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"It's about Improving My Practice": The Learner Experience of Real-Time Coaching

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Abstract: This article reports on pre-service teachers' experience of the Real-Time Coaching model, an innovative technology-based approach to teacher training. The Real-Time Coaching model uses multiple feedback cycles via wireless technology to develop within pre-service teachers the specific skills and mindset toward continual improvement. Results of this qualitative study suggest that pre-service teachers experienced an improved pedagogic practice, found the Real-Time Coaching process supportive and stress relieving, and valued its focus on practice, the explicitness of the teaching and the ability to implement feedback immediately.

Introduction

As it has been documented that what teachers do in classrooms has a significant proportion of variance in student achievement (Hattie, 2009; Reynolds, Muijs, & Treharne, 2003), teacher quality has become a key focus of policy makers and training institutions tasked with improving student performance, both in Australia and overseas (Dinham, 2013). A recent report by the influential Teacher Education Ministerial Advisory Group (*Action Now: Classroom Ready Teachers*, 2014) emphasised the need to raise the quality of teacher education, in particular calling for evidence-based approaches. Teacher training institutions are under pressure to demonstrate the effectiveness of their graduates ("AITSL Statement of Intent," 2014). Enhancing teacher quality is also of particular importance currently as pre-service teachers (PSTs) graduate into a culture of performativity (Ball, 2003). Under the prevailing neo-liberal policies, which mandate the national testing of student achievement and the public declaration of results (Lingard, Martino, & Rezai-Rashti, 2013), teachers are idealised as "skilled technicians" (Codd, 2005, p.202), with defined competencies that produce readily measured outcomes (Sleeter, 2008; White, 2010). Whether institutions are aligned philosophically with the current neoliberal climate, teacher training institutions arguably have a responsibility to provide PSTs with learning opportunities that are proven to develop both effective practice and the dispositions that encourage reflection, resilience and orientations to ongoing learning, required for long term professional success (Beltman, Mansfield, & Price, 2011; Farr, 2010; Hattie, 2009). Teachers who see themselves as efficacious are more likely to be committed to teaching (Coladarci, 1992), respond positively to change (Guskey, 1988; Joyce & Showers, 1982), and are less likely to be stressed or burnt out (Evers, Brouwers, & Tomic, 2002; Neubert & Mcallister, 1993).

This paper reports on PSTs' experience of Real-Time Coaching (RTC) undertaken as part of a teacher training course. The RTC model, illustrated at Figure 1, at once brings together and moves beyond the traditional reciprocal coaching and expert coaching models most often used in education (Ackland, 1991; Hawk & Hill, 2003; Lu, 2010; Schwarzer & Hallum, 2008). Informed by research on high-quality professional development programs (Corcoran, McVay, & Riordan, 2003), our model is expert and directive, in that a skilled coach models effective curriculum-based practice and provides direct instruction and feedback, and reflective, as it aims to promote self-assessment towards continuous improvement. We view coaching, generally, as a non-evaluative process in which two or more educators collaborate using planning, observation and feedback to develop productive

teaching behaviours and dispositions (Neubert & Stover, 1994; Showers & Joyce, 1996). Feedback, instead of being provided after a teaching session, as is customary in most coaching models in education (Lu, 2010), is in RTC delivered during the teaching session, and by a coach who is an expert educator skilled in giving immediate feedback. Feedback is particularly effective when provided immediately, during task acquisition, rather than deferred (Hattie & Timperley, 2007; Scheeler, Ruhl, & McAfee, 2004).
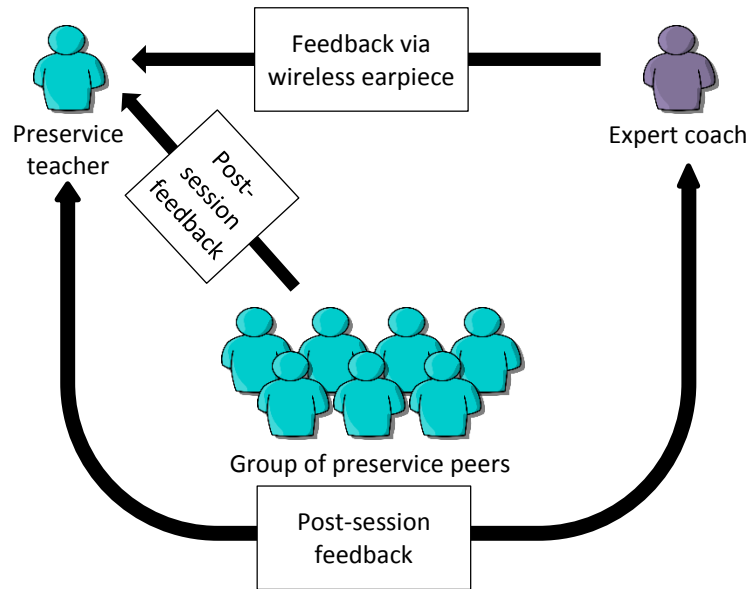

