




# Adapting to the ILE Practicum: New Grammar for Changing Times in Initial Teacher Education

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## Abstract

The global emergence of Innovative Learning Environments (ILEs) has disrupted the conventional grammar of schooling prompting more collaborative and flexible teaching and learning arrangements. While the emergence of a new grammar and its complexity for experienced teachers is acknowledged, the ramifications for initial teacher education (ITE) are under-researched. With practicum at the heart of ITE it is vital that teacher educators become conversant with the grammar of an ILE practicum so they can support student teachers to thrive in these environments. Utilising Gislason's (Gislason, *Learning Environments Research* 13:127–145, 2010; Gislason, Alternator and Deed (eds), *School space and its occupation: Conceptualising and evaluating innovative learning environments*, Brill Sense, The Netherlands, 2018; Gislason, *Learning Environments Research* 13:127–145, 2010) school environment model and an instrumental case study design we identified key influences for three key participant groups within the ecology of practicum—student teachers, associate teachers and teacher educators. Our findings suggest the conventional grammar of practicum is incongruous with a collaborative grammar that underpins an ILE practicum. Such a grammar amplifies the importance of relational, leadership, and collaborative skills for student teachers as well as highlighting a necessity to re-imagine practicum traditions such as full management.

**Keywords** Innovative learning environments · Practicum · Initial teacher education · Vantage points · Grammar

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## ILEs Promote a New Grammar for Schooling

Innovative Learning Environments (ILEs), recognised for their attendant collaborative teaching practices and flexible groupings of students within larger, more open spaces, have significantly changed the New Zealand educational landscape within a short timeframe. Although cellular classroom arrangements continue to predominate, schools increasingly are transitioning to ILEs (Carvalho et al., 2020; Imms et al., 2017). ILEs emerged philosophically in the 2010s in line with globalised OECD policy promoting environments, competencies and learning principles for a digitally connected twenty-first century world (McPhail, 2020), and pragmatically in response to school redesign needs necessitated by old classroom stock, leaky buildings and re-building needs, following the Christchurch earthquakes (Charteris & Smardon, 2018).

Initially, New Zealand education policy promoted ILEs largely as a physical design challenge communicated through the national property strategy (Ministry of Education, 2011). However, from the outset principals and teachers engaged with ILEs through their school philosophy and vision, emphasising pedagogy as a starting point for learning environment innovation rather than modernisation of building design (Charteris et al., 2016).

ILEs disrupt the familiar conventional ‘grammar’ of schooling (Gislason, 2010). A grammar works to organise meaning in schooling in much the same way that “grammar organises meaning in verbal communication” (Tyack & Cuban, 1995, p. 85) and comprises “the regular structures and rules that organize the work of instruction” (Tyack & Tobin, 1994, p. 454). A grammar of schooling allows educators and others to recognise the “necessary features of a ‘real school’” (Tyack & Cuban, 1995, p. 86). These necessary features include foundational beliefs, practices and relationships which “become fixed in place by everyday custom in schools and by outside forces, both legal mandates and cultural beliefs, until they are barely noticed” (p. 86). A conventional grammar of schooling is underpinned by a model of learning and teaching occurring between one teacher and 25–30 students in “standard-size classroom[s]” (Gislason, 2015, p. 130), timetabling according to discrete subjects, teacher-directed pedagogies, “batch processing” of students (Tyack & Tobin, 1994, p. 455) and learning as knowledge acquisition. In an ILE however, the conventional grammar of schooling is disrupted. Learning and teaching takes place within upscaled learning hubs, where multiple teachers collaborate and share responsibility for larger and more flexible groupings of students within flexible spatial arrangements. Learning is reconceptualised as occurring within an eco-system extending beyond the spatial and temporal boundaries of a classroom; a view intimately related to the changing world of work and lifelong learning discourses. ILEs enact a move from a progressive to an instrumental (and neo-liberal) imaginary of schooling where schooling prepares students for the knowledge economy and twenty-first century competencies (Couch, 2018).

The transition to ILEs for teachers has been described as venturing into an ‘unknown landscape’ (Bradbeer, 2016) due to the need to teach collaboratively

with colleagues as a foundational pedagogical practice; a new grammar. Collaborating requires new skills for teachers, with Bradbeer (2016) emphasising the need for teachers to work together in the ‘space-between’ to work out what teaching collaboratively involves. He notes this opportunity for teachers to work together was discouraged within the “predominant built infrastructure” (p. 75), or the grammar, of single cell classrooms. Teaching collaboratively involves teachers collectively taking pedagogical responsibility for larger cohorts of students, through more flexible and responsive planning and teaching practices. Teaching becomes deprivatised and orchestrated with other colleagues as a matter of course which can, along with its benefits, create increased anxiety for practising teachers (Alterator & Deed, 2013; Charteris & Smardon, 2018; Whyte, 2017). Gislason (2018) argues “teachers should be trained before they make the move to an ILE so that they do not have to grapple with unconventional teaching methods while adapting to a new environment” (p. 187). Charteris and Smardon (2018) along with Bradbeer (2016) highlight the need for devoted and in situ professional learning and development (PLD) practices “where teachers grapple with shifting ideas: discussing; struggling; trying new practices out; and constructing and reconstructing new ways of thinking about teaching ... to support spatialised teaching practice” (Charteris & Smardon, 2018, para 4). In practice, ILEs develop in bespoke ways, in different schools, and within the same school, adding a layer of complexity for teachers coming into these spaces to decipher and interpret, evading straight forward one-size-fits-all PLD solutions.

