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Asia Pacific Perspectives on Bioethics Education





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ACRONYMS

CHRB: Convention on Human Rights and Biomedicine
CIOMS: Council for International Organizations of Medical Sciences
COMEST: World Commission on the Ethics of Science and Technology
CSR: Corporate Social Responsibility
GM: Genetically Modified
ELSI: Ethical, Legal and Social Impact
GMOs: Genetically Modified Organisms
HES: Human Embryonic Stem
HUGO: Human Genome Organization Ethics Commitee
IBC: UNESCO International Bioethics Committee
IDHDG: Internal Declaration on Human Genetic Data
IVF: In Vito Fertilization
LMOs: Living Modified Organisms
NGOs: Non-Governmental Organizations
NHMRC: National Health and Mecial Research Council (Australia)
OECD: Organization for Economic Cooperation and Development
RUSHSAP: Regional Unit for Social and Human Sciences in Asia and the Pacific
UNESCO : United Nations Educational, Scientific and Cultural Organization
US-EPA: US Environmental Protection Agency
US-FDA: US-Food and Drug Administration

PREFACE

There has been universal agreement for more than a decade that bioethics education at all levels should be provided to citizens through the adoption of the Universal Declaration on the Human Genome and Human Rights by the UNESCO General Conference in 1997 and by the United Nations General Assembly in 1998. The work of educators in moral values through millennia was applied to the issues raised by science and technology.

Ever since UNESCO made ethics of science and technology one of its five priority areas, the organization has been charged with promoting the education of ethical issues of science and technology. This volume offers perspectives from persons in a range of countries across the Asia-Pacific region on bioethics education, including the efforts of many to achieve these goals.

UNESCO's programme in this area aims to strengthen the ethical link between scientific advancement and the cultural, legal, philosophical and religious context in which it occurs. UNESCO's strategy in bioethics has been to act as a standard-setter on emerging ethical issues, to disseminate information and knowledge and to help member states build their human and institutional capacities. The standards include the Universal Declaration on the Human Genome and Human Rights, the International Declaration on Human Genetic Data, adopted in 2003; and the Universal Declaration on Bioethics and Human Rights, adopted by UNESCO's 33rd General Conference, in 2005.

This collection of papers is the fifth in a series of books from RUSHSAP, UNESCO Bangkok offering Asia and Pacific perspectives on ethics - each focusing on specific themes. The contents come from submitted papers to the UNESCO Bangkok Bioethics conferences held in 2005 and they are assembled thematically. They also include discourse from the conference, as intercultural communication is part of the essence of deliberation on bioethics. The first UNESCO Bangkok Bioethics Roundtable was held 11-15 September, 2005 - the first event of its kind in Bangkok. It took place during the 60th anniversary celebrations of UNESCO. It was the first Roundtable of the UNESCO Asia-Pacific School of Ethics, and a number of papers here are from members active in ethics educational activities of this regional network.

The UNESCO Bangkok office is the largest UNESCO branch office in the Asia-Pacific region, which for UNESCO includes 46 member countries from Turkey in the West, to Japan in the East, and New Zealand and 17 Pacific Island nations to the South. It is designated as the regional office for coordinating implementation of UNESCO programmes on ethics of science in Asia and the Pacific with the Division of Ethics of Science and Technology.

In the preparation of this book, I would like to thank the active discussion and participation of all the people who attended the meetings. There are papers that were submitted from two UNESCO bioethics roundtables in Bangkok, held in 2005 and 2007, and from a joint UNESCO-UNU Bioethics Roundtable in Yokohama, Japan. The volume concludes with the Action Plan adopted at the UNESCO Asia-Pacific Conference on Bioethics Education, held together with Ewha Women's University and the National Commission of the Republic of Korea to UNESCO.

A special thank you is due to Daniel Calderbank for help in editing the papers, and to Frankie Keller for transcribing the discussion from the 2005 meeting. Thanks to Alessandro Blasi for the cover design and Celia Thorheim for the layout. We look forward to increased discourse on these papers and they should not be seen as the final word on these topics, but rather as ways to catalyze a greater regional development of effective ways to teach and evaluate bioethics education.



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The importance of knowledge development in bioethics education*

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Why knowledge development is important in bioethics education

We no longer consider science to be just a body of content knowledge or that learning simply involves compiling a "toolbox" of skills. Science is more complicated than this and involves multiple connections with the society in which it is practiced (Kumar and Chubin, 2000; Solomon and Aikenhead, 1994; Yager, 1996). Personal, social and emotional dimensions, values and conventions particularly influence bioethics education.

Learning is also acknowledged as being the result of complex interacting influences (Davis, Sumara and Luce-Kapler, 2000). Therefore teaching in bioethics contexts must recognize these interconnections because of the inherent application to and impact on peoples' lives. Furthermore, teaching in bioethics contexts needs to use pedagogies that engage students in participatory and emergent activities (ones that arise as a result of the need to know or opinions) to enable the development of multiple dimensions of knowledge. These dimensions include the scientific content as well as the personal, social and emotional aspects associated with any particular bioethical issue. Oulton, Dillon, and Grace (2004) highlight the importance of focusing on the nature of controversy, recognizing that opinions are based on particular worldviews and critical reflection of personal views, as well as promoting open-mindedness or willingness to accommodate new views, and develop a thirst for more information.