Figure 1: RTC model

RTC foregrounds critical and supportive peer feedback (Gray & Meyer, 1997; Hobson & Malderez, 2013) in the process of instructional skills acquisition (Hasbrouck, 1997; Mallette, Maheady, & Harper, 1999). The immediacy and specificity of feedback provides for a more sophisticated, learner-centred approach, constituting a significant step forward in the field. Iterative cycles of preparation, action, feedback, and reflection support the accelerated development of classroom teaching skills. PSTs participate in tasks that are "initially outside their …realm of reliable performance, yet can be mastered within hours of practice" (Taylor, Backlund, & Niklasson, 2012).

The multiple, intensive feedback cycles in RTC require PSTs to actively reflect and adapt their pedagogy quickly, thereby engaging with their mindsets, identity and teaching practices (Scheeler, McAfee, Ruhl, & Lee, 2006) in order to improve efficacy. Mindset, the set of beliefs a person holds about the nature of human attributes, (Dweck, 2006, 2014) has been shown to impact upon the willingness to take risks and resilience. A growth mindset, that is a view that intelligence is malleable and incremental (Dweck, 2006), can positively influence motivation to seek out challenging learning opportunities (Blackwell, Trzesniewski, & Dweck, 2007; Mangels, Butterfield, Lamb, Good, & Dweck, 2006). Teacher identity is conceptualised as a dialogic process, whereby it is continually formed and reformed in professional and social contexts (Akkerman & Meijer, 2011; Morrison, 2012). Teacher identity is discontinuous and fluid, changing over time and according to context. Furthermore, teachers inhabit multiple identities, including non-professional identities, that continually negotiate towards unity; as educators, we are a "dynamic multiplicity of different I-positions" (Salgado & Hermans, 2005, p.9).

RTC aims to improve specific negotiated skills[1] through micro-teaching, a technique developed first at Stanford University in the 1960s (Allen, 1967), that breaks down the complex task of teaching into simpler, more easily learned skills. Examples of such skills are tone of voice, positive narration, and movement around the room, all skills determined to be key to effective teaching (Morgan, Menlove, Salzberg, & Hudson, 1994). The responsibility of the coach is to highlight, model and cultivate such skills; we see each of these as equally weighted in the coaching process and embodied through the activity of RTC. The skills practiced were drawn from 'engagement-focused' pedagogical techniques widely used in schools; depictions of these skills were drawn from Teacher's TV Youtube Clips and Lemov's *Teach Like a Champion* (2010).

RTC sits within a broader practice of coaching in education, which began back in the late 1960s with Goldhammer's (1969) work on clinical supervision of teachers. Influential work on peer coaching by Joyce and Showers (1980, 1982) in the early eighties broadened coaching's appeal but it has yet to find widespread application in pre-service education, despite research consistently showing that it can contribute significantly to the professional development of preservice teachers (Bendetti & Reed, 1998; Lu, 2010), for example by teaching skills (Goker, 2006; Neubert & Stover, 1994), increasing effective teaching behaviours (Britton & Anderson, 2010; Morgan et al., 1994) (Rauch & Whittaker, 1999), improving confidence (Hasbrouck, 1997), encouraging reflective practice (Neubert & Mcallister, 1993), and reducing feelings of isolation (Neubert & Stover, 1994). The RTC approach, in particular, has been shown to develop in teachers the skills and dispositions needed for effective practice (Scheeler et al., 2004).

Although the efficacy of RTC in teacher professional development has been established, very little research has been done to determine its capacity to develop instructional skills and mindset in PSTs. This study aimed to work towards a comprehensive understanding of RTC as a curriculum option in teacher training courses. To this end, it was necessary to investigate PSTs' experience of RTC and RTC's influence on their professional development, specifically their teaching practice and mindset. The two research questions developed that relate to the findings discussed in this paper were:

1. How can the use of RTC improve the delivery of curriculum for PSTs? How do experiences with RTC influence mindset issues in teacher-training?
2. What are the impacts of the RTC feedback and immediate implementation on the skills base of trainee teachers?

