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Teacher educators' experiences of the shift to remote teaching and learning due to COVID-19

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Background: The measures imposed to curb the spread of the coronavirus disease 2019 (COVID-19) pandemic in early 2020 meant that many higher education institutions (HEIs) had to shift rapidly to remote teaching and learning (RTL). Given the unique demands of teacher education programmes, the question of the extent to which RTL and similar modes of teaching and learning are suited to the preparation of primary school teachers to teach in South African schools is an important one.

Aim: The aim of the study was to explore the experiences and perceptions of teacher educators (TEs) towards this rapid shift to RTL.

Setting: The study took place in one department in a faculty of education in an urban South African university.

Methods: This study took the form of a qualitative case study. Data was gathered by means semistructured individual interviews and focus group discussions.

Results: Firstly, it was found that mixed responses to the change to RTL at the outset gave way to a general consensus about the long-term value of blended learning. Secondly, it was found that the change to RTL had a positive effect on TEs' teaching, given increased familiarity with, and integration of, technology, as well as the accompanying revisions to both pedagogy and curricula. Thirdly, the data showed that TEs perceived RTL as limiting because of two main factors, namely students' lack of information and communication technology (ICT) resources and because, in their estimation, teacher education uniquely requires contact teaching. Finally, it was found that the change to RTL created additional psychological stressors for both students and staff.

Conclusion: Based on this study's findings, the authors advocate for more recognition and support for the emotional work performed by TEs during times of transition. They also argue that TEs should be given more responsibility in moulding blended teaching and learning practices according to their experiences of the successes and challenges of RTL.

Keywords: Teacher education; ICT in education; COVID-19; South Africa; education in the Global South; work-integrated learning; remote teaching and learning; blended learning.

Introduction

With the advent of the coronavirus disease 2019 (COVID-19) pandemic and its concomitant lockdowns in March 2020, teacher educators (TEs) found themselves in a drastically changed set of circumstances for teaching and learning. The shift to remote teaching and learning (RTL), initially expected to last for 3 months, eventually lasted more than 18 months and colloquially became known as the 'new normal'. The prospect of teacher education one day reverting to its previous mode of exclusively contact delivery now seems increasingly unlikely. The authors argue that many of the changes associated with the shift to RTL – as unplanned and under-resourced as some of them may have been – have led to unexpected improvements in teacher education. At the same time, the shift to RTL has also led to the identification of a number of challenges and limitations associated with teaching and learning entirely through information and communication technologies (ICTs) – especially with regards to the project of teacher education in South Africa. It is possible that these challenges and limitations may not always be taken fully into account by higher education institutions (HEIs) and stakeholders, whose priorities and competing demands are multiple. Thus, this article aims to highlight both the affordances and the limitations of the shift to RTL, with the hope that this will contribute to improvements in South African teacher education.

This article focuses on the experiences of a group of primary school TEs regarding the shift to RTL, with the understanding that how they adapted curricula and pedagogy can inform the way that teacher education can continue to be reimagined and redesigned. The central premise is that these changes have the potential to both contribute positively to, and detract from, the efforts to prepare teachers for South African classrooms in the rapidly changing reality of the 21st century. The article begins by briefly sketching the study's context and surveying some of the relevant literature in the field. Thereafter, the research methodology is described and the study's findings are outlined. The article concludes with a few recommendations for teacher education and research in postpandemic contexts.

Contextual background to the study

When South Africa's national COVID-19 lockdown was initiated on 26 March 2020, academic staff at the university in which this study was based were informed that teaching and learning in the second term would take place fully online, giving the lecturers less than a month in which to replan, reorganise and redesign their teaching materials. Students served by this university are typically from lower-middle class or working-class backgrounds; tend to be first-generation university entrants; and speak English as a second, third or even fourth language (Van Zyl, Dampier & Ngwenya 2020). The shift to RTL meant that students too had to adapt quickly to a whole new mode of learning, often in settings which were not conducive to learning, and sometimes without even having access to the necessary technological resources to do so effectively (Mabolloane 2021). To counteract the latter challenge, the university made significant efforts to negotiate with cellular network providers and ensured that by the beginning of the new term, all students received a mobile data allowance which would enable them to connect to the Internet. Thousands of students who needed laptops or smart devices were also supplied with these at the university's cost. Academic staff were offered a series of workshops covering topics related to online instruction, particularly with regards to using Blackboard, the institution's learning management system (LMS). They were also provided with individual technical support from learning design specialists.

The challenges and affordances of the shift to remote teaching and learning

This review of the literature begins by differentiating between key terms that have been used to describe different modes of teaching and learning that typically occur through ICTs. The authors also argue for the importance of clearly distinguishing between these modes, given the specific affordances and limitations attached to each. Remote teaching and learning has been defined as a 'temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances' (Hodges et al. 2020). Thus, the mode of teaching and learning that occurred in the vast majority of

the world's HEIs at the beginning of the pandemic can most appropriately be referred to as RTL and not online teaching and learning (OTL). While OTL is a systematically planned and appropriately resourced initiative for 'instruction delivered on a digital device that is intended to support learning' (Ferri, Grifoni & Guzzo 2020), RTL is more of a 'stopgap measure' to deal with an emergency of some kind which makes 'normal', face-to-face teaching and learning impossible (Hodges et al. 2020).

