

Contemporary Issues

An undergraduate educational model for developing sustainable nursing practice: A New Zealand perspective



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ABSTRACT

In this article we reflect on the concept of sustainability and in particular, sustainability within our undergraduate nursing programme. Given the complexity of global environmental change and the prediction that this will impact on health, nurses need to be responsive, knowledgeable and prepared to act on these changes (Anåker and Elf, 2014). Therefore as nurse educators we are responsible for ensuring that undergraduate nursing students are prepared for this reality. Sustainability is a relatively new concept emerging in the discipline of nursing. It is a multifaceted concept embedded within a systems framework, influenced by international, national and local factors. The concept of sustainability can be difficult to articulate and to evidence in daily nursing practice. Student nurses at the School of Nursing, Otago Polytechnic, Dunedin, are expected to meet the graduate profile indicating that they are a sustainability-practicing graduate on completion of their degree programme. As faculty staff, we have been encouraged to explore the concept of sustainability and how it relates to nursing practice. An in-depth review of the international literature, engagement of faculty colleagues, development of frameworks, and mapping of the educational content within the Bachelor of Nursing programme, has led us to develop a model for conveying and teaching sustainable practice.

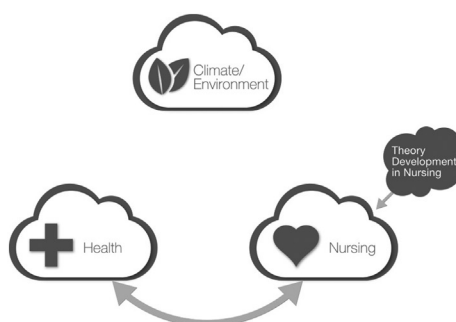
1. Background

The concept of sustainability includes understanding environmental, ecological, sociological, and cultural components aligned with nursing practice. Sustainability was introduced to the School of Nursing through the wider organisational philosophy in which this School is situated at Otago Polytechnic, Dunedin. In 2009, our organisation issued a directive that all students on completion of their degree programme, demonstrate they meet the graduate profile as a sustainability-practicing graduate (Otago Polytechnic, 2009). This directive led to a series of faculty discussions regarding how this would impact on the delivery of the degree programme. Some staff stated that we were already teaching and practising within a sustainable model and therefore very little, if anything, had to change within our curriculum. Other members of the faculty challenged this and felt that it was not clear where, or if any, sustainability content and teaching in relation to nursing was present. A number of discrepancies were noted. Not only were we unclear about sustainability in our curriculum, but a number of gaps in our own knowledge in regard to sustainability in nursing practice were highlighted, which has also been noted by Anåker and Elf (2014).

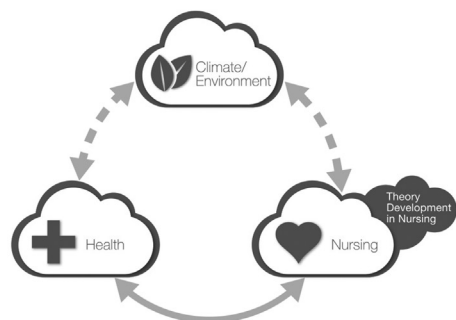
The uncertainty of our position in relation to sustainability in nursing practice and educational content led to the establishment and development of a Sustainability Committee within our School of Nursing. This committee accepted the challenge initially laid down through the institutional philosophy that sustainability principles be clearly visible within our curriculum. The committee then felt that they needed to understand sustainability in relation to nursing first and foremost. In particular, we discovered the work of Goodman who stated that it is imperative to “address sustainability and climate change in nurse education” (Goodman, 2011, p.733). We acknowledge that nurses are the largest group of health professionals and are therefore in a prime position to lead the way in addressing sustainability and climate change in health. Therefore, we accepted the challenge by Goodman (2011) to review the sustainability content in our undergraduate nursing programme, in parallel with the challenge laid down by our organisation to produce sustainability-practicing graduates.