Methods
Participants

The PSTs in this research project were eleven PSTs in the final stage of their graduate teacher education course at a university in a city in southern Australia. All were post-graduates, having studied a prior degree course before entering education. The group comprised of three men and eight women. They had spent the best part of two years studying together so were close knit, which created a safe and supportive learning environment. The research was conducted in workshops that were part of an English teacher education course in which all were enrolled.

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[1] The class as a whole decided on the skills that would be focused upon, and then in addition the mentor set individual goals.

PST	Week 1	Week 2	Week 3	Week 4	In-school
Aaron	Strong voice/ Movement*	Strong voice/ Movement	Movement	Movement	N/A
Ben	Pacing**/ Positive framing	Pacing/ Positive framing	Pacing/ Movement	Movement	N/A

The RTC learning design Table 1: PST participation

The learning design of the RTC model at the centre of this study saw the coach implement a series of 2-3 iterative cycles of RTC activity. Each cycle consisted of three phases.

In the first phase, the PSTs prepared a mini-lesson of approximately 5-10 minutes to deliver to their peers, requiring them to focus on not only discipline specific learning outcomes but also their own practice and development of specific teaching skill(s), or micro-skill(s). Examples of focus skills were positive framing, confidence building skills, such as issuing clear instructions and strong voice, pacing techniques, for example brightening lines, and movement skills (Lemov, 2010). The PSTs defined a set of 'SMART goals' for their mini-lesson, where the acronym 'SMART' denotes goals that are *specific*, that is, without ambiguity so that success can be more clearly determined; *measurable*, in the sense that the relative achievement (e.g., full, partial, not achieved) can be determined; *aligned* with the broader intentions of the lesson or program; *realistic* in terms of being able to be achieved within the given time with the available resources; and *timely* insofar as they fit with a developmental progression, building on past achievements and setting up future work (O'Neill, 2000). Thus, each preparation-action-feedback-reflection cycle had a particular focus in terms of the trainees' skill development, as shown in Table 1, and that focus was largely determined by each trainee.

	Pacing**/ Positive framing	Pacing/ Positive framing	Pacing/Movement		
Clara	Pacing**/ Positive framing	Pacing/ Positive framing	Pacing/ Movement	Movement	N/A
Jake	Strong voice/ Positive framing	Strong voice/ Positive framing	Pacing/ Positive framing	Pacing	N/A
Lucy	Strong voice	Strong voice	Strong voice/ Pacing	Pacing	Pacing
Samantha	Strong voice/ Positive framing	Strong voice/ Positive framing	Strong voice	Strong voice/ Movement	Strong voice/ Movement
Sharon	Strong voice/ Positive framing	Strong voice/ Positive framing	Positive framing/ Confidence	Positive framing/ Movement	Movement
Sylvia	Strong voice/ Positive framing	Pacing/Positive framing	Pacing/Positive framing	Pacing	Pacing
Velma	Strong voice/ Positive framing	Strong voice/ Positive framing	Positive framing/ Movement	Movement	N/A
Yasmin	Confidence***	Confidence	Strong voice/ Movement	Strong voice/ Movement	N/A
	Strong voice/ Pacing/ Confidence	Strong voice/ Pacing/ Confidence	Pacing/ Movement	Pacing/ Confidence	Strong voice/ Pacing/ Confidence

In the second phase of the cycle, each PST was fitted a wireless earpiece set, shown in Figure 2, and taught their prepared mini-lesson to their peers, practicing their specific skill(s). The PST received feedback from the coach in real time via the earpiece, who was seated at the back of the classroom, and was expected to implement the feedback immediately, adjusting their behaviour to meet their SMART goals. The coach, a teacher educator in an English teacher education course, experienced observer, and skilled in RTC coaching, ensured that disruption was kept to a minimum by speaking very quietly into a headset, and also made notes on the PSTs' performance during the process.

