



Moving Towards a Holistic Paradigm: Teaching Sexuality Education in a New Zealand University

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Authors' contributions

This work was carried out in collaboration between all authors. Author TC was involved in the project design, taught the course, accessed and reviewed current literature and wrote the literature review. Author EBH was involved in the project design, administered the collection of data, analysed the data and wrote the results and discussion section. Author PC was involved in the project design, facilitated the focus groups, wrote the introduction and conclusion and edited the final manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aim: Using a qualitative approach, the aim was to investigate the existence of a change in the basic assumptions, or paradigms, in tertiary health education students following a sexuality education course.

Study Design: Qualitative research using Nvivo analysis was utilised.

Place and Duration of the Study: The research took place at the University of Canterbury, Christchurch, New Zealand between July and October, 2014.

Methodology: The sample included 21 students enrolled in a sexuality education course.

The majority of students were health education majors in the Bachelor of Health Sciences degree. All students completed pre- and post-course questionnaires and a random sample of the students were also selected to participate in focus group discussions. Students were questioned regarding their understanding of sexuality, their perceptions of sexuality issues facing New Zealanders, and

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changes in their ideas about sexuality education resulting from the course.

Results: Data analysis of the pre-course questionnaires and focus groups found students understandings and beliefs regarding sexuality education were mainly situated within a biomedical paradigm emphasizing the physical aspects of an individual's sexuality. Post-course data suggested a shift towards a more holistic understanding of sexuality, the development and appreciation of a broader understanding of sexuality issues facing New Zealanders, and a marked paradigm shift in ideas around the concept of sexuality.

Conclusion: This study demonstrates that sexuality education programmes framed within a holistic paradigm and underpinned by sound pedagogical practices have the potential to facilitate an expansion of ideas and attitudes about the construction of sexuality education.

Keywords: Sexuality; sexuality education; paradigm shift; health education; holistic education.

1. INTRODUCTION

The World Health Organisation (WHO) and Federal Centre for Health Education (BZgA) [1] states that sexuality education is a human right and is part of being human. The Sexuality Information and Education Council of the United States (SIECUS) [2] asserts that a human right infers that people are given the opportunity to explore the socio-cultural, biological, psychological and spiritual dimensions of sexuality. This is enabled through the provision of information, exploring feelings, values and attitudes and the development of communication, decision-making and critical thinking skills. Furthermore topics should be explored in relation to sexuality as a positive, health enhancing concept and supporting a holistic paradigm where sexuality education is seen as a process that continues across the lifespan [2]. These defining statements, that inform the authors' approach to sexuality education, emphasise the inclusion of physical, emotional, social and spiritual aspects and culminate in a view of sexuality as a foundation of "positive human potential and a source of satisfaction and pleasure" [1].

Although these complementary statements are suggestive of appropriate pedagogical approaches to sexuality education, there remains no global agreement on the specific content of sexuality education programmes [3]. Social, cultural and ecological factors combined with a multitude of attitudes and beliefs result in a division of international opinion about best practice. Consequently, the likelihood that sexuality education programmes will embrace a holistic paradigm where sexuality is viewed as a lifelong process delivered through pedagogical approaches advocated by SIECUS [2] and WHO/BZgA [1], is frequently compromised. Rather, individual educators facilitate

programmes that are neither systematically administered nor based on evidence-based pedagogical practices [1,2,4]. In addition the effectiveness of many sexuality education programmes in providing knowledge, understanding and skills that develop positive attitudes towards sexuality is challenged by a variety of confounding factors such as: presenting a biased paradigmatic approach; failing to meet the needs of diverse groups; focusing mainly on biological aspects; limited discussion about desire and being a sexual being; and lacking qualified educators [5-14].

1.1 Sex and Sexuality

In order to understand best practice in relation to sexuality education it is necessary to first articulate the essential differences between the terms sex and sexuality. Sex refers to the "biological characteristics that determine humans generally as female or male" or "as referring to a sexual activity" [1]. Although it is comprehensible that sexuality constructs and discourses are inherently linked to diverse cultural values, beliefs and power relations and therefore change over time, the WHO [15] defines the broad concept of sexuality as:

"a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices, roles and relationships" (p 10).

A lack of understanding of this holistic conceptualisation of the word *sexuality* is commonly observed in the New Zealand media [16]. This confusion contributes to a societal understanding that sexuality education consists

of learning about associated genitalia, contraception and the physical act of sex. As long as the media continues to situate sexuality education in a bio-medical sex education discourse, a broader more holistic paradigm of sexuality may not be prioritised by stakeholders.

