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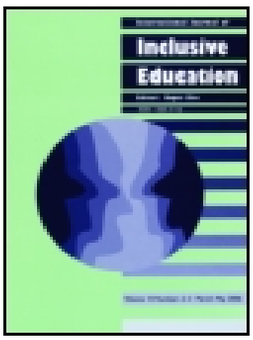

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Promising practices for preparing Canadian teachers for inclusive classrooms: analysis through a transformative learning lens

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ABSTRACT

Teacher preparation in Canada benefits from innovative programming that supports vibrant, inclusive classrooms. We examine two Canadian-made programmes: The Three-Block Model of Universal Design for Learning, with particular focus on the social emotional learning block, and the Teaching Continuum, a model for inclusive physical education settings. We use the 3H Model of inclusive teacher education to analyze the fit of these two approaches to pre-service teacher inclusive education preparation and suggest ways they can become more entrenched within Canadian schools.

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Canada; inclusion; theory; teacher education

Introduction

In 1985, Canada became the first nation to protect the right to an equal education for all its citizens in its charter (Council of Canadians with Disabilities 2012): The Canadian Charter of Rights and Freedoms signalled an inclusive stance that protects the rights of all Canadians, regardless of disability, and reflects a value system where difference is respected and honoured (Government of Canada 1985). Although most educators are in support of the philosophy of inclusion in schools as it pertains to students with disabilities, as a nation Canada still struggles to operationalise this value (Sokal and Katz 2015, 2020). Teachers serve as important agents in educational reform (Engelbrecht 2013), so much so that UNESCO (2013) supported quality teacher preparation for inclusion as being as important as legislation and policy initiatives around inclusion. In order to fulfil its potential, however, teacher education for inclusion must link theory to practice in order to create agentic, effective, inclusive teachers (Sharma 2018).

In Canada, the education system is not a federal responsibility, and this arrangement has allowed innovative programming to emerge from within individual provinces and territories, therefore supporting teachers in enacting inclusive philosophy through differing practices across Canada (Timmons and Wagner 2008). We explore two

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innovative approaches by which Canadian teacher education programmes are preparing pre-service teachers (PSTs) to do so. First, we explore a programme of teacher professional learning developed in Manitoba and British Columbia. The Three-Block Model (TBM) of Universal Design for Learning (Katz 2012) combines tier one social emotional learning and mental health programming involving Dialectical Behaviour Therapy skills and Mental Health Literacy with universally designed instruction to create a framework for designing trauma-informed inclusive classrooms. We then move from the general classroom to the inclusive physical education setting. Here we discuss a programme developed in Alberta called the Teaching Continuum (Bradford, Hickson, and Berg 2020), an interpretation of the theoretical understanding surrounding the Spectrum of Teaching Styles (Mosston 1966; Mosston and Ashworth 2008; Suesee, Hewitt, and Pill 2020).

The two programmes were selected to highlight here for several reasons. First, two of the authors (i.e. Katz and Bradford) have been personally immersed in the development and implementation of the programmes (i.e. one programme each). Second, both programmes have not been developed 'from scratch'. Like most programmes involved in teacher education, both have been built upon the theoretical underpinnings of existing models that have helped move inclusive education forward in the pedagogical landscape. Third, we wished to highlight programmes in different stages of development. The TBM has been continually enhanced throughout the past 10 years, garnering funding grants to carry out empirical studies to support its effectiveness. Hence, its effectiveness has been demonstrated over time, and continues to develop. In contrast, the Teaching Continuum is currently in its infancy. Like the TBM, it is expected to move in the same direction as it gains traction through the funding of empirical studies. Due to the fact that we are each close to the programmes as we hold inside knowledge of their beginning and developing stages, we understand the importance of gaining external validity to confirm their effectiveness. We recognise that public critique is required to help move these programmes forward. Thus, we chose to demonstrate how the TBM and Teaching Continuum have evolved and are continuing to be strengthened. Although there are several programmes that could have been selected to share, both described here are currently helping PSTs develop skills, knowledge, and attributes pertaining to inclusive learning environments and therefore serve as exemplars of the Canadian contributions to inclusive teacher education. Although still evolving, they have been selected to demonstrate that teacher educators in Canada are striving to assist PSTs in their planning, implementing, and assessing of inclusive learning environments through innovative measures.

