

Paper 53 – Full Paper

Engaging ethics education - exploring the potential of the Values Exchange decision making software: A case study.

Authors

Amanda Lees, National Centre for Health Law and Ethics, AUT University, Auckland, New Zealand.

Rosemary Godbold, National Centre for Health Law and Ethics, AUT University, Auckland, New Zealand.

Address for correspondence

AUT University, Akoranga Drive, Northcote, Auckland, New Zealand.
amandab.lees@aut.ac.nz

AUT University, Akoranga Drive, Northcote, Auckland, New Zealand.
rosemary.godbold@aut.ac.nz

Abstract

Ethics is an essential, yet challenging element of the education of health care professionals. Effective methods are needed to facilitate ethical decision making in practice. This paper reports on a study which explored the educational potential of the Values Exchange; a web-based decision making software tool. It is underpinned by the philosophy that all decisions are a mix of values and evidence. While evidence is visible, values often remain hidden. The software aims to illuminate the role and influence of values in ethical deliberation.

A qualitative case study was conducted with five participants involved in postgraduate education and health care practice. Participants worked through a provocative case scenario using the Values Exchange. The software generates reports summarising each user's thinking and these were analysed by all participants. An online questionnaire and face to face interviews explored participant's experiences of the software, the experience of viewing case reports of others and their own decision making processes. The data was thematically analysed.

The Values Exchange experience raised awareness of the complexity of decision making. Participants identified inherent tensions within their decision making processes, for example, the role of emotions and conflicting duties. The software offered transparency and accessibility to the thinking of others. Participants also reported an appreciation of different perspectives and consequentially, new ways of seeing the scenario and a better understanding of themselves. As a web-based technology, the software provided a structured framework to guide the decision making process as well as triggering new thinking.

The Values Exchange software has the potential to engage students to deliberate and reflect on ethical issues. It may assist students to understand the complexity within decision making and to recognise the inherent and integral role that values play in that process. Further research is required to confirm and build on the findings of this study.

1. Introduction

The inclusion of ethics in the education of health professionals in the tertiary setting is increasingly prevalent. However there is variation in content, depth and approach taken (Campbell, Chin & Voo, 2007). Ethics is acknowledged to be both challenging to teach and to assess (Bertolami, 2004; Campbell et al., 2007; Singer, Pellegrino & Siegler, 2001; Wong & Chung, 2003). Traditionally, it is based on knowledge and application of ethical theories often not enjoyed by students who can find it 'heavy going' (Parsons, Barker and Armstrong (2001:51) and difficult to apply to real situations in practice (van der Burg and van de Poel, 2005). Effective teaching methods need to be developed that aid the student to make the transition from what is learnt in class to what is needed in practice (Bertolami, 2004; Wong & Chung, 2003).

Research is scarce as to the educational effectiveness or student experiences of specific teaching strategies, with no clear consensus as to the most effective method. The researchers have used the Values Exchange (Vx) decision making software for teaching and assessment in ethics programmes for undergraduate health professionals for six years (AUT University Values Exchange, 2011). Lecturer experience and student evaluations are positive, but limited formal research has assessed its use (see Newcombe, 2007). This paper reports on a study which explores the potential of the Vx to facilitate engaging and meaningful ethics education.

2. Background

Values are central to the philosophy which underpins our ethics education and the Vx. Currently, the emphasis of decision making in health care is evidence based practice, with a generally accepted assumption that this provides beneficial outcomes for patients (Dickenson & Vineis, 2002). These are produced through a stringent process of accumulating and assessing the quality of measurable cause and effect data using a hierarchy of evidence in which randomised controlled trials and systematic reviews are the gold standard (Hope, 1995). However, as individuals we do not view the world from a purely factual perspective, but are constantly appraising our experiences in terms of the values that we hold (Rokeach, 1979). Rather than seeing evidence and values as separate aspects of decision making, values are central to the way one sees the world and decision making (Limentani, 1999). Despite the current emphasis on evidence, there is a growing body of literature that supports a more balanced framework which acknowledges individual values within the decision making process (Dickenson & Vineis, 2002; Fulford, Dickenson, & Murray, 2002; Godbold, 2007; Hope, 1995; Mills & Spencer, 2005; Newcombe, 2007; Petrova, Dale, & Fulford, 2006; Seedhouse, 2002; Seedhouse, 2005; Seedhouse, 2009).

