

2021

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Recommended Citation

MA, K., Cavanagh, M. S., & McMaugh, A. (2021). Preservice Teachers' Reflections on Their Teaching Self-Efficacy Changes for the First Professional Experience Placement. *Australian Journal of Teacher Education*, 46(10).

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Preservice Teachers' Reflections on their Teaching Self-Efficacy Changes for the First Professional Experience Placement

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Abstract: Professional experience plays a vital role in the formation of teaching self-efficacy (TSE), a construct which has attracted much attention from teacher education researchers. This study investigates how 18 preservice teachers (PTs) reported changes in their TSE for their first professional placement. Data were collected via face-to-face interviews with each PT and analysed in NVivo. Results show the majority of interviewees reported an increase in their TSE after completing the placement. Also, three patterns of individual TSE change were identified: beginning with a low level of TSE before quickly rising to a higher level at the end of the practice, experiencing growth from a medium starting level, and either decrease or increase from an initial high level of TSE. Variations of TSE in subdomains including classroom management, student engagement, instruction, and flexibility were also found. Teacher educators could facilitate PTs' TSE development by providing extra assistance at the beginning of their placements, especially with their classroom management skills.

Introduction

Teaching self-efficacy (TSE) refers to teachers' personal beliefs about their ability to carry out specific teaching tasks. It has been positively correlated with teachers' job satisfaction, professional commitment, and persistence in the face of adversities in teaching (Zee et al., 2018). TSE could also influence students' academic performance, either directly (Miller et al., 2017) or via influencing teachers' behaviours (Lazarides et al., 2018); for example, highly self-efficacious teachers tend to teach complex content to students more frequently (Zee et al., 2018).

Cultivating robust TSE has been considered an important part of teacher education (Klassen & Durksen, 2014). The professional experience placement is the first authentic opportunity for preservice teachers (PTs) to teach in school contexts and has been claimed as the most vulnerable period for TSE (Hasselquist et al., 2017). Professional experience placements are, therefore, important contexts in which to investigate changes of PTs' TSE.

The present study investigates changes in the TSE of a group of 18 PTs for their first professional experience placement. The study is qualitative and uses retrospective one-on-one interviews, in contrast to the predominantly used pre- and post- measurements design of previous studies of TSE (Klassen & Durksen, 2014; Pfitzner-Eden, 2016). Such a qualitative study is "vital ... [for] charting how TSE beliefs change over time" (Wyatt, 2015, p. 140) and providing a "more comprehensive understanding of the nature" of TSE (Siwatu et al.,

2016, p. 281). Also, solely relying on quantitative measurements to test TSE can be problematic in two aspects as this may fail to cover all potential domains of TSE (Glackin & Hohenstein, 2018) and changes happening within the measurements, which could be captured by applying the interview method as suggested by Wond and Macaulay (2011). The latter might be neglected in a pre- and post- design, while applying repeated surveys within a short period could also overburden participants and increase the likelihood of measurement errors.

Theoretical Framework

Self-efficacy indicates personal beliefs in individual capabilities to carry out certain actions to achieve the given goals (Bandura, 1997). It could impact individual behaviour. If people can anticipate a successful course of action, they are more inclined to pursue challenging goals, while less self-efficacious individuals have a tendency to avoid the prospect of challenge and threats (Locke & Latham, 2006). Levels of self-efficacy play an essential role in individuals' daily perceptions about stress and depression (Bandura, 1995). For instance, less efficacious people generally tend to feel depressed due to their belief in conquering difficulties.

According to Bandura (1995), human beings evaluate their ability based on information which Bandura referred to as the four sources of self-efficacy. These are mastery experience, psychological or affective state, verbal persuasion and vicarious experience. Mastery experience relates to prior experience of success as this provides the most reliable

information about one's ability to perform a task, resulting in the most resilient self-efficacy. Individuals may also vicariously observe the causal relationship between behaviours and results of other people and make judgements of their own capability to complete similar tasks. Verbal evaluation from credible people may also affect a person's personal capability judgement. Human beings might also evaluate their abilities differently within varying psychological or affective states. For instance, negative emotions tend to elicit prohibiting effects on an individual's motivation to carry out the corresponding tasks. These four types of information interactively affect the evaluation of self-efficacy so that different combinations of information at different stages could influence variations in the level of self-efficacy (Yada et al., 2019).