Remote teaching and learning is the mode of teaching and learning that teacher education at the institution in which this study was based was forced to shift to at the beginning of the pandemic. However, as time progressed, approaches that were initially of an emergency nature were consolidated and improved upon with each successive academic term. The emergency responses resultantly became increasingly formalised and better suited for exploiting the opportunities and navigating the limitations of the changed (and indeed still changing) circumstances. Thus, it is argued that what had begun as RTL in March 2020 was morphing, in piecemeal fashion, into OTL. In addition, as school-based work-integrated learning (WIL) opportunities and limited face-to-face learning sessions resumed in 2021, teacher education was beginning to transition to a form of blended learning, which is defined as 'the thoughtful fusion of face-to-face and online learning experiences' (Garrison & Vaughan 2008:5).

In this next section, the main issues in teacher education since the beginning of the pandemic are addressed, and the responses are differentiated between the Global North and the Global South. The first issue is the loss of in-person interaction in traditional face-to-face lecture venues, which was one of the most obvious consequences of the shift to RTL. The authors' claim is that the ability of TEs to maintain some semblance of the social interaction of contact teaching and learning was limited by their and their students' access to the basic technological resources (such as electricity, Internet connectivity and digital devices) needed to work online. In an article penned for the popular press, Black (2020) argued that 'learning through technology' was not a sustainable solution for most students in South Africa, chiefly because of their home environments, which were not always conducive for learning. Others, like O'Regan (2021), reporting on South African students' responses, indicated that many simply did not manage to cope with the shift to RTL because of the overwhelming technical barriers and were thus forced to drop out. In light of this, and citing the challenges faced by students from lower socio-economic backgrounds, as well as the institutional challenges faced by historically black universities in transitioning to a new mode of teaching and learning, academics at some universities even called for the academic year to be cancelled or at least put on hold (C19 Post School Education Working Group of the People's Coalition 2020; UCT Black Academic Caucus 2020). This did not seem to be taken up by the majority of HEIs, and many soldiered on.

An important part of face-to-face teaching is the pedagogical value of in-person contact, in which relationships are crucial. For instance, Black (2020) contended that: '[t]he recurrent theme in teacher training and support is simple: effective teaching and learning is about relationships […] It is, at its core, social'. For the authors, this component is vital because TEs are often encouraged to 'walk the talk' (Guilfoyle 1995) by modelling many of the 'engaging' classroom teaching practices that they expect students to learn (Loughran & Berry 2005). These teaching practices often foreground the importance of fostering conducive relationships for learning, both among learners and between teacher and learners.

The importance of maintaining conducive relationships with stakeholders – between student teachers and TEs, among TEs and their colleagues and among student teachers and their peers – was also a common theme addressed in much of the literature reviewed that focused on the shift to RTL in teacher education in the Global North (Baran & Alzoubi 2020; Scull et al. 2020). Linked to this was the importance of collaboration. Darling-Hammond and Hyler (2020) cited the increase in collaboration, both among different teacher education providers and between teacher education providers and schools, as one of the most promising changes that has occurred since teacher education was 'forced online' as a result of the COVID-19 outbreak. They go on to state that 'this moment of disruption has created the opportunity for rethinking and reinventing [*teacher*] preparation' (Darling-Hammond & Hyler 2020:7). As encouraging as this stance is, it is also subject to the underlying material reality that countries in the Global North generally benefit from an advanced baseline level of technological infrastructure which was already present before the pandemic (Robinson et al. 2020:10). Put simply: it is easier to stay positive in the face of unforeseen challenges if you know you have adequate tools and resources to deal with those challenges. Moreover, social interaction and collaboration through technology are easier to facilitate if everyone has access to reliable devices, Internet connections and electricity.

One tool which TEs in the Global North used to maintain social interaction with their students during the shift to RTL were regular synchronous 'web conferences' (Dyment & Downing 2018) – Zoom or Microsoft Teams meetings in current parlance. Prepandemic research shows that synchronous web conferences may indeed go some way in humanising the experience of online learning and reducing the feelings of isolation often associated with online learning (Croft, Dalton & Grant 2010). Falloon (2011:206) cautioned, however, that they may also have the unintended negative consequence of reducing students' feelings of autonomy and ability to interact with learning materials on their own terms. This limitation is especially important to consider in contexts like South Africa where, as has been mentioned, students often suffer from a lack of sufficient access to the requisite technological resources needed to learn through technology (Black 2020; Mabolloane 2021). Carrillo and Flores (2020:13) argued that the realities of 'digital inequality' – unequal access to technological devices and differences in digital literacy (Beaunoyer, Dupéré & Guitton 2020) – need to be addressed as an urgent priority, so as to 'maximise students' participation in their learning process'. It is clear that a nuanced understanding of the context of one's students has been just as important in the shift to RTL as it is in face-to-face teaching and learning, as it enables TEs to make changes that are most conducive to their students' academic success.

