

Designing flipped learning in initial teacher education: The experiences of two teacher educators

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The move to online learning triggered by COVID-19 lockdowns in 2020 and 2021 necessitated a rapid movement to effectively design synchronous digital learning environments. In such environments research suggests that a flipped approach to teaching and learning is most appropriate in learning environments mediated by technologies. This article examines the experiences of two teacher educators in dealing with online learning environments in a time of change and examines the shift to a flipped approach in teaching literacy units that are part of a postgraduate initial teacher education degree at a university in Melbourne, Australia. The article presents a collaborative autoethnography of the experiences of the teacher educators, shared as a set of curated narrative vignettes, and analyses the thinking that supports the implementation of flipped learning. These practice narratives are understood through the lens of collaborative learning theory which emphasises negotiated meanings and knowledge creation within groups. In post-COVID times this article points to future possibilities for a flipped learning approach in hybrid or mixed learning environments and offers a conceptual process model for designing learning in response to change.

Implications for practice or policy:

- Teacher educators may need to reconsider learning design for online and hybrid environments.
- Universities may need to be more open to student-centred pedagogies such as flipped learning.
- Leaders and policymakers in higher education should give more attention to student agency and active learning in educational delivery.

Keywords: online learning, initial teacher education, flipped learning, collaborative autoethnography

Introduction

Online learning has been a part of university teaching and higher education offerings since the late 1990s, in forms such as distance education and using a range of synchronous conferencing technologies (Coates, 2006; Keengwe & Kidd, 2010). However, the scale of movement to online learning rapidly expanded during the COVID-19 pandemic of 2020 and 2021 (Shankar, et al., 2021). Universities around the world were required to rethink educational delivery in nimble and innovative ways and to move their courses and units to online offerings, with little notice. Australian universities were no less affected and in Melbourne this need to switch to online learning was driven by extended lockdowns during 2020 and 2021 (Saurine, 2021; Tertiary Education Quality and Standards Agency [TEQSA], 2021).

It is into this context of significant change in the delivery of higher education that we share our experiences as two teacher educators working at a university in Melbourne, Australia. The article contains not just our response to the rapid shift to online teaching and learning, but documents how the pandemic sponsored a wholesale rethink and pivoting of our practices as teacher educators that goes beyond just a temporary adjustment caused by the pandemic. The lockdowns became a trigger for a reappraisal of the efficacy of our practices and a rethink of the foundations of our pedagogy for change. This reappraisal has implications for delivery of teaching and learning in higher education beyond the pandemic.

Specifically, in this article we examine our experiences of and thoughts about moving to online learning, and through collaboration we explore what we would make of it longer-term as a reorientation of educational delivery in initial teacher education. We were drawn to a flipped learning approach to support the learning in literacy units that were taught in the second half of 2021 when Melbourne was enduring its second, long lockdown of many months. This article makes a case for why flipped learning as an approach

is not only a quality learning pedagogy but a quality learning pedagogy for online and blended learning environments into the future, irrespective of what happened in the pandemic.

Drawing on theoretical perspectives, especially collaborative learning theory, we present our narratives of practice as curated vignettes that emerged from our collaborative autoethnographic process and offer analysis of each other's narratives. Both the narratives and the analyses inform our discussion and recommendations for future learning and practice and were pivotal to the development of a conceptual process model offered later in this article. The focus of this study is on the need for pedagogical innovation in higher educational delivery in light of rapid change and informed by the possibilities in technological innovation.

Literature review

Our collaborative autoethnographic study sits within the milieu of the Covid-19 global pandemic and explores flipped learning as a pedagogical practice within the context of evidence-based twenty-first century learning and teaching practices (Bishop & Verleger, 2013; Kim et al., 2019). We critically examine to what extent flipped learning is a pedagogy of quality practice within higher education and online learning environments for contemporary times. We also position our research in broader concerns about the digital transformation of teaching and learning in higher education. There is limited published research that engages with the teacher educator as reflexive designers of learning, especially in the space of responses to change and the implementation of a flipped approach to learning.

The case for flipped learning

Since well before Covid-19 struck, technologies have significantly influenced the way we interact and communicate across diverse social contexts (Bennett et al., 2007). What happened during the pandemic was an acceleration of this influence as both social communication and educational delivery moved substantially online. However, emerging research evidence suggests that not all online learning and teaching was successful (Tang et al., 2020). One of the possible factors at play could be the appropriateness of pedagogies for use in designing new digital online environments (Dumulescu et al., 2021). There is a growing impetus to explore new pedagogies to take advantage of the conditions the pandemic created, and this shone light on long-held pedagogical practices, especially in higher education (Henriksen et al., 2020).