The place of values in health care decision making is not always acknowledged or understood. Fulford (2004) has developed what he calls the counterpart to evidence-based medicine. Values-based medicine (VBM) is a fact + values model of reasoning, which proposes that values and evidence are "the two feet on which all decisions in health (and any other context) stand" (p. 209). Seedhouse (2005) adopts a similar values based approach. His theory is concerned with exposing the values which drive and inform decision making. "All decisions are a balance of evidence and values. Obviously we should regard values as at least equally important as evidence. And yet we don't" (Seedhouse, 2005:23). Further, he argues that in healthcare, evidence is visible while

values are often neither visible, transparent, or recognisable (Seedhouse, 2009). Technological advances in health care mean that there are now many more options for treatment and patients have significantly greater access to health information (Campbell, et al, 2007). The practitioner is no longer the exclusive expert. Where once medical values dominated, now there should be a more democratic acceptance of people's individual values. Both practitioners and students need to be more aware of the role of values and recognise the influences of their own, as well as the values of those they are working to help (Fulford, 2004).

2.1 Ethics Education

Dewey (1920) proposes that ethical deliberation and education are inextricably linked as both rely on an experience related journey of improvement. Not only should ethics education illuminate the role that values play in the decision making process, it should equip students with reasoning skills to enable them to be more aware of situations within their practice, to consider a range of possible courses of action and to confidently justify their position. Ethics education also assists students in gaining the capacity for moral reflection. It is important not only to have ethical awareness, but an ability to continually analyse and critique practice (Campbell, et al, 2007).

It is suggested that the theory-practice gap is problematic within ethics education (van der Burg and van de Poel, 2005; Parsons, et al, 2001; Hattab, 2004; Cowley, 2005). Insufficient research has been done into learning and teaching methods (Goldie, Schwartz, McConnachie, & Morrison, 2001), but it is clear that more innovative approaches are required (Parsons, et al., 2001; Campbell et al., 2007 Bertolami, 2004; Wong & Chung, 2003). A web-based learning environment allows for flexible access and participation, with scope for interdisciplinary discussions (Ellenchild Pinch & Graves, 2000). Computer based ethics programmes have been developed within engineering (Goldin, Ashley & Pinkus, 2001), business (Mathieson, 2007) and health care (Fleetwood, Gracely, Vaught, Kassutto, Feldman and Novack, 2000). However, the educational potential of web based programmes for ethical decision making is still a developing field of research.

2.2 The Values Exchange

The Vx is web-based technology which provides users with a framework for thinking and justifying decisions. It has been used as a teaching and assessment tool for a variety of health science students at AUT University since 2004. It is now internationally used by universities and an increasing number of health care institutions (The Values Exchange, 2011). It is an example of a process orientated approach to ethics education and reflects the view that a good decision is one that is robustly justified, rather than matching any desired right or wrong response (Seedhouse, 2009). Using everyday language the software incorporates traditional theoretical positions, but does not impose intellectual authority. As an internet based form of learning, its primary goal is values transparency. It is underpinned by Seedhouse's values based theory of decision making.

In our teaching, students consider issues relevant to practice areas such as mandatory influenza vaccinations for health care workers, confidentiality in counseling, overriding patients' wishes and fast food sponsorship in children's sports (<http://aut.values->

[exchange.co.nz](http://www.values-exchange.co.nz)). The software has five interactive screens which facilitate ethical analysis. The user is first required to consider the case proposal and take a position on whether they agree or disagree. They must then select who matters most in the case and what they see as the most important factor for consideration. Once these initial responses have been made the software is used to expand and explain thinking using the interactive rings screen and the ethical grid. People familiar with Seedhouse's earlier work will recognize the rings of uncertainty and ethical grid on which screens 3 and 4 are based and which have evolved to provide a visual window into users' thinking. The final screen asks users to review and submit their case. The system instantly generates individual reports which can be viewed, along with the reports of others who have deliberated the same case.