The second major issue facing teacher education during this time concerns the pedagogical and curricular changes that TEs, both in the Global North and South, had to make in the wake of the pandemic, in particular adapting teaching and assessing. Many studies from the Global North (see, e.g. König, Jäger-Biela & Glutsch 2020; Moorhouse 2020) indicated that the shift to RTL showed that both student teachers and TEs were in need of opportunities to develop more sophisticated digital knowledge and skills. Assessment, particularly, was one area in which TEs were compelled to adapt their traditional practices in order to respond to the significantly changed circumstances of RTL (Baran & Alzoubi 2020; Quezada,Talbot & Quezada-Parker 2020; Scull et al. 2020). La Velle et al. (2020) suggested that the drastic change in practices 'triggered a fundamental review of what is really important and what is actually possible' – something which, they argue, was much needed. The authors of the present study concur. This view is also advanced by Ellis, Steadman and Mao (2020) who maintained that a number of specific changes in practice that went along with the overall embrace of technology across the institutions they surveyed could genuinely be classed as innovations, 'because they *added value* [authors' emphasis] to previous historical practices rather than just offering an emergency "sticking plaster" to a sudden "hole"' (Ellis et al. 2020:11).

This seems to echo Darling-Hammond and Hyler's (2020) optimistic view of the pandemic's overall effects on teacher education. Teacher educators from the Global South, and South Africa in particular, also made significant adaptations to their traditional teaching and curriculum to suit the extraordinary circumstances they were presented with. Iyer (2020), for example, made extensive use of online discussion forums to facilitate collaboration and information sharing between students, while Godsell (2020) used WhatsApp as her primary site for teaching, while developing a series of formative assessments which had students exhibit their understanding of the course content in highly creative ways. Halsall (2020) found that reaching out to colleagues for support and creating more explicit boundaries with students helped to ameliorate some of the pressures of working under the often stressful circumstances of RTL.

A final issue affecting teacher education during this time concerned the question of how to best address students' practical teaching periods when schools were closed or operating under stricter protocols to curb infections. While some TEs from the Global North did highlight the reduction in opportunities for practical teaching experience as a cause for

concern (La Velle et al. 2020), this turned out to be a more significant dilemma for teacher education in the Global South (Kalloo, Mitchell & Kamalodeen 2020; Moyo 2020; Robinson & Rusznyak 2020; Sepúlveda-Escobar & Morrison 2020). In most countries in the Global South, the average WIL placement schools were not able to rapidly 'pivot' online and thus still were largely unable to provide opportunities for student teachers to complete this important part of their training.

Robinson and Rusznyak (2020), reflecting on the South African context specifically, distinguished between the lost opportunities for practical teaching experience in terms of both 'situational' and 'relational' learning, with situational learning referring to the learning that comes from being exposed to different school contexts and having to adapt one's teaching to suit these contexts (p. 3) and relational learning referring to an awareness that teaching is embedded in human relationships and in the complex interplay between teacher, learner, content and context (p. 4). The sector-wide response in South Africa in the form of the 'Teacher Choices in Action' module (Robinson and Rusznyak 2020:7) for all final-year student teachers – including students registered in the department where this study has been conducted – in lieu of the full practical teaching experience components of their degrees, proved to be an exceedingly valuable innovation (Robinson & Rusznyak 2020). This is one example of how innovations on established practices were initiated in the context of COVID-19. It is clear from the literature reviewed that TEs have been at the forefront of grappling with the extraordinary changes that teacher education has had to undergo since the beginning of the pandemic. Within this context of continuing and rapid change, it is all the more important for the voices of the TEs to be heard.

Research methods

This study took the form of a qualitative case study, as the authors were interested in exploring the 'bounded system (or case)' of TEs in one primary school teacher education programme 'over time through detailed, in-depth

data collection involving multiple sources of information' (Creswell et al. 2007:245). The case in question was bounded by two main factors: the fact that all the TEs who participated were working within the same department and the fact that data were collected within a specific time frame, namely over the course of 1 year, with two specific data collection points. Data were generated from 15 TEs with varied years of experience in the field. Table 1 provides some detail.

Data generation was conducted at two points over a 12-month period: the first in July 2020, 3 months after the beginning of the change to RTL, and the second in July 2021. At the first point, semistructured individual interviews were conducted with all participants, each interview ranging from 30 minutes and one hour in duration. At the second point, focus group discussions with between two and four participants were conducted. These discussions enabled the researchers to ascertain which issues from the first point of data collection were still prevalent and whether any issues had changed significantly over the course of the intervening year. Interviews and focus group discussions were transcribed and analysed by means of an adapted version of the constant comparative method, as described by Maykut and Morehouse (1994), using the ATLAS.ti qualitative data analysis software. Figure 1 to Figure 3 provide examples of how raw data was analysed and reduced to usable information.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Johannesburg Faculty of Education Research Ethics Committee (ref. no. Sem 2-2020-047).

Results and discussion

From the analysis of data, four themes emerged: Teacher educators' initial mixed responses to the change to RTL gave way to a general consensus about the long-term value of blended learning. The shift to RTL seems to have had a

TABLE 1: Demographic details of teacher educators participating in study.