There is emerging evidence that flipped learning is a contemporary pedagogical practice that better responds to the demands and expectations of quality learning with technologies in the third decade of the twenty-first century (Brewer & Movahedazarhouligh, 2018; Låg & Sæle, 2019). Låg and Sæle (2019) define flipped learning this way: "The flipped classroom is a teaching model that moves most of the teacher-centered instruction out of the classroom to free up time in the classroom for more student-centered learning activities" (p. 1). This shift in loci away from instructor-centric approaches is built on asynchronous online resources and activities, often housed in learning management systems, to develop student understanding prior to group-based and practical class activities.

Flipped learning is a pedagogical approach which aims to promote student agency and autonomy in flexible and technologically oriented environments (Brame, 2013; Heron & Thompson, 2019). This approach is positioned in the literature as a pedagogical practice which stimulates richer learning through enabling and encouraging engagement through more active participation, collaboration, and student ownership of learning (Fisher et al., 2020). The concept of flipped learning also appears to be well supported in the broader learning theory literature as a pedagogical practice which better reflects the learning needs and temperaments of learners in digital times (Tang et al., 2020). For example, Brown and Tryon (2010) suggest the need for higher order skills to evaluate information, especially from digital sources: a practice which flipped learning enables. The challenge with digital content is that often the skills necessary to identify, interpret, and evaluate the information are lacking (Buckingham, 2008; Lyons, 2015). Flipped learning is about recognising and valuing the diversity of texts, including digital texts, provided asynchronously online (Ma & Luo, 2021), and as part of the process of engaging with a range of texts, students build skills and dispositions as part of the pedagogy to develop their criticality as they construct meaning in purposeful groups in class time.

Abeysekera and Dawson (2015) suggest that cognitive load theory supports a flipped approach in courses because students can pace their learning at their point of need and manage their cognitive load. Further, flipped learning enables a level of autonomous decision making based on learning preference and style (Keengwe & Kidd, 2010). Moreover, as Kemp and Grieve (2014) argue, flipped learning enables flexibility in terms of when the work is undertaken.

Advocates of flipped learning suggest that “flipped learning comprises learner-centred pedagogies characterised by moving the passive information transmission of the traditional classroom to ‘homework’ and focusing in-class time on active learning strategies” (Fisher et al., 2020, p. 543). Brame (2013) suggests that “in a flipped learning approach students are exposed to new content through short videos and readings before class and then spend face-to-face (F2F) time in class further developing understanding of the content through interactive activities”. Finally, Heron and Thompson, (2019) suggest that a flipped learning approach relies on the use of technology to enable learning in more autonomous and flexible ways that may run contrary to the dominant presence of the teacher in the learning space.

Critically, we note the limitations in the conceptualisations about flipped learning presented in the literature. First, we suggest that the flipped learning approach and flipped learning classrooms should reflect strong cohesion between the out-of-class asynchronous activities and resources and the in-class engagement with ideas and their practical application, and such cohesion should be part of a broader instructional design (Heaster-Ekholm, 2020; Lee et al., 2017). Second, we contend that flipped learning is best served through purposeful group work in-class built on dialogical spaces of interaction between students to construct understanding (Major et al., 2018). This points to the need for considering flipped learning within a broader range of complementary pedagogical approaches.

A moving landscape of learning and teaching in higher education

The higher education sector has undergone transformation in recent decades in response to profound change, including wide-ranging technological innovations, design initiatives, and modes of delivery. In Australia, as part of this transformation, flipped learning has emerged in the last decade and has been used in some higher education contexts (Singh et al., 2021). Educators in higher education understand that students may have different expectations of learning and teaching and indeed the educational landscape has shifted, even prior to Covid-19. At the same time, in higher education, the technological transformation and digitisation of learning that began decades ago is not yet complete (Castañeda & Selwyn, 2018; Ravenscroft, 2001; Slaughter & Leslie, 1997). Significant reform is still required in higher education globally to embrace global trends that are both social and economic in nature and respond fulsomely to change (Treherne, 2020).

Pedagogies also must change to embrace the economic and social realities of the contexts in which young people live and learn (Wells, 2007). We argue that these reforms, while underway, are evolutionary rather than revolutionary and arguably are not keeping pace with broader community trends and expectations in digital times (Wells & Lyons, 2015). The result may be dated pedagogical practices in our higher education institutions that do not fully reflect technological innovation (Bigum & Kenway, 1998; Consoli, 2013; Heron & Thompson, 2019; Santos et al., 2019).

Conceptual framework

In considering our work as teacher educators and the experiences of working online with our students through a flipped learning approach, we utilised collaborative learning theory (Laal & Ghodsi, 2012; Rutherford, 2014). This theory enabled us to understand our experiences as educators and to consider the pedagogical approaches employed in designing the group-oriented learning activities for our students. Collaborative learning theory can be viewed as a method for designing learning environments, but in this article, we are also using it as a conceptual lens for understanding our teaching experiences, pedagogical approach, and processes in designing and implementing an online flipped learning environment in initial teacher education. Our rationale for selecting collaborative learning theory is that it provides a way of conceiving learning within groups that values the individual and their agency as well as the strategic place of the group in the process of learning (Udvari-Solner, 2012). In sum, this theory became both a method for developing the flipped learning environment and an analytical lens for understanding our work and experiences as teacher educators.