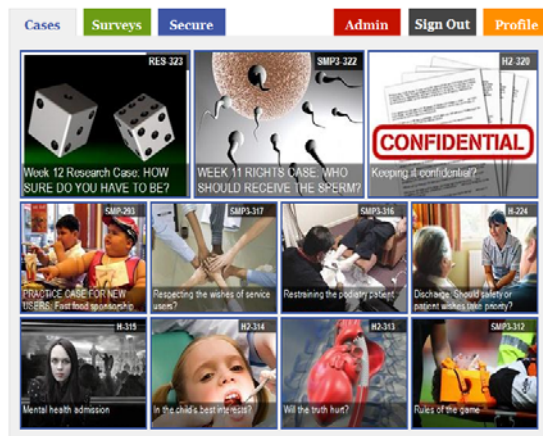


Figure 1. The AUT Vx home page. (www.aut.values-exchange.co.nz)

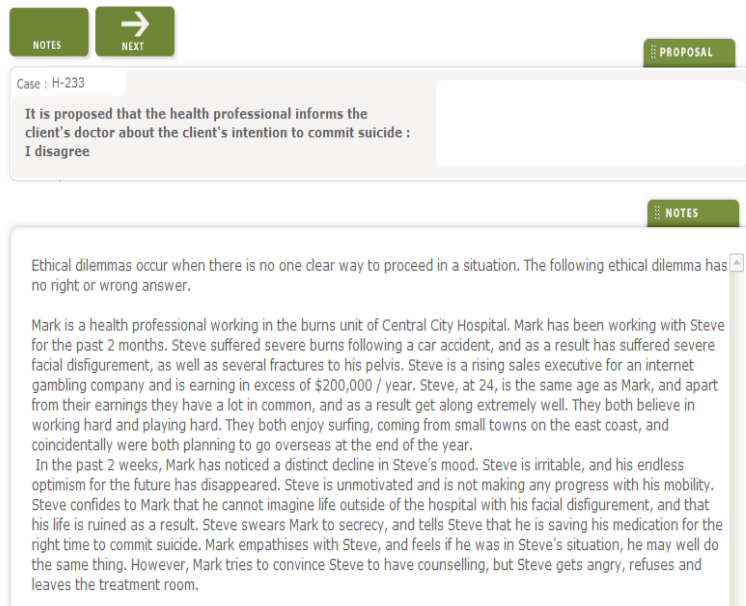


Figure 2. Case information and proposal.

NOTES INTRODUCTION **→ NEXT** PROPOSAL

Case : H-233

It is proposed that the health professional informs the client's doctor about the client's intention to commit suicide : You have neither agreed nor disagreed with this proposal

video Introduction

INTRODUCTION

Do you agree or disagree with the administrator's proposal?

Who matters most?

What is the most important consideration in this case?

Figure 3. Proposal position and initial focus questions

NOTES INTRODUCTION RINGS ANALYSIS **→ NEXT** PROPOSAL

Case : H-224

It is proposed that the patient's wishes will be respected. I agree strongly

Rings screen Rings wedges Removing wedges
Rings wedges Realizing wedges
How many wedges to use? Saving your Rings screen

RINGS ANALYSIS

My feelings about this proposal:

RINGS

Dignity Human Rights My Emotion My Role Primary Risk The Law

Whose dignity is most important in this case?

The dignity of the patient and their family
 The dignity of a group of people
 The dignity of the general public
 My dignity
 The dignity of the professional team
 The dignity of the patient

How confident are you that dignity is upheld by the administrator's proposal?

Totally
 There is one indignity
 There are several indignities
 Not at all

KEY

Use the checkboxes to add or remove wedges

Dignity
 Human Rights
 My Emotion
 My Role
 Primary Risk
 The Law

Figure 4. The Rings screen

GRID ANALYSIS

My reasoning is:

I am worried that this may be a cry for help which Mark is ill equipped to deal with. However, on balance, trust and respecting Steve's wishes are

What Risk(s) is it important to avoid?

Damage to the patient and their family
 Damage to a group of people
 Damage to the general public
 Damage to the environment
 Damage to the patient
 Damage to the organisation
 Damage to me

Reset Tiles Clear Tile

Individual

Effectiveness Evidence

Risk Truth Practice Norms

Society Support Equality Group

Law Principles Inquiry

Justice Culture

Oneself

Figure 5: The Grid screen: tiles, check box responses and free text.