Teacher educator	Focus group (phase two)	Subjects teaching	Total years of experience in teacher education at a university	Total years of experience as teachers in primary or secondary education	Age range (years)
TE1	1	Language education	7	20 (primary)	40–50
TE2	1	Teaching methodology and teaching studies	6	2 (primary)	30–40
TE3	1	Teaching methodology and teaching studies	7	30 (primary)	40–50
TE4	1	Language education	10	5 (secondary)	30–40
TE5	2	Mathematics	30	8 (secondary)	> 60
TE6	2	Social sciences	4	2 (secondary)	< 30
TE7	2	Teaching studies	2	5 (secondary)	< 30
TE8	3	Teaching methodology and language education	4	3 (primary)	30–40
TE9	3	Science and technology and teaching methodology	4	8 (secondary)	30–40
TE10	3	Teaching methodology	2	3 months (primary)	< 30
TE11	4	Teaching methodology and language education	36	3 (secondary)	> 60
TE12	4	Social sciences and teaching methodology	6	10 (primary)	40–50
TE13	-	Mathematics	30	8 (secondary)	> 60
TE14	-	Creative arts and teaching studies	7	7 (primary)	30–40
TE15	-	Teaching studies	3	0	30–40

TE, Teacher educator.
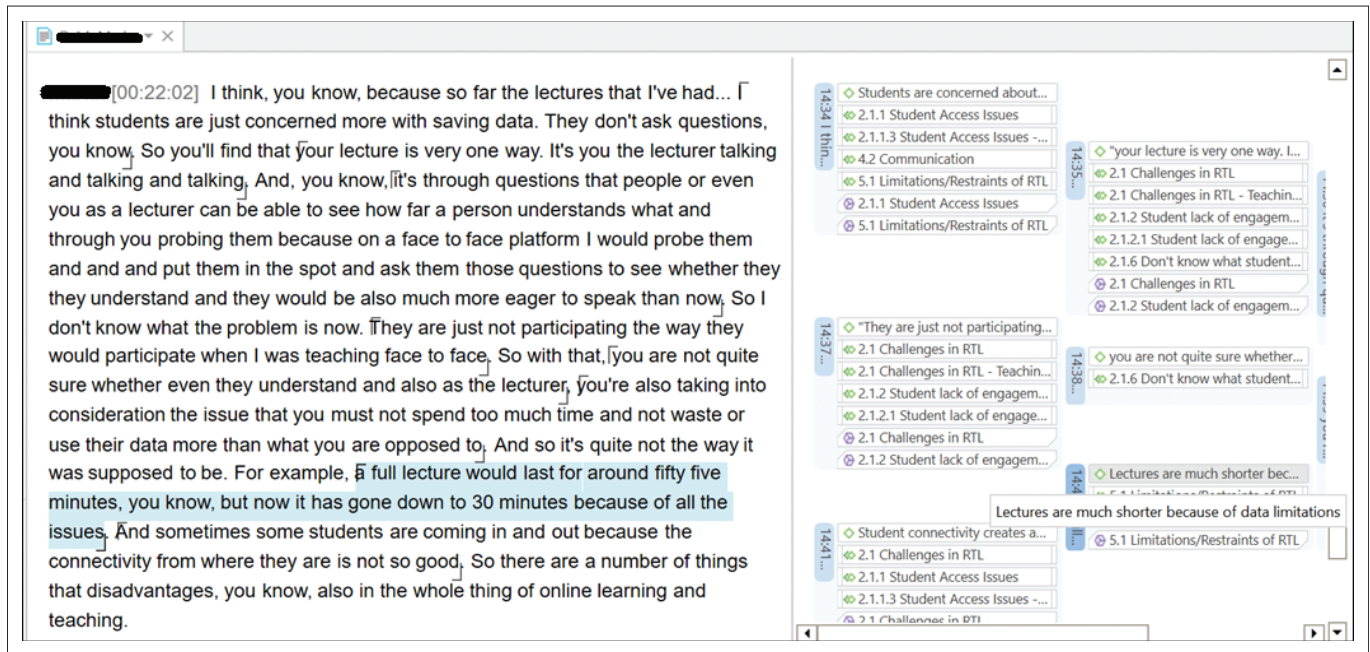
FIGURE 1: Example of a code being allocated to an excerpt of text.

positive effect on TEs' teaching, given their increased familiarity with and integration of technology and accompanying revisions to both pedagogy and curricula. Remote teaching and learning was, however, perceived as limiting because of students' lack of ICT resources and because teacher education uniquely requires contact teaching. In addition, the change to RTL created additional psychological stressors for both students and staff that were challenging to manage.

Mixed initial responses gave way to consensus about the long-term value of blended learning

Unsurprisingly, TEs initially had a range of reactions to the change to RTL, from fear, on the one hand, to excitement at the opportunity to learn new things, on the other. Notably, TEs who had already begun to experiment with technology-based teaching generally perceived the change as less intense than their colleagues. A big issue was the suddeness of the change. The abrupt discontinuation of physical contact with students and colleagues was described in vivid terms as follows:

'[S]o that was the one of the biggest challenges for me – this almost severing of ties with students that you see on a weekly basis. It was like you cut the umbilical cord […].' (TE3 Ph1:1)

In these references: 'TE' refers to the specific Teacher Educator who was interviewed, 'Ph' refers to the data gathering phase from which this excerpt stems (either phase 1 or 2) and the final number refers to the page number in the transcript.