Self-efficacy is not a one-size-fits-all construct (Bandura, 2019) and its change is uneven. Individuals might report self-efficacy differently in various subdomains of the same task which in turn, influences their overall self-efficacy of completing the task (Perera et al., 2019). Nor is self-efficacy static and unchangeable. It is relatively more malleable and changeable in its initial developing stages (Bandura, 1995) and becomes resistant to change once established. Afterwards, change is still possible, but it requires effort (Wheatley, 2005)

Changes in Preservice Teaching Self-Efficacy

Research on the changes in preservice teachers' TSE during professional experience placement has been mainly focused on identifying changes in the mean TSE scores of the whole sample, as a unidimensional construct showing overall changes. Changes in different subdomains of TSE, including instructional strategies, student engagement and classroom management, and individual patterns among these subdomains, have been studied less frequently (e.g., Pfizner-Eden, 2016; Woolfolk Hoy & Spero, 2005).

Changes in Preservice Teacher Overall Self-Efficacy

PTs' overall TSE may diminish as they gain more exposure to classroom teaching, even during the observation stage of the placement (Yüksel, 2014). This is possibly due to their re-evaluation of their teaching ability. A drop in TSE levels could also be interpreted as a "reality shock" (Weinstein, 1988). TSE decrease has been detected as PTs take on more teaching responsibility. For example, Gurvitch and Metzler (2009) found that the overall TSE of PTs kept increasing, especially among those who gradually increased their involvement in teaching tasks without fully taking on all of the responsibilities of in-service teachers. However, after assuming more responsibilities in real classroom contexts, the PTs' TSE experienced a significant drop, before recovering.

PTs' overall TSE has been reported to have grown gradually during the placement in previous quantitative studies which have applied eight times of measurements (Klassen & Durksen, 2014) and two times of measurements (Fives et al., 2007). These increases were attributed to the accumulation of PTs' teaching experience, which was found to be the main and most important source of TSE (Yada et al., 2019). Woolfolk Hoy and Spero (2005) measured TSE at the beginning of a one-year initial teacher education program and the end of a placement. The researchers suggested that the continuous overestimation of TSE by PTs was the main reason for the growth in TSE during the placement. The researchers speculated that this was because the practice environment is less threatening than in-service teaching.

Other studies have found no change in TSE of PTs who had previous teaching experience before their placement. Knobloch (2006) tracked PTs from two institutions before and after their placement and found no significant change in TSE for either group. Two possibilities were speculated by the researcher: that the original high levels of PTs' TSE formed during their initial teacher education course were cemented and retained, and that the inflated high TSE continued to exist due to the support from their supervising teachers. The high TSE before the placement was also reported to be retained in the following placement (Martins et al., 2015). It might also be because the pre- and post-design of the study may not have taken account of any TSE changes which happened during the placement.

Changes in Preservice Teaching Self-Efficacy for Subdomains of Teaching

Besides focusing on the changes in PTs' overall TSE, researchers (e.g., Harlin et al., 2007) have also reported TSE changes in different subdomains of teaching based on the three-domain structure of the Teachers' Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001). This approach may be problematic as the three-domain model of TSE for classroom management, student engagement, and instructional strategies was confirmed only among experienced in-service teachers but not among PTs (e.g., O'Neill & Stephenson, 2012). Tschannen-Moran and Woolfolk Hoy (2001, p. 801) noted that "subscale scores may have little meaning for prospective teachers who have yet to assume real teaching responsibilities". Fives and Buehl (2009) attempted but failed to confirm the three TSES subdomains among PTs. Further, PTs' TSE changes in different dimensions of teaching have been rarely investigated (Pfitzner-Eden, 2016).