In New Zealand, teaching and learning in bioethics contexts is most directly addressed in senior biology classes and has been part of a national curriculum since 1994 (Ministry of Education, 1994). There is no mandated text for teaching senior biology in New Zealand. Rather, teachers tend to develop their own materials (worksheets/ activity cards etc.) to supplement a range of available resources, including texts. Many of these resources utilise constructivist approaches to teaching and learning (e.g. Jarvis, Hickford and Conner, 1998). This means that the teacher is often a facilitator of learning (Conner, 2004a) who assumes that people have different worldviews, points of view, values and understandings about the issues.

Furthermore, bioethics can provide learning contexts for addressing the recently developed priorities for raising school student achievement in New Zealand (Ministry of Education, 2005, p.2). These priorities include:

- deeper knowledge in different subject areas;
- stronger skills and competencies to apply, relate and create knowledge for specific
- purposes and contexts; and
- a stronger sense of identity and self, including belonging, relating and contributing to a number of communities as well as to the well being of self, others, and the rest of society.

What knowledge needs to be developed?

Because investigating bioethical issues is complex, we need to consider what knowledge needs to be developed in order for students to make sense of issues, to be able to critically evaluate them and to possibly take action based on this knowledge. The possibilities include:

* Paper first presented at the First UNESCO Bangkok Bioethics Roundtable, September, 2005

- Knowledge of the science/technology content;
- Knowledge of reflective processes (individual views);
- Exploration of morals/values (values clarification);
- Knowledge about bias and how to detect it (values analysis);
- Knowledge about political agendas

Recently, Sadler and Zeidler (2005) showed that tertiary students frequently relied on combinations of rationalistic, emotive and intuitive knowledge as they worked to resolve scenarios about genetic engineering.

The unit of work

The unit of work on bioethical issues associated with cancer described here, targets the areas of improving literacy, deepening knowledge, enabling the development of skills for creating knowledge (through inquiry processes) and requiring students to work collaboratively and to contribute to the learning community regarding their ideas about bioethics. Specifically, it was designed to address the achievement objective; "investigate contemporary biological issues and make informed judgements on any social, ethical, or environmental implications" (Ministry of Education, 1994, p.28). The high-stakes assessment for this section of the curriculum was in the form of an essay in an external national examination. Therefore it was very important for students to develop skills in research and essay writing as well as develop their biological knowledge about cancer and an understanding of the bioethical implications of causes and treatments and social implications of these.

The usual class teacher continued to teach the class during the intervention. A constructivist approach explored students' existing content and procedural knowledge and built on this through various individual and group activities so that students could reflect on what they needed to know and what they needed to do. Cueing students to identify their knowledge and next steps for inquiry, was used to develop knowledge though building on existing knowledge, and extending or applying of content to clarify and analyse issues as well as develop knowledge of learning processes.

The activities that explored students' existing knowledge were a questionnaire, a group brainstorm activity, group discussions and journal writing. Small group work, scenarios, case studies and videos were used as stimulus activities for getting students to clarify and analyse their values. These activities broadened students' views about the social and ethical issues and allowed them to develop strategies for learning (Conner and Gunstone, 2004).

The investigative skills and attitudes required of students are clearly outlined in the curriculum document (Ministry of Education, 1994). Students were expected to ask a series of related questions of themselves, their group and resource people, and then to refine these questions. As well, students were expected to identify and process relevant information from a variety of sources and to evaluate the quality of information gathered and its degree of relevance. The students planned their individual research, chose the two types of cancer they wanted to investigate and derived key words and key questions that would drive their work.

Research processes

The research methodology employed for the study was based on an interpretative case study approach (Merriam, 1988). Sixteen students from the same class volunteered to be part of the study. Their knowledge of content and the personal, social and factors that influence peoples' decision-making in bioethics were recorded by administering a questionnaire prior to the start and at the end of the unit of work. The differences in the number of causes of cancer, biological effects, treatments and social and ethical implications mentioned were tabulated for each student who answered both questionnaires (Table 1). Some students were absent for one of the questionnaires which invalidated a comparison of before and after the unit. These categories were also triangulated over several class activities. A comparison of the above categories was also made between the pre-unit questionnaire, a brainstorm

activity (although this was carried out in small groups at the beginning of the unit), and what students wrote about in their essays (Table 2). Students' knowledge was also established from a pre-unit interview (iv1) and a post unit interview (iv2). The teacher was also asked to comment on various aspects of the unit of work. All of these data sources have been used to indicate students' knowledge development.

Table one. Differences in the number of ideas given in pre and post questionnaires (+ indicates more ideas in the post questionnaire, - indicates less ideas in the post questionnaire).

Student	Biological concepts	Biological implications	Social implications	Basis for making decisions	Ethical implications
Ann	-1	0	+2	+4	0
Awar	0	0	0	-1	+1
Charlie	+2	0	+2	+3	+1
Kay	0	+1	+2	+1	0
Lois	-1	0	+2	+1	+2
Liz	+2	0	+2	+3	0
Mary	+2	+1	-1	+1	-1
Mitchel	0	+1	+1	+1	+1
Naomi	-1	+1	+1	+2	+1
Sally	0	0	+1	+3	0
Terri	0	*	0	0	-1

* No answer provided in second questionnaire

Development of content knowledge

Table 1 shows the differences in the number of ideas students recorded in their pre and post unit questionnaires. Only students who completed both questionnaires have been included.