This description, which evokes images of the physical separation of a mother from her newborn child, speaks to the close bond that many TEs have with their students. It also evidences TEs' recognition of students' vulnerability –

TEs are very often the first point of contact for students on campus who are experiencing challenges. Under RTL conditions, TEs' misgivings and feelings of anxiety around the change to technology-based learning were exacerbated. In particular, students' descriptions of home environments unconducive for learning tended to be internalised by the lecturers, not dissimilar to what has been reported on by other researchers (Dube 2020; Godsell 2020; Sepúlveda-Escobar and Morrison 2020). Teacher educators also expressed concern for students' ability to make the 'mind-shift' (TE8, Ph1, p. 9) to a new way of learning when '[t]heir entire schooling system was so vastly different from what they had to now engage with' (TE3 Ph1:13). Another TE similarly observed that 'the responsibility for learning [is now] mostly on the learner, more than the person who is teaching' (TE1 Ph1:7).

However, after more than a year of teaching remotely, there was evidence of shifts in TEs' experiences and perceptions of the change to RTL. For instance, the discourse changed from feeling as though they were 'grappling in the dark' (TE13 Ph1:1) to feeling more confident – both of their students' ability to learn independently and of their own ability to provide quality instruction through the mode of RTL. Teacher educators hinted at a shift from being 'knowledge transmitter[s]' to 'knowledge facilitator[s]' (Regan et al. 2012), and the resultant onus placed on students to take on a more active role in their own learning is a key affordance of RTL which can potentially be leveraged for a more sustainable shift to blended learning beyond the COVID-19 pandemic. By year two of RTL, some kind of equilibrium had been reached. Almost everyone had by then managed to adapt to the new mode of teaching and learning, and there was clear recognition that RTL had catalysed some valuable innovations. Several TEs shared a desire to 'marry the
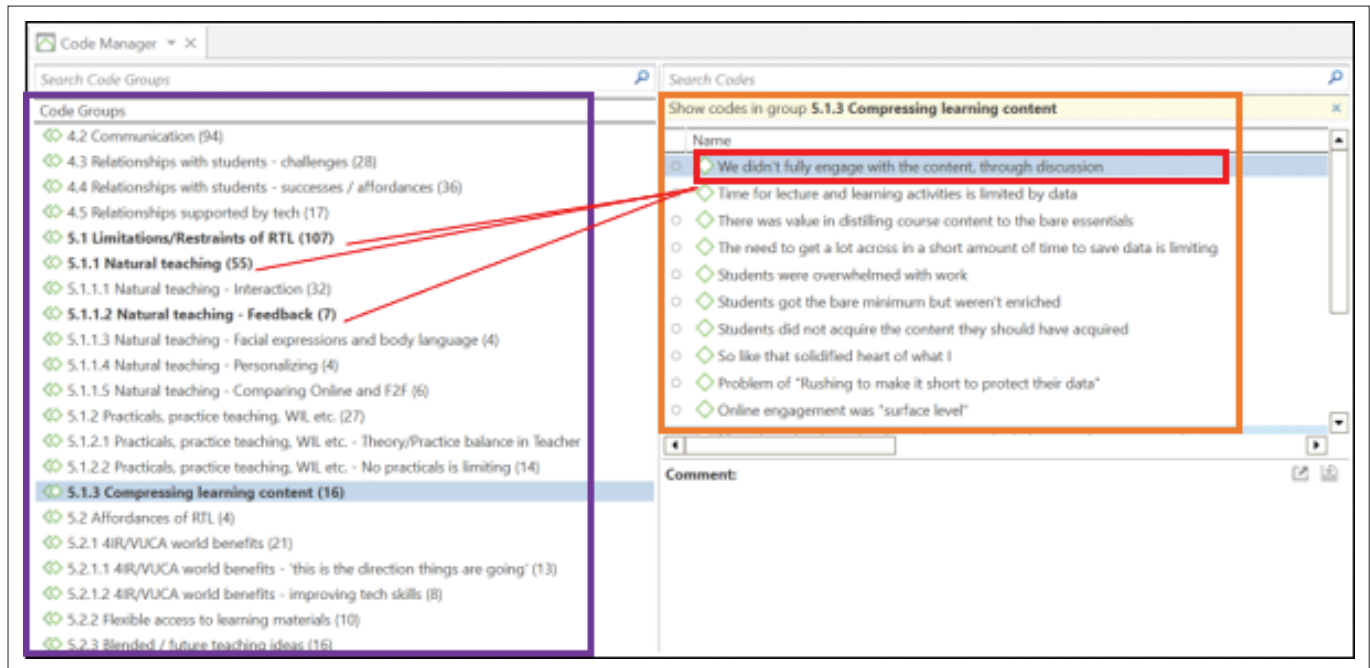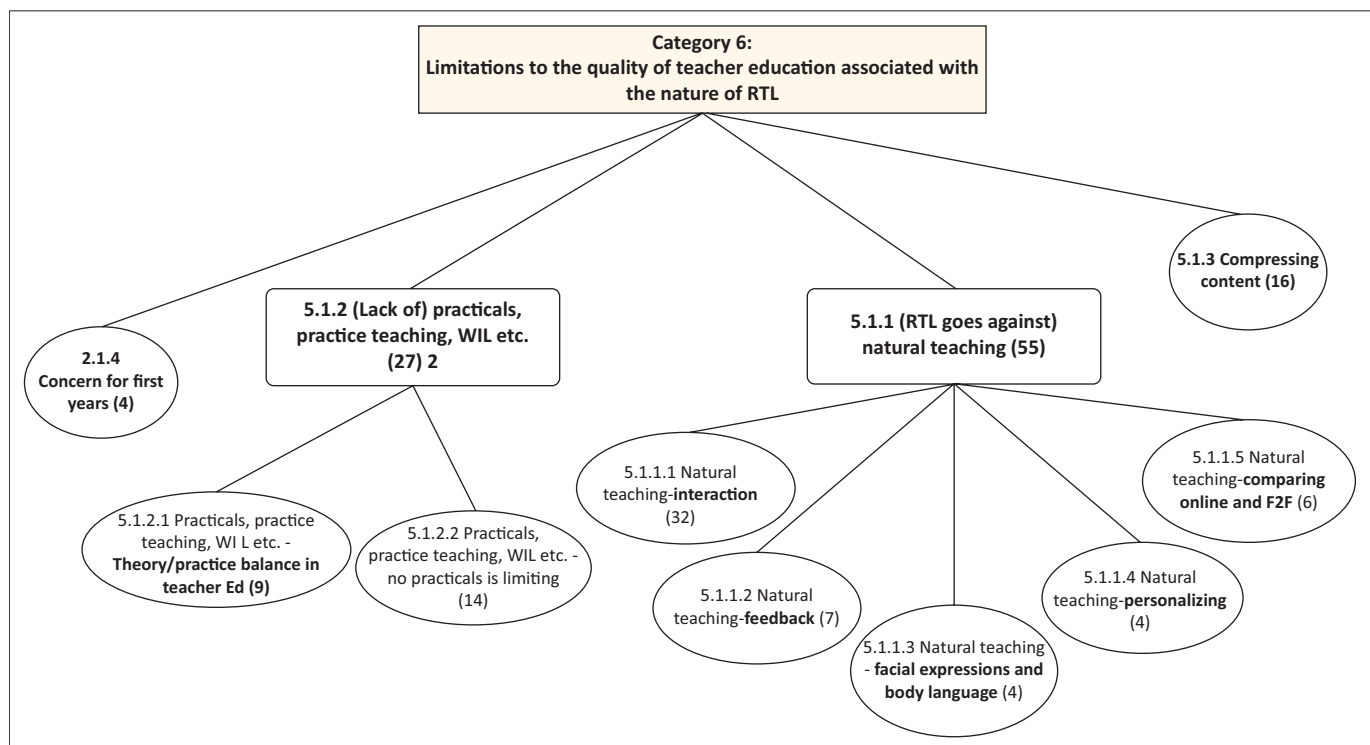
FIGURE 2: Example of the constituent codes that make up a code group.