Next, we employ the 3H Model of inclusive teacher education (Sharma 2018) as a framework for critical analysis of both programmes. Although the TBM (Katz 2012) and Teaching Continuum (Bradford and Hickson 2018) are both taught and well-received in university-based PST education programmes in Canada, it is important that in learning these approaches they are further transferred and generalised into school-based classrooms and gymnasia if they are to contribute to the evolution and enhancement of inclusive education in Canada. Sharma (2018) recently synthesised theories from Shulman (2004) and Azjen (1991) to create the 3H Model of Inclusive Teacher Education which builds on three key elements or 'apprenticeships' (i.e. heart, head, and hands), which are foundational to PST programmes. The 3H Model addresses attention not only to the PSTs' 'hearts, heads, and hands' in terms of their capacity for including

diverse learners, but also gives direction to transform this learned capacity in school settings. The model proposed by Sharma will be used here to examine whether our two exemplar programmes meet these three criteria: (1) Sharma referenced teaching to the 'heart', as educators must hold the attitudes and beliefs that support inclusion; (2) in terms of the 'head', PSTs must have knowledge of the theories and research that underpin inclusive practice; and (3) teaching to the 'hands' addresses being able to implement teaching strategies that support inclusion in schools. In other words, transformation to inclusive practice in the classroom requires a holistic, human-centred approach which we believe is demonstrated by the TBM and Teaching Continuum. 'When transformational learning or growth occurs, there is a qualitative change in the structure of a person's meaning-making system, or way of knowing' (Drago-Severson 2012, 7). In sum, the learning that is done in the two programmes not only adds to what PSTs know, but it changes how they know it (Kegan 2000; Mezirow 2000).

Through exploration and critical analysis of these innovative inclusive approaches, the contributions of Canadian inclusive teacher education are highlighted. From our perspective, theory is translated into practice and next steps are proposed in support of creating more inclusive, engaging, and effective Canadian schools. A limitation should be noted here, in that the two programmes differ in the amount of empirical study that has taken place. In comparison to the Teaching Continuum, the TBM has received much more research attention to date and can speak to its validity empirically, due to the 10 years of implementation. This process of validation and development will be described further in subsequent sections, and speaks to the evolving nature of both research and practices of inclusive education in Canada.

The three-block model of universal design for learning

Although Canadian teachers' attitudes towards inclusion are positive, they remain concerned about their efficacy in implementing inclusive education, and both education and experience are important in enhancing these constructs in teachers (Sokal, Woloshyn, and Funk-Unrau 2014; Sokal and Sharma 2017). As such, a pedagogical framework that informs a practical 'how-to' for teachers to intentionally design socially and academically inclusive learning environments becomes critical to improving teachers' efficacy. One such framework with a growing body of evidence to support it is Universal Design for Learning (UDL) (Rose and Meyer 2002). UDL includes three guidelines intended to support the learning of all students, (a) multiple means of engagement, (b) multiple means of representation, and (c) multiple means of action and expression, rather than providing adaptations for only a select few (Gordon, Meyer, and Rose 2016). Adapting and modifying for individual students singles them out and can stigmatise them. When all students are provided with universal supports and challenged to learn in a variety of ways, stigma is reduced, and self-concept grows (Katz and Porath 2011). Planning and teaching through UDL has been shown to improve students' instructional engagement and academic achievement (Capp 2017; Katz, Sokal, and Wu 2019), and also reduce teacher stress, increasing teacher job satisfaction and self-efficacy related to inclusion (Katz 2014). However, until recently, little research had been done to explore the effects of UDL on social emotional learning and mental health.

Globally, youth are experiencing elevated rates of mental illness, however, help-seeking and access to needed supports are limited – roughly 75–80% of students with mental health challenges do not receive intervention (Gulliver, Griffiths, and Christensen 2010). Moreover, according to the Mental Health Commission of Canada (2020), it is estimated that 1.2 million children and youth in Canada are impacted by mental illness – while less than 20% will receive appropriate care. As schools are the only public institution with access to all youth, school-based programming is critical to reach youth not currently accessing needed supports. When youth do reach out for help to teachers within the school environment, they are less likely to attempt suicide, suggesting that teachers may be an important resource for mental health support (Smith et al. 2014).