In ILEs space, pedagogically, is ‘re-scaled’, creating new complexities. Poly-centric spatial layouts (Byers et al., 2014) move teaching away from the front of the room to more diffused, and flexible pedagogical arrangements. This move decentres the teacher and foregrounds student-centred pedagogies. This is not to insinuate an easy binary of conventional classrooms as teacher-centric versus ILEs as student-centric. Instead the comparison foregrounds the new challenges, or grammar, that ILEs embody—teaching collaboratively, collective responsibility for a larger cohort of students, deprivatised teaching practice, increased pace of decision-making (Alterator & Deed, 2013), a shift from teacher control towards teachers addressing students’ individual learning needs responsively (Starkey et al., 2021) with ubiquitous integration of digital technology facilitating these design innovations.

The new collaborative and up-scaled (Deed et al., 2014) grammar of ILEs poses challenges for initial teacher education also, particularly practicum. Within a conventional grammar of practicum student teachers could expect placements within one classroom, with 25–30 students and one supervising associate teacher with a focus on how well they can “go it alone within a classroom” (Zeichner, 1996, p. 125) with a focus primarily on instruction. In an ILE practicum they can expect to teach in learning hubs with 2–4 teaching colleagues and between 50 and 120 students, navigating the changes in pedagogy, class management and collaboration characteristic of ILEs whilst working to demonstrate their competence as a developing teacher. The move to a collaborative relationship with colleagues challenges the hierarchical relationships that underpin the conventional practicum (Grudnoff, 2011).

In this article we utilise the notion of ‘grammar’ to examine the influences at play in ILE practicum from multiple vantage points—student teacher, associate teacher and teacher educator. We identify the relationships, practices and beliefs that influence the shared and co-constructed practice of practicum in an ILE. We start by setting the scene on the landscape of ILEs and initial teacher education. Then we introduce the socio-spatial theoretical framework through which we locate our work and view data generated within our small-scale qualitative case study. In particular we present Gislason’s (2018) School Environment Model as a generative framework to yield useful insights into how the physical design, organisation, education culture and student dynamics interact to create a new collaborative grammar of practicum that needs to be taken seriously if we are to prepare preservice teachers for the learning environment innovation that is becoming an increasing feature of the New Zealand education landscape.

## ILEs and Initial Teacher Education

Research on the implications of ILEs for initial teacher education is sparse. Related research with beginning teachers teaching in ILEs, identifies the importance of intentional regular experience in ILEs during ITE to provide “insight into the pragmatics of team-teaching” (Whyte, 2017, p. 86) as well as “an additional lens to interpret the experience of teaching collaboratively” (p. 86). Blackmore et al. (2011) advocate for including practicums in ILEs also, to support novice teachers’ move into collaborative planning and teaching once they graduate. Student teachers also advocate for increased focus on ILEs in their preservice preparation courses and practicums (Fletcher & Everatt, 2021; Nelson and Johnson 2017), although practicum placement can be difficult to arrange systematically depending on the geographic location of ITE programmes and the nature of preservice teachers’ enrolment (Fletcher & Everatt, 2021). Increasingly however, ITE providers do address ILEs as a learning environment configuration (Benade et al., 2018). Despite this growing momentum Morrison and Kedian (2017), writing in the school leadership context, identify the link between ITE and ILEs as an under-addressed research and practice topic, contending this might indicate “that current thinking is entrenched within the status quo, that programmatic change is buried in bureaucracy, or that providers are adopting a wait-and-see attitude” (p. 5).

At a policy level, current ITE requirements (Teaching Council 2019) highlight ‘contextualisation’ as a key programme design principle; pre-service teachers must be prepared to teach ‘somewhere’, and supported to decipher and interpret particular schools and communities. With many schools moving to retro-fit existing classroom stock into ILEs, and others building purpose-built learning hubs, ITE in New Zealand must prepare student teachers to teach in ILEs, although this imperative is implicit only in policy and addressed through the use of the term ‘setting’. While to a certain degree a conventional classroom setting operates in a bespoke manner also, few embody the upscaled complexities of an ILE, including the orchestration challenges involved in choreographing multiple teachers’ practice and taking collective responsibility for the learning needs of a larger overall student cohort. Against this

research and policy backdrop preparing student teachers for ILE spatial configurations represents a contemporary ITE challenge (Nelson and Johnson 2017).

## Theoretical Framework

We regard space as socially produced in the dynamic interaction of the physical and the social (Lefebvre, 1991; McGregor, 2004). As Osborne and Rose (2004) explain, “space has to be marked, framed, mapped, subject to boundaries” (p. 209), privileging certain values and expectations, both implicitly and explicitly in its design and enactment. Spatial boundaries are political (McGregor, 2004), “replete with agency, tensions, contradictions, and conflicts” (Benade, 2021). ILEs as physical and social spaces, are configured to shape teaching and learning in line with certain values and expectations.