WIL, work-integrated learning; RTL, remote teaching and learning; F2F, face-to-face.
FIGURE 3: Example of the composition of a category and its subcategories.

affordances of online teaching with what you would do in a lecture' (TE2 Ph2:1), with another TE noting that she wanted to 'keep working to find what works best and use the tools of RTL as just that: tools. If they're not working, chuck them' (TE4 Ph2:2). This pragmatic, learning-focused approach is suggestive of what Cook (2018:73) described as 'the need to put the pedagogy ahead of the technology'. It is also resonant with Baran and Alzoubi's (2020) 'human-centred design approach', which foregrounds the importance of using technology in a way that is aligned with students' preferences, capabilities and resources.

The change to remote teaching and learning had a positive effect on teacher educators' teaching

Another key theme that was identified was that the change to RTL had a positive effective on TEs' teaching, given their increased familiarity with and integration of technology and the accompanying revision to both pedagogy and

curricula. This is significant, given that the issue of student engagement was a critical one throughout the change to RTL, not only for the TEs who participated in this study but for other TEs as well, both in the Global South (e.g. Godsell 2020) and Global North (e.g. Scull et al. 2020). As TE1 (Ph1:7) put it:

'[T]hey are just not participating the way they would participate when I was teaching face-to-face […] your lecture is very one-way. It's you, the lecturer, talking and talking and talking.' (TE1 Ph1:7)

Many TEs participating in the study adapted to the limitations of the circumstances in order to find ways of engaging students by, for example, reworking curriculum content so that it could be presented more succinctly through the new mediums that they now used most frequently to deliver content, like WhatsApp messages and PowerPoint slides containing voice-over recordings. This process helped the TEs 'see [*their*] subject quite clearly in terms of what the students needed to take away from it, what the non-negotiables were' (TE4 Ph1:1).

Pedagogic affordances also arose from the increased use of and familiarity with technological tools. WhatsApp became the pivotal 'enabler, the channel' (TE5 Ph2:7) that kept TEs and students connected even in the face of the perennial problem of limited data. What Zoom did for TEs in the Global North, by providing them with a medium through which to more intimately connect with students and give them one-on-one support (Quezada et al. 2020), WhatsApp did for the data-inhibited TEs in much of the Global South. Some TEs even reported that it enabled them to form 'more personal' (TE2 Ph1:3) relationships with students than had previously been the case when they had been limited to interacting with students face-to-face and via e-mail. Teacher educators also reported that they were adopting a more consistent routine in structuring their weekly learning materials on Blackboard, the university's LMS, which made them feel more organised and see 'a lot more engagement with the content as a result' (TE2 Ph2:1). Making more effective use of the capabilities of Blackboard to 'track' (TE9 Ph2:4) individual students' progress also enabled them to more efficiently follow up on those students who were falling behind and provide them with extra support.