Within the UDL guidelines for multiple means of engagement there are several principles that promote mental health and well-being, including minimising threats and facilitating personal coping skills and strategies. Katz (2018) has recently expanded these to include a greater focus on social emotional learning and mental health in the TBM. In the original TBM (2012), the first block addresses the social and emotional needs and mental health of students in inclusive classrooms. Social emotional learning and school-based mental health programmes are implemented that support the development of a positive self-concept, sense of belonging, coping skills, and respect for diverse others (Katz and Porath 2011; Katz 2012). In the second block of the TBM, instructional practices are universally designed to take advantage of different learning strengths, experiences, and background knowledge as a means to show students how diversity can be advantageous and create an interdependent learning community (Katz 2012). The third block of the TBM focuses on systems change and scaling up inclusive education (Katz 2012). It explores funding models for special education, reforms in staffing and roles (e.g. how a resource teacher works in-class versus through pull-out), inclusive education policies and curricula, and establishing collaborative cultures in schools.

Recently, programming involving adapted Dialectical Behaviour Therapy (DBT) skills and a universally designed mental health literacy programme has been added to the first block of the TBM (Katz 2018): teachers are provided core instructional goals in mental health literacy and DBT skills with suggested lesson plans (see programme details in Katz 2018), but are encouraged to differentiate lesson plans and delivery methods (e.g. using videos or role plays) to support implementation and student responsiveness. Lessons one through four focus on basic neuroanatomy. Students explore the cortisol cycle and stress responses including the role of cognitive triggers in their emotional responses, perceptions of events and negative thinking, and the fight, flight, and freeze mechanism. In lesson five, students learn to interrupt the cortisol cycle when they feel themselves being reactive using strategies for maintaining well-being including simple mindfulness activities (e.g. breathing exercises). The relationship between the five senses and emotional memory is explored in lesson six. Lesson seven introduces Keyes' (2002) dual continua of mental health. As a means to developing emotional literacy, students are introduced to the concepts of flourishing and languishing mental health, and place emotion words and personal experiences along the continua. Lesson eight focuses on the mental illness continuum and develops knowledge and understanding of mental illnesses. Finally, lesson nine engages students in inquiry exploring how mental illness is

portrayed by popular media and the connection to social stigma. Students then explore the components of a supportive community for a person with mental illness.

DBT skills are taught across four adapted modules with three lessons per module, using acronyms drawn from DBT but delivered through differentiated activities with adaptations for age, communication skills, and learning modalities (e.g. using role plays, stories, videos, and games rather than workbooks). In the first module, students are taught about interpersonal effectiveness skills including assertiveness, asking for what is needed, sustaining positive relationships, setting boundaries, and self-respect. The second module focuses on emotional regulation (i.e. its biological bases, identifying and labelling emotions, and how nutrition, exercise, and sleep contribute to mental health). The mindfulness module teaches students self-soothing skills including mindfulness meditations. Students explore non-judgment of self and others, methods for balancing emotions and rational thought and awareness of self and the environment. Finally, the fourth module targets distress tolerance by teaching how acute distress affects emotions and reasoning, and strategies for coping with acute distress.

A growing body of research has provided evidence that implementing the TBM can lead to significant increases in students' willingness to engage with out-groups (Katz and Porath 2011), self-concept and belonging (Katz and Porath 2011; Katz, Mercer, and Skinner 2020), and prosocial behaviour of diverse students, including those with learning and behavioural challenges (Glass 2013). A recent (pilot) randomized control trial indicated that implementing the mental health literacy and DBT programming significantly increased students' self-concept, coping skills, and perceptions of social support, with large effect sizes for all three variables (Katz et al. 2020).

One of the populations most at risk for mental health challenges is youth with developmental disabilities (Leoni, Corti, and Cavagnola 2015). Despite high rates of comorbid mental health challenges, with estimates ranging from 40–60%, youth with developmental disabilities have often been assumed to be incapable of participating in therapeutic interventions, or at least thought to require intensive one-to-one intervention that is rarely available (Whitney et al. 2018). In a secondary analysis of the data from the above randomized control trial, participants with developmental disabilities were also able to benefit significantly from DBT and mental health literacy universal/tier one mental health programming. Thus, universally designed mental health programming may offer an opportunity to support both students with and without disabilities, although there remains a need for replication and further investigation (Katz et al. 2020).