In collaborative learning theory, learning is emphatically situated in the goals of the group and the purposeful interactions, processes, and decisions of the group. It might be differentiated from other social learning theories (such as cooperative learning method) because of its emphasis on a shared vision for learning negotiated within the group and distributed ownership of knowledge generation (Davidson & Major, 2014). Whereas cooperative learning approaches are about the support and climate within the group for enhancing learning, in collaborative learning theory the agency and positionality of individuals is always in tension with the emerging goals of the group.

Collaborative learning theory involves directed and strategic peer-to-peer learning with the aim of cultivating thinking through critical interactions and negotiations of meaning (Hill & Hill, 1990). As such, higher-order thinking, effective and purposeful communication, individual agency, and leadership skills can be enhanced. Collaborative learning is fundamental to developing critical thinking skills because in the processes of working with ideas and experiencing differences of perspective the weighing of differences towards consensus is necessary.

Along with other social learning theories, collaborative learning theory is based on the work of Vygotsky and his widely used idea of the zone of proximal development as well as constructivist notions of knowledge making. In the zone of proximal development learners develop cognitively, construct understanding and accomplish tasks in purposeful small groups that might be more difficult for the individual alone. Vygotsky (1980) proposed that social environments and the interactions within them profoundly impact the learning process, especially when directed by a knowledgeable other. He suggested that the best learning takes place through the exchanges students have with their peers, teachers, and significant others.

Methodology

To generate data about our design ideas for learning and our experiences in teaching contexts using flipped learning within digital online platforms, we employed collaborative autoethnography as the methodological approach. Autoethnography has emerged significantly as a methodological approach in education in the last 20 years because it enables insights into the stories and experiences of people from a first-person perspective. This allows depth of understanding of individual experience in the specific circumstances of practice. In autoethnography the aim is to analyse and understand such personal experiences and illuminate the context in which those experiences are situated (Ellis et al., 2011).

However, in this study, our autoethnographies did not emerge in isolation but were considered as forming in the dialogic space of being together as two colleagues and discussing our experiences, common concerns, and differences of approach as teacher educators (Brown & Sawyer, 2016). We thus categorise our approach to data generation as collaborative autoethnography because it embodies a collective and constructivist understanding, has a narrative turn, and reflects multivocality in that while our autoethnographic texts emerged out of our discussion about practice they still contain our individual voices and perspectives (Hernandez et al., 2017). Given that we are exploring our own experiences and no specific student data was collected or used, no ethical permission was needed in accord with our university's policy. This approach is emerging as part of faculty level design in higher education (Bowers et al., 2022).

We came to a consensus about the generation of autoethnographic data after a series of collaborative meetings in which we discussed our pedagogy and approach in the Master of Teaching literacy units and especially what pedagogical approach best suited online synchronous learning in technology-oriented learning environments. We decided to produce curated narrative vignettes (Skilling & Stylianides, 2020) about our practices as teacher educators that encapsulate our experiences and thinking, built around the following broad structure that reflects the history of our work done in 2021:

1. Conditions. Considering the conditions that led to the need for online and then flipped learning and its ongoing application in initial teacher education.
2. Design. Reflecting on our design process for facilitating learning online and through a flipped approach.
3. Observations. Observing the learning in our classes in a designated period in the second semester of 2021, and our thinking about it (considering, for instance, relationality, group processes, and evident student engagement).

Having written the curated narrative vignettes, we further considered how we might understand this data in terms of our research problem and what conceptual lens would be most efficacious for this work. Collaborative learning theory was selected because it embodies an understanding of collaboration and the construction of knowledge that is consistent with a dialogic approach, group-generated learning, and technologically mediated online learning environments. Each vignette is followed by an analysis, informed by collaborative learning theory.

The findings section contains the narrative vignettes, one from each author. These are followed by an analysis of each vignette. In presenting the findings, our decision was to do these analyses in a discursive manner, rather than a linear set of categories, to reflect the situatedness and interconnectedness of our experiences and thinking about designing for flipped learning.

Findings

In this section we present our findings based on analysis and reflection on the two narrative vignettes. The vignettes are structured narratively according to conditions, design, and observations, or what led to change, how this change was designed and the observed consequences of the change for teaching and learning.

Narrative vignette 1 (Author 2)

Conditions

The move to online teaching and learning within higher education in Australia, like so many other teaching and learning practices during the COVID-19 pandemic, was rapid and without a lot of notice. In the case of online learning, there was an urgent need to focus not just on technology which enables online learning, but the pedagogical design that might best respond to the needs of our students. Flipped learning is a pedagogical practice that might not only engage pre-service teachers in quality learning and teaching, but also create connection within their university community during a time where community was being constrained.