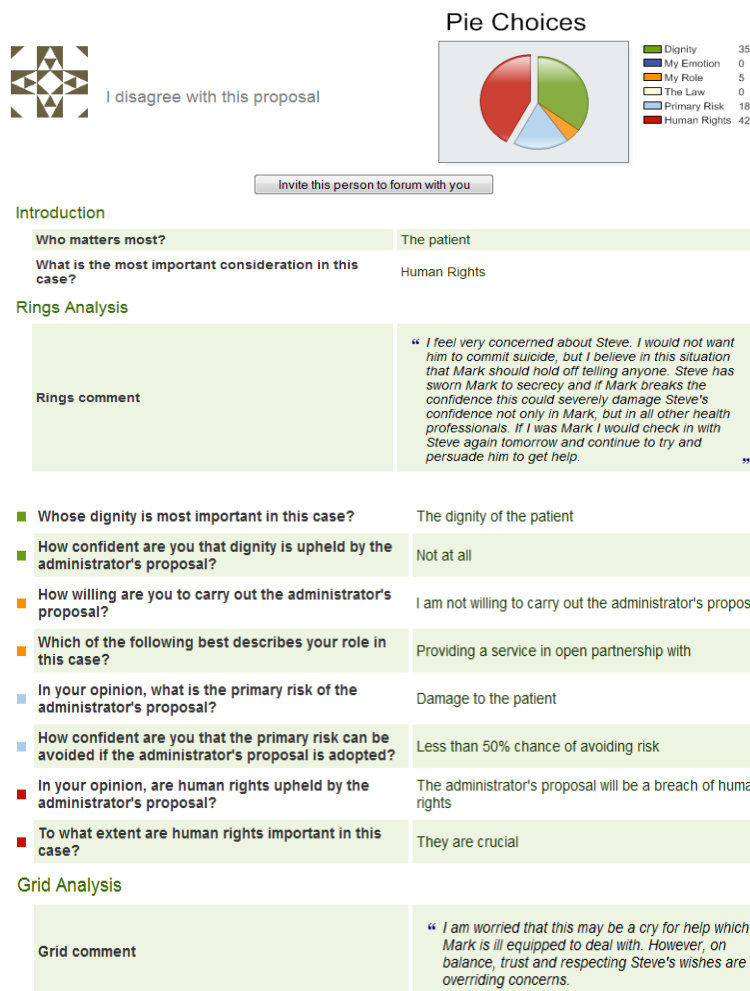


Figure 6: Example of individual user report.

3. Research method and methodology

This study focuses on exploring and describing the educative potential of the Vx. The research uses a descriptive case study methodology and is guided by the values based ideology of the software. The main purpose for conducting a case study is to explore the uniqueness and the singularity of a case (Simons, 2009) and is often used to study innovatory education programmes (Adelman, Jenkins, & Kemmis, 1976; Merriam, 2009). Its aim is to present a descriptive account of the experience of software users, in particular; thinking about ethical issues, how individual values shape decision making processes and how individuals can learn about values and decision making from others.

The design of the research was guided by case study theorists (Simons, 2009; Yin, 1994; Bassey, 1999; Stake, 1995; Merriam, 2009). The Vx is the case. Common to case study is the idea that research needs to take place within a real life or natural setting (Simons, 2009; Yin, 1994; Bassey, 1999). The Vx is currently used as an aid for decision making within educational or health related institutions and as an educational tool in undergraduate and postgraduate health care ethics courses. Because the researchers were involved in these

courses, a conflict of interest prevented research with students for whom ongoing teaching relationships were likely. Instead, postgraduate students who had worked in health but with whom no teaching relationship existed were asked to participate.

Five female participants were recruited. They held diverse educational backgrounds and expertise in medicine, public health, nursing, dietetics, occupational therapy, mental health, health geography and health research. A sample size of five could be seen as a limitation of the study. Morse (2000) suggests that a smaller sample size is justifiable if the nature of the study has clarity and information is easily available. Also, most case study advocates stress the importance of focusing on the detail, the rich descriptions, and the in-depth exploration in order to illuminate the complexity of the case (Simons, 2009; Bassey, 1999; Flyvbjerg, 2006). This study explores one software programme and in keeping with case study design, a variety of methods were used: case reports, questionnaire and face to face interviews. These resulted in rich and diverse data from different sources.

The case scenario which formed the basis of the study centred on a client / practitioner relationship in which the client disclosed an intention to commit suicide and requested that the practitioner keep this disclosure confidential. It was chosen so that it would have relevance to participants and the research audience, it was provocative, and had the potential to elicit varied depths of response. The proposal for participants to consider was that *'the health professional informs the client's doctor about the client's intention to commit suicide'*.