Research identifies a number of factors that impact on people's ideas about and feelings towards their sexuality. Jerman and Constantine [17] found that in many families, conversations and open communication about sex was not common, with parents identifying embarrassment as one of the factors that mitigate open discussion. A lack of communication between adults and young people is further exacerbated through gender role expectations. Keddie [18] identifies that hegemonic masculinity structures work to perpetuate violent cultures because the world of emotions and feelings, a key aspect of sexuality, is ignored and devalued. Young men have been found to have less communication about sex and sexuality with parents than young women [19]. This reflects the need for young men to find alternative sources of sexuality discourse, often in the form of their peers, who can either promote a positive attitude towards holistic sexuality or perpetuate socially unjust attitudes including heteronormative beliefs.

On the other hand, research has shown that parents who hold a positive attitude towards talking openly about sex and sexuality may lead to young people engaging in healthier sexual behaviours [4,20].

1.2 Sexuality Education

Sexuality education is defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) [21] as:

an age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic, non-judgemental information. Sexuality education provides opportunities to explore one's own values and attitudes and to build decision making, communication and risk reduction about many aspects of sexuality.

With this definition in mind, sexuality educators need to assist people to explore sexuality in a positive health enhancing manner which includes examining their own, and others' values and decisions. Supporting the recommendation of

SIECUS [2] programmes need to be grounded in a holistic perspective. By doing this they are helping people to access their human right to explore the different dimensions of sexuality, as advocated by WHO/BZgA [1] and SIECUS [2]. Furthermore other authors have stressed the need for sexuality education programmes to encourage differing facets, for example critical thinking around sexuality issues, discussion on desire and pleasure, and challenging of negative attitudes towards socially unjust practices [9-11,22-24].

What is defined as good sexuality education is most often designed and implemented from an educator's perspective [25]. However a lack of professional development means many educators do not feel comfortable and prepared to effectively facilitate in-depth sexuality programmes based on a holistic paradigm [11,13,26]. In New Zealand it is not compulsory for sexuality educators of any age group to have completed a course in sexuality, which as many countries have identified, presents a problem in terms of the knowledge base, paradigm positioning and confidence levels that educators impart on the design of a programme [1,5,11,12,26].

Undoubtedly educators often have to balance competing moral and ethical perspectives coming from multiple sources such as the wider community and the media. However Allen and Carmody [25] stress the need for sexuality education to be underpinned by clearly articulated and diverse theoretical underpinnings. What is often forgotten in the struggles around competing discourses of sexuality education is the importance of listening to the voices and needs of the target clientele, regardless of whether the group is in a kindergarten or retirement home [27,28]. Furthermore quality sexuality education must take place in an environment that allows for safe, open and non-judgemental dialogue between educators and their groups allowing for the exploration of relevant attitudes and values [29].

1.3 The New Zealand Context

In New Zealand a multitude of factors including a lack of openness around sexuality, the diversity of cultural backgrounds and beliefs, and an overall 'culture of conservatism,' have led to difficulties in supporting educators to develop sexuality education programmes based on a holistic paradigm [5,7,12,13]. There is a gap

between what is known to be sound sexuality education and the actual practice that occurs in a wide range of settings [5,8,12,13].

Denny [30] identifies that one of the most important sources of sexual health information in New Zealand is electronic media. At the present time there is not enough evidence to conclusively state that sexualised material received through electronic media causes negative health outcomes. Attitudes towards normal relationships and sexual behaviour however are likely to be influenced [31]. Since 2001 sexuality education has been mandated for school-aged students in New Zealand. Although many schools are working with parents and the wider community to foster collaboration and respond to student's needs, a review by the Education Review Office (ERO) [8] identified deficiencies in the knowledge base of educators, inconsistent planning and delivery, and a failure to effectively meet students' needs. Outside of formal education Terry et al. [13] confirm that sexual health promoters in New Zealand identify comprehensive and holistic sexuality education has been, and still is, lacking in New Zealand. Furthermore a fear of community backlash, lack of confidence, lack of professional development, and an awareness of hostile feedback portrayed through the media has led to educators' reluctance to fully embrace educating in a holistic manner [5,12,25,26]. Research has confirmed that more vital components of sexuality education such as interpersonal skills and socio-critical thinking about desire and pleasure and gender are ignored or decontextualized leaving no real meaning to young people [6,8,13,28].