Figure 2: Wireless handsets

The third phase of the cycle involved layered feedback and reflection. The intention of this phase was to stimulate reflection on action in which the PSTs reflected on their performance and made notes about potential improvements in future. To promote reflection on practice, a debriefing session immediately followed the lesson. Formative feedback was provided in three forms. First, the teacher educator asked the trainee to reflect on their experience and performance. Through this phase, it become apparent that reflective self-evaluation was an important part of fostering a reflective disposition amongst the trainees. After the self-evaluation, peer feedback was provided by the other members of the class, all peer pre-service teachers who had participated in the practice lesson serving as model students. Finally, the teacher educator, as coach, provided both verbal feedback and, within a few days, comprehensive written feedback. These three forms of feedback aligned to create a layered feedback cycle in which the mentor teacher and PSTs were engaging in consistent and ongoing reflection upon key skills.

Following on, five PSTs from the group volunteered to participate in a RTC session in the practicum component of their teacher education course, which took them into different high schools around the city. To allow the PSTs to settle in and familiarise themselves with their students and context, these RTC sessions took place towards the end of the practicum.

The Study

This study employed a design-based research approach. Such approaches seek to examine engineered forms of learning employed in naturalistic contexts, with the aims of informing theory and improving practice (Barab & Squire, 2004; Brown, 1992; Collins, Joseph, & Bielaczyc, 2009). Two rounds of semi structured interviews were conducted with PSTs following their RTC sessions on campus. Ten PSTs participated in the first round, nine

in the second. Interviews, which were around an hour in length, took place at a time and place of the PSTs' choosing, and were videotaped. The questions for the first interview were informed by the teacher effectiveness literature (Darling-Hammond, 2000; Farr, 2010; Stronge, Ward, & Grant, 2011), and literature on mindset (Dweck, 2006, 2014), coaching models (Aguilar, 2013), and reflective practice and resilience as it is widely recognized that early career teachers who see themselves as learners and are reflexive practitioners are more resilient and develop stronger professional identities (Johnson et al., 2014). An initial interview was conducted with all PSTs before the RTC sessions had begun. A second round of interviews took place after every PST had participated in at least one RTC session. Interview responses in the first round were used to tailor questions for the second round. All PSTs, except one, were interviewed a second time.

At the final workshop of the English teacher education course, a focus group was conducted. Informal and casual, the focus group was attended by all but two PSTs, and took approximately two hours. Questions for this session were informed by the responses from the first two rounds of interviews. Proceedings were recorded, using both video and audio. Table 2 below details PSTs' degree of participation in the study.

PST	Aaron	Ben	Clara	Jake	Lucy	Samantha	Sharon	Sylvia	Velma	Yasmin
Interview 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Interview 2	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
Focus group	✓	✗	✓	✗	✓	✓	✓	✓	✗	✓
Interview 3	✗	✗	✗	✓	✓	✓	✓	✗	✗	✓

Table 2: PST participation

To record the experiences of the five PSTs participating in RTC in schools, semi-structured interviews – Interview 3 – were held with each as soon as practicable following their session. Again, these interviews were held at a time and place convenient to the PST. The audio of each interview was recorded.

At the conclusion of all interviews and focus group, all sessions were transcribed. The transcripts were coded, with coding choices informed initially by the interview questions. An inductive process was then used to identify common threads that extend throughout the set of data. The act of finding meaning involved a variety of techniques, including noting patterns, splitting and combining themes, noting relations, and building a logical chain of evidence (Keeves & Sowden, 1997). Three of the resulting key themes, detailed in Table 2, are discussed in this paper. These themes address the second part of research question one, "How do experiences with RTC influence mindset issues in teacher-training?", and research question 2, "What are the impacts of the RTC feedback and immediate implementation on the skills base of trainee teachers?"

Results and Discussion

The results, to follow here, correspond to three of the key themes that emerged during analysis: PSTs experience of professional development with RTC, PSTs' affective experience of RTC, and PSTs' views of RTC. These key themes were selected for discussion in this paper because they relate to PSTs' experience of RTC. Here they are explored through their subthemes, detailed in Table 2.

Key themes	Sub themes
PSTs experience of professional development with RTC	1. Improved pedagogic practice 2. Encouraged goal development 3. Encouraged a reflective practice
PSTs' affective experience of RTC	1. Experienced as supportive 2. Relieved stress
PSTs' views of RTC	1. Valued the focus on practice 2. Valued the explicitness of the teaching 3. Valued being able to implement feedback immediately

Table 2: Key themes and subthemes

PSTs experience of professional development with RTC

All PSTs experienced improvements in their professional practice over the course of RTC, towards developing a growth mindset (Dweck, 2014). Improved pedagogic practice resulted from the intense focus on skill development, and because RTC made PSTs aware of skill gaps and barriers, it facilitated goal development. While the PSTs experienced developments in mindset over their course generally, RTC allowed mindsets to shift as they came to see their practice as a set of skills to be mastered. The multiple cycles of feedback encouraged the reflective practice that is an essential for a robust teacher identity (Johnson et al., 2014) and continuous improvement in practice (Burbank & Kauchak, 2003).