2. Sustainability

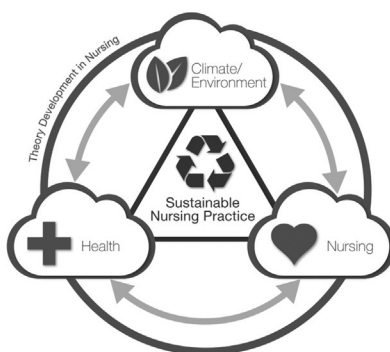
The broad concept of sustainability has been defined as “... the ability to meet present needs without compromising the ability of future generations to meet their needs” (McMillan, 2013, p.757). The consequences of global warming and climate change have a major impact worldwide; in particular, effecting people's basic human needs relating to the availability of shelter, food and clean water, as a consequence of drought, floods and rising temperatures. These effects can lead to an increase in mortality and morbidity (UNICEF, 2016). Therefore, to engage with this broad definition and situate it within a nursing philosophy, we needed to critically reflect on the implicit concepts, to further understand how sustainability



Part A: Traditional thinking of nursing in relation to health and the environment



Part B: Health and nursing beginning to be influenced by the environment



Part C: Inclusive sustainability nursing practice

Fig. 1. The development of sustainability in nursing practice.

could be implemented into nursing practice, through teaching and learning. The School of Nursing Sustainability Committee (SNSC) led an in-house workshop to explore the faculty staffs' knowledge around sustainability. Following this, a review was undertaken to critically examine the content of the Bachelor of Nursing (BN) programme. This review did indeed highlight significant gaps in our curriculum in relation to sustainable nursing content.

3. Sustainability as a Component of the Nursing Curriculum

Traditional thinking of nursing in relation to health and the environment has interested nurses for many years, and began with the work of Florence Nightingale in her first publication *Notes on Nursing* in 1859. Nightingale brought to the attention of nurses the potential for the environment to be a contributing factor to a person's health (Nightingale, 1859/1974). This was challenged in the 20th Century as the biomedical model of health care became well entrenched and nursing was yet to find its professional place. Nursing seemed to be detached from the concept of well-health, while climate and the environment were somewhere in the distance, as highlighted in Fig. 1, part A. Moving away from the curative focus associated with the medical model, to one of caring practice eventuated, as the nurse theorists continued to study aspects of care with the aim of capturing the essence of nursing. This led to the development of many theoretical frameworks such as Yura and Torres (1975) who state that nursing practice has four main elements comprising environment, health, person and nursing. In Fig. 1, part B, the relational aspects of nursing practice are showcased to demonstrate a closer association between nursing and the health paradigm. The influence of the environment in nursing practice was becoming more visible as nursing progressed from a traditional to a more contemporary approach.

Contemporary concerns such as social and environmental determinants of health, are associated with climate change and could potentially be considered a threat to individual and population health. In the 1990s the health care sector was shaped by society's challenges and opportunities and led to a population health approach and robust public health initiatives (Barnett and Barnett, 2009). Today, global health is at the front of our

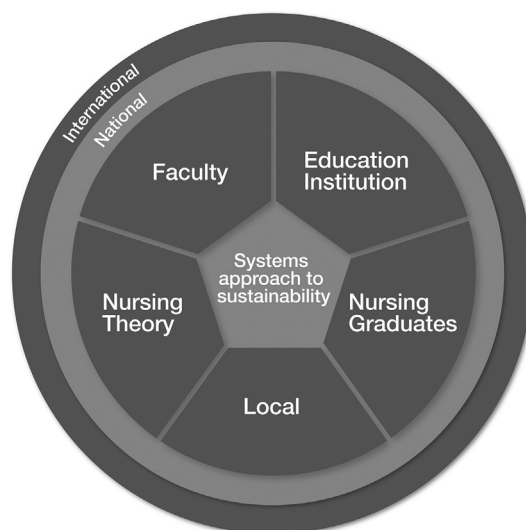


Fig. 2. Systems approach to sustainability.

thinking and is a societal reality. As educational curricula should reflect the challenges and influences in society, it has become apparent to us that despite the challenges mentioned earlier in this article, the concept of sustainability should be embedded into all undergraduate nursing curriculum and into the theoretical elements associated with nursing practice.

The curriculum review undertaken by the SNSC progressed the idea of sustainability in nursing practice. Sustainability is now included in all of the Bachelor of Nursing (BN) courses as one aspect of the learning outcomes. Also, the SNSC has worked consistently to remove any gaps and develop conceptual models that build the sustainability capacity of our students. Sustainability in relation to nursing practice aligns with reducing inequalities while considering the social determinants of health within a global context. Sustainability is the concept that binds these elements together as depicted in the previous Fig. 1, part C.

Reflecting on the place of sustainability in our curriculum, further led us to believe we were approaching the concept from a systems perspective. A systems approach incorporates a number of intertwining factors that we have incorporated into a model depicted in Fig. 2. This systems approach to sustainability illustrates that nursing curricula do not exist in a vacuum. Each of the five elements (local, nursing theory, nursing graduates, educational institution and faculty) is relational and influenced by the national and international context.

