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Creating a Health and Sustainability Nexus in Food Education: Designing Third Spaces in Teacher Education

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Abstract There is growing pressure from the public health sector, government, environmental, medical and scientific fields to teach young people about food. However, little is known about pre-service teachers' preparation in this area. This article addresses this gap by providing a case study of one approach to food education, which was purposefully designed to bring together two fields — health education and education for sustainability (EfS) — in teacher education in Victoria, Australia. This article outlines the ways in which this approach has the potential to challenge the conventions of both fields and 'spaces' of health (first space) and sustainability (second space), and gave rise to a possible 'third space' (Soja, 1996). This article uses data collected from Promoting Health Education, a 10-week course designed for generalist primary school pre-service teachers. It also utilises reflections from pre-service teachers and teacher educators (also the authors) to explore how they navigated first, second and third spaces. In doing so, the authors examine some of the learning potentials and difficulties within third spaces, including: designing third spaces; wrestling with the dominance of first space; complexities of second space; and questioning what might be lost and gained through the design of third spaces.

Increasingly, schools are seen as a convenient site for food education. Teachers are seen as the key to change in schools for achieving a sustainable society (Ferreira, Ryan, & Tilbury, 2007), as well as being 'called upon as a major resource in the crusade of improving the health of young people, such as addressing childhood obesity' (Welch & Wright, 2011, p. 199). However, teachers' abilities to make any impact on these aims are dependent on their preparation to address food-related issues; some of these skills and knowledge they gain from their pre-service teacher education (Fahlman, McCaughtry, Martin, & Shen, 2011). The importance of teacher education on future practice was a key finding of research by Byrne et al. (2012), who noted that 'teachers receiving training about health education are more likely to develop a positive attitude about their role as health promoters and as a result become more involved in health education' (p. 526). It has also been suggested that pre-service teachers need to be prepared to

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teach from an education for sustainability (EfS) framework to prepare their students for a sustainable future (Fien, 2001; Gough, 2011). In particular, there is a need to develop and promote a range a curriculum and teaching approaches in teacher education that are 'committed, ethical and effective' in terms of empowering young people to create and maintain sustainable lives (Fien, 2001, p. 4).

Currently in Australia there is no guarantee (or mandate) that pre-service teachers are taught food education within their university degree. To date, there have been no detailed studies that measure the extent, focus, and content of food studies provided by teacher education programs in Australia. This, in part, stems from a larger issue around the noticeable gap internationally of targeted research into health education in teacher education generally (a few exceptions include Byrne et al., 2012; Flaschberger, 2013; Jourdan, Samdal, Diagne, & Carvalho, 2008; Paakkari, Tynjälä, & Kannas, 2010; Paakkari & Välimaa, 2013; Welch & Wright, 2011). As noted by Leahy and McCuaig (2014): '… given the significance of health and young people, and the circulating policy rhetoric, it seems almost incomprehensible that the education of future health teachers has received very little attention in the literature' (p. 221).

There has been more research into environmental education and EfS in teacher education than into food education (e.g., Beckford & Pandya, 2008; Cutter-Mackenzie & Tilbury, 2002; Ferreira et al., 2007; Gough, 2009; Tilbury, Coleman, & Garlick, 2005). The findings from this research draw a number of parallels to the literature of health education in teacher education. For instance, EfS shares with health education a wealth of literature that criticises its lower status and representation in teacher education (Gough, 2009; Miles, Harrison, & Cutter-Mackenzie, 2006; Wilson, 2012). Similarly to health education, there has also been the call for more research into the practices of EfS in teacher education if there is to be any improvement in future teachers' competence for implementing EfS in schools (Ferreira et al., 2007; Kennelly, Taylor, & Serow, 2012). Despite the importance of health education (key to improving the health status of our community) and EfS (key to creating a more sustainable future), it appears they share some common ground in terms of: having a marginalised presence within teacher education; having problematic, ad hoc or limited successes in schools and universities; being underrepresented in the literature in relation to the teaching philosophies and knowledge within teacher education. This article attempts to contribute to these fields by providing an overview of a small case study of a reconceptualised third space approach to food education in teacher education. The redesign encouraged a critical health approach to food education and was underpinned by a sustainability focus.