In addition to preparing to teach effectively in inclusive classroom settings, PSTs must also develop skills for inclusion in other subject areas that take place away from the traditional classroom. Like the TBM, a Canadian-made model has responded to this need.

The teaching continuum

Typically, elementary schools in Canada choose to employ generalist-trained teachers (GTs) to meet the demands of most, if not all, curricular areas, and GTs become responsible for addressing the needs of all students to minimise any exclusionary practices (UNESCO 2005). Hence, when planning for inclusive physical education learning environments, for example, many pedagogical considerations must be considered, including accessible, flexible curricula (UNESCO 2015). The Teaching Continuum

(Bradford, Hickson, and Berg 2020) is an inclusive interpretation of the theoretical understanding surrounding the Spectrum of Teaching Styles (Mosston 1966; Mosston and Ashworth 2008; Suesee, Hewitt, and Pill 2020) currently being taught to PSTs in Alberta, Canada.

Accounting for student diversity should occur in all curricula (UNESCO 2005): students learn in numerous ways and enter the learning environment with varied levels of movement experience leading to an array of learner needs and aspirations (Byra 2006). Such natural variances in cognitive and physical abilities are highly visible in physical education, and so the necessity for differentiation is magnified due to performative learning objectives that lead to, for instance, fundamental movement skill development (Griggs and Medcalf 2015).

To help PSTs learn to plan, deliver, and assess quality, meaningful pedagogy for inclusive physical education, it is helpful to examine PSTs' knowledge base and efficacy. Bradford and Loreman (2018) found that their sample of generalist PSTs supported inclusive physical education learning environments, although they expressed reservation regarding their levels of teaching preparedness (alternatively, some seemed rather overconfident in their abilities). Hence, stemming from the work of Bradford and Loreman along with Bradford and Hickson (2018), in the teacher education programme at Concordia University of Edmonton, generalist PSTs are challenged in physical education to think critically about diversity and inclusion in a way that encourages setting aside assumptions and developing effective strategies for planning, delivering, and assessing while remembering that teaching impacts each student as an individual.

As Loreman (2010) argued, inclusive education is not without challenges: 'One area that is consistently outlined as being of concern relates to teacher preparation' (124). Loreman identified seven key areas as being important to beginning teachers' success in a generalist inclusive classroom. The most salient of these areas with respect to teacher education for inclusive physical education are instructing in ways conducive to inclusion and engaging in inclusive instructional planning.

There are any number of ways to engage in inclusive instruction. Loreman (2010) suggested constructivist and multi-modal strategies that allow for universal access to the content, with teachers differentiating instruction through the provision of multiple paths to content, process, and product. With respect to planning, Loreman suggested that PSTs need to learn to modify and/or adapt long-term and individual lesson plans to account for diversity in each subject area taught, bearing in mind the need for universal access and variations in pace, style, and format. These outcomes might seem daunting to a PST. To deliver effective programming, GTs require, among other facets, appropriate pedagogical expertise to support students' knowledge acquisition. How a teacher chooses, designs, and sequences such learning opportunities can impact the learning potential (Mosston and Ashworth 2008). While a large number of specific inclusive physical education teaching strategies, including planning, are outlined throughout the literature and in PST education programmes (Gleddie, Hickson, and Bradford 2018), it is sometimes difficult for PSTs to incorporate these into an overarching teaching philosophy and style. They need a model for reference and the Teaching Continuum can fulfil this need.

Because inclusive physical education encourages meaningful participation in activities that are physical and often cooperative by design (Griggs and Medcalf 2015), the

interactional nature of the learning environment leads to a spectrum of experiences. Bradford and Hickson (2018) aimed to simplify the understanding of utilising various teaching styles in elementary school physical education. As GTs are immersed in teaching that extends well beyond physical education, it can be problematic for GTs, who may have received minimal, if any, inclusive physical education teacher education programming, to completely comprehend and effectively implement heavily researched theoretical frameworks into practice (Bradford, Hickson, and Berg 2020). Hence, the Teaching Continuum (Bradford and Hickson 2018; Bradford, Hickson, and Berg 2020) includes three general styles – Teacher as a Guide; Shared Guides; and Student Self-Guide – and can serve as an inclusive, engaging, and effective framework for GTs when planning, delivering, and assessing inclusive physical education.