Overall sexuality education in New Zealand appears to be inadequate and focused on reducing negative outcomes [5,13]. This approach, problematizing sexuality does not reflect the tenets of holistic sexuality education nor enhance people's self-efficacy [2].

In addition, approaches based on bio-medical paradigms contribute to a belief that the most salient sexuality issues confronting New Zealanders are the high teenage pregnancy and sexually transmissible infection rates. While there is evidence to show that these are areas of major concern in New Zealand [32] other sexuality issues of significance receive comparatively little attention. Concerns about the impact of heteronormativity on wellbeing, consent in sexual relationships and cultural understandings of

sexuality have all been identified as areas that must be addressed in greater depth [5,6,12,16].

Despite the aforementioned 'culture of conservatism', New Zealand has been forward thinking in legislation recognising equal rights for everyone regardless of sexual orientation [33]. Since August 2013 the Marriage (Definition of Marriage) Amendment Act [34] allows same-sex couples to legally marry. Despite these legislative acts promoting equality for all, the New Zealand queer communities still face considerable health and well-being disparities [28,35]. A holistic sexuality programme would work to address the challenging environments faced by this population, and address discrimination based on sexuality [35].

1.4 About the Study

The results are drawn from a larger study on health education students' evolving knowledge, skills and understandings in a university sexuality education course. The course was a compulsory second-year paper in a Health Education major in a Health Sciences degree at the University of Canterbury, Christchurch.

The course lecturer endeavoured to create a learning environment that enabled students to challenge and deconstruct deficit concepts of sexuality, develop their ability to think critically, and to apply a holistic paradigm. Within the context of a socio-ecological framework, the aim was to expand students' understanding from a narrow bio-medical focus to a perspective that allowed students to explore a broader conceptualisation of sexuality [36].

Moreover Henry [37] found that tertiary students participating in sexuality courses not only demonstrated increased knowledge but also reported improved relationships and better communication with sexual partners. Chonody et al. [23] cite other research that identified a reduction in homophobia and increased responsibility for sexual health care directly linked to course participation.

As well as providing the authors with data regarding potential paradigm shifts, the researchers regarded the research as an important element of course evaluation given that this was the first year of this particular course's inception.

The questions that are investigated in this paper are:

1. What do you understand sexuality to mean?
2. What do you perceive as the sexuality issues of most concern in New Zealand society?
3. In what ways have your own ideas towards sexuality education changed as a result of this course?

2. METHODS

2.1 Participants

The study participants were twenty-one of the twenty-five students enrolled in the 48 hour face-to-face course who attended the lecture on the days of data collection at the beginning and end of the course. Four other students enrolled in the course who were absent on either one of the data collection days were not included. Study participants ranged in age from 19 to 34 and comprised 6 men and 15 women.

2.2 Surveys

The study utilised qualitative methods of data collection and apart from demographic data, the questions were open-ended. Following an introduction to the study by one of the researchers, who was unknown to the students and involved in neither the course delivery nor its administration, students who volunteered to participate were requested to complete a consent form. All students present on the first day of the course volunteered to be part of the study. Surveys were then distributed to all participants (n=21) and completed during lecture time.

On the final day of the course those students who had completed the pre-course survey were asked to complete a second survey. Due to time constraints, no attempt was made to follow up students who had completed the first survey but who were not present at the final lecture.

2.3 Focus Groups

The focus group interviews conducted pre and post course delivery were a second method of data collection chosen to provide depth to and elaboration on the survey responses. All of the focus groups were facilitated by the same non-lecturing researcher. A random sample of those students who had completed the surveys made

up three focus groups of between 4 and 5 members in each. The focus group interviews were semi-structured with the interviewer using set open-ended questions while also accommodating informal discussion. Interview questions were based on questions from the pre and post course surveys. Focus group discussions were both audio and video taped and transcribed verbatim. Video recordings of the focus group interviews were utilised for better identification of the participants as well as for clarification when the interviews were transcribed.

The researchers collaboratively interpreted and analysed the data from both the surveys and focus group interview transcriptions. The themes in the data were moderated by the research team. Subcategories were created from broad data categories, and codes were created for both data categories and subcategories through the use of Nvivo software.

2.4 Ethics

Approval for the study was gained from the University Educational Research Human Ethics Committee. All research methods complied with the University of Canterbury research ethics guidelines. Participation in the surveys was anonymous and voluntary. A detailed explanation of the research purpose and process was communicated both orally and in writing. Written consent was sought from all participants and confidentiality and anonymity were assured.

