pedagogic handbooks: staff empowered & students learning more effectively. Heightened creativity.
Leading developmental change	Acceptance from institutional leadership Cascade through CPD	Curricula and teaching methods adopted; beginning of cascade of pedagogy to wider departments outside of TEFL and English.
Communities of practice	Autonomously put into practice Update and reflect Identify expertise	Staff creating their own approaches, experimenting with the pedagogies to create contextually-relevant teaching for their content and their students. Greater problem-solving and adoption of relevant pedagogies.
Institutional acknowledgement	Community exchanges knowledge Identification and analysis of needs Rethink existing practices	The initial results and feedback from students and staff very positive, with the new teaching practices (particularly the focus on dialogue and student-centred learning approaches) very well received. The new curricula designed with these pedagogies explicitly embedded.
Practitioner convergence	Drawing of convergent values Acknowledging agency, need for risk, autonomy, creativity	Project coordinators, managers, departmental heads agreeing to project staff experimenting with the pedagogic innovations they were exposed to through dialogue and training. Pedagogic handbook drawn up by external partners, and pedagogies linked to specific areas of curriculum or events agreed upon.
Agency	Identifying barriers Finding like-minded practitioners Effective change	Colleagues across departments and institutions (on this project) discussing issues, needs and their individual approaches to change.
Individual agents	Agency and innovation Need for change Instinct for innovation	Individuals seeing a need for change from a didactic and static learning environment and trying new ideas. Theoretical bases explored.

Figure 2. The MITIP model used to describe the TEFL-ePAL project and its outcomes.

at the project beginning to see ownership described in the previous quote or in this example of formal institutional change: *'30% of the marks are devoted to online work, interactive activities and projects. The 30 marks are part of the holistic assessment of the course.'* A culture that expressly values professional development and has an Open culture of exchanging ideas around innovation will necessarily flourish; dialogue and knowledge exchange are more likely to lead to systemic changes such as this one.

It seems to go without saying, but teachers know their students best; teachers are inquisitive and open and will be responsive to the world around them with creative and contemporary methods and resources; teachers also enjoy autonomy and trust which they receive as indicators of professional recognition. They also work in environments that are ever more regulated, controlled and under surveillance. They are only able to influence changes if capacity is built by enough practitioners making the same case and where *'the TEFL e-Pal project helped educators improve their teaching practices in a variety of domains such as modes of delivery, student engagement, curriculum planning, and assessment and feedback'*, it follows that those elements are able to be changed.

What we have attempted to describe was an opportunity for creating a culture of transformation based at practitioner level, where there were opportunities afforded practitioners to engage in deliberate innovation. This deliberate innovation started from some personal soul-searching about their professional instincts, led to trying something, extended to sharing that with another, trusted colleague, before shifting into a convergent culture of knowledge exchange. This culture was essentially focused in Open practices that are prevalent in cultures like the UK and US, where practitioners drive change through participation in informal channels: teach meet events, small conferences, social media chats, blogs, and local research about practice, all of which is not done as 'permitted' by an organisation, but by collective will to reclaim the profession.

What may be key to this is that the innovation allows the practitioner to trial something without measurement. Perhaps in this way, innovation should be regarded as creative freedom so the practitioner is free to experiment, rather than a professional matrix where Goodhart's Law might then make expectations of innovation become burdens and tick-boxes for over-worked practitioners. As a partner showed, the convergent approach is also necessary: *'Capacity-building for me means we have to work on changing the mind-set of the teachers, students and administration in order to ensure sustainability'*. The balance between individual and organisational innovation is a difficult one, so the values must be shown to both in order for a concerted approach to be taken and reciprocal values be realised.

Returning to the findings of Ellis et al. (2023), that innovation extends to three kinds of outcomes: *originality, scale and value*, we posit that this project provides evidence of all three. Individual innovations (originality) led to widening participation beyond the sites and developers of their creation (scale) and the resulting capacity-building extended beyond the redesign of curricula mentioned above to professional enrichment, collegiality through cascading innovation to other areas, and improved teacher satisfaction and well-being (value).

Finally, we highlight here some key themes and findings from our work in Palestine.

- (1) Social and political contexts, and people's individual responses to these have been neglected in models of pedagogic innovation and we argue here for a clearer foregrounding of these key drivers for change.
- (2) Similarly, it is not the case that adopting a specific platform, technology or pedagogy will have a given outcome. Rather, the outcomes are driven by multiple contingencies, but we state here that chief amongst these are the social and political realities experienced on the ground, and the individual responses of teachers and students to these *and* to the pedagogic choices made.
- (3) It is often small-scale and low cost options that have the most significant impacts on local contexts. We argue here for the use of OER and curated open access tools, especially in areas of conflict and uncertainty.
- (4) Finally, in opposition to mainstream discourse on EdTech, we suggest that it is individual agents' efforts that make the biggest difference. Our new model demonstrates that where innovation and effort are rewarded with effective investment at an institutional level, real change can be effected – change that has purpose and meaning and local and individual contextual levels.

Conclusions

TEFL-ePal was a unique project that facilitated opportunities for innovation and change. We acknowledge that many organisations and cultures cannot equally indulge the scope for exploration and transformation in pedagogical practice afforded here. Palestine is a nation beset by geopolitical challenges which have an impact on every social area and throughout its institutions and organisations. Given the issues manifested by the military occupation, its macro instruments of surveillance and oppression and micro-aggression, our conclusion is that where innovation is borne of necessity, then regardless of organisational directive, it is likely to happen anyway as practitioners struggle for the site of agency in their teaching. If it is not happening, this may be symptomatic of stagnation in an organisation. We hope through this paper that we may add to wider calls to reclaim a degree of innovation for practitioners, who, to be empowered, require trust, autonomy and agency in their professionalism.

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