Teacher as a guide

Several physical education learning outcomes require specifically designed learning opportunities. An array of skills, such as performing a forward roll, leaves minimal room for discovery and exploration due to numerous safety issues (Bradford, Hickson, and Berg 2020). In this approach, the teacher makes the majority, if not all, of the decisions in the teaching episode. Similar to Spectrum styles such as Command Style (Mosston and Ashworth 2008), a significant characteristic of Teacher as a Guide includes 'precision performance – reproducing a predicted response or performance on cue' (76). The teacher, for example, plans and demonstrates the activities, and assesses learning using pre-determined criteria (Bradford, Hickson, and Berg 2020).

Shared guides

Certain physical education learning outcomes can afford opportunities for teachers and students to work together. Activities, such as performing a gymnastics-type sequence, can call for a teacher-student decision-making partnership (Bradford, Hickson, and Berg 2020). Performing a gymnastics-type sequence requires specific criteria (e.g. length in time, use of space, types of supports), while other sequence components can be installed through student creativity and risk-taking (e.g. levels, qualities, relationships). Students, therefore, are provided with specific decision-making opportunities, while the teacher maintains influence over various aspects (Mosston and Ashworth 2008). Similar to Spectrum styles such as the Self-Check Style (Mosston and Ashworth 2008), a significant characteristic of Shared Guides includes 'performing a task and engaging in self-assessment guided by specific teacher provided criteria' (141). Students, for example, can discover a wide range of ways to perform the movement sequence, while the teacher employs pre-determined assessment criteria (Bradford, Hickson, and Berg 2020).

Student self-guide

Some physical education learning outcomes provide students with opportunities to explore and discover. For example, creative movement activities can afford students opportunities to create their own story through movement, while listening to a song (Bradford, Hickson, and Berg 2020). Similar to Spectrum styles such as the Learner-

Designed Individual Program Style (Mosston and Ashworth 2008), a significant characteristic of Student Self-Guide includes 'the independence of each learner to discover a structure that resolves an issue' (274). Students, for example, discover multiple ways to perform the activities, and assess their learning employing pre-determined criteria (Bradford, Hickson, and Berg 2020).

Inclusive physical education includes planning for, supporting, and celebrating diversity within the learning environment. Inclusive physical education involves teaching to student strengths in a holistic programme that develops the physical, social emotional, and cognitive domains of each student (UNESCO 2015; Gleddie, Hickson, and Bradford 2018). Hence, the Teaching Continuum is a fitting initial step for GT PSTs in developing a broader scope of knowledge and understanding of available teaching styles for inclusive physical education. The Teaching Continuum helps introduce GTs to the seminal work of Mosston (1966), the Spectrum of Teaching Styles (Mosston and Ashworth 2008), while developing further understanding of exemplary inclusive physical education teaching (Bradford, Hickson, and Berg 2020).

Pre-service teacher education for inclusion – meeting the 3H model

Both programmes endeavour to meet the criteria proposed by Sharma (2018): heart, head, and hands. In terms of 'heart', the TBM (Katz 2012) clearly includes units on both social emotional learning and mental health literacy. Research shows that when teachers are responsible for these aspects of curriculum, they too develop better social emotional skills (Jones, Bouffard, and Weissbourd 2013). The TBM meets the 'head' component by clearly requiring knowledge of theoretical constructs such as UDL (Rose and Meyer 2002), Bloom's Taxonomy (Bloom et al. 1956), and Backward Design (Wiggins and McTighe 1998) in order for PSTs to demonstrate competency with this approach. Finally, the focus on the 'hands' in terms of clear pedagogical strategies is a strength of this approach. Moreover, when teachers see the success of their implementation of the TBM on children's social and academic achievement, they feel more efficacious (Katz 2014), which further supports the 'heart' aspect of this inclusive approach.