To explore the grammar of an ILE practicum, we drew on Gislason’s School Environment Model (2018) (updating and incorporating his earlier 2010 School Climate Model) that identified a necessary alignment between four interconnected layers operating in a socio-spatial context such as a school:

- Physical design
- Organisation
- Educational culture; and
- Student dynamics

In considering the influence of ‘physical design’ of educational spaces on how space is framed, Gislason (2010) posits a link between school design decisions, teaching and learning approaches and certain assumptions and values that taken together reflect a particular grammar of schooling. For example, single cell classrooms have traditionally been associated with an industrial model of schooling which foregrounds teacher control and learning as knowledge acquisition, whereas the open and flexible design of ILEs is predicated on learning as an adaptive, active and collaborative process mirroring twenty-first century learning and work competencies (Dumont et al. 2010; Starkey & Wood, 2021). ‘Organisation’ as a layer explores the “educational practices underlying a program” (Gislason, 2018, p. 188)—how the school day is timetabled and the curriculum enacted for example in an ILE through personalised ‘must do, can do’ learning contracts and self-selected interest and need-based workshops. The ‘educational culture’ layer examines the shared values and of an educational setting, that provide “a rallying sense of purpose among staff” (Gislason, 2010, p. 129) such as compliance, or agency. Finally, the ‘student dynamics’ layer highlights salient aspects of a learning environment for the learner such as “student capacity for self-regulation” (p. 189) and students’ “learning and environmental needs” (Gislason, 2010, p. 131).

Gislason’s model examines the interaction of these four layers and the degree of “program-design fit” (Gislason, 2010, p. 128) operating within a discrete school. Our study applies the model to the broader ecology of practicum, incorporating the ITE campus classes and curriculum as well as the multiple practicum schools

and their bespoke learning environments. Student teachers, associate teachers and teacher educators move between these spaces to enact the practicum. Practicum activities include practicum briefings (involving associate teachers), preparatory practicum campus learning sessions (for student teachers) and supervisory visits to assess student teachers' competence against established learning outcomes and criteria.

## Methodology

An instrumental case study approach (Stake, 2008) was adopted for this research. We initiated the research because of our deep engagement with the unfolding impacts of ILE practicums, as teacher educators, on the way we supervise student teachers on practicum, the impact of ILEs on our curriculum and professional courses, and in the way we work with associate teachers. Beyond this localised motivation, how the grammar of ILEs influences practicum is a research focus relevant to practice across ITE providers, as schools increasingly transition some or all of their learning environments to ILEs.

To operationalise the case focus we investigated the following questions:

- In what ways, if any, does the physical design of ILEs influence practicum? (Physical design)
- What aspects of ILE organisation are most pertinent to each participant group? (Organisation)
- What values and assumptions operate within the ILE practicum, both conceptually and in lived experience of the spaces? (Educational culture)
- How do dynamics with primary students influence the ILE practicum? (Student dynamics)

Using qualitative research methods, we explored the research questions from the vantage point of three participant groups: student teachers, associate teachers and teacher educators. Ethical approval for the research was obtained from the researchers' tertiary institution's human ethics committee. Participants were recruited from within the student teacher body, teacher educator team and network of associate teachers associated with our primary teaching degree. Associate teachers who participated had hosted a student teacher from our institution for an ILE practicum. Student teacher participants had completed an ILE practicum in either Year 2 and/or Year 3. Data were generated during 2019 and early 2020 through a survey, focus group interviews and classroom observations. For the purposes of this paper we limit our analysis to the student teacher, associate teacher and teacher educator focus group data. Given our small regional context, the sample size is small and therefore does not support generalisable findings.

We conducted four focus group interviews: one with associate teachers (5 participants), one with student teachers (2 participants), and two with teacher educators, one in each of our two geographical areas (3 and 5 participants respectively). New Zealand's first 2020 COVID-19 lockdown (23 March–11 May) necessitated the use

of a survey instrument to augment the initial student teacher focus group, that went ahead prior to lock down, but with only two participants. The survey was distributed to all sixty Year 2 and Year 3 student teachers in the ITE programme across both campuses. It utilised the interview protocol developed for the focus group. Respondents were invited to complete the survey if they had experienced an ILE practicum. Nine responses were received. The survey responses were analysed along with the initial student teacher focus group transcript.

The associate teacher focus group interview was conducted by two members of the research team. An independent research assistant conducted the student teacher focus group interview and the teacher educator focus group interview. The research assistant conducted the teacher educator focus groups to address potential insider bias of the researchers also being included as participants in the research. However, we embrace our embeddedness within the case.

All five authors work as teacher educators within the larger team of eight who deliver the undergraduate teaching degree across the two geographically distinct campuses. We position ourselves as ‘in-betweeners’ on the continuum of insider–outsider research positionality (Nakata, 2015). We were insiders because we work on the ITE programme underpinning the case and outsiders because we explored the perspectives of associate teachers and student teachers that previously, we could only speculate on. In terms of our involvement in the teacher educator focus group interviews as participants, whilst we have informally discussed our views on ILEs and their implications for practicum with each other, we viewed the research as an opportunity to systematically interrogate our experiences as a team by being interviewed formally by an independent research assistant. In this respect we were able to “delve deeply into [our] positioning, taking [our] background into consideration” (p. 169) as part of the research.