Design

In early 2021, I began the conversations with my colleague (Author 1) about re-imagining our pedagogical practices during the storm of the pandemic within a postgraduate Master of Teaching literacy unit. Learning outcomes and assessment tasks were constants. Where the freedom lay was in the architecture of the pedagogical design. We decided flipped learning might serve as a pedagogical approach to help focus us on the principles of good learning and teaching and consider how online learning could be effectively implemented.

There had always been three broad domains within our weekly unit design, namely: pre-class activities, the class time, and post-class activities. The move to online learning did not change the existing structure of our unit design. Rather the move to online learning through a flipped approach changed how we position students within each domain and how we invited learning to take place. Reading had always been in the pre-class activity. This was upgraded to encourage students to engage with a wider variety of materials (including peer-reviewed articles, YouTube clips, and online professional resources) and that not only activated prior-knowledge and built a contextualised knowledge base in more multimodal ways, but also invited students to think critically about the weekly topic through a range of sources and modes that better reflected many of the life-worlds of our students.

The pedagogy of the workshop began to take a different form too. Traditionally workshops took the form of PowerPoint presentations where content was delivered by the tutor on a screen and occasionally students were invited to respond to questions. The Zoom platform with its tools for interaction afforded us the opportunity to connect and build relationships with our students and drawing on the flipped approach created opportunities for our students to be curious and critical about the multimodal artefacts offered in the pre-class activities.

The workshop was designed to become a place of meaning making in collaborative and connected ways. Slides of content were replaced with breakout rooms and resources to inspire agentic practices from our students. Closed questions were replaced with online tools on Zoom such as “Chat” and “Reactions” that

allowed students to discuss and debate literacy issues with other students in a safe and supportive way. Zoom enabled people to see each other, but the flipped pedagogy created feelings of connectedness through contribution.

Finally, the flipped approach positioned students to become more creative and reflexive about their learning, post-class. The post-class activity was redesigned to place greater emphasis on critical and creative reflection, and on students' personal literacy practices and the practical contexts of teaching. Within the flipped learning pedagogy students were invited to think about and develop practice-based responses informed by theory within a community of practice.

Observations

As I reflect on the delivery of this literacy unit, through a flipped approach, using online learning tools, I am aware, through formal and informal feedback, that students found the pedagogy better met their expectations of what good learning and teaching is within higher education. Often, we hear the mantra of "guide on the side rather than sage on the stage" as inspiration for good quality teaching in time and place. I observed students interacting with big ideas in complex and critical ways using digital tools to capture and reflect on thinking. I observed students making better connections between theory and practice partly because we were affording the opportunity to contextualise theory within more authentic contexts. Students also reported feeling more valued in terms of sharing their thinking and asserting their agency as student teachers.

Analysis 1 (Author 1)

Author 2's narrative vignette presents a tale of recognition of the need for change and then profound reorientation, centring on the adoption of a flipped learning approach in the literacy units that were a part of initial teacher education (Han & Røkenes, 2020). This was driven, as Author 2 points out, by the circumstances of the pandemic and the extensive lockdowns in Melbourne that necessitated the shift to online learning. In the narrative the author describes the conditions prior to the lockdowns and notes the instructor-centric and content heavy approach to class time, as well as the minimal expectations of students in terms of engagement with ideas and texts prior to class time. This approach reflects how teaching in the literacy units has always been done over many years, with, it must be noted, variable positive reception by students. Learning was positioned as the prime responsibility of the educator, not the student.

The advent of lockdowns and online learning in 2020, as Author 2 notes, led to our collegial conversations about facilitating change because it was clear that this locus of control of learning and knowledge generation within class time was not working in the wholesale movement to synchronous online contexts and technologically designed environments. Author 2 notes the shift from what was the architecture of the teaching and learning to a new way of doing that did not jettison totally what had long been done but reimaged it pedagogically considering student need and engagement.

Author 2 suggests that this reimagining took place at two levels. One was in the shift to a more open and constructivist approach built on a sense of connectedness, community, and collaboration (thus the movement to breakout rooms and group work). In this regard collaborative learning theory strongly informed the design decisions, just as it has shaped the analysis offered in this article. Of course, this is not possible unless there is sufficient resourcing of students prior to class, including how learning materials were presented to students and made available in an accessible digital platform. The second was to rethink the expectations of students, so that student agency and ownership of learning are emphasised. Author 2 points explicitly to the reorientation to a more agentic learning environment that emphasised the co-construction of learning (Harfitt & Chan, 2017). Part of this was an expectation for students to adopt critical and creative thinking in engaging with readings and teaching materials.