When comparing the overall changes in the number of ideas for each student between the pre and post questionnaires (+'s or –'s across rows in Table 1), all students except Terri had a positive change. I suspect that Terri did not treat the questionnaire very seriously, since she did not bother to answer the question on biological implications in her second questionnaire, yet she had clearly indicated some biological implications in the pre-unit questionnaire. Her essays however, provided evidence of her awareness of multiple social and ethical implications.

For the number of biological concepts linked with cancer (Table 1), three students had an increase and three students had a decrease when comparing the data between questionnaires. Only 4 students increased their number of biological implications in the post unit questionnaires. However 10 of the 11 students who completed the essays had an increased number of biological implications in their essays compared with their pre-unit questionnaire (Table 2). Overall, there was little change in the identification of biological concepts but most students increased the number of biological implications associated with cancer.

Students' existing knowledge was gauged from answers given in the pre-unit questionnaires and the students' responses in the brainstorm activity. Table 2 records the number of answers in four different categories (causes of cancer, biological effects, treatments and social and ethical implications) for the pre-unit questionnaire and brainstorm. These totals were compared with the number of times students mentioned these aspects in their essays.

The analysis of the brainstorm data is somewhat inferential for each student. The totals may represent the ideas of other students as the brainstorms were carried out in small groups. For example Awar had quite high values for his brainstorm categories (causes of cancer, treatments and social and ethical implications) but he did not identify these in either his first or second questionnaires (see Table 1). The other students in his group for the brainstorm activity were not part of the study group. Table two shows that most students increased the number of biological effects (BE) noted in their essays, compared with the number stated in their first questionnaires. This is in contrast to the lack of changes noted in the number of categories between the pre-unit and post-unit questionnaires for biological concepts and implications. Of the students who completed questionnaire 1, Naomi was the only student who did not have an increase.

Table two. Triangulation of knowledge for students who wrote an essay

Categories: C- Causes of cancer
BE - Biological effects
Tr - Treatments
SI - Social and ethical implications

*- a second essay

Student	Pre-unit Questionnaire	Brainstorm	Essay 1	Essay 2*
Ann	2 BE 2 SI	absent	1 C 3 BE 0 Tr 8 SI	4 C 0 BE 3 Tr 4 SI
Awar	1 BE 2 SI	8 C 0 BE 11 Tr 4 SI	3 C 7 BE 3 Tr 1 SI	
Charlie	1 BE 3 SI	6 C 8 BE 3 Tr 0 SI	4 C 8 BE 4 Tr 2 SI	
Liz	0 BE 2 SI	4 C 9 BE 2 Tr 1 SI	2 C 7 BE 3 Tr 6 SI	2 C 6 BE 4 Tr 2 SI
Lois	3 BE 8 SI	6 C 7 BE 4 Tr 5 SI	4 C 4 BE 4 Tr 6 SI	
Marianne	4 BE 8 SI	4 C 9 BE 2 Tr 1 SI	6 C 6 BE 3 Tr 2 SI	6 C 6 BE 4 Tr 2 SI
Mitchel	0 BE 7 SI	6 C 7 BE 4 Tr 5 SI	0 C 3 BE 3 Tr 1 SI	
Naomi	5 BE 5 SI	8 C 5 BE 3 Tr 0 SI	4 C 1 BE 4 Tr 6 SI	
Terri	4 BE 4 SI	8 C 5 BE 3 Tr 0 SI	5 C 7 BE 4 Tr 3 SI	1 C 2 BE 4 Tr 7 SI

Interestingly, there were fewer social implications identified in the brainstorms than in the first questionnaires for most students. There is a possibility that the questions in the questionnaire prompted students to think of the social implications. Also, students may have been more focused on the biological

effects and types of treatments, rather than the social implications when brainstorming their ideas.

Comparing the total number of categories for issues does not indicate the depth of discussion many students afforded to some of the issues. Comments and essay extracts gave a much better indication of how sophisticated some of their ideas became.

Development of reflective processes (individual views about the issues and about learning)

Examples of how the students reflected on their changes in thinking about the social and ethical issues are given below. Ann (iv):

> "Yeah, I know I am more broad about it, I feel I'm more aware of all the contributing factors now, whereas before if I thought it was an old person and they are suffering you should just let them die, but now I think well, they've got family and I can see all the contributing factors now."

Ann's comments show her reflection on her knowledge and awareness of how she thought. Sally's comments below also show some reconsideration of the issues based on her increased knowledge as a result of this unit, but it is her statement "then you realize" which suggests that she has reflected on her thinking processes. Sally (iv):

> "Yes, because at the start when you don't really know anything, you just think that the government should save everyone with a disease and give it all free. Then you realize that you can't and that people bring it on themselves all the time, and they know all the risks, that it is not fair to give them all free treatment as it is to someone who didn't know or couldn't do anything about it, like hereditary type things."

Sally was referring to smokers as the people that bring it on themselves. Many other students were also quite scathing of smokers who expect to be treated when they know the dangers.