The interviews were audio recorded and transcribed. Coding of the interview data utilised Gislason’s four layers. Themes within these categories were identified and considered for the convergences, divergences, tensions and interactions between the layers across participant groups. Researchers responsible for each of the three participant groups analysed data relevant to that group. The full research team met regularly throughout this process to combine analyses and to iteratively define the parameters of each layer as a coding category, e.g. what counted as an educational value? Decisions from these whole team sessions were applied to data already analysed enabling us to iteratively refine our analysis.

## **ILE Practicums Experienced from Three Vantage Points**

In this section we report the findings of the study. Each of our three participant groups shared insights on the ILE practicum from their particular vantage point—as teacher educators, associate teachers and student teachers. These insights are organised in three sections, related to each vantage point. The influences physical design, organisation, educational values and student dynamics played within the ILE practicum for each participant group are integrated into each section and supported with indicative participant quotations. Where participants refer to ‘practicum

requirements' these refer to the expectations that student teachers plan, teach and assess sequential and consecutive lessons across multiple curriculum areas, responsive to the identified learning needs of groups of learners. 'Full management' refers to the period of time student teachers take major responsibility for the teaching role (including assessment, planning, teaching and evaluation of the impact of teaching) within their practicum. In our programme full management is measured in consecutive days ranging from 3 to 12 days across the four practicums of Years Two and Three of their teaching degree.

To provide context for the findings section, Table 1 provides a breakdown of the ILEs and the characteristics of these that participating student teachers and their associate teachers referred to in the focus groups. The teacher educator participants were not asked to describe the ILEs they had encountered in their supervisory visits. They presented a more abstracted view, reflective of the numerous ILEs visited as part of their supervisory role.

## Teacher Educators

In this section we present teacher educator insights on the ILE practicum. Teacher educators primarily focused on the challenges ILEs pose for campus course curriculum and practicum supervision in terms of organisation and educational culture. The key themes that emerged included: the need to adapt practicum tasks underpinned by a conventional grammar of schooling to suit bespoke ILE contexts; the degree to which some pedagogy implemented in ILEs was 'innovative'; the incongruity of practices associated with full management for collaborative teaching; and the need for an increased focus in the ITE curriculum on student teachers working collaboratively with colleagues.

### The Need to Re-Interpret Practicum Tasks

Participating teacher educators consistently identified the need within their role as visiting teacher educators to re-interpret practicum tasks for ILE organisation and educational culture. A particular focus on the logistics of assessment practice in an ILE emerged.

*When we first designed the [ITE] courses around gathering data from students, they were designed from a single cell classroom [perspective] and, of course, the programme was set up to meet that as well. So, now, with the influx of ILEs, our student teachers don't have the same opportunities to go about that task in the same way. So, we've had to modify the task in order to meet the situation that's happening in the school in the ILEs. (TE1)*

Teacher educators suggested ways assessment practice might be implemented for instance in the case where dynamic, rather than semi-stable groups existed within an ILE, promoting flexibility as a necessary design feature.



**Table 1** Features of ILE practicum

Participant groups	ILEs referred to	Number of collaborating teachers	Number of primary students	Features of ILE
Student teachers (11)	12	1 ILE with 4 teachers 5 ILEs with 3 teachers 5 ILEs with 2 teachers 1 Unspecified number of teachers		Large room Large room with breakout spaces (4 mentioned explicitly) Learning through play (2 mentioned) Student groups operating as home rooms within the ILE (5 mentioned)
Associate teachers (5)	4	1 ILE with 3 teachers 3 ILEs with 2 teachers	1 ILE with 65–70 students 2 ILEs with 50 students 1 ILE with 59 students	ILEs established between 1 and 3 years

*It's having to be flexible ... about our student teachers who say, "Is this assessment alright because I haven't had the same students back for four consecutive lessons. I've had a different bunch every day". ... So, I guess the main thing has been having to work out how we can be flexible with our requirements and what they are seeing and being able to do. (TE7)*

In their role the visiting teacher educators calm student teacher anxiety around the unfamiliar ILE organisation and pedagogical approaches they encounter due to an incongruity in the provider's practicum requirements and the realities of an ILE grammar.

Participants identified how this need for flexibility to respond to the realities of an ILE practicum had flow-on effects for organisation and curriculum of ITE courses. For example, where student teachers were traditionally taught to gather data with and from students in stable or semi-stable groups, in ILEs they were often expected to plan and teach in the moment to flexible and changing groupings of students.

*In the ILE situation, the groups are flexible and changing all the time, so therefore they don't get allocated a group like they used to in the past. So when they've had to undertake a task that requires a group, the student teachers go, "Oh, but we haven't got any groups to work with". What it has meant for me is trying to develop two possible ways of carrying out the same task according to the management of the class that they are in. (TE1)*

In response teacher educators report increasingly adapting tasks originally designed to reflect the grammar of single cell classrooms to fit the wider spectrum of learning environments, and providing student teachers multiple alternative options.

### **Innovations as Innovative?**

Teacher educators also indicated a sense of responsibility to ensure that student teachers understand that what they experience in ILEs in their practicum schools, might not be representative of ILEs in a wider educational context.