For example, at the United Nations summit in September 2015, world leaders adopted the 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development. Goal three is specific to health; “healthy lives and promote well-being for all at all ages” (UNICEF, 2016, n.p.). Achieving this goal is only possible where the other 16 goals are also addressed, with countries working to end all forms of poverty, fight inequalities and tackle climate change. These goals, and New Zealand’s commitment to addressing them, provide nurse educators and our graduates a blueprint to work from. This is in addition to responding to international, national and organisational philosophy. We encourage our students while on clinical placements to consult with communities, and to find locally workable solutions to the challenges of sustainability.

4. Integrating Sustainability Into the Curriculum

The BN curriculum in our faculty is philosophically informed by the work of Habermas (1980), a sociologist and philosopher whose thinking is underpinned by critical theory. The three year Bachelor of Nursing curriculum embeds the three paradigms of knowledge as defined by Habermas (1980) which are technical (year 1), practical (year 2) and emancipatory (year 3). These three categories are derived from knowledge-constitutive ‘interests’ expressed in a distinct methodological approach to the generation of knowledge. Technical, practical and emancipatory ‘interests’ each have an inherent place in the development of professional knowledge for nursing practice.

In year 1, the educational focus of the curriculum centres on the technical paradigm which is incorporated in the empirical-analytical sciences. The learning therefore is largely theory based, and addresses the ‘what’ of nursing and nursing practice.

In year two, the students carry this technical knowledge into the practical paradigm (which is incorporated in the critical sciences) where there is a shift from predominately theory papers to clinical settings. This is a move from the ‘what’ of nursing to the ‘how’ of nursing.

In year three, the focus is on Habermas’s (1980) emancipatory paradigm, in which the students are expected to be critical thinkers, and explore the ‘why’ of nursing. We needed therefore to build this philosophical underpinning which is guiding our curriculum, into our content around sustainability in each year. While sustainability is discussed in each and every course within the Bachelor of Nursing programme, it is overtly taught in the Professional Nursing: Theory and Research stream across the three years, to embed and develop the concept within the professional content and regulatory responsibilities. The systems approach to sustainability is demonstrated in Fig. 3. In year one the students are encouraged to think about sustainability in nursing, to be considerate about resources, and begin to think about the impact on others. In year two, the students build on this knowledge and we assist them to be mindful about resources in their nursing practice. In year three, students are expected to engage more critically when thinking about sustainability in nursing, and consider the global to local perspective of the use of resources.

We use the key word ‘resources’ when engaging with students and have found this useful for students to discuss sustainability in everyday practice (at a beginning level in year one which scaffolds to critical thinking and application into year three). In relation to sustainability, we ask students to consider environmental, financial, human and material resources in their practice (Resources model to articulate sustainable nursing practice, Fig. 4).

All of these resources influence each other and have a role to play in the socio-political healthcare environment. At the most simplistic level, an example is the use of linen in the hospital environment and we encourage year one students in clinical practice to apply the resource model in

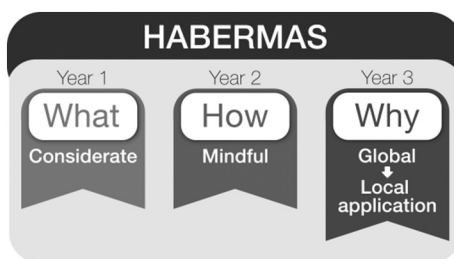


Fig. 3. A guide for scaffolding sustainability across the Bachelor of Nursing programme.

consideration of this example. Students need to think through the environmental impact of laundering the linen, the human resource needed to wash and fold the linen, the financial impact and the material resource of the linen itself. Students are encouraged to consider these resources while acknowledging wider organisational policies. Students in year two can then apply the learning from year one by being mindful of the usage of linen coupled with the wider implications of infection control in clinical practice. Further, in year three, students think at a more advanced level to critically and strategically analyse global and local issues, in particular issues associated with the consequences and the use of linen and the environment. Students at this level understand the implication in practice, as they apply an evidence-based approach.

Contemporary clinical examples relate to the third year student nurses primary health care clinical placement. This placement requires the students to work as a group to complete a community development project. The project requires them to critically profile a chosen community and identify health needs. To achieve health care improvement in a way that is meaningful and sustainable to the population, students utilize community profile and assessment frameworks which are embedded within a health promotion philosophy and are discussed in depth by the work of [Ross et al. \(in press\)](#). For example students in 2016 analysed inadequate health care services for the rural youth, the older adult and access to mental health care services of the rural Otago region and developed unique to these health needs, health promotion resources with the aim to improve the identified populations' health. Further analyses of the impact of these resources are currently being analysed.