The Teaching Continuum (Bradford, Hickson, and Berg 2020) also addresses the heart, head, and hands. In terms of the 'heart', the Teaching Continuum (Bradford, Hickson, and Berg 2020) is taught as part of a suite of classes, and it extends the content (which already addresses the heart component) of those lessons into physical education. The model meets the 'head' component by deeply acknowledging the theoretical underpinnings of the seminal work of Mosston (1966) and Mosston and Ashworth (2008) related to the Spectrum of Teaching Styles in order for PSTs to demonstrate understanding and mastery of the teaching styles along a non-hierarchical continuum to promote a conducive learning environment for all. Moreover, for all students to develop fundamental movement skills (in physical education, for instance), in addition to the declarative and procedural knowledge related to the subject area, teachers require pedagogical expertise to support student understanding and knowledge acquisition (Bradford, Hickson, and Berg 2020). Further, the primary focus of the Teaching Continuum is on the hands: showing how we take these beliefs and attitudes into a new setting as part of inclusive physical education. That said, the focus on the 'hands'

in terms of clear pedagogical strategies is a strength of the Teaching Continuum. The very existence of the Teaching Continuum is based on inclusive, engaging, and effective pedagogical attempts to reach all learners in inclusive physical education. When students are afforded opportunities to participate in learning activities in various ways and, in turn, meet the learning outcomes, teachers become more confident in employing the different teaching styles to meet all learner needs. In the end, it is really about 'slanting the rope' as Mosston alluded to in his seminal work related to the Spectrum of Teaching Styles (Mosston and Ashworth 2008). Based on inclusivity, Mosston's deep-rooted theory about 'slanting the rope' when teaching 'accomplishes the objectives to create conditions of inclusion (choice of the degree of difficulty within the same task)' (Mosston and Ashworth 2008, 158).

Meeting the fourth H (Holism)

Although teaching to the heart, head, and hands is a good starting point in preparing PSTs for an inclusive setting, this approach will not transcend from university-based coursework and into classrooms and gymnasia unless it is planned and purposeful. Sharma (2018) provided four interdependent structures by which this deployment can take place. Together, these four structures comprise what we call the fourth H: Holism. Holism proposes that parts of a whole are connected and best understood within the context of the whole, which in turn is greater than the sum of its parts (Auyang 1999). Sharma's four structures allow us to understand how the heart, head, and hands work within a broader framework of teacher education to support the process of inclusive education.

First, Sharma (2018) suggested that close partnerships between schools and universities should be evident in terms of who instructs PSTs during their university-based coursework. Having teams of teachers and professors teaching together during university-based instruction is recommended as a way to address the efficacy and attitudes necessary for inclusive practice and break barriers to inclusion in schools (Sharma and Loreman 2014). By learning these strategies from teachers who also enact them with their students in their own K-12 classrooms, PSTs are provided with models for enhanced practical credibility (Cornbleth and Ellsworth 1994). In Canada, it is not unusual to have master teachers as contract faculty who are integral part-time members of the university faculty. In this way, the methods proposed by Katz's TBM (2012) and Bradford and Hickson, 2018, 2020) Teaching Continuum are validated and modelled by teachers who use them in their own practice.

Second, Sharma (2018) proposed that the content of PST courses should align with inclusive philosophy and be based on strong evidence. As previously demonstrated, the TBM (2012) has undergone extensive testing and analysis in schools across Canada and continues to be validated empirically. Likewise, the Teaching Continuum, in its early stages, has acted as a 'fitting initial step for GTs in developing a broader scope of knowledge and understanding of available teaching styles for the teaching of elementary school physical education' (Bradford, Hickson, and Berg 2020, 164). Moreover, the Teaching Continuum is based on the seminal work of Mosston (1966) and Mosston and Ashworth (2008), which has been empirically supported and developed over time: '… the Spectrum has undergone extensive verification and, without

equivocation, there is no question of its validity. Furthermore, these research results have enriched our practice of teaching physical education and have provided new insights about effective teaching' (Mosston and Ashworth 2008, 11). Hence, in this new configuration which has been revised to support the PST education of GTs in physical education teacher education (as previously mentioned) – the Teaching Continuum – this process of validation continues. Furthermore, both programmes have the explicit goal of supporting inclusion, so they clearly align with this philosophy and fulfil the second aspect of Sharma's 3H + 1 framework. Inclusive education is a process (Ainscow 2005), and teachers must continue to search for ways to respond to diverse learning environments. Both programmes discussed here are aiming to do just that – with an intent to provide all students with conducive learning opportunities.