In order to address this concern, Pfitzner-Eden (2016) adapted the TSES for PSTs and confirmed a stable three-domain structure of TSE among PTs at different stages of an initial teacher education program. Increases were observed in all three subdomains of TSE

during the first placement. Among another cohort of PTs in the final placement from the same study, only TSE for classroom management increased, while the other two domains remained constant. The same instrument was applied to a cohort of 90 Australian PTs just before their first placement and researchers (Ma & Cavanagh, 2018) found TSE for classroom management was rated the lowest. In another study, consistent increases and high levels of TSE for classroom management in special education contexts were reported by the majority of a sample of PTs ($n = 13$) across different blocks of professional experience placements (Sciuchetti & Yssel, 2019).

Individual Patterns of Preservice Teacher Overall Self-Efficacy

The variation in individual patterns of preservice teacher self-efficacy has been observed albeit rarely investigated (e.g., Pfitzner-Eden, 2016; Sciuchetti & Yssel, 2019). Woolfolk Hoy and Spero (2005) plotted 29 PTs' TSE scores and found two different patterns: the majority ($n = 22$) increased their overall TSE through the first professional experience placement according to the pre- and post- measurements, but TSE for the remaining seven PTs did not increase. Charalambous, Philippou, and Kyriakides (2008) identified four patterns of change. PTs who started their placement with TSE slightly above the midpoint ($n = 25$), experienced an increase in TSE. Those PTs who started with initially low levels of TSE also reported an increasing TSE ($n = 13$), also reported an increasing TSE. Similarly, 45 participants had a relatively high TSE at the beginning and also increased their TSE to higher levels. Just two PTs retained TSE at a low level throughout the timeframe. Greater variation was observed by Thomson, Huggins, and Williams (2019) in a four-year longitudinal study with two surveys at the beginning and end of each of the last three years of an initial teacher education program. One group of PTs exhibited an upward trend in TSE while a second group exhibited a declining trend. Interviews revealed that PTs from the first group reported being highly self-efficacious before the placement, experiencing a feeling lower self-efficacy during the placement, while enjoying a recovered sense of high self-efficacy upon completing the placement. In contrast, the second group of teachers reported their self-efficacy had "levelled off" during the placement.

Summary

Previous research has mainly investigated overall TSE changes of an entire sample of PTs using pre- and post- surveys (Klassen & Durksen, 2014; Pfitzner-Eden, 2016). Also, Tschannen-Moran and Woolfolk Hoy (2001) suggested treating teacher self-efficacy as a unidimensional construct among PTs and research used their scales report PTs' teacher self-efficacy in this way. Much less information has been provided about TSE changes in various subdomains of teaching and qualitative methods have been rarely applied, apart from some open-ended questions integrated into surveys (e.g., Sciuchetti & Yssel, 2019). These designs might limit the research in several ways: by assuming homogenous patterns within an entire group of PTs though distinctively different levels of TSE have been examined (Feng et al., 2019), by neglecting changes which may happen within the professional experience placement, and by lacking any framework to capture TSE changes in subdomains of teaching. These limitations might, in turn, inhibit initial teacher education academics from applying TSE research into program design (Siwatu et

al., 2016). For instance, the identification of self-efficacy levels in specific subdomains of TSE could allow for the development of targeted skills teaching in these programs.

Study Aims

The present study aims to investigate changes in PTs' TSE during their first professional experience placement as this is an important time for these changes to occur. The placement can be a time for the four sources of TSE to have their impact, but the study is limited in scope and we chose to focus on examining the changes in PTs' TSE rather than the sources of those changes to give a fuller account of the patterns in those changes. The two research questions are: (1) How do PTs perceive their TSE for their first professional experience placement? (2) What are PTs' perceptions of changes in their self-efficacy for teaching?

Method

Participants

Participants in the present study were 18 PTs from a metropolitan university in Sydney. The entire cohorts of primary and secondary PTs about to undertake their first professional experience placement were invited to participate in a survey and 201 students (110 primary and 91 secondary) returned their survey. One of the survey questions invited participants to be interviewed about their survey responses and 18 volunteered from primary ($n = 8$; 2 male and 6 female) and secondary ($n = 10$; 3 male and 7 female) teaching. The interviews with those 18 PTs are reported in this paper.