Lois also considered that this unit had "made her think more". Lois (iv):

> "I think it's made me think more of like legal things. I thought it was medical, beliefs, family, but never really thought about the bigger picture – in terms of society. It's helped clarify what ethical things are."

The statements above illustrate how these students were aware of their own thinking. They also reveal that the students had some preconceptions about what the social and ethical issues were and that the unit of work helped them to clarify and expand on these ideas. The teacher also commented on how he considered the unit had enabled the students to develop knowledge about the issues and to reflect on their own ideas. Teacher:

> "They are more aware that there is more than just their one point of view. I think that they have got a better understanding now of it from the patient's point of view, from the family's point of view…. whereas before, they probably they wouldn't have considered that those other points of view really existed…. wouldn't have thought about it much."

Many activities which explored of morals/values (values clarification), bias (values analysis) and multiple perspectives also contributed to their change in knowledge about the complexity, contextual and contingent nature of the issues.

The teacher also commented that the students were more self-starting this year and took more responsibility for the inquiry process than students had done in previous years. This was partly due to his insistence that they chose what content was important, and reflected on their learning in terms of what they needed to do next.

Examples of how students reflected on their progress either in their journals (j) or in their interviews or essays (e) are given below. The students varied in their use of reflective processes (Conner, 2002; Conner and Gunstone, 2004). Some students identified the need to develop content knowledge and

essay-writing, whereas other students asked themselves questions that extended their knowledge. For example, Charlie wanted to find out more about telomeres and about what happens to plants that have cancer. He found out that telomeres are like timekeepers in a cell and that their formation limits a cell's life span and linked this to the concept of immortality. Liz also asked herself questions that she later answered in her essay.

> Liz (j): "Can you get cancer anywhere, or just anywhere you have fat or muscle or blood?"

> Liz (e): "Because cells are everywhere in the body, cancers can form anywhere."

Another example was the sequence of questions about treatments in her journal.

> Liz (j): "What methods do people seem to prefer to use when they've found out they have cancer? Treatment, chemical, radiation, positive thinking, god, nature or surgery?"

In her essay she mentioned the treatments of gene therapy, radiation therapy, chemotherapy, surgery and genetic screening for hereditary types of cancer. She also extended her thinking around treatments to include ideas about personal and social ethics.

> Liz (e): "As the individual must decide on his or her own code of ethics in dealing with this disease, so must the collective body of society. In this the rights of every person must be considered. However it is rarely cut and dried and the ethics involved in cancer cases are still being debated. Human dignity, equality, protection, privacy and freedom are among each person's rights. But what about euthanasia?"

Using reflective and critical thinking processes to make decisions about what to include in her essay helped her greatly.

Development of the personal, social and ethical issues

Many students related the content to personal behaviour as indicated by questions they asked about sunbathing, smoking, diet and skin pigmentation during class sessions. Some students took into account the personal or emotional aspects involved in decision- making when someone is diagnosed with cancer. The following extracts provide examples of this.

> Marianne (e): "The social implications of this disease are widespread as the families and friends of patients must also deal with the suffering and trauma of loved ones."

> Naomi (e): "For women with breast cancer the decision to have a mastectomy can be very difficult."

This last statement was linked to a question at the end of an activity which was: "If your sister had been genetically screened and was found to have the BRAC1 mutation, would you recommend that she have her breasts removed as a preventative measure?" Sally commented on decision-making in her journal.

> Sally (j): "I can't decide if I could have the opportunity to know or not about whether I had the mutation BRAC1, whether I'd want to know or not. It's like the question, if you had the choice, would you choose to know or not when you'd die?"

This statement is an example of how students personalized the issues and reflected on how it would affect them. A different activity that required students to assume they had lung cancer and got them to decide which treatment they would choose also made them personalize the issues (extent of the disease, treatments and their side effects, costs etc.).

Table 1 indicates the changes in the number of social implications. These increased from the pre to the post questionnaire for 8 of the 11 students, and decreased for Mary (Table 1). For ethical implications, there was an increase for five students and a decrease for two students. This suggests that in general, the number of ideas about the social and ethical implications of the class increased by the end of the unit.

The number of social and ethical implications identified in students' essays was disappointing. It seems that the students did not use/transfer the concepts or ideas generated in the brainstorms, or those identified in the questionnaires or class discussions to their essays. Only four students showed an increase in the number of social and ethical issues mentioned in their essays compared with the number mentioned in their pre-unit questionnaires (Table 2). Students tended to expand on particular issues in their essays rather than extend the number of issues.

Table 1 also shows that nine of the 11 students increased their ideas about the basis on which people make social and ethical decisions. This is yet another example that the unit of work allowed students to build on their existing knowledge. The data indicates that although students were exposed to a range of social and ethical implications throughout the unit and were able to articulate these (questionnaires and interview responses), they did not necessarily include them in their essays. Some students may have thought that the biological facts were more important in the essay than their opinions about the issues, as indicated by the data for "BE" compared with "SI" for Awar, Charlie, Marianne, and Mitchel in Table 2. That is, their perceptions of what should be included in the essay in terms of biological facts may have overridden their inclusion of bioethical issues. Perhaps if students had been given copies of the group brainstorm sheets, they may have incorporated this information when planning their essays.