*I think there's a tension there between what you might call the espoused view of an ILE, the policy view, and the practice view, because even in the schools that we're in, there's a huge degree of variability. (TE2)*

They advocated a cautionary approach to ILEs as unquestionably innovative, whilst at the same time accepting that adaptation of practicum requirements was necessary given the realities for student teachers.

*Philosophically, I have observed a candidate teacher doing a maths warm up with 60 children. Now, to me, that's not educationally very sound, but she was in a position where she had to do that. So, it's actually also having to balance treading on toes, I suppose, and thinking that not everything that happens just because it's an ILE, not everything that happens in an ILE is fantastic, just as not everything that happens in a single cell is fantastic. (TE7)*

Participating teacher educators expressed caution arising from the pace of change in ILEs outstripping research on the efficacy of some emergent pedagogical approaches.

*We are being forced to consider what the evidence is out there. What is the research out there? What is the practice? And how do we bring that into our programmes? (TE4)*

Overwhelmingly however, participating teacher educators noted the importance of the ITE provider being flexible to the realities of ILEs in the support of student teachers on practicum.

*I think the important thing for us is to maintain that awareness of what's happening in schools and be willing to engage positively with that but critically at the same time. (TE2)*

## Full Management

Teacher educators noted how full management expectations, designed for a conventional practicum, were incongruous with the realities of collaborative teaching practices in an ILE.

*I don't actually think a student teacher in an ILE is ever on full management because I don't think any teacher in an ILE is in full management. (TE5)*

Discussion identified a number of roles taken on by collaborating teachers simultaneously in an ILE practicum that might provide potential for a more nuanced understanding of collaborative teaching.

*I think they need the opportunity to be able to have a go at all of the roles that have been allocated within a practising ILE. ... If there are four or five different roles that the teachers undertake, then I think a student teacher should be given the opportunity to have a go at all of those roles. (TE1)*

However, participants recognised that any understanding of full management in an ILE must account for the reality that all collaborating teachers fully manage the ILE together, an aspect of an underlying collaborative grammar.

*It's interesting though, they say something different. They say we're always in full management. (TE4)*

*The onus is not on one person. It's shared. (TE5)*

Given the extensive collaborative practice in ILEs, the need to support student teachers' collaborative skills was seen as vital by participating teacher educators.

*Maybe one thing we are missing is not so much them developing collaboration and work with and between students but do we really focus on how they can develop relationships with their co-teachers? (TE5)*

Such skills referred to included: collaborative planning, communicating teaching intentions with colleagues, and having professional conversations with colleagues about learners in the moment.

## Associate Teachers

In this section we present associate teacher insights on the ILE practicum. Associate teachers discussed a range of key organisation and educational culture influences on their role in the ILE practicum. The following themes emerged: student teachers' prior experience formed a foundation and a resource for associates, set practicum requirements operated as a barrier to flexibility in the ILE, the primacy of student and teacher agency, the importance of relationship building with primary students, and depth of student teachers' curriculum knowledge as a necessary foundation for success in the dynamic and personalised context of the ILE.

### Prior Experience as a Strength

Variation in ILE design across schools meant one ILE could look very different to the next. Associate Teachers viewed student teachers bringing prior ILE experience to their practicum as a positive foundation for integrating into a new ILE.

*Student teachers were used to seeing other classrooms, both single cell and collaborative set up in different ways and were therefore not unnerved by an unfamiliar ILE layout. (AT3)*

Associate teachers noted their willingness to learn from student teachers whom they regarded as having valuable insights gained from their placements in different schools that could contribute to the ongoing development of the current practicum ILE.

*We have had a few more years' experience but we have no idea just like [them]; and so we are feeling our way together. (AT5)*

Feeling the way together positioned student teachers as co-learners in the ILE, a valued educational assumption of collaborative teaching practice.

### Ownership Through Shared Norms

Associate teachers highlighted the importance of empowerment and agency for all as an educational value that underpinned organisation and pedagogy in their ILE. In all cases, associate teachers noted that expectations, responsibilities and norms in the ILE were co-constructed with their primary students so that they could work effectively together and still direct their own learning. Student teachers who were successful in the ILE were identified as those who understood and agreed with the philosophy of co-construction in the student dynamic.

Including student teachers in developing shared norms and values was identified by participating associate teachers as important to ensure student teachers felt ownership as part of the team in how the ILE worked.

*The voice of choice is with the teachers as well as the students. That is really important. (AT1)*

Shared voice indicated that the educational values of the practicum were open to student teacher influence alongside their teaching colleagues during their time in the ILE.

*Lots of talk of how we can get better, what's working, what's not working, what are we going to change. (AT3)*

This openness suggests that student teachers were positioned as contributing partners within the collaborative team from the outset.

### **Practicum Requirements as a Barrier**

Associate teachers highlighted the need to adapt the ILE organisation to accommodate student teachers' practicum requirements at times. For example, where teachers would offer their primary students' choice about literacy workshops this choice was curtailed to support student teachers to complete their requirements.

*We just mandated what workshops the kids went to those weeks. (AT4)*

Associate teachers discussed adapting timetabling, giving student teachers choice about topics and learning areas they taught so they could apply their strengths and manage their confidence levels.