Apart from their increased and more sophisticated use of WhatsApp and Blackboard, TEs also made use of other digital tools to enrich students' learning. Similar to the experiences of other TEs globally (Baran & Alzoubi 2020; La Velle et al. 2020; Quezada et al. 2020), assessment of students' learning, for example, was an area in which the increased use of technological tools led to some valuable innovations. Although there were certainly areas in which many TEs still felt that students' engagement was mostly 'surface-level' (TE8 Ph2:4), the following sentiment expressed by TE6 aptly sums up the various positive impacts that the change to RTL had on TEs' teaching and gives further credence to the argument (see, e.g. Ellis et al. 2020; Darling-Hammond &

Hyler 2020) that the pandemic was a catalyst for positive transformation in the field as a whole:

'Lecturers and students have become more open-minded around education. It has allowed us to grow and think more critically about how our teaching benefits the students and how to enable good learning.' (TE6 Ph2:3)

Remote teaching and learning was perceived as limiting

The third significant theme that emerged was the perception that RTL was limiting because of students' lack of ICT resources and because teacher education uniquely requires contact teaching. Despite the university's significant efforts to ameliorate students' resource-based challenges, according to TEs, a significant number of students did not have access to the basic resources required to learn remotely. Teacher educators spoke of students who were doing all their assignments on a smartphone, who had to 'walk several kilometers to get to a tree where they get signal' (TE4 Ph1:2) or who were 'living in a home with many family members, many children … living in one room' (TE15 Ph1:6). Studies from the Global North (Baran & Alzoubi 2020; Hadar et al. 2020; Roman 2020) also show that TEs experienced feelings of concern for students' psychological well-being and ability to cope academically. However, for the most part, they did not express concern that students would *be completely shut off* from continuing to engage in crucial parts of their studies because of a lack of resources – as did TEs in this specific department and elsewhere in the Global South (Dube 2020; Moyo 2020).

A second factor that caused TEs to perceive RTL as limiting was that TEs found the lack of opportunities for any type of face-to-face teaching and learning ultimately irreconcilable with the project of teacher education for South Africa – given the important role of modelling in initial teacher education (ITE) (Guilfoyle 1995; Loughran & Berry 2005) and the fact that the majority of local teaching contexts that students would work in after graduating would require experience in traditional, face-to-face, in-classroom teaching. Teacher educators found that their own teaching, disembodied and occurring at a physical and often temporal distance from their students, lacked the 'element of human connection […] that is absorbed the more that they interact with their lecturers' (TE3 Ph2:2). This further hampered their efforts to serve as an effective model for their students.

From the beginning of RTL in April 2020 until the end of 2021, students could not engage in as many traditional, in-classroom practical teaching experiences. Teacher educators considered this lack of practical teaching experiences as a limitation to their students' teacher education, as it prevented students both from having opportunities to practise teaching and to observe more experienced teachers in action. This is consistent with similar research in the Global South (Moyo 2020; Robinson & Rusznyak 2020; Sepúlveda-Escobar & Morrison 2020), which raised concerns about a more circumscribed practical component of teacher education.

Among the TEs in this study, the concern was heightened by the fact that, as TE8 (Ph2:4) explained: 'There is still a backlog to get face-to-face teaching right'. Indeed, although TEs frequently commented on the value of the technological skills students were acquiring during this time, they also remained concerned that the experience of learning to teach through RTL was not preparing students sufficiently for 'the context they are going to find' (TE8 Ph2:4) upon graduating – in other words, for teaching face-to-face in the often decidedly 'low-tech' classrooms of average South African public schools.

The change to remote teaching and learning created additional psychological stressors for both students and staff

Although many TEs found value in reworking their curriculum to address the limitations imposed by RTL, they experienced psychological pressure from having to contend with competing imperatives: responding to the realities of students' contextual barriers to learning on the one hand, while still maintaining the standards and integrity of the programme on the other. Overall, this put TEs into an often frustrating position in which they felt that they were 'stuck between achieving our graduate attributes or educational goals, and humanity or being human' (TE7 Ph2:3) or as TE9 (Ph2:4) poetically put it, '*between the deep blue sea and a rock*'.

Adding to this psychological pressure that TEs were under to counter a perceived 'drop in standards', while remaining sensitive to and supportive of students' challenges, was the fact that they were being inundated by students with requests for help of various kinds – sometimes with issues over which they had no power. There is a sense in which TEs, in addition to performing their educational duties, often ended up 'carrying' a lot of the 'extra weight' of the various challenges students were facing, challenges associated not only with learning but with *living* during this difficult time. 'This is the "heaviness" that we have to carry', as TE5 (Ph2:2) puts it. At least two other studies (Hadar et al. 2020; Roman 2020) described similar situations in which TEs were confronted with the extra responsibility of dealing with students' psychological and existential challenges. Hadar et al.'s study, in fact, linked the two issues of curricular trimming and dealing with student challenges, stating that TEs shifted their 'curricular focus from a subject-matter orientation to one that concerns students' well-being' (Hadar et al. 2020:9).