Students could have been given clearer guidance that it was important to include personal and social implications in their essays. Often what is assessed drives what students produce (Conner, 2004b). Students need to know what is considered important in terms of the scientific/technological knowledge, personal/social opinion, demonstrating that decisions are often made in the pursuit of particular interests and that benefits accruing to some may be at the expense of others. As educators we need to examine how we indicate the importance of this complexity of knowledge required to be critically evaluative of bioethical issues.

Conclusion

In this unit of work, the teacher indicated and directed students to use inquiry about new science/technology content, required students to question what they needed to know and do. This enabled student to develop their knowledge and appreciate the complexity, contextual and contingent nature of the issues. If we are serious about our students being able to make informed decisions about bioethical issues, then teaching and learning in bioethical contexts really needs to include ways to interconnect knowledge of content with personal and social dimensions and needs to emphasize factors that influence how decisions are made.

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Ethical education in the medical curriculum – interns' perspectives*

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In recent decades, advances in medical sciences and technology have altered the way in which medicine is practiced and the traditional doctor-patient relationship. The enormous increase in knowledge has empowered the health care professionals to achieve standards of diagnosis and treatment which were not possible earlier. But as once remarked by Albert Einstein: "our technology has exceeded our humanity."

The essence of the Hippocratic Oath is non-malfeasance and beneficence. Even before the period of Hippocrates, a text of Ayurveda, *Caraka Samhitha* refers to "Dharma" or duties of physicians. "You shall not desert or injure your patient even for the sake of your life". In the present times, there are other considerations in addition to non-malificence and beneficence. The physician has to take account of patient autonomy and distributive justice. Both ethical and economic implications of the choices of diagnosis and treatment are to be analysed. There are ethical, legal, social and human rights issues related to bio-medical research with human participation, end of life care, abortion, assisted reproductive technology, organ transplantation, genetic technology, embryo research and cloning, HIV/AIDS and so on. Training of doctors and other health care professionals should incorporate teaching of ethics to enable them to deal with the ethical dilemmas in professional practice.

Unfortunately, formal training in ethics is not a component of the medical curriculum in most of the medical schools both in developed and developing countries. As remarked by a medical student from the US, ethics teaching to-day resembles basic sciences instruction before the Flexner Report (Michael Sanders, 1995). There are a few medical colleges in our country where ethics education is imparted systematically. The Medical Council of India has made recommendations that ethics should be included in the curriculum.

A survey was conducted by the Department of Curriculum Development, The Tamil Nadu Dr. M.G.R. Medical University, Chennai in four medical colleges in Tamil Nadu, a southern state in India. Data was collected from interns undergoing training after completing four-and-a-half-years of study in medical school. A structured questionnaire was used and 184 interns responded. Our aim was to analyze their experiences and views, a process which will facilitate planning of a formal ethics curriculum.

The study revealed that more than 60 per cent of the internees felt that they had opportunities to learn about ethics during the MBBS course and they were able to discuss ethical issues with faculty members. Forensic medicine and community medicine were the disciplines in which ethics was dealt with. Three quarters of the participants were of the opinion that medical ethics should find a place in the curriculum as a separate subject of study, because the study of ethics will have an impact on improving professionalism and that ethics should be taught throughout the course. The topics which were cited as important where patient autonomy, ethical theories, codes of medical ethics, rights and duties of doctors, cost constraints of patients, collection of fees by doctors, doctor-doctor relationships, etc. Preferred teaching methods were seminars, clinical teaching and lectures. Suggested methods for assessment were case presentation, quiz and MCQs.

The formal curriculum helps the students to face ethical issues in their future practice. More importantly is the informal curriculum, that is, learning about ethical behaviour from good role models. The significance of this hidden curriculum is reflected in the remark by one of the internees: "Ethics is learnt by observation and practice and not by mere teaching." On the other hand, behaviour in the clinical settings which is perceived as unethical makes the students uncomfortable. In our study, the interns

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have made astute observations regarding unethical behaviour of some clinicians. Similar experiences of the medical students have been reported. (Hicks, 2001)

To conclude, the major emphasis from this study is on the need of the internees to have a formal ethics curriculum and the importance of the hidden curriculum in teaching of ethics.

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Development of case study materials for teaching research ethics*

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Background

Health sciences research, especially in medicine and pharmaceutical sciences has contributed substantially to drug development, assurance of their efficacy as well as the safety of use in humans. While the body of knowledge and application of research methodology is a means to successful research, ethical conduct in research must be in parallel thus "doing good" is achieved by doing right from the start.

Universal ethical principles are: 1) respect for person autonomy; 2) beneficence; 3) non-malificence; and 4) justice. Translating the principles into research conduct necessitates informing potential participants of research details with adequacy and clarity so they can make decisions on their own whether or not to participate in research (principle 1); protecting participants from harms incurring from research, including minimizing the risks as well as balancing the risks and benefits gained from research (principles 2 and 3); and even or fair recruiting of potential participants so as not to put burden on a particular group of population in research (principle 4).

Various ethical guidelines in research involving humans issued by both local and international organizations are available. All conform to the universal ethical principles above. In the USA, researchers receiving federal grants are eligible to proceed with their research only after they attend a course in research ethics organized by their institution.