This case study stems from a larger research project that investigated health education in teacher education more generally. This research draws upon data from course-related documents from a Bachelor of Education (Primary) course, Promoting Health Education; in particular, the course guides, tutorial notes, online resources and teacher educators'/authors' reflections from the week we taught food education. This article also draws on an anonymous reflective survey completed by pre-service teachers after each class, which recorded their reactions to, and perceptions of, teaching and learning. These data sources are used to explore some of the complexities of the third space design and consider what this may mean for future food curriculum within both health and sustainability fields.

Food Education and Sustainability Principles

Increasingly, food education is part of the required curriculum in schools. This is evidenced through the inclusion of food and nutrition within curriculum frameworks nationally (Australian Curriculum and Assessment Reporting Authority [ACARA],

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2014). There is some evidence that school-based nutrition programs have the potential to change the food habits of young people (Fahlman, Dake, McCaughtry, & Martin, 2008; Gibbs et al., 2013). However, there is a growing body of research that highlights there is a clear dominance of one particular approach to food education that focuses on nutritional knowledge and monitoring food choices (Currie, 2013).

One of the main criticisms aimed at current food pedagogy is that it conflates food with medicine and science, where food is 'valued for its contribution to preventing disease, or vilified for its contribution to ill-health' (Welch, McMahon, & Wright, 2013, p. 716). According to the literature, a consequence of a medical/scientific/risk dialogue is that it limits space for teaching about pleasure discourses, alternative knowledges of food and eating, and edits out the potential positive social and cultural relationships with food (Cliff & Wright, 2010; Welch et al., 2013). Although these food education programs are well intended, O'Dea (2005) draws our attention to the potential of unsupportive explicit or implicit messages that teachers may deliver during food education. O'Dea (2005) recommends the principle of 'first, do no harm' while teaching food education, and outlines that often food education programs reinforce a narrative that does not fully consider all of the dimensions of health (mental, social, and spiritual health) and indeed can be harmful to these dimensions. O'Dea (2005) stresses that teachers can inadvertently suggest diet or weight-loss techniques, promote nutrition misinformation, reinforce stereotypes (e.g., obese as gluttonous, lazy, and weak with no self-control), stigmatise and blame the victim, or position obesity as a medicalised illness through this approach.

There have also been calls for more breadth and depth when teachers talk about food with young people, such as a sustainability focus. In part, this has been influenced by the health sustainability nexus beyond the classroom. For instance, the Ottawa Charter for Health Promotion (WHO, 1986) mandated a socio-ecological approach to health and recognised that 'political, economic, social, cultural, environmental, behavioural and biological factors can all favour health or be harmful to it' (p. 3). As a result, there has been a push for teachers to focus on food sustainability issues, including increasing the awareness of impact of food choices (e.g., local, seasonal, organic, fair trade, and higher animal welfare food), food security and food mileage. This has also given rise to a growth in 'kitchen gardens' in schools (Jones et al., 2012; Libman, 2007; Ozer, 2007; Weaver-Hightower, 2011; Williams & Brown, 2012) and ignited debates around 'school food' (Morgan & Sonnino, 2013; Pike & Leary, 2012). Given this pressure for schools to teach food education and the associated pedagogical implications, it is important to research the ways in which pre-service teachers are prepared to face this complex and multidisciplinary area.

Third Space Theory

This article grapples with the tensions when creating third spaces within teacher education. The notion of 'third space' is associated with exploring the space 'in between' two or more discourses or conceptualisations (Bhabha, 1994, p. 1). A productive way to explain the third space is by drawing upon Soja's (1996) triad. In this explanation, the third space is a space where 'everything comes together' (Soja, 1996, p. 56) by bringing together elements of first space and second space, but also by extending beyond these spaces. We have used this notion to conceptualise the health sustainability nexus we attempted to create in our teaching and learning. For instance, the first space is associated with a health perspective of food (traditionally a medical, scientific, healthism, nutrition approach). We conceptualised the second space as an EfS perspective. Although there are natural crossovers beyond the classroom, we felt that these are

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often marginalised within primary education. The third space thus 'gives rise to something different, something new and unrecognisable, a new area of negotiation, meaning and representation' (Bhabha 1990, p. 211).

Within this framing, the third space is perceived as a space to build bridges between knowledge, help learners see connections and contradictions, and bridge competing understandings (Moje et al., 2004). The third space can also be theorised as a navigational space in which participants can cross over or draw upon different binaries, discourses or discursive boundaries, and which enables participants to become more central to their learning and gain access to alternative knowledge (Gutiérrez, Baquedano-López, & Tejada, 1999).