All of the participants had completed prior mandatory units in education, inclusive education classroom management and assessment along with specific curriculum units. They had also presented a short micro-teaching lesson in tutorial classes, from which they had received feedback from their tutors and peers. They had also completed units focused on classroom management and assessment. None of the participants had completed any professional experience placements prior to the commencement of the study. In the current placements, each of the PTs was supported by their supervising teacher. The PTs were mainly involved in classroom teaching and would have accompanied their supervising teacher on playground duty and for extra-curricular activities, but it is unlikely they dealt with parents/carers or undertaken school administration work.

Data Collection and Analysis

Ethics approval to conduct the study was obtained from the Human Ethics Committee at the university and all PTs interviewed signed a consent form. Each participant was interviewed by the first author within the first week after the professional experience placement, which was completed as a 15-day block in a single school. The interviews were semi-structured, lasted around 20 minutes each, and were audio-recorded and transcribed. PTs were asked to reflect on three main interview questions: how certain they were about being able to teach effectively before, during, and after the placement; which subdomains of their teaching they thought they did well during the professional experience; and what subdomains of their teaching they thought still needed to be improved.

Qualitative data from the interviews were analysed through NVivo by applying a five-step procedure suggested by Braun and Clarke (2016): familiarising with data, generating initial codes, identifying and reviewing themes, refining the coding and theme frameworks, and reporting results. At first, all interview recordings were transcribed by a certificated company. Then, the first author read the transcripts repeatedly to familiarise himself with the data and form an overall understanding of it. The author focuses on developing an initial interpretation of each interview's transcript during this process. Secondly, initial codes were generated via a reflexive iteration or "visiting and revisiting the data and connecting them with emerging insights, progressively leading to refined focus and understandings" (Srivasta, 2009, p. 77). This process allowed the researcher to interpret the data with the research questions in mind and was only suspended when no more codes could be found. Thirdly, themes such as levels of overall TSE of individual PTs before, during and after the placement were created, followed by coding different information into each theme. For example, "basically before I started I wasn't sure how I would be" was coded into the theme named "*low overall TSE before the professional placement*". As to TSE for subdomains, "I feel I am quite good at helping people understand and learn, and make them do all the work so they achieve the end product before the professional placement" was coded in the theme of "*the level of TSE for instructional strategies before the professional placement*". Fourthly, the first author systematically examined the codes of all themes to minimise the possibility of either misplaced or replicating nodes. The established codes and corresponding themes were finally refined for reporting with regards to the two research questions.

Results

The results are reported according to the two research questions.

Preservice Teachers' Perception of Changes in Overall Self-Efficacy

All interviewees ($n = 18$) reported being more self-efficacious after completing their first professional experience placement and three main patterns in overall TSE levels were reported. These were: starting from a lower level before the placement ending up with a higher level afterwards ($n = 10$) and beginning with a moderately-high level before increasing relatively smoothly ($n = 6$). Of the two PTs who reported an initial high level, one PT's TSE improved further and the other's TSE dropped to a lower level. Within each trajectory, variations were also reported as occurring throughout the placement.

First Trajectory: From a Lower Level to a Higher Level

Ten PTs described themselves as being anxious initially and, of these, six reported that they quickly recovered their TSE after starting the placement. As one reported, "But after the first lesson, I think I can do that ... I can be a good teacher." Towards the end of the placement, three of these six improved their beliefs in teaching capability and one noted: *When I first came in, I was worried ... I was shaky and you could hear it in my voice. And then towards the end ... I gained a lot more confidence there on the practicum.*

Though they also experienced a boost in their TSE in the initial stage of the placement, the other three interviewees of these six reported it had not been easy to become

self-efficacious towards the end. Even so, they reported to become more efficacious though they became aware of the challenges to be a teacher.

The other four of this group of ten interviewees either experienced more fluctuations or spent more time before being able to recover their TSE at the start of the placement. They felt the experience “kind of threw me off for a large part of my practising” and there was some “doubt in the back of my mind and whether I could do it” in the middle of the placement. They were only able to recover their TSE at the end of the first placement.