The School of Pharmacy, Prince Songkla University formed its own ethics committee to do ethical reviews of research involving humans in 2001. Research ethics was included as a subtopic in research methodology for graduate students in the school, and the courses began in 2002. The aim of the topic is to stimulate awareness and recognition of the importance of ethical conduct in research involving humans. It is also expected that this would enable students to ethically conduct their research as part of their degree. Only three hours from a total of 45 hours is allocated for the research ethics topic.

Teaching is mainly by means of discussion, sharing points of view and assignment. There is no scoring or pass/fail but the students are required to participate in the class in order to complete the credit earned in research methodology. The assignment is based on drafting an information sheet inviting potential subjects to participate in their planned study.

Creating awareness of ethical aspects in research involving humans may be acquired by studying real or real-like situations rather than by lectures. Students should have an opportunity to ponder and distinguish between ethical and unethical research conduct. Several studies showed teaching ethics via small group discussion (Sponholz, 2000; Rosenbaum, 2003; Utaipan, 2003) and employing case scenarios presenting ethical dilemmas (Latif, 1999) increased the individual's ethical sensitivity and their moral reasoning skills. Furthermore, a study indicated that moral development in adults can be changed by means of education (Rest, 1986) although their prior experiences, background, attitudes and beliefs may affect perception of ethical issues and the way of solving them.

Our students were assigned to read some ethical guidelines in research such as that of the World Medical Association "Declaration of Helsinki", WHO International Conference on Harmonization (ICH), the US National Institute of Health (NIH) "Belmont report" (USA) and the Thai Food and Drug Administration

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Thai translated version of the ICH guidelines. Other media for discussion included two films raising ethical dilemmas in clinical research and profession practice, respectively; a video series of protecting human subjects (1985) produced by the US National Institute of Health and the US Food and Drug Administration; and case studies representing ethical dilemmas from two books by Coughlin et al (1997) and Penslar (1995). The teacher acts as a facilitator to stimulate thinking, argument and discussion. However, all tools for teaching were from Western examples. There is a need for the tools in the Thai context, thus this project was developed to produce Thai case studies presented with ethical dilemmas in research, to be a tool for teaching research ethics in health sciences. It was also expected that the cases will be distributed for others to use as they see appropriate.

Methods

Individual interviews with researchers (N = 9) in various research fields involving human subjects, as well as group interviews with healthy volunteers (N= 10). In phase one drug studies were conducted. Two interviewers were used. Each researcher was approached via phone. They were informed of the purpose of the project and what we required from them. A further appointment was made for an interview if they agreed. In the interview for both researchers and volunteers, a leading open-question was used, i.e., "from your experiences on research of humans either directly or indirectly, had you encountered any ethical issues?" The interviewers handed out documents with the contents of the interview, with or without tape-recordings. Interviewers were allowed to ask further questions regarding other ethical issues which were not brought around by the interviewees following the leading question. The estimated time for the interview was 45-60 minutes.

Results

As a result, five case studies were written based on content drawn from interviews. All presented an ethical issue which might be obvious or might be unclear prompting a further query. The narrative case studies were presented in the appendix of this paper. It should be noted that questions for discussion at the end of each case study were added after the cases were pilot-tested in a number of graduate students. A summary of ethical issues pertaining to the five cases, with reference to the three ethical principles previously mentioned, were as follows.

Case study one: Study of efficacy of herbal-extract dermatological product in HIV (+) patients

Issue one: Recruiting volunteers into the research (Ethical principle three)

Targeting HIV (+) patients to be recruited was biased as researchers intended to select only a group of patients having a positive attitude towards the use of herbal remedies. Researchers had a biased assumption that the group would not decline to participate in the research. In recruiting, everyone eligible, i.e., HIV (+) patients with a specific skin condition should have an equal opportunity to participate. This was also not to put a burden on a particular group of patients. Whether or not they accepted to be part of the study is another essential process not related to the research method. It was also not a clinical characteristic in which the herbal product was to be tested.

Issue two: Informing of alternative choices (Ethical principles one and two)

In the informed consent process, the patients must be told about other available alternatives for treatment of the skin condition if they choose not to take part. In addition, it should be made clear that if the herbal product fails, what are the plans for those who did not respond?

Issue three: Confidentiality of data (Ethical principles one and two)

The study population is HIV (+) which should be kept confidential to avoid a social risk (social stigma) from disclosure of the HIV status to other parties not involved in the study.

Case study two: A pharmacokinetics study of a sustained-release antihypertensive agent in healthy male volunteers.

Issue one: Safety or risk to volunteers (Ethical principles one and two).

Potential volunteers must be informed of the possibility of blood pressure reduction associated with the drug being tested. Researchers should also present previous findings pertaining to the effect of blood pressure reduction in normo-tensive individuals and planned safety measures, i.e., the volunteers must be confined to a laboratory area which is fully equipped with emergency kits and qualified health personnel.

Case study three: Study of mutant gene associated with cervical cancer in Thai females.

Issue one: Use of existing biological specimens of individuals for research purposes (Ethical principle one).