Improved Pedagogic Practice

PSTs reported experiencing significant improvements in their pedagogic practice. Through the RTC model, all PSTs were able to identify a skill gap or barrier, either through direct coaching, feedback from the class or the observation of PSTs undergoing RTC. Respondents reported particular benefit from the fact that the coach picked up on aspects of their practice that they themselves had not noticed or were not aware were impediments to good practice. Ben and Samantha, for example, had not thought of the potential benefits with respect to them managing the classroom learning environment by continuing to scan the room when speaking with individual students; Samantha said this simply had "never occurred to me" (Samantha, interview 2). Lucy, also, had not been aware that her delivery was largely monotonal, making it difficult for students to differentiate between her instructions, commands and feedback. The RTC drew attention to the "simple things that you overlook" (Aaron, interview 2) or, more specifically, the "things that an experienced teacher looks for" (Ben, interview 2). In the following excerpt, Lucy describes her inner monologue during a RTC scenario where the coach, Greg, urged her to wait until all attention was on her before beginning her instructions:

> "*So I mean that was good because, you know, he was like wait for a hundred percent, not everybody's paying attention and it was just good because it was little things I wasn't picking up on. So it was really good.*" (Lucy, interview 2)

It should be noted that feedback was provided in a variety of forms. The coach recognized the act of 'telling' was not always conducive to fostering the right environment. Therefore, when the coach delivered feedback he asked strategic questions to get the PSTs to think critically about the delivery of pedagogy, in the hopes of leading to moments of epiphany which helped the PSTs identify and understand their learning.

In the school classroom, when the PSTs were on practicum, RTC helped the PSTs refocus on the specific skills they needed to effect improvements specific to student engagement and learning. For Sharon it was helpful with restarting tasks and identifying students who were off-task; for Jake it was drawing his attention to the structure of his lesson.

This approach drew upon the benefits of adaptability in coaching, being able to tailor approaches to the needs of the individual PSTs (Hawk & Hill, 2003). Through the RTC process, PSTs could see their practice improving:

> By the end of it I was really benefitting from it, by the end of that first one. And then I moved on to the second week and that one I think I sort of kicked a lot better. I was well prepared for the lesson and I managed to just – just everything clicked and I knew exactly what I was doing. (Ben, interview 2)

Encouraged Personal Goal Development

Through the process of drawing attention to skill gaps, PSTs found that RTC encouraged explicit goal development. Through the process of RTC, all PSTs developed personal goals they were able to articulate clearly. For example, RTC enabled Aaron to identify his tendency to notice negative student behaviour and determine to do things differently by setting goals with respect to key skills, like positive narration[2] (Lemov, 2010). He also became aware that he found it difficult to close lessons and as a consequence planned strategies to help him conclude his lessons effectively when on practicum. Ben's thinking around classroom management shifted significantly, as he became aware that he had been using classroom discipline "in the wrong sense" (Ben, interview 2). Through RTC, he developed the goal of building a positive classroom environment using techniques like 'with-it-ness', which he thought of as "the Eye of Sauron" (Ben, interview 2), combined with the skill of positive narration.

Within the RTC process, the PSTs' goals extended beyond the improvement of specific skills to more substantial long-term goals involving personal beliefs, values, dispositions and subjective responses, which shape professional identity (Morrison, 2012). Jake is notable in this respect. Skill-wise Jake determined that he needed to improve his planning, to maximise purpose and engagement, but he also developed the broader goal of incorporating a more organised identity into his professional identity:

> Yeah, and also just like adopting a teacher identity that is authentic, like that's still me, but incorporates this idea of like highly organised – that's something that in the past I might not have defined myself as…but that's my goal for this teaching, is to give the impression – that fake until you make it…I want to appear highly organised, that's my goal. (Jake, interview 2)

Similarly, while Lucy came to understand that her tone presented problems with respect to student understanding, and formed a goal to improve it, she also decided that to be the effective teacher she wanted to be, she needed to work on the more substantial task of increasing her assertiveness. Conversely, Velma came to understand that her questioning style may be perceived as intimidating, and resolved "to be gentle" (Velma, interview 2) to encourage engagement. These efforts to address potential disconnections between their professional identities and their ideal personal identities are consistent with Gibbs' (2006) notion that effective teachers have no tension between their personal and professional identities.