While anonymity is not an essential element of the normal software process, it is relevant within the research environment. Participants chose a pseudonym and did not meet one another at any time during the study. On completion of their case, participants were asked to access and explore their own reports as well as the reports of others. They were then invited to complete the questionnaire which asked about participants' experiences of using the software, the experience of viewing the case reports of others, any insights resulting into their decision making processes and basic demographic information. Interviews are commonly used in case studies, allowing for a more in-depth understanding of the case (Simons, 2009) and providing a window into unknown perspectives of participants (Patton, 2002). Questions for interviews were identified from early analysis of the case reports and survey.

A thematic analysis from all three data sources was undertaken as it was collected. Thematic analysis is a tool for helping the researcher to make sense of their data rather than being seen as a separate research method (Boyatzis, 1998). The six step process developed by Braun and Clarke provided the framework (2006). Firstly, the case reports and survey responses were analysed, followed by the transcribed interviews. Through numerous readings of the data themes were amalgamated, refined and defined. Strategies for ensuring trustworthiness of the data include triangulation and validation (Simons, 2009). Three different data sources were used. Interview transcripts were returned to participants, two of whom offered minor adjustments. The lead researcher presented early findings to an international Bioethics Conference for peer review and a reflective journal provided an audit trail.

4. Findings

Following analysis of the data, three themes were identified: recognising the inherent tensions in decision making, new ways of seeing and foundations for thinking.

4.1 Realising inherent tensions

Importantly, a values based approach to decision making focuses on the *process* of deciding upon a course of action. This contrasts with bioethics, which adopts a quasi-legal form to find correct outcomes to regulate and guide technological advancements in health care with an “assumption of right values” (Fulford, 2004:18). Focusing on decision process enables students to understand the complex and integral role of values and to learn to justify the decisions they make. Raised awareness of the complexity of decision making was a marked feature of participants’ experiences, both of the ethical issues within the case and possible and actual responses to it. *“I did not realize how diverse and complex these problems are and how many different opinions exist”*. This was seen to be beneficial in helping to understand others’ perspectives as well as finding common ground. Participants also discussed realisations about the complexity of their own thinking, for example, tensions between personal and professional roles, competing duties to the patient, the family and themselves, and the desire to act beneficently versus promoting patient autonomy.

It was not uncommon for participants to describe aspects of the Vx that made them feel uncomfortable. Some participants felt potentially vulnerable because of the overtly subjective nature of the process, both to being judged on their perspectives and anxious about peer and employer criticism. For others the process made them think candidly about themselves and their values. *“It [the Vx] forced me to be honest with myself about unconscious aspects of my thinking and my beliefs. That was incredibly helpful even if uncomfortable.”* An important aspect of the Vx is that it offers transparency of decision making and users can elect whether or not their reports will identify them by name. Generally participants saw anonymity as a way to feel more comfortable about using the system. However, they would be more willing to be named if a trusting, supportive environment for decision making is present. As one participant said *“People need to learn that it’s ok for others to have alternative perspectives and opinions and to be willing to discuss differing opinions to come to a greater understanding”*.

A values-based approach to ethics is at the opposite end of the philosophical spectrum to a positivist science based paradigm which dominates many health science programmes. Also, influential thinkers have promoted the possibility that emotions can be eliminated from ethical reasoning (see for example, Rachels, 2003:43). So it is not surprising that participants felt uncomfortable about the role their emotions played in their response to the case. Some participants felt they were somehow betraying the client by disclosing his intention to commit suicide and others highlighted a tension between their perceived professional duty and an emotional response to the situation. One participant felt that sympathising too strongly with the client would prevent them helping him in an appropriate way and carrying out what they saw as their duty to the client, his family and to themselves, which was ultimately to break the confidence. Another participant took the same perspective further, and felt that sympathizing with the patient might even put effective decision making at risk. Others talked about managing or controlling their emotional response. One participant used her emotions to remain patient centred and to gauge the appropriateness of her decision. Coulehan and Williams (2003) discuss professional values in health care and suggest that females can often maintain a reflective persona in practice due to traditional socialisation of emotions such as empathy and compassion. All participants were female. This is a limitation of the study and further research is required to assess if gender has any impact on emotional responses.

