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Ethics in Professional Practice: An Education Resource for Health Science Students

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Abstract

Ethical practice is a core health science graduate attribute yet ethical reasoning is rarely explicitly taught during professional placements. Our aim was to design an educational resource for health science students to 1) engage students in the topic of ethics and 2) facilitate their skills to identify, manage and communicate ethical issues during professional placements. The Ethics in Professional Practice (EPP) resource was developed using collaborative design-based research by an interprofessional, Work Integrated Learning team. We drew upon Barab and Squire's (2004) approach, with cycles of design, analysis, redesign and feedback informing resource development. The EPP resource comprises five video case studies that reflect ethical issues from diverse professional practice environments and include perspectives from students, clinical educators, clients and caregivers. The student is cast as a central character who must decide what actions may be taken to resolve ethical conflict. Complementary ethics education resources include reflective questions, guides to ethical reasoning and goal-setting resources. The resource was implemented with a cohort of 15 graduate-entry exercise physiology students and 59 undergraduate speech pathology students from the University of Sydney. Student feedback was utilised to inform resource redesign. Findings indicated that students valued the authentic ethics scenarios but experienced challenges when navigating online learning activities. Redesign focussed on enhancing interactive design features and improving accessibility of learning activities. This project achieved our goals to address ethical sensitivity, reasoning, communication and goals for future ethical practice.

Keywords: ethics; ethics education; health science students

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Introduction

Ethical sensitivity is required for health professionals to identify, interpret and respond during patient-centred decision-making (Brunger and Duke 2012, Weaver, Morse, and Mitcham 2008). Effective ethical reasoning skills are hallmarks of professionals who integrate critical analysis with reflection to manage ethical concerns (Brookfield 2012). Ethical commitment encompasses the courage to take an ethical standpoint, advocate for patients, practise with justice and integrity, and adopt a caring perspective (Callister *et al*. 2009).

Preparing a future healthcare workforce to manage increasingly complex patient care places high demands on students, educators, and faculties (Monteverde 2016). There is growing understanding of the importance of educating professionals who are technically competent and 'ethically fit to practice' (Doukas *et al*. 2013, Morrison 2008). Atwal and Caldwell (2003) emphasise that understanding the code of ethics and professional conduct is an important element of professional preparation. It is equally important that this understanding is applied in practice so that health science graduates can recognise, analyse and manage ethical issues.

Best practice in ethics education

Most professional ethics education literature is grounded in medical education (see for example Carrese *et al*. 2015, Eckles *et al*. 2005, and Miles *et al*. 1989). However, ethics pedagogy has received increased attention in nursing and other health professions where there are shared educational goals of fostering moral sensitivity, judgment, character and commitment (Caldicott and Braun 2011, Papadakis *et al*. 2005).

Despite consensus regarding the importance, goals and outcomes of ethics education, ethics curricula continue to present challenges for educators to teach and evaluate (McInerney and Lees 2018). Educators typically adopt one of two approaches to ethics education (Godbold and Lees 2013): primarily, there is an outcome-based approach whereby students' learning is evaluated by the degree to which their responses align with decisions that an educator, as 'expert', has predetermined as appropriate for a scenario; alternatively, process-oriented approaches focus less upon arriving at the right solution and more upon reasoning strategies that engage students in critical analysis and reflection. We argue that ethical fitness to practise may be facilitated by focussing upon both process and outcome, implementing ethical reasoning skills and making decisions consistent with professional codes of ethics. However, a process-oriented approach may more effectively invoke proactive ethical practice whereby healthcare professionals integrate ethics into every facet of planning, service delivery and evaluation (Body and McAllister 2008). Proactive ethical practice may be perceived as an aspirational outcome of ethics education whereby health science graduates actively foster an ethical culture in their workplaces. Aspirational learning outcomes require meaningful and engaging ethics learning activities to transform professional practice (Campbell, Chin, and Voo 2007, Langlois and Lymer 2016).