One of the researchers was the course lecturer and thus responsible for course delivery. Ethical concerns in this regard were addressed by the course lecturer's non-involvement in data collection and her non-involvement in data collation and analysis until course grades had been finalised and students notified of their results.

3. RESULTS AND DISCUSSION

3.1 The Meaning of Sexuality

Pre-course findings suggested that the term 'sexuality' was most commonly understood from a bio-medical perspective. Physical aspects of sexuality, including human sexual anatomy, anatomical changes at puberty and sexual reproduction were most frequently identified as core aspects of sexuality. Bagshaw's [28] finding

that some people regard sexuality as equivalent to one's sexual behaviour or orientation, and therein supporting a bio-medical stance, also found support in this study. When asked what they thought sexuality to mean, participants' responses included:

"It's anything to do with a sexual organ or sexual orientation"-female, 19.

"How a person would identify themselves, their behaviours and sexual acts and the journey through puberty"-male, 22.

"Your sexual preference, your sexual identity and who you're attracted to"-male, 22.

Given that half of the study participants had attended high school in the previous five years, Goldman and Coleman's [26] finding that school health educators continue to fail to deliver holistic sexuality education appears credible. Similarly the findings support New Zealand research that found a conservative culture provided challenges to the implementation of programmes based on a holistic paradigm [5,7,8,12,13]. Foucault's [38] view that sexuality discourses are linked to the cultural mores of the time appears evident here where conservatism in New Zealand seems to be shaping a paradoxical approach to sexuality education.

Post-course data suggests a shift towards a more holistic understanding of sexuality. This was demonstrated in the participants' greater awareness and recognition of societal influences on gender and sexual identity, concepts that sit well with the aims of sexuality education as defined by the WHO [1] and SIECUS [2]. In particular, young people's exposure to sexual content through television and other electronic media and the potential negative effects on their attitudes and beliefs about sexuality, including body image, were identified.

"The media has an unrealistic image of men and women and what they should do and what they shouldn't do and how they should behave and how they should look"-male, 20.

"The media's got a massive social construction around the ideal body image; like we see a lot of it for females, but it affects males as well"-female, 27.

3.2 Sexuality Issues of Concern in New Zealand

Pre-course data indicated participants' somewhat limited awareness of current sexuality issues in

New Zealand society. Similar to the biomedical focus in relation to their understanding of sexuality, participants predominately (and rightly) identified increased rates of sexually transmissible infections and teenage pregnancies as major issues of concern [28].

The fact that many participants highlighted the negative role of the media on an individual's sexuality as an issue of major concern, suggests that this is an area that resonates with their understanding of the power of the media. This supports the findings of Chandra et al. [39] and Potera [40], but is contrary to the findings of Escobar-Chaves et al. [41] who found no evidence of the influence of the media on sexual behaviours. Given the plethora of recent media attention surrounding the legalization of same-sex marriages in 2013 [42-44] it was not unexpected that many participants referred to negative societal attitudes towards queer culture:

"Stigma against gays, bisexuals and transgenders. I found that lots of people won't talk about it or they've got a negative perception on it"-female, 22.

"When they passed the law where gay people could get married there was a lot of arguments. In the media, if you read the comments at the bottom of the article there'd be quite, you know abusive messages"-female, 21.

"Even though there has been a lot done, society's attitudes towards certain groups need to change, especially towards gays and lesbians and transgender"-female, 27.

The power of the media was also evident in a concern about the growing sexualisation of children and women through the media and the corresponding harmful effects on people's attitudes, beliefs and self-image:

"I think sexuality in the media, like the way the media sexualises girls and even boys and how that has an impact on people's self-image and self-esteem and self-identity"-male, 20.

"XX (name of the brand) is really good at sexualising women. I remember one ad in particular, it was to do with all these women in bikinis at the beach running towards the guy that sprayed himself with the XX . Like if you get XX then you can get women, that kind of thing"-female, 20.

"I don't think people realise the impact media has, like when we see ads and stuff. We might just think, oh it's an ad, but I think that influences us in a way and influences what we do and our decisions and everything else"-male, 29.

Statements such as these demonstrate the power of the media in dictating what are viewed as issues of concern. Across all age groups New Zealanders spend a large number of hours watching television and the majority of young people rely heavily on social media such as facebook, twitter as a source of knowledge [30].

The evidence of emergent skills in some participants in critiquing the power of the media suggests that some school sexuality programmes are countering the culture of conservatism [13] by challenging students to explore negative societal attitudes towards socially unjust practices [5,23,24].