4.2 New ways of seeing

Seedhouse claims that the Vx “enhances our understanding of different points of view and fosters deeper communication between people who might never otherwise encounter each other” (Seedhouse, 2005: xii). This he considers a necessity, especially “where people in positions of authority claim to be making decisions in the interests of people subject to that authority...and where technical evidence and expertise is not decisive” (p.124). Viewing others’ responses to the same case had a powerful and positive impact on most participants. It helped them to understand the thinking processes of others and provided an appreciation of broader perspectives. For some this was a chance to re-evaluate the way they had approached the scenario and also offered an incentive to strengthen their argument. For example, one participant had not considered the legality of the case and through reading others’ reports saw the importance of this aspect of the case. These insights were seen as a learning experience and even caused some participants to reconsider their position.

An effective way to deliver ethics education is through a self-reflective curriculum where students come to better understand themselves and learn how to make decisions in line with their own beliefs (Bertolami, 2004). Following their use of the Vx, participants reported new understandings about themselves. For example, one participant was surprised by the cut and dried way she approached the case and another by the need she felt to protect health professionals and the health organization. One participant realised her inability to make decisions and for another it helped to make sense of her values and how she responds to ethical issues in practice. *‘I’ve learned that I see the patient as inextricably part of a family and wider group and so I would never put the rights of an individual above the rights of the group. I didn’t realise this before. It’s no wonder that medical decision making has sometimes been very challenging for me, given the Hippocratic Oath.’* For most, the experience helped them realise that they could be confident decision makers and that with clear justification, their views were valid, whatever their perspective.

There is often an assumption that the patient is central and beneficence underpins health care decision making (Hope, Savulescu & Hendrick, 2003). By using the Vx to work through this scenario, the participant’s need to protect themselves as well as the client surfaced. This was a new and important realisation for some participants: *‘I saw that I took a legal/self preservation angle rather than patient centred – this surprised me...I only realised when I compared my answers to others.’* All participants also expressed concerns which went beyond the client; about the future, the intrinsic value of life and the impact of suicide on the client’s family and friends. Fulford (2004) argues that if values are shared, they remain invisible and in medical decision making, many decisions stem from shared values. This may result in an assumption that values do not exist or play a less significant role in the process. These experiences demonstrate both the need for greater understanding of the complex and integral role of values in health care decision making and suggest the potential of the values exchange to facilitate this.

4.3 Foundations for thinking

Web-based technology has the potential to create environments which enhance student engagement with course content (Mason, 2009) and can reduce the influence of peer pressure in ethics education (Fleetwood et al, 2000). Using technology to deliberate ethical issues was a new experience for the participants who reflected on the space for thinking created by the

software. Some found this restricting, others that it enhanced thinking. For example, some found that the written word created an almost unhelpful barrier between the issue and its resolution and preferred a live debate. One participant observed that her thinking was more flexible and *“able to take into account more situational variables than a software programme limited by words”*. Conversely, others felt a positive impact on their ability to think through the issues compared to a verbal dialogue and on the unclutteredness of being able to consider the case alone. The potential for an internet based system to break down barriers which may exist in face to face to discussions was also seen as important.

The software provided structure for thinking and this was experienced in two ways. Firstly the actual software mechanisms provided a framework to guide the thinking process. Secondly the Vx framework seemed to operate as a trigger for additional thinking about new and different aspects of the case they had not at first considered. Most participants felt they had benefitted from this structure. They found the software generally easy to use, that it helped clarify ethical issues and offered a range of cases relevant to both professional and daily life. As one participant explained, it was *“an inspiring way to both express and clarify individual ethical opinions whilst at the same time gauging overall opinions”*.

All participants saw the educational potential of the Vx, both for clinicians and students. This included the possibility of reducing the theory practice gap which is a significant challenge for ethics educators, particularly with students who have little or no hands on experience.

If you’re using this as a teaching device for people who are in say, their first year of studying and not been exposed to those really difficult challenging things, then yeah it’s a really good window to start them off, to ease them into it.

I think it’s a great teaching tool for those coming to learn about how ethical decision making occurs...I’m just thinking about some of the young nursing grads – people like that who haven’t been exposed to a clinical environment...it has the potential as part of an e-learning frame for clinical practitioners.