Current best practice in ethics education draws upon experiential learning approaches, including problem-, case- and reflective practice-based curricula (Donaldson, Fistein, and Dunn 2010, Numminen, van der Arend, and Leino-Kilpi 2009). Recent innovations include flipped classroom activities, simulation and audience response systems (Pollard *et al*. 2018). Quality ethics learning outcomes may be facilitated by implementation of empirically based ethics cases (Bushby *et al*. 2015), with a case mix that addresses critical incidents and ethics in 'every day' professional practice (Liaschenko, Oguz, and Brunnquell 2006). Adjusting the complexity of reasoning tasks as students acquire knowledge and experience may also facilitate ethics learning (Kenny, Lincoln, and Balandin 2007, Kenny, Lincoln, and Kilian 2015).

A recent review by Pollard *et al.* (2018) identified a significant gap in ethics education for the health professions, namely, opportunities for integrating ethical theory and practice during professional placements. The authors suggested students' ethical reasoning skills may benefit from case-based, interactive learning experiences before professional placements followed by

opportunities for critical ethical reflection following placements (Boud, Keough, and Walker 1985, Dunn and Musolino 2011).

Ethics learning during professional placements

All health science students complete external placements wherein they apply theoretical knowledge and develop skills and competencies for work readiness (McAllister and Nagarajan 2015). Professional placements shape students' attitudes and professional values as they manage diverse caseloads and learn about organisational factors impacting service delivery. Placements also provide students with a window into the culture of their future professions, confirming or challenging their understanding of how professional values are enacted during practice. We know health profession students experience ethical dilemmas that may lead to uncertainty, conflict and distress during clinical placements (Bourne *et al*. 2013, Kinsella *et al.* 2008). Yet, ethics education is frequently overlooked during supervisory interactions as clinical educators and students focus upon the acquisition of discipline-specific occupational competencies (Pollard *et al*. 2018). Indeed, an assumption that students are equipped with adequate ethical reasoning skills may only be challenged if students breach workplace codes of conduct or their profession's code of ethics. Additionally, there are no existing ethics education resources developed specifically for health profession students undertaking placements, limiting opportunities for facilitating students' ethical practice. In response to the challenges of preparing students for proactive ethical practice, we designed the Ethics in Professional Practice (EPP) resource to bridge the gap between ethics education 'in class' and ethics 'on placement'.

Design, development, implementation and analysis

Educational design: Framework

We drew upon adult learning theory, incorporating elements of reflective practice and self-efficacy to prepare health science students to apply ethical reasoning in professional practice scenarios. Schön (1987) proposed that competent professional practice is underpinned by ongoing critical analysis and reflection. Learning occurs in response to two reflective processes. The first process, 'reflection in action', occurs during learning experiences and involves recognising and responding to something new or unexpected to manage issues effectively in real time. The second process, 'reflection on action', occurs after learning experiences and involves considering factors that contributed to an event, evaluating emotional and cognitive responses and developing a future action plan. Both reflective processes underpin the awareness and reasoning skills required for competent ethical practice. The EPP provides students with opportunities to reflect on personal and professional values, to analyse key ethical moments critically in given scenarios and to consider the potential consequences of their decisions.

Self-efficacy may be described as an individual's judgment of their own ability to manage situations. According to Bandura's (1982) social learning theory, self-efficacy directs an individual's approach to action, including decisions about the nature of action, effort and persistence with chosen actions and emotional responses to different scenarios. Self-efficacy is important for developing both perceptions of empowerment during ethical conflict and courage to raise ethical concerns. The EPP provides students with ethical reasoning tools, to manage ethical concerns effectively, and opportunities to develop learning goals for ethical practice.

Educational design: Goals

The goals of the (EPP) project addressed four elements of health science students' ethical practice:

(1) *Ethical sensitivity*. To develop awareness of the nature and importance of ethical issues in professional practice;

(2) *Ethical reasoning skills*. To apply bioethical principles, to consider strategies and to propose appropriate responses;
(3) *Ethical communication skills*. To express ethics concerns confidently using the language of ethics;
(4) *Ethical practice goals*. To develop individual action plans for future ethical practice.