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[2] Positive narration, based on Lemov's (2010) positive framing and precise praise, is the technique of narrating the outcome you want students to see, correcting students consistently and positively, and using positive reinforcement (Lemov, 2010).

Encouraged a Reflective Practice

PSTs reported that RTC was effective in encouraging reflexivity, which is considered to be an essential attribute of contemporary teaching practice (Burbank & Kauchak, 2003). More robust teacher identities develop when teachers are encouraged to reflect on their practice in ways that challenge their beliefs and values and enable them to accommodate new ideas and thinking (Johnson et al., 2014). Engaging with others in professional conversations that include talking with, questioning and, sometimes, confrontation, in a supportive environment fosters reflective practice (Hatton & Smith, 1995). RTC's skill-based model, which is concerned with developing teacher's mindsets around effective teaching practice, worked to develop within PSTs a critical eye, which they cast over their own practice and that of their fellow students, as well as the teachers encountered during their practicums, identifying skills and skill gaps within their practice:

> I'd watched her teach before and I'd watched her do the narky thing with her students, and I didn't really understand it, and now I completely understand what that's about. So that's narky or grumpy teacher, all those sort of things, I've realised that she's not grumpy and she's not narky, that's just a tone that she uses when certain things aren't being done the way she wants them to do. So that's given me a good insight into that. (Jake, interview 3)

Psts' Affective Experience of RTC

For the PSTs under study, RTC was a positive affective experience. In particular PSTs reported RTC to be supportive of their professional and affective development, resulting in reduced stress.

Experienced as Supportive

The PSTs, though they often cited stress and anxiety, universally experienced RTC as a supportive process. Coaching and mentoring strategies come with certain cautions. To be effective, coaching and mentoring must be done within a safe and professional environment (Hargreaves & Fullan, 2000) where the needs to the learner are central and with feedback that is both layered and precise. Early career teachers, in particular, require emotional support (Tickle, 1991). In the RTC process, emotional support was heavily accounted for from the onset and founded on mutual respect between the coach and the PST. The university classroom was an enthusiastic environment with a lot of movement around the room, positivity and frequent 'checking in' to make sure PSTs felt safe and secure. Rather than feeling judged by the process, PSTs felt supported in their role as learners in both the university- and school-based sessions, enabling them to fully engage with the RTC process. Sylvia said, "So if you kind of get stuck on what you're saying or whatever, it wasn't like you felt embarrassed because it was a supportive environment" (Sylvia, interview 2).

Existing within a culture of positivity, RTC was viewed as "another set of eyes" (Aaron, interview 2), "backup" (Yasmin, interview 3), and "almost like you're team teaching" (Samantha, interview 2) or "team teaching with aid of ICT" (Jake, interview 2). For Ben, the direction provided in his ear "snapped me back on track" (interview 2). The experience of support was attributed, in part, by Samantha and Clara in this exchange, to the solution focused approach of RTC:

> *Samantha: "He's not presenting obstacles he's just helping you overcome them."*
> *Clara: "He's providing solutions, rather than presenting problems."*
> *(Samantha and Clara, interview 2)*

Also, RTC was experienced as supportive because it enabled PSTs to position themselves firmly as learners with skills to be acquired. The wording of 'tools in your toolbox' was consistently referenced in every lesson where the coach urged PSTs to develop through own professional identity by trialling and experimenting with different teaching styles to find a 'best fit'. With this positioning, mistakes become not only acceptable, but seen as an inevitable and necessary part of learning, keeping open a space for reflective practice, and thus improvement, as the PSTs move out into classrooms:

> *I just felt like it wasn't like a make or break moment, like in my mind I'm still a student teacher, so I guess if you were a teacher who was practicing and you knew that if you didn't do well in the real time coaching, then you would be fired, or your teaching wasn't up to scratch that would put a whole lot more pressure on you, but I just knew that I'm not perfect and that any feedback I could get would be great, so you know, it's stressful to have people judging you, but it's the only way. (Jake, interview 3)*