It has the capacity to be useful for experienced practitioners and even for supervisions to present as a medium for clinicians to work through dilemmas they may be facing in their practice. Equally so for teams who are facing demanding complex situation where it is difficult for the clinical team to reach consensus on the way forward, where one ultimately needs to be reached.

This was further evidenced by links that participants made to how they managed ethical issues in the past and how this experience would influence their responses in future practice. For example, one participant talked about the importance of being open and not solely relying on their own perspective to resolve issues and achieve best patient outcomes. Another considered how being aware of others’ views, and the new thinking which resulted, prompted her to think of other ways to deal with ethical issues.

5. Conclusion

In addition to technological advancements, a number of high profile incidents have undermined the confidence of the public in health professionals and consumerist and rights based societies have eroded the traditional, health professional “knows best” approach. The onus is on ethics educators to provide education for current and future health professionals which equip them for this environment. While more research is required to confirm these

findings, this small scale study suggests that the Vx offers a tool which may assist students understand the complexity of ethical decisions and their responses to them. The framework of the Vx provides students with the possibility of contemplating real clinical practise scenarios in a structured, engaging and accessible way. By making values transparent, the Vx has the potential for learning about ourselves, and others perspectives, and for achieving a more balanced framework for thinking in health degrees often dominated by positivist, evidence based approaches. There is also potential for expanding the use of the Vx to a much wider range of disciplines. It is currently being introduced into journalism and business schools, and the Vx's broader potential for ethics education is worthy of further investigation.

6. Ethics and conflict of interest statement

AUT University's Ethics Committee (AUTEK) approved this study. The study was the focus for A Lees Masters thesis. Permission to name AUT University and the Values Exchange software was received from the Faculty Research Dean and Professor Seedhouse. Professor Seedhouse is an academic colleague. To avoid any conflict of interest he has not been involved at any time with any aspect of this study. The authors have no association with the Values Exchange except for teaching and assessment at AUT University.

7. References

- Adelman, C., Jenkins, D., & Kemmis, S. (1976) 'Re-thinking case study: Notes from the second Cambridge Conference,' *Cambridge Journal of Education*, **6** (3), 139-150.
- AUT University Values Exchange (2011) 'Values Exchange', on AUT University Values Exchange website <<http://aut.valaues-exchange.co.nz>> [accessed 23/01/11].
- Basse, M. (1999) 'Case study research in educational settings', Open University Press, Buckingham, UK .
- Bertolami, C. N. (2004) 'Why our ethics curricula don't work', *Critical Issues in Dental Education*, **68** (4), 414-425.
- Boyatzis, R.E. (1998) 'Transforming qualitative information: Thematic analysis and code development', Sage Publications, Thousand Oaks, CA.
- Braun, V. & Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, **3**, 77-101.
- Campbell, A. V., Chin, J., & Voo, T.-C. (2007) 'How can we know that ethics education produces ethical doctors?' *Medical Teacher*, **29**, 431-436.
- Coulehan, J., & Williams, P. C. (2003). 'Conflicting professional values in medical education'. *Cambridge Quarterly of Healthcare Ethics*, **12**, (1), 7-20.
- Cowley, C. (2005) 'Teaching and learning ethics: The dangers of medical ethics', *Journal of Medical Ethics*, **31**, 739-742.
- Dewey, J. (1920) *Reconstruction in philosophy*, New American Library, New York.
- Dickenson, D., & Vineis, P. (2002) 'Evidence-based medicine and quality of care', *Health Care Analysis*, **10**, (3), 243-259.
- Ellenchild Pinch, W., & Graves, J. (2000) 'Using web-based discussion as a teaching strategy: bioethics as an exemplar', *Journal of Advanced Nursing*, **32**(4), 704-712.
- Fleetwood, J., Vaught, W., Feldman, D., Gracely, E., Kassutto, Z., & Novack, D. (2000) MedEthEx online: A computer-based learning program in medical ethics and communication skills. *Teaching and Learning in Medicine*, **12** (2), 96-104.
- Flyvbjerg, B. (2006) 'Five misunderstandings about case- study research', *Qualitative Inquiry*, **12** (2), 219-245.