Second Trajectory: Increasing from a Moderately-High Level

Six of the eighteen interviewees initially expressed a moderately high TSE level, namely “somewhat” and “not super” just before or at the beginning of their placement. They commented that, although it was “nerve-wracking”, they were still certain about their ability and gained more control later.

Third Trajectory: Starting from an Initial High Level

The remaining two of eighteen interviewees initially felt certain, though were wondering whether the placement would move smoothly. However, as the first of the two interviewees who reported an initial higher level said,
But I wasn't apprehensive or nervous about my ability which I know a lot of people stress about that when they're first going into their first practice.

The first interviewee reported increases in TSE by the end of the placement. The TSE of the other interviewee who reported an initial higher level weakened during the placement and she felt less efficacious so that she “was actually really pleased to get to the end of it if I am honest”.

Preservice Teachers' Perception of Changes in Self-Efficacy for Subdomains of Teaching

Four main subdomains of teaching, namely TSE for classroom management ($n = 18$), student engagement ($n = 18$), instructional strategies ($n = 16$), and flexibility ($n = 13$), were evident when PTs reported their TSE changes in subdomains of teaching.

Classroom Management

TSE for classroom management, such as controlling disruptive students, was repeatedly reported to be “quite low” before the first professional experience placement by six of seven interviewees who mentioned this subdomain. Classroom management created “the biggest difficulties to work around”. Low overall TSE before the placement was more likely to be reported if a PT considered classroom management as “mainly worrying [and] have to do with all the things that I was scared about”. Only one of these seven interviewees who had been a casual teacher for several years reported not being nervous about classroom management.

Eleven PTs reflected on their ability to manage classroom behaviour during the placement. Four of them reported classroom management as “very challenging” especially at the beginning and spent the majority of their time on this during the placement. They cemented their ability to manage students' behaviour by the end of the placement,

particularly in schools located in economically disadvantaged areas or boys' schools where classroom management was challenging. The other seven either felt more comfortable dealing with misbehaviours in the classroom or enhanced their motivation to manage even harder students after completing the placement. They reported that classroom management was not as worrying as thought and began to realise other tasks they had to deal with. By completing the placement, those seven interviewees reported that they "can control most of the inappropriate behaviours, even with kids that were less well behaved". It seemed that PTs perceived that TSE in managing students' behaviour could be improved.

Student Engagement

PTs ($n = 3$) considered student engagement, such as keeping students involved in the lesson, as essential and all these three interviewees reported on their certainty about being able to effectively teach before the professional experience placement.

Twelve PTs reflected on their ability to engage students after completing the placement and most of them ($n = 9$) reported they became more certain about engaging students. They discussed new strategies they learned, to "gauge that information on what they need and what kind of student they might be".

The other three of these 12 interviewees reported a relatively low level of certainty about engaging students initially before increases of various extents were expressed. One interviewee reported "having very light confidence before I started. I was standing with arms folded and I was like really closed off" rather than being able to "actively interact with students".

A positive shift was indicated by these three interviewees through actions such as "walking around the room and interacting with students". They expressed their willingness to make the teaching more difficult and interesting.

Instructional Strategies

Sixteen PTs mentioned the subdomain of instructional strategies by referring to their ability to instruct students and help them learn. Four interviewees felt "quite good at helping people understand and learn" before the professional experience placement. Conversely, two interviewees felt it was "intimidating to incorporate a whole lesson planning and deliver [it]" before they started their first placement.

Certainty about completing some more specific aspects of instruction was reported by interviewees, including lesson planning ($n = 8$), classroom presentation ($n = 6$), and time management ($n = 6$). In terms of lesson planning, two interviewees "felt underprepared" to create lesson plans during the placement. Six interviewees reported their ability to plan lessons after completing the placement. Of these, five reported that they could plan their lesson more sufficiently with only one mentioning not having a grasp of lesson planning.

Six interviewees mentioned their ability to present in front of a whole class of students and all reported that they were worried about this subdomain of their teaching. One thought she would be "going tomato red" and another was concerned about being "stuck in front of a class" at the start of the placement. However, improvements were reported by all of them in their "teacher manner" later on. For example, expressing themselves clearly, feeling "not scared at all" rather than "speaking for too long and then the students would get restless".