Educational design: Methods

The EPP project utilised design-based research methods (DBR), which incorporated iterative cycles of design, analysis, and redesign (Barab and Squire 2004, Design-Based Research Collective 2003). These methods emphasise collaborating with participants/users to facilitate learning experiences and contribute to educational theory and practice. For example, in this project, feedback from students using early design versions of the resource then informed the analysis of resource strengths and limitations and subsequent redesign.

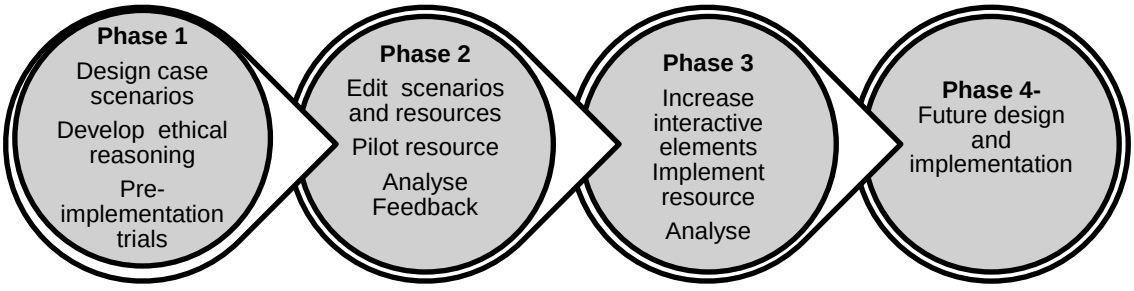
Educational design: Team

EPP design was conceptualised by an interprofessional project team from the University of Sydney with clinical and academic experience across diverse health science disciplines, including speech pathology, diagnostic radiography, exercise physiology, physiotherapy, rehabilitation counselling, and dentistry. Members of the University of Sydney educational design team also contributed to the development of online resources. This project was approved by the University of Sydney Human Research Ethics Committee (2017/413).

Educational design: Phases

We adopted iterative DBR processes, leading to phases of resource development, consistent with previous research that developed e-learning resources to facilitate academics' professional learning (Curwood *et al*. 2015). Figure 1 presents the major design phases for the EPP.

Figure 1: Design process for Ethics in Professional Practice resource



Phase One

The first phase of the EPP design developed core learning and teaching resources. Five video case scenarios reflected contemporary ethical issues in professional practice. Case development was theoretically grounded (Flatley, Kenny, and Lincoln 2014, Kenny *et al*. 2009) and pedagogically grounded in team members' learning and teaching experiences. Our roles within an interprofessional Work Integrated Learning team provided insights into the nature of ethical issues students experience during professional placements. We realised that ethical dilemmas were influenced by healthcare contexts, so it was important to situate cases in a mix of publicly and privately funded practices with diverse caseloads. However, we identified shared issues that troubled our students during professional placements. Hence, case scenarios addressed five themes: conflict and bullying in the workplace; professional boundaries; informed consent; inequalities in health care; and service rationing.

Each case was developed by nominated project team members, reviewed by the team, modified, scripted then reviewed for authenticity of resources. Team feedback focussed on interprofessional relevance, engagement and clarity of the ethical issues (Tsai 2017).

Each case presented a video scenario with a student as a central character consistent with our goal to develop student self-efficacy. The primary interaction was followed by a series of video-recorded 'perspectives', including those of the patient, clinical educator, professional colleague and student. Table 1 presents the five case scenarios.