5. Recommendations

The SNSC has two recommendations that we are continuing to develop. Our first recommendation is that student nurses' graduate with the ability to practice within a sustainable model. This leads to graduates being employed into a workforce that continues to grow nursing in relation to sustainability. Our second recommendation is to continue a dialogue with the nursing community so that we can develop a collaborative culture of sustainable nursing practice. This would help to bridge the knowledge gap between sustainability-practicing graduates and registered nurses in a sustainable manner. It is our impression that many registered nurses are already working sustainably, but may not as yet have the means to articulate this.

6. Conclusion

The School of Nursing at Otago Polytechnic facilitates sustainability-practicing graduates. The revised BN curriculum achieves this through embracing the relational aspects of environment, nursing and health, enveloped in nursing theory. This article has provided a starting point from which to initiate a robust debate amongst the discipline, nationally and internationally in regard to how we discuss sustainability with undergraduate nursing students, and encourage students to evidence this in daily nursing practice. This is an international imperative as evidenced through the Sustainable Development Goals. The SNSC passes on the challenge to our nurse colleagues throughout the world to accept this article's recommendations and critique our frameworks. We value critical feedback and ongoing discussion.

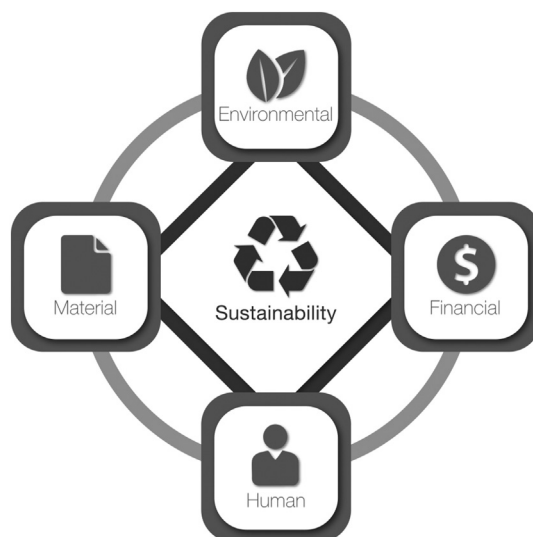


Fig. 4. Resources model to articulate sustainable nursing practice.

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References

- Anåker, A., Elf, M., 2014. Sustainability in nursing: a concept analysis. *Scand. J. Caring Sci.* 28, 381–389. <http://dx.doi.org/10.1111/scs.12121>.
- Barnett, J.R., Barnett, P., 2009. Reinventing primary health care: the New Zealand case compared. In: Crooks, V.A., Andrews, G.J. (Eds.), *Primary Health Care: People, Practice, and Place*. Ashgate, Surrey, pp. 149–165.
- Goodman, B., 2011. The need for a ‘sustainability curriculum’ in nurse education. *Nurse Educ. Today* 31, 733–737. <http://dx.doi.org/10.1016/j.nedt.2010.12.010>.
- Habermas, J., 1980. *Knowledge and Human Interests* (trans. J. Shapiro). Heineman, London, UK.
- McMillan, K., 2013. Sustainability: an evolutionary concept analysis. Exploring nursing's role within the sustainability movement. *J. Adv. Nurs.* 70 (4), 756–767. <http://dx.doi.org/10.1111/jan.12250>.
- Nightingale, F., 1859/1974. *Notes on Nursing: What It Is and What It Is Not*. Blackie, Glasgow, Scotland.
- Otago Polytechnic, 2009. *School of Nursing Programme Document*. Author, Dunedin, New Zealand.
- Ross, J., Crawley, J., Mahoney, L., 2017. Student Nurse Ambassadors for Sustainable Healthy Communities: What Does Community Development Practice Look Like? In: *Scope: Contemporary Research Topics: Sustainability 1(1)* (In Press).
- UNICEF, 2016. Sustainable development goals. Retrieved November 2016 from. https://www.unicef.org.nz/learn/our-focus-areas/sustainable-development-goals?gclid=Clq3_ZDr4dACFYGbvAodLukPhA.
- Yura, H., Torres, G., 1975. Today's conceptual frameworks with the baccalaureate nursing programs. In: *National League for Nursing Publication No. 15-1558*, 17–25. National League for Nursing, New York.

Emma Collins*, Jean Ross, Josie Crawley, Raeleen Thompson
School of Nursing, Otago Polytechnic, Forth St, Private Bag 1910, Dunedin 9054, New Zealand
E-mail address: Emma.collins@op.ac.nz

* Corresponding author.