In the observations of Author 2, it is notable that this redesigning of learning and the pedagogical approach seemed to lead to a shift in the relationality and interactions of students and created the climate for higher order and more complex thinking. Of course, this is anecdotal and more systematic research that includes student voices is needed to establish student reception. Moreover, the demands of creating flipped learning environments and the technological support needed were not addressed in this vignette but remain a significant issue in practice (Brooke, & Lister, 2016)

Narrative vignette 2 (Author 1)

Conditions

While asynchronous online platforms for learning at university have been used since the 1990s for remote learning and distance education, the unusual circumstances of Covid-19 changed the way teaching and learning are now conceived more generally in universities around the world. In 2020 and into 2021, as lockdowns became a reality in Melbourne, Australia, my teaching moved online, mainly using the Zoom digital communication platform. The overriding sense for me was about my own capacity to use this new online mode of teaching effectively. By the end of 2020 I began to rethink the pedagogical foundation of my approach to university teaching online, especially in the literacy units that were the bulk of my teaching load. There were growing signs of indifferent student reception of my teaching, which was designed for in-person, face-to-face learning environments.

I had always had a bent to group work and to practical applications of constructivist theory, but from the hindsight of 2022, I can now see that the locus of my pedagogy was always on myself as pedagogue and not on the full autonomy of students in the co-construction of knowledge and its application to teaching contexts. I also had an affinity with the use of technologies in university education and initial teacher education programs, but this tended to be about my delivery of content, not the facilitation of student learning, agency, and their dialogic connection with each other. Clearly, the technology should serve student learning, not just instructor delivery. It is a matter of a new orientation and a fresh way of positioning technology in interface with learning.

By the end of 2020, the new reality of lockdowns and my perception of the seeming ineffectiveness of using PowerPoint slides with dense content began to make me seriously reconsider both the ways I used technology and the underlying pedagogy that informs my practice as a teacher educator in online settings. My honest self-appraisal was that I was not fully meeting my students' needs and that their learning and wellbeing were paramount. I also felt that while face-to-face teaching would return in universities, the use of hybrid technology-mediated approaches and rapid movement to online synchronous learning would remain a part of the mix of teaching and learning into the future. The challenge was not to be dismissive of online learning but to adapt and adjust approaches so that the benefits and affordances of the technologies could be realised not just for the circumstances of the pandemic but as a long-term pedagogical reorientation.

Design

I began conversations with my colleague (Author 2) about ways forward in bringing effective teaching and learning in literacy units that are part of the Master of Teaching program. Because of our experiences of the lukewarm reception by students in the delivery of these literacy units during 2020 and the first half of 2021, clearly our online teaching approach needed to change. Literacy is too important to avoid the conclusion that our teaching was not as effective as it might be.

I began to broach the idea of flipping the learning in the online environment and repurposing class time on Zoom as more group-oriented and student-centric with greater focus on students as generators of knowledge and practice ideas. I had previously encountered this idea in reading about some teaching initiatives in the US and in Finland. Flipping learning as conceived in this way clearly could not be ad hoc but needed to be designed and purposive. We discussed restructuring the content of the literacy units on the Moodle learning platform so that there was a much larger set of diverse resources available for students, including video and interactive content, and a clearer and more purposeful design of content geared towards promoting student engagement and understanding.

We also created a section called “pre-class activities” on Moodle so that students did work asynchronously prior to the class time to ground their thinking and sharpen their critical focus in class time. On Zoom, class time was reimagined in the flipped mode as a safe space for interrogating and applying ideas that students had already encountered and was substantially group-oriented. We also envisioned a post-class activity where students continued their asynchronous learning and formed connections to the next week of content.

In the second half of 2021 we applied this flipped approach to the literacy units in the Master of Teaching program. The technological interface elements of Zoom became much more central to our pedagogical practices and in our situated awareness during class time. Breakout rooms with various combinations of

students and the overt use of the functionality and tools of the digital platform became increasingly important for mediating our teaching. I abandoned the use of the dense PowerPoint slides and used TextEdit on my Apple laptop to provide a much more fluid and editable tool for communicating content and outlining ideas with students in situ.

Observations

So, what was the reception of this approach by my students? Anecdotally, the level of engagement that I observed in my classes was significantly stronger and more sustained throughout the class time, with lack of engagement one of the issues that I had noted previously in my online classes before flipping the learning. The difference was palpable, and the positive tone of the class was unmistakable. I noted the joy in students working with each other and there was a clear shift in the locus of the class to students learning with each other. I found the reporting from purposeful breakout groups back to the whole class to be more complex with greater levels of higher order thinking and practical engagement where theory was given practical application. This reporting back enabled greater levels of dialogue and more divergent thinking.

The formal measures of positive reception support this subjective appraisal. Students' attendance to classes was much better than previously recorded, and the outcomes on SETU (the university system for student quantitative and qualitative feedback about delivery of learning in units) were overwhelmingly improved from previous outings.