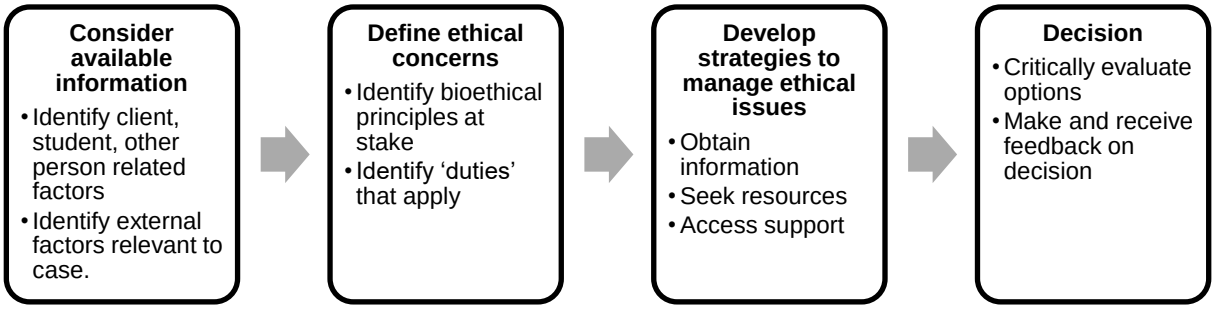
Table 1. Ethics in Professional Practice cases

Case	Setting	Case summary	Key theme(s)
One. '*But that's not what I learned at uni*'	Adult hospital	A new graduate clinician who plans evidence-based practice is challenged by a clinician who favours historical intervention approaches.	Conflict and bullying in the workplace
Two. '*I was just trying to develop rapport*'	Community mental health	A student struggles to create rapport with a client and crosses professional boundaries during a community visit.	Professional boundaries
Three. *'Did my client really want this therapy?*'	Paediatric private practice	A student questions service delivery provided by a private practitioner after a parent complains about limited treatment outcomes.	Informed consent
Four. '*The patient who misses out*'	Public hospital	An aged care patient is excluded from a rehabilitation program after she is labelled 'low priority' for intervention.	Inequalities in health care
Five. '*What can I do in 6 sessions?*'	Community health	A student is advised that best practice intervention is unrealistic for a client due to waiting list demands.	Service rationing

Our team's learning and teaching experiences contraindicated the design of simple problem-solving exercises that reinforced attitudes that ethics is 'just common sense' or 'I am an ethical person and only other students make mistakes'. Further, we wished to avoid students abdicating their ethical responsibilities because they were not confident communicating ethical concerns or perceived ethical matters as their supervisor's responsibility. While cases were designed to engage students in ethical issues, the resource also needed to provide practical learning tools.

A guide to ethical reasoning was developed to facilitate students to identify and manage ethical issues in each case. The decision-making process was consistent with principles-based approaches to ethical reasoning, drawing upon moral principles of autonomy, non-maleficence, beneficence and justice (Beauchamp and Childress 2013). A principles-based approach was selected because bioethical principles may be readily applied to healthcare issues (Macklin 2003) and during structured decision-making processes when students identify ethical dilemmas (Kenny, Lincoln, and Balandin 2007). By focussing students on the specific ethical principles at stake, we facilitated knowledge of professional Codes of Ethics and practice using the language of ethics. We have noted that students will typically describe troubling observations as 'unprofessional' or that they had a 'gut instinct' that something on a placement was not right. Applying an ethical framework, illustrated in Figure 2, enables students to define, interpret, analyse and manage such concerns.