The post-course data suggests that the majority of participants gained a broader understanding of current sexuality issues across the lifespan of New Zealanders. Furthermore, issues highlighted as concerns at the end of the course leaned to topics that are more likely to be surrounded in secrecy in New Zealand such as pornography and domestic violence.

"People watch porn so that's what they perceive as sex. Then they're with a girl so they think this is what I've got to do and then they'll do that"-male, 22.

"Domestic violence is a big one. I guess, sex is a good way to control partners. Because they're in a relationship, they don't think that is classified as rape so they just think, he's my partner and that's just what happens"-female, 22.

Contentious issues such as these are less likely to be a focus of sexuality education programmes in which educators lack skills in the development, implementation and facilitation of in-depth discussions [26]. In addition the lack of open communication and discussion in New Zealand society around sexuality issues [17] ensures that such topics are less likely to be discussed with family members or peers at any point during one's life.

Post-course statements also raised more sexuality issues that were relevant to all sectors

of society. Before the course began, issues of concern were mainly linked to groups commonly viewed as victims of discrimination such as queer youth and women. Following the course participants' responses indicated an understanding that almost all New Zealanders are victims of discrimination in some sense. In particular, greater attention was afforded to boys and men. As well as the effects of pornography in dictating how men should act in sexual encounters and the related pressure and effects on self-esteem [45], the effects on men and boys heteronormativity resulting from New Zealand's obsession with rugby was scrutinised.

"When you think about a male in New Zealand, everyone thinks, he plays rugby, is hard and rough, big and muscled, that's the general stereotype of a man. That's what a little boy's going to grow up thinking, okay well I need to play rugby, I'm not going to do dancing or anything because what I need to do is play rugby, because everyone else is doing it. That's what my Dad does, that's what all his friends do. Like, go to the pub, drink beer, that sort of thing. So they're growing up with that, in that environment and thinking that's the only way to be"-female, 19.

Not surprisingly, following the participants' exposure to a sexuality education course underpinned by best practice guidelines, and facilitated by a well-qualified and experienced sexuality education lecturer, every participant nominated the lack of compulsory school sexuality education for years 1 to 13 as a major issue. Although the course was designed to address sexuality education across the lifespan participants concurred that all age groups were disadvantaged by a lack of high quality, holistic sexuality education programmes during their school years. While sexuality education is compulsory in New Zealand schools from years one to ten (ages 5-14 years), participants' responses supported the findings of the Education Review Office [8] that many school students are not receiving adequate sexuality education.

3.3 A Changing Paradigm

The post-course data suggests a marked paradigm shift in ideas around the concept of sexuality. This shift has been described to some extent under the first section of results. The shift from a bio-medical perspective towards a more holistic understanding of sexuality following the

course however was not only inferred from participants' greater awareness, and recognition, of societal influences, but also in their use of related terminology.

"It's not just a biomedical approach to the sexual organs, it's to do with a holistic approach, looking at the environmental, societal, and personal factors. And also how you see yourself, your gender and your sexual orientation, and even the way you dress has to do with sexuality. So it's including all of those things, not just vaginas and penises"-female, 19.

Their understanding of sexuality as a multifaceted concept that is part of being human [1] is illustrated in the following statements. These clearly demonstrate an understanding that sexuality not only reflects a person's uniqueness, but also encompasses elements of their physical, emotional, social and spiritual being [2].

"It's very broad. There's not one set definition of what it is as each person perceives it differently. It could be how they feel about themselves, how they identify themselves"-male, 27.

"It's not just to do with sexual pleasure and actual sexual desires, but also your own identity and self-belief and self-esteem and body image"-female, 20.

"Sexuality it's not just about sex. It's about respecting yourself and your body"-male, 20.

A second shift was apparent in the participants' increased ability to discuss, without embarrassment, different sexuality topics. This supports the findings of Henry [37] who found increased comfort levels in dialogues around sexuality resulting from engagement in sexuality lectures. Henry [37] found the reduced fear and increased comfort to be a finding consistent with earlier reviews of associated literature [11,46,47]. Supporting the findings of Goldfarb [47], the majority of participants reported that they felt more confident to engage in conversations about different sexuality topics with their peers and/or co-workers and partners.

"I feel like it's more normal to talk about it now. Before I probably would not talk about it as much, but now I just think oh yeah. Like at

work, we're always talking about things and I'm like, 'guys its normal'. That's what I do in class"-female, 21.

"I quite often look at the videos I get sent from our lecturer and our friends will also send some videos on issues around sexuality and things like that – you know, I'm just a lot more open now and comfortable to talk about it"-male, 22.