Managing instructional time was another subdomain raised by interviewees ($n = 6$) when reflecting on their certainty to complete various teaching tasks. Typically, they reported time management as their biggest challenge during the placement and “still the same thing I had issues with” at the end. For instance, PTs often found it difficult to judge the timing of lesson activities and often felt “time is running out”.

Lack of Flexibility

Interviewees ($n = 14$) reported different levels of certainty about dealing with the three subdomains mentioned above, namely classroom management, student engagement and instructional strategies, based on the extent of challenges associated with them. For instance, PTs tended to report higher TSE for tasks that could be easily planned and control compared with those that were more complex and required an in-the-moment response during the lesson.

Although classroom management was commonly regarded as of concern, PTs noticed that the more crowded classroom was a problem for them to deal with so that they “wished that the class size had been smaller”. They felt better able to deal with classes where “there weren’t a huge number of them [students]”, in academically outperforming or girls’ schools. For example, one interviewee reported, “it made the difference and made it easier to cater to the students with half the class being not there”.

As to student engagement, although PTs generally felt they could get students to engage in lessons, they reported “with something like the student-centred learning tasks, it’s on them to engage” and “I wasn’t sure how much information I should give to keep them going through the tasks” or “did not know the line between giving them the answers ... rather than giving them the answers and doing it for them”.

In terms of instructional strategies, PTs tended to be quite confident in dealing with “well-planned” activities including “explicit teaching”, “theoretical content” and classes for physical education and drama where “there wasn’t a specific thing I had to teach”. However, when it came to other types of activities, such as “project-based”, “practical hands-on” and “group activities”, they were inclined to feel unsure. One interviewee reported, “there was one lesson I had where we were doing group work and they’re getting very distracted with talking to each other. And just keeping them on task was really hard”.

Discussion

The section is organised around two main aspects: the perceptions of changes reported by PTs about their overall TSE throughout their first professional experience placement and their reported TSE for specific subdomains of teaching at different stages of the placement.

Compared to the predominant reports on participants’ overall TSE in prior quantitative studies (e.g., Harlin et al., 2007; Yüksel, 2014), the qualitative data in the present study provide evidence for variations in individual TSE patterns. This finding confirms the existence of inter-personal differences of TSE change patterns indicated in previous research (Pfitzner-Eden, 2016) and extends the previous finding of the existence of distinctive levels of TSE among experienced teachers (Feng et al., 2019) to PTs. It is consistent with the call from Perera, Calkins, and Part (2019) to consider the qualitative distinctiveness of TSE change patterns rather than solely investigate the overall TSE of the whole sample.

Among the 18 interviewed PTs, most (16 out of 18) either reported being less ($n =$ or only moderately ($n = 6$) self-efficacious to take on the responsibilities of teaching

initially, compared to the increased self-efficacy reported after the completion of the placement. Most reported that this state lasted until they gained more mastery experience, either in the first few lessons they taught or until the latter half of the placement. This finding calls into question the previous report that PTs tend to overestimate their TSE before taking sufficient teaching responsibility (Harlin et al., 2007; Woolfolk Hoy & Spero, 2005). The inflated TSE reported before PTs accumulated a sufficient amount of experience could be because PTs might have based their judgement on their limited understanding of the essence of the tasks (Fives & Buehl, 2009). In the present study, PTs reported they were anxious about the upcoming first placement and that this lowered their TSE immediately prior to its start, a result we also found in a previous study (Ma & Cavanagh, 2018).

Three possible reasons could explain the low initial TSE of PTs found in the present study. First, it might be due to PTs' informal teaching experience, such as microteaching and private tutoring taken just before the first placement, a common practice that reminded them of the challenges of authentic school teaching (Martins et al., 2015). Second, it might be attributed to the emotional state PTs were in right before the start of the first placement. This suggestion is aligned with the assumption of Bandura (1995) that negative emotional states may lower individual capability judgement. Third, PTs might have received information that the placement was stressful from their more experienced peers or their lecturers. Such information might have made PTs aware of the potential difficulties they would face, even without having any personal teaching experience in formal school contexts (Bandura, 1995).