Although researchers asked for permission and informed the women of the purpose of collecting a blood sample, they did not do the same with the cervical cell specimen. The point of view might be that the cell specimen already existed for cervical cancer screening purposes, with no need to collect more samples for research purposes.

Most importantly, the owners of the specimen acknowledged that providing the cervical cell sample was part of routine screening in healthcare, but they were not aware of further use of the specimen for research purposes.

Issue two: Researchers' responsibility after the study (Ethical principles one and two).

This issue is a consequence of issue one - whether or not the researcher sought permission from the women who informed them of the purpose and prepared advance consent to be notified of the results of the mutant gene.

In anticipation of the results of the study and the fear that it might impact on women's health in the future, how do researchers plan to notify women who owned the specimen, and what kind of surveillance would they plan or would they opt not to report back to the women? What is the rationale for these actions?

Case study four: Efficacy of a simplified antiretroviral regimen in prevention of maternal to child transmission of HIV.

Issue 1: Researchers' responsibility after the study (Ethical principles two and three).

Potential volunteers are pregnant with HIV (+). These people may autonomously take part in the study with the hope of getting antiretroviral therapy (the study group).

Babies born from mothers, especially those in the placebo group, could have been infected with HIV. What was the plan for both mothers and their child after the end of the study? Or was this plan considered to be beyond the scope of the research?

Issue two: Placebo use and standard of care (Ethical principles two and three).

The study compared the active study drug (simplified antiretroviral regimen) against placebos instead of standard treatment (full antiretroviral regimen), because the standard treatment was not the standard in the country. Even if it was available in the country, most HIV infected persons would not be able to afford it. Therefore it appeared that the context of the country determines what is to be considered ethically or unethically acceptable.

Issue three: Confidentiality of data (Ethical principles one and two).

The study population is HIV (+) which should be kept confidential to avoid a social risk (social stigma) from the disclosure of the HIV status to other parties not involved in the study.

Case study five: Survey of community pharmacist's dispensing antibiotics for treatment of sore throat or diarrhoea.

Issue one: Individual right and privacy (Ethical principle one)

This case involved "secret shopping" as well as "secret tape recording" in research methodology so actual behaviour was obtained and the objective achieved. However, this process violated individual privacy. Weighing the impact of study or the benefit gain against the need to violate individual rights and privacy should be considered.

Issue two: Distribution of the study results (Ethical principles one and two)

Researchers should present how they intended to report the overall findings. Notification of the findings to the pharmacists being studied is basically necessary for the change toward dispensing behaviour to happen. Otherwise, the study would be of no value.

Pilot -testing the cases

All the five case studies were tested in a group of six graduate students at the school (female four, male two). Four had already experienced the research ethics course.

Each read the cases independently. Following the reading, they were asked to evaluate the case regarding ethical issues by answering a question in a form attached with each case. The question was: "Did you feel there is any particular ethical issue in the case? If so how would you rate their importance?" They were told there could be more than one issue and a scoring of one to five represented the degree of importance from the least to the most important. The findings were presented in Table one.

Table one: Graduate students' perception of ethical issues and their importance scores in the five case studies

Case study	Ethical issue (s) perceived	Average score (N)
No 1: Study of efficacy of herbal-extract dermatological product in HIV (+) patients.	Providing clear information to the potential volunteers that it is a test of herbal product	**4.5 (4)**
	Risk of taking the herbal product	**4.25 (3)**
	Asking patients not to use other concurrent treatment for the condition being studied.	**3.5 (2)**
No 2: A pharmacokinetics study of a sustained-release antihypertensive agent in healthy male volunteers.	Not perceiving any ethical issue.	**- (1)**
	Risks or adverse effects associated with the study drug.	**4 (3)**
	Recruitment of volunteers from a particular group likely to accept the study.	**4 (2)**
No 3: Study of mutant gene associated with cervical cancer in Thai females.	Written inform consent rather than oral consent.	**4 (6)**
	Making use of existing biological specimen for research purposes without permission is violating the individual's right.	**5 (2)**
	Confidentiality of results of mutant gene.	**4.5 (2)**
	Notification of result of mutant gene to individual.	**4 (1)**

No 4: Efficacy of a simplified antiretroviral regimen in prevention of maternal-to-child transmission of HIV.	Placebo use and outcome of baby born from mothers receiving placebo.	**5 (6)**
	Informing the mothers that it was a study not routine care and that there was chance of getting placebo.	**4.7 (3)**
No 5: Survey of community pharmacist's dispensing antibiotics for treatment of sore throat or diarrhoea.	Secret tape-recording and study without awareness of the pharmacists.	**4.5 (6)**
	Report of the findings without disclosure of identities of the pharmacists.	**4 (1)**

The pilot-testing showed that for each case study, each individual student was aware of an ethical issue differently in both seeing it as an ethical matter and its importance. They did not always see the same points as previously summarized for each case. On the other hand, some raised other different issues they considered an ethical one. In fact, any reader may see other extra ethical issues or raise a different ethical question. Such diversity would be a good vehicle for discussion or argument.

In the academic year 2006, the five cases were used, along with other tools, to teach research ethics at the graduate level. The responses from students observing the discussion environment and student evaluation was obtained. It is believed that the cases could be used for the same purpose in other allied health sciences students, although there were courses or programmes designed for researchers in specialist fields such as psychiatry (Rosenstein et al., 2001) and emergency medicine (Moskop et al., 1990).