As well as experiencing more comfort and confidence in discussing issues related to their own and others' sexuality, participants also recognised the importance of having open communication about sex and sexual desires within relationships:

"A lot of people don't really know how to communicate with their partners properly and then they get into situations they don't want to be in. I think communication between each other is a key"-female, 20.

"Communication, that's one of the main things, because obviously things like consensual sex and stuff like that, if you don't have the base communication skills, then how are you going to prevent anything or like help anything"-female, 26.

Henry [37] found sexuality courses provided tools to improve communication about personal needs, sexual desires or interests. This shift towards greater openness in discussing personal feelings towards sexuality issues was also reflected in the participants' call to normalise sex within New Zealand as a way towards a more open society. For example:

"The whole issue in New Zealand is not normalising sex. Like we need to normalise sexuality and normalise sex. Like there's still a huge misunderstanding about STIs and how common they are, and maybe if people would normalise sex now, STIs wouldn't be such a problem because you'd just go to the doctor and get it checked out and it's not a big deal"-female, 20.

"Trying to make sex normal is actually the biggest issue. It's almost taboo, you just don't talk about sex, but, you know, it sort of, it happens, it's part of everyday life, so I wonder why people still feel like they can't talk about it and they don't want to talk about it"-male, 29.

Another shift to occur in sexuality constructs was the participants' perception of the need to be more cognisant of diversity and recognising of differences. This supports the findings of Goldfarb [47] and Oswalt et al. [11] whose research, also conducted with university students enrolled in sexuality courses, found students acknowledged becoming more open-minded and more appreciative of others' views and perspectives as a post-course outcome.

"I've always been quite open-minded, but I have to say that my appreciation of certain groups has changed. Like when that lady came in from the transgender community"-female, 22.

"I did learn lots more about the struggle that some of the groups go through, you have a greater appreciation"-female, 21.

"I've just been opened up to a lot more"-female, 25.

As well as a shift in participants' understanding of the importance of sexuality as part of being human and integral to our life experiences, some participants indicated an inclination to put into action their changing ideologies. The following quote illustrates not only a change of view in terms of acceptance of diversity, and the associated discrimination, but a preparedness to act on it.

"I'm happy to say that my views have changed. I always tell my boyfriend off when he says like, "That's so gay." I'm like, "you can't say that"-female, 21.

4. CONCLUSION

This study highlights that sexuality education programmes framed within a holistic paradigm, and underpinned by sound pedagogical practices, have the potential to facilitate an expansion of ideas and attitudes about the construction of sexuality education. As the findings in this study indicate educators need to be cognisant of the cultural discourses that influence their own and others' conceptualisation of sexuality and associated education programmes. Furthermore educators need to reflect on the current paradigms of sexuality education and the corresponding impact on a population. With the easy access to sexual content through New Zealand media, many

individuals are likely to get assimilate an inaccurate and harmful understanding of sexuality that is focused on a bio-medical paradigm. While learning and discussions regarding the physical aspects of sexuality are needed, and are likely to be the only formal paradigm to which many people have been exposed, greater emphasis needs to be placed on holistic sexuality education as a human right and a source of human potential. This emphasis will provide knowledge, understandings and skills that are essential to people's identity, relationships and overall wellbeing.

5. LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH

It is acknowledged that the sample size was small and that there is a need to repeat the research on a larger scale so that other groups can utilise the findings. The authors recognise that it was outside the scope of this study to quantify any impact a paradigm shift in the participants' understanding might have external to the lecture theatre. Therefore the true impact of holistic education on individuals' views, attitudes and behaviours needs to be further explored by the utilisation of a multitude of measures. More qualitative research is needed to provide answers to pressing questions such as "What impact is holistic sexuality education having on peoples' lives?" and "What are the effective ways of teaching sexuality education across life spans?"

While this study contributes to the literature regarding the influence of holistic sexuality education on tertiary health education students' understanding of sexuality, it would be useful to conduct a longitudinal study following the students who took this course through to their roles as educators in the wider community. This would allow researchers to see whether the knowledge the students gained from the course was further disseminated and whether the perceived or actual paradigm shifts from their experiences were maintained and continued long term. The authors The findings of this study can also be used to design more comprehensive surveys and focus group interviews that better capture the possible influences of human sexuality courses on students' constructions of sexuality.

ETHICAL APPROVAL

Ethical approval was obtained from the ethics committee at the College of education, University of Canterbury, Christchurch, New Zealand.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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