Compared to reports of a smooth increase in TSE within the timeframe of the placement (Klassen & Durksen, 2014; Fives et al., 2007), our qualitative study revealed individual perceptions of varying TSE patterns. Gradual growth in TSE was only reported by one-third of all 18 PTs interviewed. The high initial TSE and continuous increase were only expressed by one interviewee, in contrast to the findings by Charalambous, Philippou, and Kyriakides (2008) that the majority of PTs reported high TSE which kept increasing during the placement. In other words, even with more teaching experience, our findings suggest that PTs do not necessarily report that their TSE increased smoothly. Different constituents of the placements, such as mastery experience, observing other teachers and receiving feedback from mentor teachers, were found to be significantly correlated so that the conditions of the placements influenced TSE changes (Yada et al., 2019).

PTs in the current study were undertaking their first professional experience placement so it might have taken them longer to get used to the teaching environment than in other studies. For example, the placement in the study by Charalambous, Philippou, and Kyriakides (2008) was preceded by a short period of classroom observing and initial teaching opportunities, which relieved the PTs in their study from immediately encountering the challenging teaching context. In another study by Gurvitch and Metzler (2009), PTs' overall TSE experienced a gradual growth with such opportunities including preceding in-classroom observations and they were reported to be resilient in the first placement. However, the gradual increases reported might also be related to the timing of measurements of the reviewed studies. For instance, Fives, Hamman, and Olivarez (2007) took their first measurement of TSE around 4 to 6 weeks after the start of a 12-week placement. By not measuring TSE in the initial period of the placement, it is more likely that PTs' TSE will be found to continuously increase, as reported by Ding, Rohlf, and Spinath (2019).

Although not a direct focus of the current study, the TSE of the whole sample of PTs before and after the placement could also be interpreted to have increased, as most interviewees ($n = 17$) reported higher TSE after the placement than before it. On one hand, this is consistent with pre- and post- designed research which has shown that completing the

placement helped the whole sample of PTs' overall TSE to grow (Klassen & Durksen, 2014). It also supports the predominant role of enactive teaching experience in the formation of self-efficacy (Bandura, 1995) though the varying quality of the experience does make a difference in PTs' TSE changes. On the other hand, the reported increase in TSE might be the continuation of the 'inflated' initial high TSE due to the supports in the first placement, as noted by Woolfolk Hoy and Spero (2005). However, only two PTs in our study reported high initial TSE at the beginning of the placement and only one of them reported that he had retained and increased his TSE by the end. The variation in individual trajectories of TSE changing in the current study suggests the essentiality to incorporate personal differences in TSE in future research.

The present study also revealed the specific subdomains of teaching, which contrasts how PTs' domain-specific TSE was relatively less investigated in previous research (Pfitzner-Eden, 2016). Specifically, classroom management was reported by most PTs interviewed as of concern at various stages of the placement, which is consistent with previous findings (O'Neil, 2016; Ma & Cavanagh, 2018). Even by the end of the placement, fewer than half of the interviewees felt better about classroom management; many reported that this task consumed so much of their energy that they could not deal with other teaching tasks. A high level of TSE for classroom management was only reported by one interviewee compared with the constant high levels reported by Sciuchetti and Yssel (2019). Also, this sense of low TSE for classroom management was reported by many interviewees (7 out of 11) as a major factor influencing their overall TSE. This accords with previous findings that TSE for certain specific tasks can impact self-efficacy in general (Perera et al., 2019).

Consistent with previous reports of increases in TSE for student engagement (Pfitzner-Eden, 2016), PTs in the present study reported they felt more efficacious about engaging students in their lessons compared with classroom management. Only three PTs shared their concerns about how to keep their teaching interesting and their TSE for engaging students increased soon after the start or after the midpoint of the placement. Towards the end of the placement, PTs who mentioned TSE for student engagement reported positive developments in this regard.