Analysis 2 (Author 2)

Collaborative learning theory invites us to consider the goals of the group and the purposeful interactions, processes, and decisions of the group (Udvari-Solner, 2012). Education in the twenty-first century should be different to that of the twentieth century. The latter was often concerned with factory-like settings, producing workers with skills for jobs. In the third decade of the twenty-first century the skill sets required have changed and are much more fluid and change oriented. Skills and competencies such as teamwork, collaboration, communication, leadership, critical thinking, and problem solving are needed to respond to complex problems (Graff, 2010). These changed conditions require pedagogies that encourage students to learn and practise these skills with each other in creative and critical ways. Author 1's narrative suggests innovations using flipped learning within online learning spaces that encourages a strong sense of relationality between students, alongside a critical approach to complex problems. Learning is not decontextualised, rather, it is embedded authentically in social landscapes in which students are living and learning.

Deep-seated changes to the world, especially the digitization of society, have reoriented the nature of how we create and practice meaning. The students of Author 1 are part of a world that is diverse, changing and technology driven. Collaborative learning theory has enabled me to consider theoretical positions which suggest the collaborative basis of learning and the potential efficacy of the flipped approach in online environments (Davidson & Major, 2014). What stands out for me are the synergies between how research describes quality learning and what flipped learning invites as innovative pedagogy (Brewer & Movahedazarhouli, 2018). The initial technological challenges of Zoom receded to the background and Author 1 became focused on building relationships within groups of people through purposeful design. The diversity of texts offered asynchronously to students provided the opportunity to analyse, synthesise and evaluate complex ideas which then supported the group-centric and inquiry focus of classes.

Finally, and significantly, Author 1 conveys a commitment to responsible dispositions within multimodal digital and online environments. Author 1's narrative focuses not only teaching about how to be a collaborative digital citizen within such environments but also emphasises agency through the responsibilities and opportunities that can be afforded in flipped learning. Indeed, Author 1 did note the improved student feedback, and this may be partly due to better meeting the expectations of what students see as quality learning that is engaging and oriented to practice for student teachers. An argument can be mounted that often our students have better insights into the affordances of online learning tools and practices, and it is us – the teachers and designers of learning – who need to better respond.

In conversations with my colleague, I was also curious to explore the emotions that he experienced throughout this process of change. This collaborative process also evoked further questions. Does flipped learning encourage a greater sense of agentic practice within learning environments for the instructor? And

if so, what impact does this have on a teacher's emotional connection to learning and teaching? In an era of rationalisation in higher education, does flipped learning in some ways empower teacher educators and create climates of learning where students feel empowered and invested in the learning process?

Discussion and a conceptual process model for change

It is not our intention that this article endorses a reactionary response to the circumstances of Covid-19 and lockdowns that necessitated movement to large scale online learning in Australian universities. What it is about is being proactive as educators to circumstances where there is a need for significant change so that the learning needs of students are centralised and prioritised. In the case of this study, change involved the consideration of new pedagogies suited to technologically facing online environments as part of the design of learning. The narrative reflections in this article point to our collaborative response to change and to the possibilities in and affordances of supporting technologies for learning, which include synchronous online platforms such as Zoom.

Response to change

The deployment of technologies as part of the design of teaching and learning is not new and technologies for learning have been a part of the educational landscape since the 1980s. Prior to lockdowns in 2020 and 2021, digital technologies and multimodal presentations were indeed included in and an important part of teaching and learning in both face-to-face settings and remote learning environments that employed synchronous online communication platforms (Castañeda & Selwyn, 2018). What has changed from 2020 (for us, at least) is the need to rethink and shift the pedagogical basis for learning as a response to the conditions of profound change. Part of this change was the disorientation caused by an unexpected shift in learning delivery and consequently the need for adaptation in digital learning environments that may not be conducive to interaction and the agential engagement of students (Ma & Luo, 2021). It was also an occasion to reconsider our role as instructors in the learning process. Our anecdotal observations of students' engagement online pointed to the need to make online learning environments more active and interactional.

The need to consider the basis for effective learning

In our collegial conversations and reflexivity about how best to deliver the literacy units that were part of the Master of Teaching program that formed the basis for the narrative reflections offered in this article, we were purposeful in designing learning for changed times (Dumulescu et al., 2021). This redesigning was not just for Covid-19 lockdown conditions but for future circumstances in which learning may well include a complex and hybrid mix of on-campus, face to face learning with online digital learning environments. Covid-19 provoked the need to rethink and recast how students learn and the ways they learn, and that what was taken for granted in educational delivery at universities may no longer be adequate for the rapidly evolving digital world that includes uncertainties that now complicate education internationally. In critically considering our approach to teaching prior to 2020, we privileged telling over co-constructing and working collaboratively to build understanding. Our instructional materials were dense and instructor-centric, and while students did have voice it was evident that the instructor voice was dominant and pervasive in the classroom discourse. We needed to consider what was most effective in the conditions in which learning was happening.