*The student teacher can opt to choose that, to take that lesson if they want to. They can have the agency as well. (AT4)*

Associate teachers identified the incongruity of an individualised view of full management, an assumption of a conventional grammar of practicum, and the collaborative practices of the ILE.

*And what does full management look like in an ILE, because they are in full management essentially, because they are one of the team. So, automatically, just by the space; they're in that full control. [Student teacher says] "I've got to teach this many lessons, and I've got to have full control". You are, like from taking the roll in the morning with your karakia (blessing) and your waiata (song), you are in full control. (AT5)*

Another participant noted that rather than focused on the individual student teacher, 'full management' should centre on "*just whatever works out best for the team*" (AT4). Participants discussed how enacting this collaborative vision could be difficult if student teachers took an individualistic approach to their practicum in an ILE with one associate teacher describing a previous student teacher's mindset:

*Their frame of mind was, “when I’m on full control; I have 50 students”, and they couldn’t quite get their heads around; actually, we are working together and I’m part of this team. And so, that was really, really hard. (AT1)*

The challenge a collaborative grammar of co-leadership generated for assessing a student teacher’s competence on practicum was acknowledged by one participant.

*I guess the question for you guys is; it makes it a little bit harder to assess their input. (AT4)*

This perspective contrasts a conventional focus on an individual student teacher and their ability to go it alone in the classroom (Zeichner, 1996) with the collaborative realities of teaching in an ILE.

### **Keys to Success: Soft Skills**

Learning how to develop and form positive relationships as well as collaborative and responsive teaching behaviours with primary students and colleagues were identified by the participating associate teachers as key to student teachers’ success.

*To have the soft skills, the communication, working professionally and collaboratively with other adults and other teachers, time management and things like that. (AT4)*

Associate teachers emphasised the need for student teachers to dedicate time to building relationships. They highlighted that regular classroom visits and long block placements were valuable to forming strong relationships, indicating key values and practices operating in the ILE.

*The soft skills are really important and it takes longer when you’re working with 60 students. To build those relationships takes time. It is a real advantage if they’ve been assigned to that school for the year, and they have spent time in that class, and knowing the teachers, having a relationship with them. (AT5)*

Working from a collaborative foundation with both teaching colleagues and primary students, broadens the scope and complexity of the relational aspect of teaching for student teachers in an ILE.

### **Curriculum Knowledge**

Sound curriculum knowledge on the part of student teachers, integrated responsively with the educational values of an ILE, was viewed by associate teachers as important to their teaching success.

*Because the kids can be different in front of you, having the ability to know “I can take it [learning focus] here or I can take it down here or I can go out here”. (AT3)*

An understanding of curriculum, learning progressions and student needs-based possibilities is important to any practicum. The personalised and dynamic nature of learning and teaching in ILEs makes more immediate the need for student teachers to be able to respond pedagogically, in the moment, with students and with colleagues (Alterator & Deed, 2013).

## Student Teachers

In this section we present student teacher insights on the ILE practicum. For participating student teachers navigating the particular physical ILE designs, enacting the values of the educational culture and working collaboratively with multiple colleagues provided their main foci in the ILE practicum. One participant also highlighted the effect inflexible practicum requirements exerted on the organisation of their ILE.

### Navigating Physical Spaces Pedagogically

Participants described a variety of ILE layouts, but noted how features of the physical spaces they encountered on practicum influenced possibilities for their pedagogical practice. For instance,

*I felt as though the lack of 'set desks' for learners meant I was able to have more connection with the learners, and it overcomes that idea that 'the teacher stands at the front'. Much easier to have genuine interactions with learners and move around. (ST4)*

Although alternatives to 'teacher stands at the front' are a feature of teaching in single cell classes, it appears the polycentric layout of ILEs was highlighted here for the way it decentres the teacher, freeing up student teachers to engage more responsively with students as a pedagogical approach.

Participants also highlighted that the success of personalised learning approaches in some of the ILEs was dependent on student dynamics, namely students' degree of engagement in learning in the ILE.

*I absolutely love the space. It's just being able to get those expectations onto the kids to make sure that they do the work because some of them would just sit there for the whole time and no matter how much fire you put underneath them, they wouldn't move. I think, for me, it would be working in strategies to engage the ones that don't want to engage into the subject. (ST10)*

Participants made special mention of the design factors that supported collaboration, workshops and breakout groups. These aspects are a part of the new collaborative grammar. One particular ILE referred to could be adapted flexibly to suit a variety of purposes, which one student teacher identified as facilitating their ability to see all the children and keep a sense of the larger space.

*They had quite a large breakout space that cut into three different rooms and they were all windows so you can see through them and they could all open up and be one big, large space. (ST10)*

One of the challenges raised in such spaces was the heightened noise level, although some ILEs appeared to combat this by promoting student self-regulation strategies as a valued expectation and intervention related to student dynamics.

*We all agreed that with the amount of students in the same space we needed to focus on having a calm classroom. We began meditations after morning tea and after lunchtime. (ST5)*

This example also conveys a sense of student teachers being involved in collective decision-making in the ILE as well as the iterative process involved in collegially developing shared norms and practices.