TSE for instructional strategies experienced more variations during the placement though it was found to have increased in a previous study (Pfitzner-Eden, 2016). Feeling positive about instruction even before the start of the placement was reported by the majority of participants, in agreement with previous research (Ma & Cavanagh, 2018). Besides reflecting generally on the ability to instruct, PTs in the current study also mentioned skills at a more specific level. Lesson planning and presenting in front of the class, for instance, were reported as challenging, but only before or at the start of the placement. Increases in TSE for instruction were reported by most of the PTs who reflected on this subdomain. However, time management seemed to be a continuing challenge for PTs throughout their placement.

TSE for teaching activities with teacher-controlled activities was rated higher by PTs compared with those featured with being student-centred, such as organising group activities.

This result has not been reported by previous quantitative studies because no TSE scale has assessed such flexibility. Glackin and Hohenstein (2018) also applied interviews in their study and listed flexibility as an independent theme that described participants' ability to deal with activities rated at varying levels of challenge. For instance, the degree to which PTs were comfortable dealing with one or multiple different tasks simultaneously in a lesson. The consideration of flexibility might also support the notion that professional experience placements are periods when PTs' teaching ability is

formative (Fives et al., 2007). The reports on flexibility indicate PTs are still in the initial stages of professional development and they need to work on their flexibility to deal with teaching tasks of varying difficulty. Individual PTs' different evaluations of TSE in specific subdomains of teaching confirm the theoretical assumption of self-efficacy evaluation that human beings can rate themselves differently in different subdomains of tasks (Bandura, 2019). Although some studies (Fives & Buehl, 2009; Tschannen-Moran & Woolfolk Hoy, 2001) have indicated doubts over PTs' ability to differentiate various dimensions of teaching, PTs interviewed in the present study were able to reflect on specific teaching abilities, such as instructional skills, other than teaching ability in general. This result provides initial qualitative evidence that PTs who completed their first professional experience placement could evaluate their

TSE from both general and specific subdomains of teaching, as recently established by Perera et al. (2019).

Conclusion

This study provides a qualitative perspective of changes in PTs' TSE during their first professional experience placement. The results indicate that while most PTs reported an increase in overall TSE by the end of the placement, the growth was not a smooth process. The study confirms the existence of three subdomains of TSE, namely classroom management, student engagement, and instructional strategies among PTs and highlights how classroom management is a greater concern for PTs compared to the other two domains. Reports on flexibility indicate PTs' teaching ability is formative in the initial practising stage and they tend to feel comfortable with tasks which are straightforward and less requiring of effort.

Certain implications can be drawn from the study. Firstly, considering the normal nervousness at the initial stage of the professional experience placement, the provision of emotion managing strategies is necessary for PTs to transfer successfully into the practice environment. Secondly, subdomains of teaching, such as presenting to the whole class, time management, and managing misbehaviours are areas that PTs need special support with during the placement. In particular, presenting in front of the whole class tends to be essentially dealt with at the early stage and becomes less threatening with practice. In contrast, classroom and time management might need continuous assistance, which may include gradually allowing PTs to work independently with managing students as the placement progresses. Thirdly, future research on PTs' TSE changes could investigate variations in individual patterns rather than assuming the homogeneity of TSE changes within a group of PTs and investigate the factors causing individual variations. The various sources of TSE leading to change in self-efficacy over time could also be explored in future quantitative studies. It could be also essential to explore PTs' efficacy for subdomains other than classroom teaching including dealing with school administration, which could be challenges for beginning teachers.

The present study focused on the first professional experience placement—a brief, though important, period of an initial teacher education program—and is also based on retrospectively self-reported data. The study only addressed changes in TSE for teaching and not for other related subdomains, such as school administration and dealing with parents. Furthermore, the study focused on changes in PTs' TSE and did not report on the sources of those changes. Therefore, caution should be exercised when interpreting these self-reported perceptions of changes. Despite these limitations, this qualitative study provides new insights into why and how PTs' TSE may change, compared with the

predominantly quantitative methods applied in previous research. The present study also reveals how PTs' perceive their TSE changed in four different subdomains providing a detailed picture of PTs' TSE throughout the first professional experience placement.

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