Figure 2: Ethics in Professional Practice guide to ethical reasoning framework

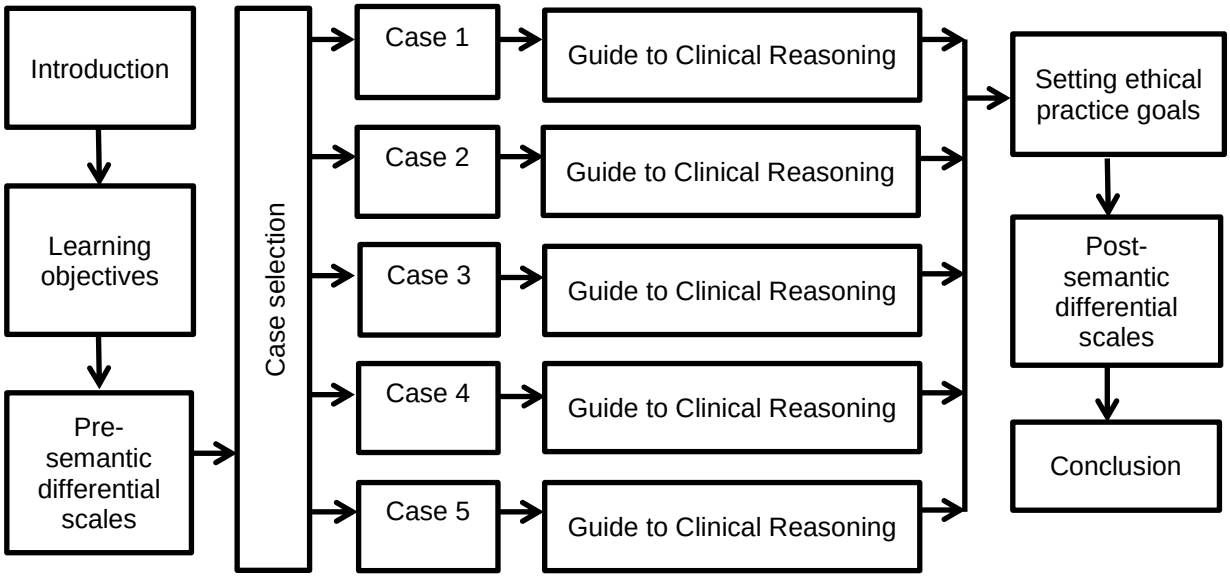


A downloadable action plan was provided for students to prepare individual goals for ethical practice during professional placements.

Semantic differential scales (SDS) were developed for Unit of Study (UoS) Coordinators (the academic staff members responsible for managing students' learning experiences), to measure students' attitudes toward ethical reasoning pre-EPP and post-EPP learning activities. SDS are a direct method of attitude measurement that require students to rate their perceptions of ethics using sets of bipolar adjectives (Osgood, Suci, and Tannenbaum 1957). Three dimensions of attitudes were measured: evaluation, potency and activity. In our project, evaluation addressed whether students' attitudes towards ethics were positive or negative (i.e. willing–unwilling, to engage with ethics). Potency was concerned with how powerful the topic of ethics was for students (i.e. aware–unaware, of the importance of professional ethics), whereas activity measured whether ethics was perceived as an active or passive learning experience (i.e. confident–not confident, to participate in activities).

The EPP resource was built on a learning design platform [Smart Sparrow, Sydney, Australia (SS)] which supports interactive and adaptive e-learning resources. Figure 3 shows the branching organisation of the resource. Video and audio media were supported by student response elements, including multiple-choice and open-ended (SS) response text boxes. 'Pop-up' information tools and relevant resource links provided guidance throughout the EPP resource.

Figure 3: Integration of Ethics in Professional Practice learning resources



Case Three was trialled by two volunteer final-year university students. Students completed the case-related ethical reasoning activities independently and then participated in a joint feedback interview. They recommended minor changes in wording, formatting and graphic design to improve accessibility of the EPP resource. Project team members also completed the EPP resource independently and provided user feedback.

Phase Two

During Phase Two, EPP cases were refined in response to user feedback. Specifically, learning activities were enhanced by additional support options, including one-click instructions and explanations. Case Three was implemented with a cohort of 15 graduate entry masters, exercise physiology students. The students completed EPP learning activities using a self-directed online format with an academic facilitator present. Following a 30-minute learning session, students provided anonymous written feedback to the project manager. Students rated the following statements: the EPP resource is relevant to my professional practice; the content in the EPP resource reflected ethical issues I have experienced during clinical placements; and, the EPP resource is accessible and easy to navigate. Feedback from 14 students (93%) is presented in Table 2.