Within this article, the concept of third space has been adapted to refer to the possibility of re-imagining (and inhabiting) an alternative space for food education that bridges health considerations and sustainability principles. The paper draws upon multiple sources of information to present a case study that explores the possibility of third space in food education. Within this case study of one university class, the main sources of data come from three areas:

Course documentation

The unit/course Promoting Health Education focuses on the place of health in the primary school curriculum. This 10-week course covers health issues such as grief, mental health, sexuality, and relationships, with one week devoted to food and nutrition education; this equates to 5 hours of preparation for class (reading, video and online activities, a 2-hour class and an assessment based on food education). The course is aimed at third-year pre-service teachers in a 4-year Bachelor of Education (Primary) degree in Victoria, Australia. In their degree they complete one health education course in their third year (this is not conflated with physical education, which often occurs in teacher education degrees).

Pre-service teachers

The cohort of pre-service teachers (approximately 180 across six classes) are preparing to be generalist primary school teachers, although 23 were specialising in Early Childhood, and a similar number were specialising in Disability Studies. The pre-service teachers enrolled in this course were primarily female (86%), 20 to 39 years of age (mean age of 23) and most were Australian born (89.3%), with English as their language spoken at home (81.3%).

This case study about food education stemmed from a larger research project about health in teacher education (ethics granted), but this article only draws on the component of food education. As we wanted the student voice to be represented as part of this project, at the end of each class during the semester, the pre-service teachers completed an anonymous voluntary self-assessed reflective survey. Approximately 126 (71%) of the pre-service teachers completed this survey after the class on food education. This survey was primarily based on their attitudes, reflections, and reactions to their learning and engagement in the topic.

Teacher educators

The authors were part of the teaching team and played a key role in the design of the learning experiences. We were interested in ideas around teaching health education in less traditional ways and the implications for curriculum development.

Data collated from these sources were analysed using the theory of third space to address the following questions:

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- How might we design a third space approach to food education that brings together health education and sustainability principles?
- What are the challenges and tensions faced by teacher educators and pre-service teachers in creating and navigating the health and sustainability nexus or third space?

Before we discuss the findings of this research, we outline in more detail the third space food education experience.

Designing Third Spaces in Food Education

In designing this third space, we looked towards how the Australian Curriculum situated sustainability (ACARA, 2014). As one of the three cross-curriculum priority areas, it was envisaged that sustainability would be embedded in all learning areas, including health. On reviewing the details of the curriculum, it was evident that there were a number of incidences where sustainability had a presence within the health learning area. The curriculum elaborations that shape this third space design include teaching: sustainable practices to improve health and wellbeing (Years 1 and 2, 8- to 10-year-olds); sustainable practices such as recycling, composting and energy saving (such as food wastage; Years 3 and 4, 10- to 12-year-olds); and how to respectfully teach about how 'food practices differ between families, communities and cultural groups' through sharing 'food stories' (Years 3 and 4, 10- to 12-yea-olds; ACARA, 2014, n.p.). In creating a third space in food education, we were mindful of the considerations from both food and sustainability education spaces. Therefore, before discussing the actual teaching and learning experiences, it is important to outline our stance and approach.

Considerations for Food Education From a Health Perspective

The aim of the teaching team was to deliver a more critical understanding of food education. We were mindful that our teaching should move away from simplistic approaches to food education and instead provide opportunities for pre-service teachers to think differently about food education to ensure they did not reinforce 'healthism' discourses (Leahy, 2009, Welch et al., 2013) and honoured the 'first do no harm' principle (O'Dea, 2005). In doing so, there was a focus on: the association of pleasure and fun with food; challenging the binary of unhealthy and healthy in relation to food; and questioning a purely medical, nutritional, or physical model of food education.