Ideas to inform design for change

At the heart of our redesigning initiative for learning in online settings and hybrid multimodal environments are three core ideas that shaped our design decisions. These ideas are presented as points for further research in terms of online and hybrid learning environments and ideas for educators in the higher education space to consider in their own teaching.

Idea 1: Collaboration and engagement in groups

The imperative for students to work together in groups to meaningfully apply their learning and generate connections between theory and practice is strongly supported in the literature. We view this as especially important for initial teacher education where collaboration and relationality are central to the work of teachers, and critical also to the teaching of literacy that embodies communicative practices. Collaborative learning theory points to the constructivist basis for learning in small groups that focuses on purposefully designed activities and meaning-creation in dialogic spaces with rich discussion. It informed both our process of fashioning this article as a collaborative autoethnographic process and the design of the literacy units which were central to the narrative reflections.

Idea 2: Agency and active learning

Learning design that attends to student agency and links to active and engaged learning is well supported in the literature. (Kim et al., 2019). It involves the shifting of the locus of control in classrooms towards a constructivist and group-oriented process in which there is greater ownership of learning, decision making and knowledge generation. Digital online technologies can be employed to foster the agency of students and can be used creatively to connect students purposefully.

Idea 3: Exploring the affordances of synchronous online platforms

The rapid shift to online learning and hybrid approaches to educational delivery comes with challenges, not the least being the strictures on how students work with each other online. At the same time, online platforms contain possibilities for interaction and sharing of ideas that are more integrated with and dependent on digital technologies. We see, for example, the potential in breakout rooms where purposeful groups can work in any combination to generate ideas and apply theory to practice.

The flipped learning model and its outcomes

All three of these ideas coalesced for us in adopting the flipped learning approach. In our experience, this approach, when carefully designed, has the potential to facilitate greater agency and ownership of learning by students. We designed the class time, whether online or face to face, to be an investigation of ideas that had already been opened for students in asynchronous online resources offered prior to class. In our case, these resources were organised via the Moodle platform. The onus was on students to do reading and active learning prior to class so that the class time was oriented to group-generated and practical application of ideas, as is indicated in Figure 1. This creates greater levels of accountability for students, which is central to the flipped approach. Flipped learning may also be viewed not just as a pedagogical approach suited to online digital environments but also a procedure for how learning is enacted across time. Flipped learning from our perspective is technologically facing and interactionally oriented for the purposes of creating engaging and meaningful learning; and for initial teacher education this outcome for learning was critically important.

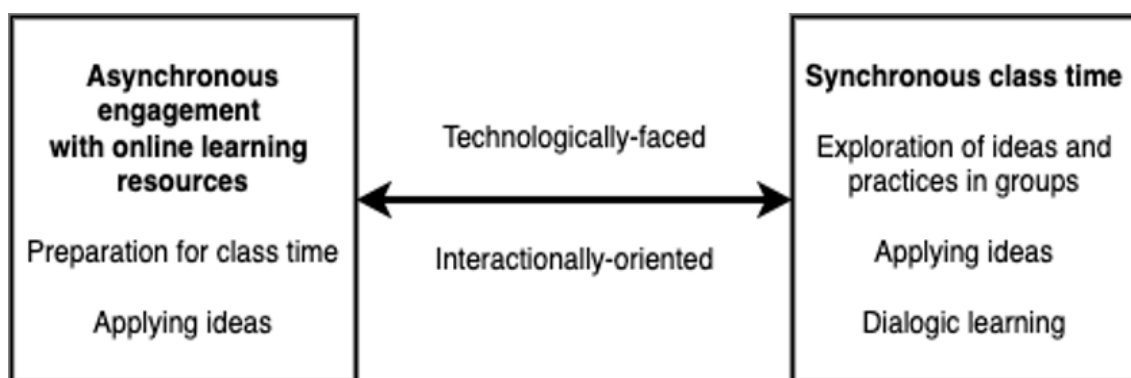


Figure 1. Flipped learning

Clearly, this research is about our practices, experiences, and design decisions as two teacher educators, and the processes of creating the narrative reflections central to this article embody this focus. We began with the conditions that led to the impetus for wanting change and then we thought about the ideas that would inform our rethinking and redesigning. We came to flipped learning by way of collaborative learning theory and a constructivist model of knowledge creation. Our anecdotal observations of the outcomes of

our design decisions seem to support these decisions. However, student reception of the design ideas was only implied from observations of our own classes, and so no substantive findings about student experiences can be offered, though we do affirm the importance of observing students in terms of the outcomes of designing learning.