Table 2: Phase 2 students' feedback (*n* = 14)

Students' feedback	Strongly Agree *n* (%)	Agree *n* (%)	Neutral *n* (%)	Disagree *n* (%)	Strongly Disagree *n* (%)
Relevant	1 (7.1%)	7 (50%)	4 (28.6%)	1 (7.1%)	1 (7.1%)
Reflects practice	0	4 (28.6%)	4 (28.6%)	5 (35.7%)	1 (7.1%)
User-friendly	2 (14.3%)	6 (42.9%)	2 (14.3%)	1 (7.1%)	3 (21.4%)

As Table 2 shows, 57.1 % of students strongly agreed or agreed that the EPP was relevant and easy to use. Clearly, some students were ambivalent about the relevance of the resource and found it difficult to navigate the reasoning tasks and only 28.6 % of respondents allowed that the scenarios reflected ethical issues they experienced in practice. The students' feedback may have been influenced by the 30-minute constraint on their learning activity that occurred due to delays in participants achieving technical access to the resource. The EPP was designed for a 60-minute lecture or tutorial timeframe and the reduced timeframe may have limited opportunities to engage with the resources at a deeper level. Furthermore, this cohort had limited placement experience, so their perceptions of relevance may have been based upon assumptions rather than professional experience. Nonetheless, students perceived they needed additional support to complete learning activities and to link ethics learning to their future clinical placements.

Students also identified aspects of the EPP they perceived as most and least useful in facilitating learning about ethical practice. Students positively evaluated the video resources; '*the scenario set up and listening to the different responses of each individual involved*' (S13), '*case scenarios and opportunities to hear different perspectives of real-life ethical scenarios […] seeing how this situation may arise in a clinic you have been allocated to for placement*' (S11). Negative feedback focussed on the quantity and wording of questions in the reasoning tasks; '*wording of questions, vagueness. Non-direct questions to prompt cognition*' (S9).

Suggestions for improvement included more '*specific shorter, clearer questions*' (S3) and to '*have a group discussion about the issues and see what other people's opinions are and how they would respond to the same situation*' (S11). Students struggled to complete the SDS designed to measure changes in attitudes toward ethical reasoning in clinical practice; '*the questions were worded in a way that was hard to understand*' (S8).

Two other important insights resulted from Phase Two implementation. Firstly, the role of the facilitator was key to structuring the ethics learning activities, stimulating discussion around professional values and applying ethics learning to professional practice. There was a perceived gap between 'real life' cases and 'real life' practice for this cohort that we needed to bridge during the design process. Secondly, students' perceptions of ethics learning experiences were strongly influenced by balancing engagement and efficiency factors. While we wished to avoid a 'tick a box' surface approach to ethics learning, we also needed to reduce barriers to learning activity persistence in the EPP.

Phase Three

During Phase Three, the project team responded to implementation findings by adapting interactive design components, SDS and online navigation. Students were provided with an opportunity to hear potential ethical reasoning strategies presented by 'peers' and to select the response that aligned with appropriate ethical practice. Following their selection, students progressed to hear an academic's critique of proposed solutions. The project team modified the wording of SDS scale items to enhance clarity.

Academic and student feedback from Phase Two implementation suggested that EPP progress barriers limited options for facilitators to focus on specific learning and teaching activities relevant to students' needs. Hence, an alternative resource was created, without progress barriers for learning environments where students were not required to complete all tasks in chronological order before progressing to the next activity.

The revised EPP resource was then implemented with a cohort of Year Two undergraduate speech pathology students during a facilitator-guided, one-hour lecture. Fifty-six students participated in the learning activities and nineteen of these students provided anonymous written feedback to the same statements as used in Phase Two. Table 3 provides a summary of responses.

Table 3: Phase 3 students' feedback (*n* = 19)

Students' feedback	Strongly Agree *n* (%)	Agree *n* (%)	Neutral *n* (%)	Disagree *n* (%)	Strongly Disagree *n* (%)
Relevant	10 (52.6%)	9 (47.4%)	0	0	0
Reflects practice	9 (47.4%)	4 (21.1%)	2 (10.5%)	3 (15.7%)	1 (5.3)
User-friendly	10 (52.6%)	8 (42.1%)	1 (5.3%)	0	0

Comparisons with Phase Two feedback must be interpreted with caution due to the relatively low response rate (34%) by the speech pathology cohort. These students were also provided with additional time to complete learning activities compared with the previous cohort. Nevertheless, the feedback indicated that our redesign was on the 'right track'.