Considerations for Food Education From an EfS Perspective

As well as sharing common ground in the literature, there are many commonalities between critical health education and EfS. Fien (2001) conceptualised EfS as approaches that 'integrate goals for conservation, social justice, appropriate development and democracy into a vision and a mission of personal and social change' (p. 1). According to Patrick, Capetole, and Nuttman (2012, p. 67) the purpose of EfS is to challenge young people to 'think about how society can change its widely held views about social, economic and environmental constructs'. The key strategies for EfS are similar to the critical health considerations, including envisioning a 'better future, critical thinking and reflection, participation in decision making and systemic thinking' (Patrick et al., 2012, p. 68). As there was some common ground, and curriculum support, it provided a sound basis to design a third space. Some sample learning experiences of this nexus that were designed include:

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MasterChef

A number of pre-service teachers had witnessed a food/cooking demonstration while on placement, but it had been part of a literacy and numeracy activity (e.g., reading instructions, measuring ingredients, writing of reviews). Therefore, in class we prepared a no-bake slice and modelled a discussion of broader food topics, such as: food texture and taste; food memories around cooking and favourite foods; pleasures around food/eating; nutrition such as substituting ingredients for allergy concern; using seasonal/local produce; and sustainability issues such as origin of ingredients, food mileage, and food wastage.

Shaun the Sheep

Welch et al. (2013) believe that the discourses of risk, medicine, and weight are 'entwined in and through both school pedagogies and children's popular culture' (p. 714). To investigate this, pre-service teachers watched the episode 'Shape up with Shaun' from the popular animated series *Shaun the Sheep*, which revolves around a flock of sheep who live on a farm in Britain. The premise of the episode was the transformation of 'Shirley' from obese (four times the size of any other sheep in the flock) to the same size as the rest of the flock or 'normal' weight. In this particular episode, Shaun, the 'leader', puts Shirley on an exercise and diet regime. Shirley manages the transformation to a 'normal' sheep body and is only distinguishable from the others due to the exercise gear she is wearing (Goleszowski & Sadler, 2007). However, at the end of the show she is catapulted head first into a pie van and, after only one binge of 'unhealthy' food, she is once again an obese sheep. This episode was purposely selected because much of the episode reinforces many of the stereotypes of obese people in popular culture (Shirley is characterised as being dumb, eating anything, and excessively eating unhealthy food). The episode also provided a lens in which to begin to discuss sustainability issues such as fair trade and animal welfare foods, as well as ethical and sustainable farming practices.

After watching this episode, pre-service teachers were encouraged to formulate fact/fiction statements that could be used as a basis to critique and interpret the narratives in the episode that they could use with young people, from farming practices and sustainability to questioning the 'language of obesity' present in the episode (Evans, Evans, & Rich, 2003). This was followed up with a whole-class discussion around whether this suggested school-based activity using popular culture 'first did no harm?'

Second bite

Pre-service teachers were asked to bring a photograph of the food in their fridge to class. They then had to create a meal for dinner using only the contents inside the fridge. This activity was based around the ideas of food security and sustainability, and named after the organisation Second bite (http://secondbite.org/), which connects people with excess fresh food (e.g., restaurants and supermarkets) to agencies and people in need. The discussion after this activity focused on topics such as food security, sustainability, nutrition, personal taste, and branding. The pre-service teachers also considered how this activity could fall into the monitoring, regulating, and surveillance of young people (and family) food choices (Evans et al., 2003; Leahy, 2009). For example, discussion questions focused on possible hidden curriculum messages (and similar activities, such as collating food diaries, and documenting lunch box contents), socio-economic considerations, family food and cultural implications.

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Give peas a chance

We also felt it was important that one activity presented a political and critical examination of food. Pre-service teachers listened to an excerpt from Morris Gleitzman's short story called 'Give Peas a Chance', which is about a young person who goes on a hunger strike in response to war (Gleitzman, 2008). They then answered some higher order questions about the connection between hunger strikes, world politics and the power of food, and how/why/where this might be integrated into the school curriculum.

Out of the box

This activity, adapted from the resource Focus on Food/Te Arotahi ki te Kai (New Zealand Ministry of Education, 2008), asked pre-service teachers to complete an audit and analyse the food-advertising techniques used during peak children viewing time. In class, this audit was aggregated and trends emerged that enabled discussion related to advertising influencing consumer choice and EfS. Drawing upon Skouteris, Rutherford, Cutter-Mackenzie, and Edwards' (2010) research, the learning experienced was designed to get pre-service teachers to consider how they would get their students to unpack the 'consumer choices that children make and the repercussions of these choices on their health (physiological and psychological) and the environment' (p. 35). It also provided a vehicle to discuss both the positives (Skouteris et al., 2010) and negatives (Russell, Cameron, Socha, & McNinch, 2014) of recent approaches to obesity prevention through a sustainability focus.