RTC puts the teacher-as-learner mindset front and centre, "basically say[ing], no, you're still a learner and you're going to be for quite a while" (Ben, interview 2). Research shows that the early career teachers who view themselves as learners are more resilient (Johnson et al., 2014). The supportive environment in which RTC took place was viewed as "the best place to make our mistakes, the best place to learn how we can develop strategies" (Velma, interview 2). Rather than feeling criticized or overwhelmed, PSTs experienced the act of drawing attention to skill gaps as supportive, because solutions were provided immediately, enabling rapid development:

> *He doesn't draw your attention to something unless he can help you with it, so he's not throwing you in the deep end...it is about helping you notice and problem solve at the same time, rather than just noticing all the things that you can't fix. (Clara, interview 2)*

RTC Relieved Stress

While stress is part of the teacher training experience (Gardner, 2010), PSTs reported that RTC relieved or eliminated much of the stress that arises from putting oneself up for peer judgment (Kyriacou & Stephens, 1999).

Unsurprisingly, the PSTs in this research project initially felt apprehensive about the very public teaching practice that is central to the RTC method – professional witnesses to teaching practice, specifically the potential for criticism they bring, can make teachers feel uncomfortable (Tam, 2014). At all phases of the study, most PSTs felt some anxiety about engaging with the RTC process. One PST, Ben, likened the process to being followed by a police car:

> *Even though you don't think you're doing anything wrong, you're thinking to yourself what if I'm doing something wrong that I'm not aware I'm doing wrong. And you're always like what if I've got a bald tyre I didn't look at or what if one of my brake lights is out? (Ben, interview 2)*

Samantha worried about not being capable of meeting the coach's demands; Sylvia felt anxious about how she might deal with what she imagined to be the duelling voices of the

coach and student, talking over one another, and losing her train of thought; Velma was not comfortable with the idea of being on show.

For all participants, however, the affective experience of RTC, both in the university-based and school-based sessions, was different from that anticipated. Lucy, for example, noted that the anticipation was worse than the reality:

> *I think when you think about it, it seems like it's going to be a lot more*
> *challenging than it actually is. When you're doing it you realise it's not –*
> *once you've got the hang of it, like its fine. (Lucy, interview 3)*

A few PSTs were particularly anxious, such as Velma, and both appreciated and were calmed by reassuring words from the coach:

> *The first one I found really difficult and a little bit scary but this time*
> *what's good is that, what was really good last time was [the coach] was*
> *saying "Calm down, don't worry, just breath in." It was really good and*
> *then I was just trying to do that this time. (Velma, interview 2)*

The anticipation of RTC sessions on site in schools produced high anxiety in PSTs, but because they had significant exposure to the process at university, the PSTs had developed strategies to deal with this anticipated stress. Positive self-talk, the process of consciously dialoguing with the self in a supportive and productive way, was the strategy most often used. The coach understood Velma's needs and responded accordingly using positive self-talk, which has been shown to influence teacher behaviour (Hall & Smotrova, 2012; Payne & Manning, 1991), a technique she then adopted. When undergoing RTC during her practicum, Sharon also used positive self-talk to remind herself that she had the capacity to get through the session and that tomorrow would come. Yasmin also used self-talk constructively to alleviate stress, saying "I think I did have a moment of going 'you know this – you know this needed to happen and you're handling it okay'" (Yasmin, interview 3).

Psts' Views of RTC

All PSTs viewed RTC as a very valuable process. The aspects of RTC they found particularly useful were its focus on practice, the explicitness of the teaching and the capacity to implement feedback to make changes to their practice. Making teaching practice visible, along with tailored feedback delivered immediately, enabled PSTs to progress rapidly.

Valued the Focus on Practice

PSTs valued highly the spotlight on practice which was, for most, a stark contrast to the theory-oriented courses they viewed as dominating their teacher training courses:

> *I think the practicality of it as well it's practical feedback we can use and*
> *with the essay feedback it's feedback on how to write a better essay, I don't*
> *give a shit about that so I'm not going to be writing essays for a career I'm*
> *going to be teaching so that's what I need feedback on is how well I'm*
> *doing with that not how well I can write an essay. I'm in English I know*
> *how to write an essay. (Jake, focus group)*

In their synthesis of research on teacher development, Showers, Joyce and Bennett (1987) found that repeated practice in the weeks after being introduced to a new skill is necessary to actually learn that skill. The design of the research project provided the PSTs with several opportunities to practice each new skill. Incorporating the multiple sources of feedback, practice improved more rapidly as a result:

> *There were a few little things that you worked on during the five-minute presentation, so the next one you've had that feedback and you, in real-time have practiced that feedback, so now you can incorporate it without giving it a lot more consideration. So, normally you'd be like freaking out about, oh and I did this wrong, and I did this wrong, so I've got to do that better next time; you've already done it better, so it becomes second nature, I think more quickly, and so, your practice improves much more rapidly. (Clara, interview 2)*

PSTs found the advice they received from the mentor in real-time both practical and useful. The RTC model was viewed as solution focussed and effective with respect to improving the PSTs' capacity to master certain skills that would foster student engagement and learning.