This 'heaviness' or 'secondary burden' that TEs experienced contributed to TEs' perception that RTL had caused them to take on a significantly increased workload. If England and Farkas's (1986:91) formulation of 'emotional work' is considered as efforts 'to understand others, to have empathy with their situation, to feel their feelings as part of one's own', then TEs' perception that their workload had increased during the change to RTL is understandable. Moreover, an increase in screen-time and a paucity of human interaction resulted in TEs experiencing a preponderance of the stressful, difficult elements of their job over many of the more positive, stimulating or enriching ones.

There was a prevailing sense among the TEs that while management might have been aware of the efforts they were making to continue with their academic responsibilities during the change to RTL, management was perhaps not equally aware of the additional emotional work that TEs were increasingly engaged with – in other words, the 'challenge to rethink and reconstruct your entire life [*while*] bearing the brunt of students' frustration' (TE3 Ph1:5) – and the toll that it was taking on their psychological well-being. Indeed, as Isenbarger and Zembylas (2006:123) stated: 'Emotional work involves many emotional costs, and is often invisible, unacknowledged, or devalued'. Despite acknowledging that management was forthcoming with *technical* support and, in some cases, even modelling what might be considered a more 'human-centred' approach (Baran & Alzoubi 2020) – by, for example, the departmental head giving all staff personal 'check-in' calls to enquire about their well-being – TEs generally found that institutional stakeholders typically did not contribute to the alleviation of the additional stressors that they were experiencing or in some cases even may have contributed to the exacerbation of these.

Conclusion

Although the circumstances were often challenging and chaotic, and TEs exhibited a range of responses to coping with these circumstances, upon analysing the data collected over the course of more than a year of RTL, a number of common themes in TEs' experiences and perceptions emerged. Firstly, there was an overwhelming consensus among TEs regarding the desirability of moving towards a more blended mode of teaching and learning as soon as possible. This would take advantage of the many affordances and innovations that had come with the change to RTL – above all, the increased familiarity with technological tools and the opportunity for TEs to redesign their curricula. This more blended approach would also aim to avoid the constraints and limitations of RTL – particularly the fact that it lacked any opportunities for face-to-face instruction and modelling by TEs, as well as opportunities for students to engage in practical teaching experiences in real classrooms. The issue of additional psychological stressors for TEs that accompanied the change to RTL because of a higher demand for psychosocial support from students was a major concern. Despite institutional support, the authors of the present study are concerned that that there may have sometimes been insufficient acknowledgment of the emotional work performed by TEs during this time. That TEs did not feel adequately supported is problematic. The forms of support required by TEs working under such conditions are something that institutions will need to look into closely; support should not simply be a verbal acknowledgment, but it should include psychological support resources, as well as concrete changes to TEs' working conditions, such as more time in their schedules to address the immediate challenges and to develop strategies to mitigate them.

Teacher educators have a nuanced view of what transpired in the change to RTL, both because of their proximity to students and because they have been the ones most responsible for ensuring the continuation of teaching and learning. They thus have important perspectives about which elements of RTL can contribute to – or detract from – the creation of conditions conducive for student teachers' university education. The authors recommend that more opportunities be created for TEs to collaborate on the conceptualisation of future reforms to teacher education in the wake of their experiences of RTL. Teacher educators should, in the authors' opinion, not simply be commenting on ideas that come to them 'from above' as it were, but rather, they should be taking a much more active role in generating these ideas themselves.

The authors are also of the view that further research should be conducted into TEs' successes and challenges as they move into a more blended mode of teaching and learning – as this will continue to lead to genuine innovations in the field of teacher education – and not just 'sticking plasters' to continue patching the holes that were created by the sudden shift to RTL. Teacher educators' workloads need to take into account the time and resources that are necessary in order to maximise the advantages of collaboration among different stakeholders.

This study has several significant implications for teacher education programmes, both immediate and future focused. Firstly, the shift to RTL resulted in students being trained in how to prepare and execute online lessons, as well as how to experiment with and repurpose different mobile apps for online teaching. Secondly, the shift to RTL allowed staff to finetune the remote assessment of WIL via the submission of online recordings of students' teaching. While not replacing WIL assessments in school settings by academic staff, this shift has created the opportunity for variance in the mode of conducting and assessing WIL, and it is likely to include applications that leverage other technological platforms such as virtual and augmented reality in the future. Thirdly, students were exposed to more rigorous assessment practices as formative and summative assessments increasingly required students to demonstrate the *application* of knowledge and not just reproduce specific information. Finally, the shift to RTL resulted in the modelling for students of how to adapt to shifting and uncertain teaching and learning environments. Given how the uncertainty created by pandemics and societal disruptions impact on education, the authors are of the view that these implications are significant for the development of adaptive expertise and competencies that are necessary for teachers to work in an ever-changing world.

In conclusion, the authors feel that while RTL should not be conflated with carefully planned and adequately resourced OTL, the experience of RTL as catalysed by the COVID-19 pandemic has given teacher educators an opportunity to learn important lessons that can improve modes of teaching and learning that make extensive use of ICTs, like OTL and blended learning, in the long term. If the lessons of the experience of RTL are not reflected upon, there is a danger

that creating the conditions most conducive for students' learning may be diluted or lost. Thus, it is important, as teacher education is slowly reimagined, redesigned and repurposed for a postpandemic world, that the experiences and perceptions of the TEs who were on the frontlines of the change to RTL be considered carefully.

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