Third, Sharma (2018) advocated that university professors should work in schools as partners with classroom teachers as PSTs enact the approaches during the practicum blocks in schools. In this way, the team that teaches the theory in the university classroom is also there to support its implementation in schools. Although PSTs are supervised during practicum by both in-service teachers and university personnel in Canada, it is not always the case that these university personnel are also faculty members who teach courses in inclusive education. Rather, in Canada these faculty supervisors are sometimes retired master teachers and sometimes faculty members. In order to add practicum supervision to faculty members' professional obligations for teaching, research, service, and governance, a major paradigm shift would need to occur in Canadian universities. In this regard, the third aspect of the framework proposed by Sharma is only partially fulfilled and only in some universities in Canada. Magudu and Gumbo (2018) recently found the same concerns in the nature, scope, and coherence of partnerships between teacher education programmes and schools in Zimbabwe, suggesting that less than optimal partnerships between universities and schools is not limited to the Canadian context.

Finally, Sharma (2018) posited that PSTs should be assessed for inclusive teaching competence as part of the required skill sets on practicum and as a signal that inclusive hearts, heads, and hands are an expectation of the profession. Inclusion is a clear mandate of the government of education departments across Canada (Timmons and Wagner 2008), and these same standards are used to assess PSTs for certification. Given that Canadian PSTs who fail to enact inclusive pedagogy during their practica do not qualify for teacher certification, there is certainly alignment between the intentions of the models cited here and the fourth aspect of Sharma's framework.

By defining this additional element of apprenticeship, we encompass Sharma's (2018) four interdependent structures to demonstrate how PST programmes generate learning and change. From an organisational perspective, PST programmes such as the TBM (Katz 2012) and the Teaching Continuum (Bradford, Hickson, and Berg 2020) serve to enhance inclusion in the Canadian educational environment in authentic and meaningful ways. Programme planning has been found most effective and functional when it creates opportunities to share, reflect, and learn (Eblie Trudel 2013). Through a process of reflection and purposeful action, collectively operationalising Sharma's structures within the fourth element of Holism, the relationship between PST programmes and classroom practice is effectively recoupled. By reflecting in action, we identify ways in which current practices can be enhanced or improved

(Argyris 2010; Argyris and Schon 1974, 1978; Kolb 1984; Senge 1990), transforming university-based coursework to classroom settings. Mezirow (2000) indicates that transformative learning is a 'process by which we transform our taken-for-granted frames of reference to make them more inclusive, discriminating, open, emotionally capable of change and reflective' (7–8). As more in-service teachers receive professional development on inclusive practices and as more new teachers are hired with this education and mindset in place as a result of strong inclusive education preparation, we continue to work together for the day when inclusion will be viewed as 'business as usual' rather than innovation.

Next steps

As mentioned, the two programmes discussed here were selected for specific reasons. Ultimately, two of the authors have taken the lead on the development and implementation of one programme each (i.e. Katz and Bradford). Moreover, due to the fact that one programme (i.e. TBM) has received much research attention since its inception over 10 years ago, it is the aim of Bradford and colleagues (2018, 2020) to see the Teaching Continuum reach the same level of research attention moving forward. Next steps for each programme include following up with empirical studies that can enhance the effectiveness of each programme while strengthening teacher education programming and, more specifically, inclusive learning environments in schools. Such research can include monitoring student learning as PSTs implement the programmes during their practicum experiences; investigating PST teaching efficacy concerning the programmes; and follow-up studies including the PSTs' first years of teaching (i.e. in-service teaching) to examine whether or not the programmes are being employed effectively in their new school environments (a current national study is taking place to examine the outcomes of the 2018 version of the TBM). As demonstrated here, there are innovative programmes in Canadian teacher education programming aimed to help move forward the landscape of inclusive education. The TBM and Teaching Continuum are merely two out a range of effective programmes striving to improve the learning of all students, and both continue to be enhanced to meet the highest levels of effectiveness.

Conclusion

As part of a global community, Canada is working to develop sound bridges between theory and practice in order to prepare PSTs to support an inclusive education agenda. While these promising innovations are still in development in terms of clearly linking school and faculty personnel more closely in their teamwork to support implementation, the evidence base supporting the TBM and Teaching Continuum is strong and continues to grow. The additional apprenticeship element of the 3H + 1 model exemplifies reflection and purposeful action, recoupling the work of the heart, head, and hands in order to both inform and transform the learning in PST programmes to instructional practice. This observation speaks to the evolving understanding of best practices for inclusion, and our collective commitment toward meeting our Charter duties to ensure equal education for all Canadians.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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