All students agreed or strongly agreed that the EPP was relevant to professional practice and 95% reported that the resource was easy to use. Many students (68.4 %) perceived that ethics scenarios reflected issues they experienced during professional placements. However, this cohort had mainly acquired professional experience in a university setting and were yet to complete any external placements.

Students reported '*the resource was interactive and engaging*' (S10). Specific EPP features that facilitated students' learning included: '*The videos and description of each aspect. The ability to formulate your own responses was good*' (S4); '*Learning all the different perspectives from different viewpoints taking into account motivations and responsibilities and how complex it can be to approach ethical situations*' (S15); and, '*the group discussion afterwards which challenged me to learn*' (S11).

Seven (37%) respondents identified 'less useful' EPP features. Of these students, time was the most consistent concern: '*Time constraints to finish resource*' (S6); '*Ran out of time to explore all the resources in depth*' (S18). Suggestions for improvement included easier navigation between activities: '*Please have a "back" option*' (S3); and increased response sharing: '*I want to see what other people picked/thought*' (S8). Although, not all students' learning preferences included a stronger discussion element: '*I just found it difficult to engage within a group lecture environment, but I don't think I'd have this issue working independently*' (S19).

Project Outcomes

Overall, this project achieved our goals to address ethical sensitivity, reasoning, communication and goals for future ethical practice.

Ethical sensitivity. We addressed students' sensitivity toward ethical issues in professional practice by guiding them to reflect on personal attitudes toward case-based ethical issues, to identify ethical concerns and to explore alternative perspectives of ethical conflict:

> I feel for the parent, they are probably very stressed with short for time, as well as possibly financially strained, and progress isn't coming as fast as they had hoped. The clinician was professional in his responses (although there were a few awkward pauses) but didn't show the empathy that the parent needed, and the reassurance he provided was quite vague (S2).

Ethical reasoning skills. Decision-making templates and guidelines provided students with practice in identifying ethical issues, considering options, and evaluating approaches to managing ethical dilemmas in response to complex healthcare cases:

> My thoughts on this case scenario is that the clinicians did not obtain consent from the mother to perform the additional services, they didn't provide rationales for all the therapies which seemed excessive and unhelpful to the mother. The clinicians were not using a client-centred approach (S11).

Ethics communication skills. We designed interactive activities for students to express ethical practice concerns competently, confidently and respectfully with peers and professional colleagues:

> Confronting issue – needed to be more discussion initially about what the client and family wanted and needed and what their expectations were. Lack of communication between centre about their approach and values and the parent – best practice and quality versus clinical revenue. Family needed more information and guidance as to whether this service was best for them and their needs (S27).

Ethical practice goals. We focussed on students' applied ethical practice by asking them to develop strategies for resolving ethical tensions during professional placements:

> To expand my ethical practice beyond what I consider common sense, as I need to be aware that my personal ideas and opinions may not be the best. Sometimes more complex clinical reasoning is needed to make an ethical decision, and more indepth conversation and even research into ethical practice is necessary (S22).

Phase Four: Future redesign and implementation

The EPP resource will be incorporated within a program of ethics learning and teaching within health science professional entry degrees at the University of Sydney. The next iteration of the EPP will include implementation of the resource as an independent, online study package. In response to feedback obtained during Phases Two and Three, students' online study will include additional structured decision-making aids and opportunities to discuss ethical issues in an online learning environment.

An Ethics in Professional Context template will provide strategies for students to identify ethical issues, and an Ethics Consequence Table, based on a traditional risks' analysis matrix (Australian Commission on Safety and Quality in Health Care 2014) will support students to analyse potential consequences and the gravity of ethical risks during professional placements.

Guidelines for managing client confidentiality and privacy will be provided to facilitate a mutually respectful, safe online learning environment for sharing real-life ethics experiences.

Following the next phase of implementation, learning outcomes including participation rates, responses to reasoning tasks and changes in attitudes pre- and post-EPP will be analysed by the project team.