- Fulford, K. W. M., Dickenson, D. L., & Murray, T. H. (2002) *Healthcare ethics and human values*, Blackwell, Oxford, UK.
- Fulford, K. W. M. (2004) 'Ten principles of values-based medicine', in *The philosophy of psychiatry: a companion*, ed J. Radden, Oxford University Press, Oxford, UK.
- Godbold, R. (2007) *A philosophical critique of the best interests test as a criterion for decision making in law and clinical practice*, Unpublished PhD, AUT University, Auckland, NZ.
- Goldie, J., Schwartz, L., McConnachie, A., & Morrison, J. (2001) 'Impact of a new course on students' potential behaviour on encountering ethical dilemmas', *Medical Education*, **35**, 295-302.
- Hattab, A. (2004) 'Current trends in teaching ethics of healthcare practices', *Developing World Bioethics*, **4** (2), 160-172.
- Hope, T. (1995) 'Evidence based medicine and ethics', *Journal of Medical Ethics*, **21** (5), 259-260.
- Hope, T., Savulescu, J., & Hendrick, J. (2008) *Medical ethics and the law: The core curriculum*, 2nd edn, Elsevier, London.
- Limentani, A. E. (1999) 'The role of ethical principles in health care and the implications for ethical codes', *Journal of Medical Ethics*, **25**, (5) 394-398.
- Mason, R. (2009) 'Foreword', in *Effective blended learning practices: Evidence-based perspectives in ICT-facilitated education*, eds E. Stacey & P. Gerbic, Information Science Reference, Hershey, PA.
- Mathieson, K. (2007), 'Dioptra: an ethics decision support system', *Proceedings of the Americas Conference on Computer Information Systems*, Keystone Colorado.
- Merriam, S.B. (2009) *Qualitative research: A guide to design and implementation*, Jossey-Bass, San Francisco, CA.
- Mills, A. E., & Spencer, E. M. (2005) 'Values based decision making: a tool for achieving the goals of healthcare', *HEC Forum*, **17**(1), 18-32.
- Morse, J.M (2000) 'Determining sample size', *Qualitative Health Research*, **10** (1), 3-5.
- Newcombe, D (2007) *Ethics of the everyday: using values transparency software to explore values based decision making in healthcare*. Unpublished Master's dissertation, AUT University, Auckland, NZ.
- Parsons, S., Barker, P., & Armstrong, A. (2001) 'The teaching of health care ethics to students of nursing in the UK: a pilot study', *Nursing Ethics*, **8** (1), 45-56.
- Patton, M. Q. (2002) *Qualitative research and evaluative methods*, 3rd edn, Sage Publications Thousand Oaks, CA.
- Petrova, M., Dale, J., & Fulford, K. W. M. (2006) 'Values-based practice in primary care: easing the tensions between individual values, ethical principles and best evidence', *British Journal of General Practice*, September, 703-709.
- Rachels, J. (2003). *The elements of moral philosophy*, 4th edn, McGraw Hill, New York.
- Rokeach, M. (1979) *Understanding human values: Individual and societal*, The Free Press, New York.
- Seedhouse, D. (1998) *Ethics: The heart of health care*, 2nd edn, Wiley, Chichester.
- Seedhouse, D. (2002), *Total health promotion: Mental health, rational fields and the quest for autonomy*, Wiley, Chichester.
- Seedhouse, D. (2005) *Values-based decision-making for the caring professions*, Wiley, Chichester.
- Seedhouse, D. (2009) *Ethics: The heart of health care*, 3rd edn, Wiley, Chichester.
- Simons, H. (2009) *Case study research in practice*, Sage Publications, London.

- Singer, P. A., Pellegrino, E. D., & Siegler, M. (2001) 'Clinical ethics revisited', *BMC Medical Ethics* [online], **2** (1). Available < <http://www.biomedcentral.com/1472-6939/2/1>> [accessed 7/11/09].
- Stake, R. (1995) *The art of case study*, Sage Publishing, Thousand Oaks, CA.
- Values Exchange (2009) 'Values Exchange customer portfolio', on Values Exchange website, < <http://www.values-exchange.com/Portfolio>> [accessed 23/01/11].
- van der Burg, S., & van de Poel, I. (2005) 'Teaching ethics and technology with Agora, an electronic tool', *Science Engineering Ethics*, **11**, 277-297.
- Wong, J., & Cheung, E. (2003) 'Ethics assessment in medical students', *Medical Teacher*, **25** (1), 5-8.
- Yin, R. K. (1994) *Case study research: Design and methods*, Sage Publications, London.