After these, learning experiences surveys were collected. This data was analysed through collecting the surveys from each of the six classes. These were then aggregated per question on a spreadsheet to look for consistencies across themes as well as responses that challenged the dominant theme/s. We also examined the themes based on our research aims of the study. The analysis of themes were first done independently and then the research team/teaching team met to discuss similarities and differences in coding, coming to a consensus. Through the analysis of the data related to this teaching and learning experience, a pattern emerged and three themes were identified as significant in terms of future food education implication.

Dominance of First Space

Despite our focus on creating third spaces, much of the pre-service teachers' reflections tended to focus on the first space of health perspectives of food. In particular, the dominant healthism discourse was around obesity in the children's animated series *Shaun the Sheep*. Many of our pre-service teachers may never have consciously thought about, questioned, or considered the implications of the obesity discourse for young people. They were surprised by how a very childlike animation could contain such complex messages about food, obesity, and healthy living. For example, one pre-service teacher commented 'Shaun video – surprised [me] because it's quite wrong morally — cute though', and another wrote 'I was surprised about the number of assumptions you can make about healthy eating/exercise in the *Shaun the Sheep* video'.

In relation to the focus on 'first do no harm' (O'Dea, 2005), pre-service teachers expressed thoughts about explicit and implicit messages about food; for example, 'Thinking about the message coming across in what you show kids, that is, when showing *Shaun the Sheep* — is it a good idea to use an episode such as this? Why? Why not?' and 'I felt negative messages was [sic] being sent about obesity and food'. There was a realisation around the impact (both positive and negative) of food education, as one pre-service teacher noted that they were surprised that 'health prevention strategies can have negative instead of positive effects on students'. We hoped that these sorts of

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reflections would not translate to our pre-service teachers being afraid to approach food education in the future, but rather that it would encourage them to be critical thinkers in relation to how they approach food education, as well as the resourcing they choose to use to complement their programs in the future.

A number of pre-service teachers articulated what this could mean for the ways in which they might teach food education. They asked critical questions such as: 'How much information and discussion can be brought about after watching *Shaun the Sheep*?'; 'Should we teach students about the energy in food, for example, calories, kilojoules?'; 'What is the best way to teach about how to cook healthy food and portion sizes?'; and whether they 'should or shouldn't connect food and exercise'. They also began to see the importance of the idea of being impartial with their students by 'trying not to say what are good or bad [food] choices'. As these comments show, they struggled with the tension of having a binary approach to food and how to teach differently.

We felt that this first space dominance may have emerged in this task, as within their teacher education program there had been very little space to highlight the minefields when 'talking about health and weight' (Cliff & Wright, 2010, p. 230). The dominance of this first space may have also arisen as we purposely problematised the 'healthism' discourse and challenged the language of obesity, which for some students may have contradicted some of the educational resources/programs presented to educators as 'truth' in relation to food education that they may have been exposed to on placement experiences in schools (Evans et al., 2003).

Challenges Within Second Space

Another theme that emerged in the reflections from pre-service teachers was around their own relationship with food. However, what the teaching team found interesting is that many of these reactions emerged in learning experiences that were more closely aligned with EfS themes or second space (e.g., sustainable practices such as choosing local food, growing your own produce and reducing food wastage). For example, during the class activity Second Bite, pre-service teachers created a meal from the photo of their fridge contents, and in the MasterChef activity pre-service teachers prepared a no-bake slice, which is similar to the learning activities advocated in the 'Kitchen Garden' concept (Gibbs et al., 2013). Some pre-service teachers found it very interesting to learn about 'personal food experiences', 'everyone's different food experiences at the dinner table when they were young', and their peers' 'knowledge in cooking and healthy eating habits'. For others, the act of preparing food during the MasterChef activity was illuminating as it drew attention to their lack of skills in this area, 'because I do not cook, I was lost when talking about ingredients'.

However, for some pre-service teachers, the focus on food raised their own issues with food, and a few pre-service teachers revealed their sometimes unhealthy relationships with food; as one pre-service teacher noted, this class has 'probably drawn attention to my own negative relationship with food'. It does raise the question about those who primarily teach in the second space of EfS and the extent to which they have been exposed to the theory and literature around 'first do no harm' (Yager & O'Dea, 2009) and what explicit training to prepare them to address the health concerns of young people that may arise through cooking and sharing food stories.