### **Extra Time Needed to Build Relationships**

In respect to the educational culture the student teachers were clear about the kinds of values they felt should be underpinning ILEs. Relationship building was identified as a top priority. However, participants noted that in an ILE making relationships with more students took more time.

*In the first week of practicum, I took the time to move around the classroom and get to know the students. Discussions with the teachers and teacher aide also helped me get to know the students. (ST1)*

The increased number of children in an ILE impacted student teachers' abilities to build relationships as quickly as they might do in a single cell classroom, but they acknowledged that this was feasible.

*It may take a day or two extra to learn names but it [is] just a matter of making an effort. (ST4)*

Participating student teachers did highlight the extra challenge of this relational work in comparison to a single cell classroom.

*I've only been in one single cell practicum. Just the relationships and how fast you get to know the students individually is a lot easier and you feel like you can expand on their interest, expand on their strengths, rather than when you're working with so many different students. (ST11)*

With some ILEs involving groups of primary students moving between spaces in the learning hub, building enduring relationships on this upscaled basis could be difficult.

*Because they're only there for five minutes, I wasn't their teacher. By the end of the fifth week, I think, they're starting to know who I was, and they listened to me, but they could quite easily not if they wanted to because I wasn't their teacher. (ST11)*



The challenge of the upscaled nature of the ILE means the practice of relationship building is intensified for student teachers in an ILE practicum.

### Working Collaboratively with Colleagues

Working collaboratively and being open and flexible were also highlighted as key attributes for teaching successfully in an ILE practicum. One student teacher commented that there was a need to ‘let go of top down’, inferring a more student-centred approach to teaching and learning introduced in ITE courses contributed to success in an ILE.

*Through [ITE provider] I developed my philosophy and it just fitted really well in those rooms. It's not like the tutors were trying to twist our arms into saying top down teaching is not the way to go, but that's just the way I learnt and how I feel, that we need to be learning together and reciprocal. These spaces just help it, I think. (ST2)*

Student teachers identified a need to negotiate the dynamics between the teachers collaborating within the ILE. This was not always straightforward as in situations where teachers were aligned in their planning but not necessarily in the implementation approach. As one student teacher described,

*I found that the teachers worked fine together, and they could plan fine, but there was always one teacher that would take the lead and it would be like, "This is now what's happening," and kind of override it even though you planned something. So, I found that difficult. (ST11)*

This sense of alignment between the form and fit of the organisation of ILE spaces emerged. Student teachers identified that the commitment, philosophy and alignment of teachers collaborating in an ILE set the foundation for a successful learning environment.

*I believe that if the teachers who teach in an ILE believe in its benefits and not just something they have to do then it will be very successful. Their pedagogy is essential—just like in any learning environment. (ST5)*

Collegiality produced benefits for student teachers including gaining access to multiple perspectives and explanations for practice.

*You get a chance to work with a range of teachers as opposed to just one so you are getting feedback and help from different perspectives. (ST4)*

Hosting a student teacher in an ILE practicum also, at times, increased the support teachers in the learning hub could offer their primary students.

*When I was there, I was helping out by splitting the maths up and taking one half for maths and the other teacher was taking the maths and then the other teacher was taking the technology. (ST1)*

The presence of an additional teacher introduced not only options for more group teaching within one curriculum area but opportunities for additional curriculum area activities operating in parallel also.

### **The Impact of Inflexible Practicum Requirements on ILE Organisation**

Although not a strong theme within the participating student teacher group, one student teacher expressed a divergent concern that their associate teachers adapted the pedagogy and organisation in the ILE to better support them to manage their practicum requirements.

*The teacher said ... “No, we’ll get you groups and stuff”. I said, “Well, this is not how the school’s running. I’m not going to learn how to operate in these environments if you’re changing how the classroom’s run just to fit me in”.*  
(ST11)

This example suggests that the adaptations associate teachers made to their ILE organisation to accommodate student teachers’ practicum requirements could impact on the authenticity of the ILE experience for student teachers, and by extension for associate teachers and their primary students.

### **Discussion**

Our analysis indicates an incongruity between the conventional grammar of schooling encapsulated in the ITE provider’s conceptualisation of practicum, and the collaborative grammar of practicum at work in the range of ILEs included in this study. Returning to Gislason’s school environment model the four interconnected layers assist us to identify necessary features of this grammar to inform a more congruous practicum design.

The physical design of ILE practicum contexts did not feature in the focus group discussions for participating teacher educators or associate teachers but did for student teachers. The upscaled physical design intensified relational challenges for student teachers. Building relationships (identified as a key educational value for student teachers and associate teachers) with a larger number of primary students took more time. However, more time was not available because the length of the practicum remains static regardless of whether a student teacher is placed in a conventional class with 25–30 students, or in an ILE with 50–120 students. In an ILE this relational work is intensified, with more intentional and methodical efforts needed to build relationships with learners over a longer initial time period as a foundation for the success of the practicum.