Discussion

An online, interactive, interprofessional, peer-learning ethics resource was developed for health science students at the University of Sydney based upon three premises: ethical behaviour is a core requirement for quality health professional practice and competency; ethical practice is enhanced when students have insight into ethical issues in workplace contexts and when they are equipped to articulate and manage ethical concerns during professional placements; and, ethical reasoning skills develop along a continuum of competence in response to acquired knowledge, skills, practice and experience.

Strengths of the EPP

The EPP includes learning and teaching activities that reflect current best practice in ethics education. The resource focusses upon the processes of ethical reasoning (Godbold and Lees 2013). An important educational feature of our resource is to place the student as a central character in the ethics case and then introduce new and conflicting perspectives. Such an approach is consistent with shifting students from a student-focussed perspective to client/other-focussed perspective of ethical reasoning using processes of problem solving and reflection (Donaldson, Fistein, and Dunn 2010, Numminen, van der Arend, and Leino-Kilpi 2009). In accordance with reflective practice (Schön 1987), students explored factors contributing to ethical dilemmas, examined professional values at stake and considered their duties and responsibilities.

Cases include ethical issues of varying complexity so that creative educators may readily focus on specific or subtle case elements to meet students' professional experience and learning needs (Kenny, Lincoln, and Balandin 2007, Kenny, Lincoln, and Kilian 2015). Moreover, the cases capture typical interactions as well as critical incidents that may occur during professional practice (Liaschenko, Oguz, and Brunnquell 2006), integrating ethical practice within health professionals' daily practice rather than reactive responses to breaches of ethical codes. During each design phase, user feedback refined the learning-support materials so that expectations were clear and readily accessible.

Students' self-efficacy in ethical practice was addressed through opportunities to engage with scenarios situated in professional placement contexts. In keeping with social learning theory (Bandura 1982), students critically analysed potential actions proposed by other students and contributed to effective decision-making outcomes.

Flexible delivery options address educators' needs for providing ethics education in classroom, workshop or self-directed learning environments. Students may learn how to communicate about ethical issues in an appropriate manner with their peers in a safe learning environment and to access support for ethical concerns. Supporting resources were designed for forward-looking ethical practice, with students developing goals for integrating ethical skills and behaviours during professional placements. This approach serves the aspirational educational goal of students as future professionals who engage in proactive ethical practice.

Challenges in developing ethics resources

It was beyond the scope of this project to include all health professions or cover all ethical concerns that students will identify during professional practice. Hence, the design team was challenged to create cases that reflected ethics themes relevant to diverse professional contexts. The EPP resource draws upon a principles-based approach to ethics education. However, the case-based, multivocal, richly contextual nature of the resource readily lends itself to alternative ethical reasoning approaches for educators who seek to extend their students' reasoning skills.

Sustainability is a significant concern with any educational innovation. We addressed sustainability of usage by providing versatility to users. For example, we removed progress barriers from e-learning tools to enable University of Sydney Coordinators to select the number and nature of activities for student participation. We also developed a resource that could be adapted for different delivery modes. Clearly there are educational benefits to facilitator-led ethics education with a focus on class discussion of professional attitudes and values. There are also advantages to self-directed, online ethics education. Students may access the resource during a professional placement and apply their learning in 'real life' contexts. However, students who are learning ethical reasoning skills need to access support and will value an opportunity to share their thoughts about ethical practice.

A limitation of this study is that learning outcomes are based on students' completion of reasoning activities that lead to ethically sound decisions for the presented cases. Further evaluation is required to determine the impact of the learning activities upon students' perceptions of ethical practice and the nature of their ethical practice goals.

Conclusion

We have provided an example of how DBR can be applied to the development of ethics curricula. Here, we have focussed on the process of ethics learning. Overall, students' responses to the EPP suggest that this case-based approach offers an engaging ethics learning experience. Future iterations of the EPP will address learning outcomes. DBR processes will lead to continuing cycles of design and analysis in response to a comprehensive evaluation of students' learning outcomes and experiences with the EPP.

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