What is known from the literature is that how teachers interpret and implement a food curriculum is complex, because it is shaped by a multitude of factors, including: confidence; level of knowledge; and their own values and beliefs about food, eating, weight and nutrition (Burrows & McCormack, 2012). Given that the Australian curriculum now encourages 'sharing food stories' (ACARA, 2014), it highlighted to us the

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need for another look at how we discuss the concept of the 'teacher as eater' and how notions of personal beliefs and relationships to food may influence their future pedagogy and curriculum choices. It suggests that pre-service teachers need space, time and support to 'peel back the layers' of their values and beliefs around food and to consider how this would shape their pedagogical practices (Ovens & Tinning, 2009, p. 1130).

As the reflections suggest, this may be a less complex task for the majority of pre-service teachers. However, for a small number of pre-service teachers, this may mean addressing underlying issues such as 'poor body image, disordered eating and exercise attitudes and behaviors' (Yager & O'Dea, 2009, p. 481) to ensure that when they teach about food — whether that be from a sustainability perspective, health/medical view or a third space — that it is done in ways that promote wellness.

Desirability of Third Spaces

While designing third spaces through destabilising, challenging and reimagining food education, the teaching team felt some tensions. In acknowledging this, it raised some interesting dilemmas and questions, such as: Do we want third spaces? What are some of the risks and benefits for learners interacting within third spaces? Can third spaces create risks for teachers, and if so how do we ensure pre-service teachers have thought through possible scenarios and how they might manage these? How can educators scaffold the third space experience? Who is valued in third space constructs? Are we ready for third spaces?

During this learning experience, the teaching team wondered if we weren't doing a disservice to both health education and EfS; we wondered if we were able to achieve deep stages of learning of either discipline, especially within the time constraints of a university system. Gough (2002) made the call that both science educators and environmental educators need to rethink their relationship to move forward. We would argue that, given the sustainability curriculum priority and the common grounds these fields share (inside and outside the education field), there is a similar need to rethink the health and sustainability relationship to ensure that there is not a superficial understanding of health or EfS content provided. This tension was felt by the teaching team when teaching this third space construct. We would argue that it is something that future projects should explicitly examine in regards to pre-service teachers' views about the combination of EfS and food education.

From our perspective, these two approaches of critical health education and EfS shared common ground, which made designing third spaces from a teaching and learning perspective feasible and supported by curriculum (ACARA, 2014). However, given that the literature signalled that both health and sustainability already occupy a marginalised space in schools in part, we wonder how strong this nexus would be in classrooms in primary schools.

Conclusion

This article attempted to capture a rethink of food education and the ways in which the proposed health and sustainability nexus advocated by the curriculum might translate into classroom practice. Drawing upon the theory of third space, it provided an overview of a case study that considered curriculum design of food education and teacher educators' and pre-service teachers' reflections. In this article we do not seek to make large claims about this small-scale case study, but rather wish to use it as a way to share practice and open up further discussion about how we might introduce third spaces that start to conceptualise the health and sustainability nexus, and to see this relationship as complex.

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While this case study provided some insights into food education within teacher education and the reflections of those involved in this space, it also identified the need for more research into how food studies is taught within teacher education. We would add to the call that there is a need to research the role and place of food education within teacher education more broadly. Indeed, this research agenda could begin to question how, or even if, food studies is present in teacher education (both implicitly and explicitly), and investigate how it challenges or reinforces dominant narratives around food, eating, and obesity and if, or how, it might also meet the proposed sustainability curriculum priority areas. Similarly, more knowledge is needed around who is entrusted to deliver a food curriculum in teacher education — which disciplines 'own' food studies: Where does it best fit? What values, beliefs, and dispositions do teacher educators bring to the teaching of food? Does teacher education lead to more positive health outcomes for young people or could it potentially be damaging to the health and identity of young people (Evans et al., 2003)? What areas of food education are compromised, unimaginable, and marginalised in a health and sustainability third space?

Although this was a small case study, it does provide a snapshot to consider the way in which food education may be conceptualised in teacher education. The aim of the teaching team was to ensure that we modelled a potential third space construct that would align with curriculum goals that could be implemented in future classrooms. Further research would be required to see if, or how, successful we were; although it was clear from the reflections of pre-service teachers that they were challenged in their thinking about food and beginning to understand the implications of different pedagogical approaches and what this might potentially mean for the young people they teach from both a health and sustainability viewpoint.

Keywords: teacher education, food education, pre-service teachers, critical health education, education for sustainability

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