Valued the Explicitness of the Teaching

PSTs also valued the opportunity to "see the teaching" (Jake, interview 2) and different teaching styles; that is to observe in the practice of their fellow PSTs and the mentor, which worked to make the specific techniques (e.g. tone of voice, positive narration, body movement) being made explicit:

> *Being coached specifically and watching other people perform is really useful as well, because you think oh yeah, that's worked, or they could have done that then, and it – you get to see the teaching and bring in those ideas. (Jake, interview 2)*

As advocates of coaching have observed (Brandt, 1987), much of the learning in coaching comes from watching others. Delivered in small chunks, in the shape of single specific techniques, good teaching practice became viewed by the PSTs as an achievable conglomeration of strategies and techniques, a set of skills that could be practiced:

> *The way that teaching has been presented to us, so far it's like this whole big thing, rather than it being broken down into, you know, it's this strategy or its moving close to the student that's going to make a difference, and I really haven't looked at in that way before." (Clara, interview 2)*

PSTs saw in the practice of other PSTs elements of their own practice, and its effect, which helped develop a critical eye. Sylvia, who struggled with tone, benefitted from observing the changes coaching brought about in the practice of Lucy, a fellow student with the same skill gap.

Valued Being Able to Implement Feedback Immediately

The immediacy of feedback was another reason why PSTs valued the RTC process. PSTs were able to act immediately on the feedback given in real time and observe the resulting change in student behaviour and learning. Teachers are more likely to continue to try new techniques and strategies when they see students' progress (Guskey, 2002). When PSTs experienced improvements in student learning and behaviour, the efficacy of the techniques being taught were accepted more readily. As Lucy said, "Doing it in my ear and doing it – taking on-board that feedback straight away, it let me improve upon it straight away and therefore I could see the results straight away" (Lucy, interview 3).

Deferred feedback is the norm in teacher training courses as it less intrusive, allowing the flow of the lesson to proceed uninterrupted (Scheeler et al., 2006). All of the PSTs very

much valued the opportunity to put into effect immediately recommended changes to their practice. As Lucy said, "I think getting those instructions and being able to do them straight away, that was really, really good" (Lucy, interview 2). Clara made explicit the connection between the immediacy of feedback and improvements she observed in her practice:

> *If you get that feedback you implement it, and they acknowledge that you've done it the way they wanted, you know that skill, you know what is expected of you to build on and how to move forward with it, and how to implement it later, as well." (Clara, interview 2)*

Conclusion

To adequately prepare teachers for success in an increasingly accountable and performative environment in the education sector, teacher training programs must provide PSTs with research-driven approaches that are under review and subject to scrutiny. PSTs themselves can contribute significantly to our understanding of the experience and effectiveness of teaching training methods, as evidenced here in this report of our study of RTC. This work with PSTs supports the position that RTC accelerates the development of transferable teaching skills (Kehrwald, Stahl & Sharplin 2015) and develops within PSTs a growth mindset (Dweck, 2014), orienting PSTs toward continuous improvement and promoting resilience.

While this study supports the view that RTC can improve the delivery of curriculum within teacher training programs, caution needs to be exercised in the use of RTC to ensure that teacher preparation is not reduced to learning a suite of skills, with the teacher's role one limited to one of technician (Sleeter, 2008; Zeichner, 2012). Critics of the neoliberal policies currently holding sway in education have counselled against the move towards content-based curricula focused on improving instructional practice, at times singling out programs such as Teach for America for particular criticism (Frankham & Hiett, 2011; Zeichner, 2010). We argue that the way forward is not an either/or proposition – methods to improve instructional practice can coexist alongside and within theoretical approaches (Hiebert & Morris, 2012). We, therefore, argue that there is potential for expanded role for RTC in teacher training programs, prefaced by additional research, preferably of broader scale, into technological innovation of this type.

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