Within the organisation layer personalised learning programmes involved student teachers in unfamiliar timetable organisation and pedagogical practices. This organisation required adaptation of practicum tasks underpinned by a conventional grammar of schooling. Associate teachers and teacher educators adapted incongruous tasks and ILE organisation within a layer of collaboration

largely invisible to student teachers (Student teachers appeared more concerned with how to meet practicum requirements rather than critiquing these). Associate teachers placed the responsibility for adaptation of incongruous tasks onto teacher educators, for example, to suggest more personalised and flexible assessment practices. Associate teachers adapted the organisation of their ILE to support student teachers' practicum requirements where this proved necessary. They reduced student choice around curriculum workshops and devised temporary groups to aid student teachers' need to teach stable groupings of students over time. These adaptations required associate teachers to revert to a conventional grammar of schooling despite their commitment to an ILE grammar where personalised learning and student agency is valued.

Rather than guiding a student teacher and associate teacher toward success, the practicum requirements represented a barrier to success. This finding resonates with Morrison and Kedian's (2017) contention that the bureaucracy and formality of ITE provision may provide a barrier to ITEs acting responsively to the grammar of ILEs. The conventional imaginary of the ITE practicum design, embedded as it was in accredited and fixed course design, exerted influence over the flexibility and 'loose fitting' design of ILEs (Benade, 2021). To a point some flexibility could be created agentially through local adaptation of the required tasks by both visiting teacher educators and associate teachers. However, beyond this zone of flexibility the practicum requirements required the associate teacher to alter the way the ILE was organised. This in turn produced flow-on effects for student dynamics, and prized educational values and practices. Altering the organisation also constrained student teachers' opportunity to experience the flexibility and authenticity of an ILE.

From all vantage points, educational culture was identified as a key site of influence on the experience of the ILE practicum. Associate teachers positioned student teachers as co-learners and co-leaders with them from the practicum outset, and this provided room for agentic student teacher participation in the decisions and direction-setting of the ILE. Deprivatising practice, identified as a potential teacher stress in ILEs (Bradbeer, 2016; Gislason, 2018), was interpreted instead as a bonus for participating student teachers, broadening the sources of their professional feedback and opening a possibility for shared responsibility for the ILE. This collaborative pedagogical foundation disrupted the traditional grammar of practicum where a student teacher participates largely as the "sole learner, guided by teacher as expert" (Grudnoff, 2011, p. 231). Instead, more reciprocal and non-hierarchical relationships with teaching colleagues emerged.

Full management, a key traditional component of practicum underpinned by a value of teacher competence as 'independence', does not translate well to an ILE. This routinised practice (Benade, 2021) requires re-imagination. All teachers in an ILE, including the student teacher, co-lead and co-manage the learning environment as they participate in collaborative teaching and learning. The challenge of managing this incongruity and assessing student teachers' individual contribution to the ILE, was left to teacher educators. In response, we argue 'orchestral co-teaching' where student teachers engage in the foundational practices of collaborative teaching and co-leadership, in increasing depth and complexity across a practicum, from the outset shows promise. Such an approach aligns with the new ITE requirements (Teaching Council 2019) that final year student teachers operate at 80% of a

full-time teaching load in their final practicum; a broad parameter within which to realise the loose-fitting flexibility of collaborative leadership in an ILE suggested by our study.

One emergent realisation from our analysis was that our programme applies a largely behaviourist practicum design (teacher-centred and inflexible requirements) within the philosophically constructivist context of the ILE. Such a design is mismatched with values of: colleagues as co-learners, agency, responsiveness in the moment and adaptiveness. Whilst this may not be the case for all ITE providers, it has been acknowledged as an enduring issue with practicum design long before the advent of ILEs (Bernay et al., 2020; Dayan, 2008; Wilson & I'Anson, 2006). Bernay et al. (2020) propose instead more transformative, responsive approaches jointly constructed with school-based colleagues. Approaches such as these, we argue, are vital to constructing practicum approaches that align with the collaborative grammar of ILEs.

## **New Collaborative Grammar for Changing Times**

Spatial design sets up spaces to “shape practices of teaching and learning differently” (Benade, 2021). At this point in time, with widespread learning environment innovation underway, an opportunity exists to disrupt a conventional grammar of schooling, towards a collaborative grammar, through ITE as a key player in the educational landscape. A shift in practicum design towards the collective, the flexible and the collaborative is needed to address the organisational and physical realities of ILEs.

Such a collaborative grammar prioritises flexible practicum requirements, collaborative approaches to co-leadership with colleagues, intensely responsive teaching and learning decisions, and support to maximise the potential of poly-centric spatial layouts, and the agency they afford all partners. A collaborative practicum grammar also promotes different criteria of competence e.g. how adroitly can a student teacher adapt to the bespoke physical and organisational design of a particular ILE? How adroitly can they initiate and maintain relationships with large numbers of students within a short space of time? To what degree can they join in with complex collaborative teaching and learning practices that require adaptive relational, curriculum, pedagogical, assessment and leadership expertise from them?

While small-scale, our case study nonetheless comprises a microcosm of the extensive ITE/school negotiation that is ongoing during this time of learning environment innovation. Examining the ILE practicum from multiple vantage points illuminates a hitherto ‘invisible layer’ of the work associate teachers and teacher educators do to negotiate largely incongruous conventional and collaborative grammars of schooling in order to create the conditions for student teachers’ success in ILE practicums. If New Zealand is committed to the sustainability of its investment in learning environment innovation, then explicit engagement with what it takes to sustain a new collaborative grammar of schooling through the contribution of practicum must form a key part of the policy conversation.

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