This collaborative autoethnographic study points towards the emerging need for teacher educators to be active designers of learning and reflexive practitioners in terms of assessing the needs of students and employing pedagogies suited to technological change that is sweeping across all sectors of education. It also suggests the tension between adhering to tried-and-true pedagogical approaches and risk-taking in teaching and learning in the university context.

A conceptual process model for learning design

Considering the data, findings and discussion presented in this article we offer our conceptual process model (Figure 2) for innovative learning design for improving learning outcomes in times of change (Buckler, 1996). The model might be useful for educators in higher education who wish to respond to change.

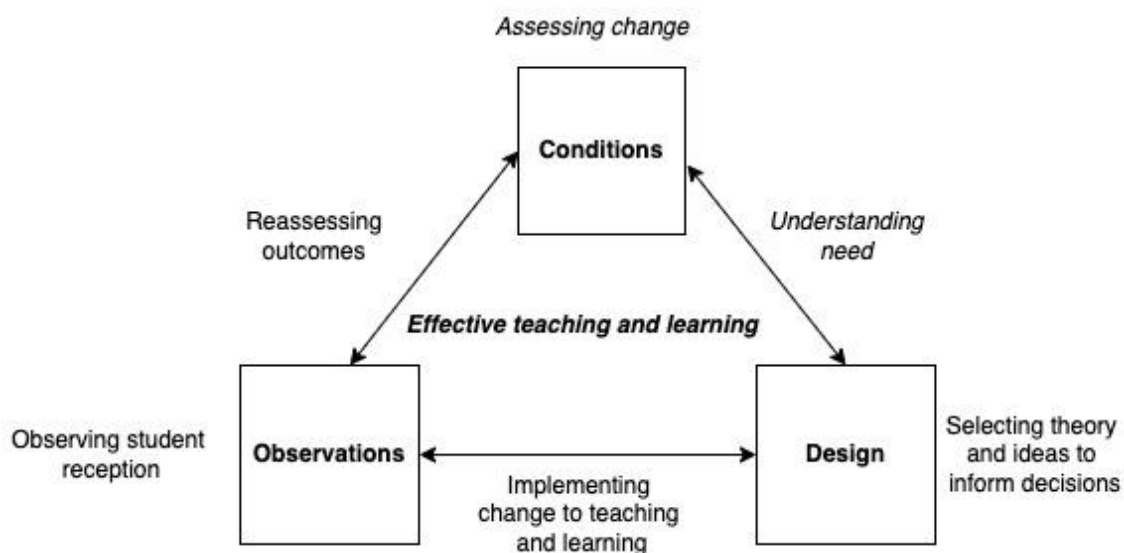


Figure 2. A conceptual process model for designing learning for change

The model begins with an assessment of the conditions of change and moves to considerations of student needs in the face of change, especially in the wake of technological change. This leads to design decisions about not only the pedagogies but the ways that content will be delivered. Both pedagogical change and content delivery should be informed by theory about learning that can support and justify design decisions. Then it is important to practically implement the change and observe the outcomes in student reception so that there can be a reassessment of how successful this redesigning has been. In sum, this model is built on a feedback loop in which design decisions and their implementation are assessed with consideration of student reception, which leads to further changes towards promoting effective teaching and learning.

Conclusion and recommendations

The COVID-19 global pandemic was a challenging and devastating time for many. It was also a time where innovation and nimbleness were required. Higher education was one of those spaces where teaching and learning had to be thought about differently and in a short space of time. Online learning using flipped learning pedagogies was one way we challenged growth in ourselves as educators and sponsored student engagement during a significantly challenging period. But the impetus for change and movement to a design focus, from our perspective, needs to move beyond just a reactive response to crisis. Arguably, education,

including higher education, has been substantively changed for the longer term because of the pandemic, and there is considerable movement to hybrid forms of educational delivery that are likely to remain.

In this context, we recommend the use of a flipped approach in higher education because of its greater emphasis on student collaboration, autonomy, and agency. It is also well suited for addressing change in education because of its inherent flexibility. Our conceptual process model (Figure 2) offers one way of thinking about designing for learning in the wake of change and for future needs that also include shifts in technologies. Thus, an additional recommendation is that educators in higher education adopt a design orientation in which learning environments are intentionally shaped to meet student needs through the affordances of technologies. We are also aware of the initial extra work and learning curve needed to implement flipped learning in online and hybrid environments. This should be factored into considerations of change.

This collaborative autoethnographic study drew on collaborative learning theory and offers a window into our experiences and our thinking as we engaged with each other collegially in what we consider to be essential design work for student-oriented learning in online learning spaces, using a flipped pedagogy. The experiences, thinking and design work were told through our narratives as two teacher educators. We did not report student data other than our own observations. This is a limitation of the study but also a challenge for future research as we continue to explore the impact of innovative design pedagogies in online and hybrid spaces in higher education.

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