Finally, research ethics should be set as a separate seminar course so that there is sufficient time to cover every aspect of research ethics, for example, research in vulnerable populations; genetic research; conflicts of interest; research sponsorship; and scientific misconduct. It deserves to be a multidisciplinary course in the area of health sciences.

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Appendix

Case one: Study of efficacy of herbal-extract dermatological product in HIV (+) patients

It has been documented in Thai folk medicine recipes that a mixture of the dried bark of a tree and a lime solution when applied to a rash can improve or resolve the symptoms. In herbal medicine research, it is common to obtain an extract of active substance(s) and test it on rash-induced mice. Regarding the mixture, the test results were satisfactory. A skin product containing the extract was then developed. The team wanted to test if the product worked on HIV (+) patients in which skin rashes were common and no specific treatment was available. HIV (+) patients' care teams at three public hospitals, which were known for their policy to promote the use of herbal medicines were approached. The hospitals had anonymous outpatient clinics catering for HIV (+) patients. Modes of caring were divided to those of western medicines and those of herbal medicines for which patients voluntarily opted.

The study was single blind randomized placebo control. Patients in the herbal medicine clinic were chosen as they already accepted the use of herbal medicines. The patients were randomized to receive either a placebo skin product or a test product containing the bark extract. Both products were similar in their appearance and colour. The subjects were advised to apply the product to the affected area three or four times a day. They were scheduled to a follow up on a weekly basis for the first month, then monthly for a total of six months. Outcomes measured were the patient's self reporting of their rash/ pruritus status. A total count of papules, as well as the general appearance of the skin before (baseline) and after the treatment were evaluated. The subjects were asked not to use other products for skin relief during the study.

Questions/ points for discussion:

- If you were a member of the ethics committee, would you query researchers?
- Would you view the study differently if the study population were not HIV infected?
- The ethics committee suggested researchers recruit all HIV patients infected with skin ailments as specified in the inclusion criteria.

Case two: A pharmacokinetics study of a sustained-release antihypertensive agent in healthy male volunteers

In order to get approval for marketing, a domestic pharmaceutical company who manufactured a sustained release tablet of an antihypertensive agent had to show the FDA the comparative pharmacokinetics of the drug against the original product produced by the Innovate pharmaceutical company. The company provided a study protocol which required 20 healthy adult male volunteers. The research institution sought subjects from nearby universities. Those who were interested in participating were informed of the details. After the informed session, they were asked to sign a consent form to take part in the study on the same day. The volunteers fasted for eight hours before taking a single drug orally and their blood sample was collected at pre-specified times during a 24 hour period. After the washout period, the volunteers repeated the process with the other product. During the study they were allowed to take leave but had to be back in time for the next blood collection. A research assistant took care of the volunteers and collected their blood samples.

Questions/ points for discussion:

- If you are interested in taking part, what would you like to know first from the researcher?
- If this study was carried out on people with high blood pressure, would you view the study differently?

Case three: Study of mutant genes associated with cervical cancer in Thai females

A research group wanted to study the inherited risk factor for cervical cancer in Thai females. They needed to inspect DNA from blood samples and cervical epithelial cells to verify the presence of a mutant gene. The biological specimens of a large number of women coming for the pap smear test would be needed as the results were to be reported at a population level.

During the study, the investigator brought cervical epithelial cells from the pap smear to further examine the mutant gene. Permission was sought and the women were informed of the reason for collecting the blood samples, i.e., to check for abnormal genes which might be associated with an occurrence of cervical cancer.

Questions/ points for discussion

- If you were among the women, would you agree to the blood collection?
- Why and why not would you think researchers could take the specimen sample for further examination for a possible mutant gene?
- If the study found a mutant gene in an individual woman, is it the researchers' responsibility to notify women of the results?

Case four: Efficacy of a simplified antiretroviral regimen in prevention of maternal to child transmission of HIV

Researchers wanted to run a study to find out if a simplified regimen of antiretroviral had a comparable efficacy to a full standard regimen in the prevention of mother to child transmission of HIV.

The trial was randomized double blind placebo control carried out at various gynaecology clinics at large hospitals. By randomization, the pregnant women might get the study drug or receive nothing (placebo). Informed consent was given. Participants had to come to the hospital to receive the treatment twice before delivery, and for the baby after birth. All expenses were compensated.

Questions/ points for discussion

- The study should be conducted in countries where standard treatment was available so the placebo is not used.
- Ethical principles depend on local context or circumstances thus they cannot be universal.
- Is it the researchers' obligation to be responsible for the health of women and their child especially in the placebo group after the end of the study?
- Would you view the study differently if the findings turned out to be; the simplified regimen proved to be effective in the prevention of HIV transmission from mother to child thus it become standard treatment in the country and other developing countries or if the simplified regimen failed.

Case five: Survey of community pharmacist's dispensing antibiotics for the treatment of sore throats or diarrhoea

Injudicious use of antibiotics leads to bacterial resistance. In Thailand, community pharmacists can, with their discretion, dispense antibiotics to a client after a thorough history research of his/her

symptoms. Researchers employed the "secret shopping" method in their study. A group of volunteers acted as shoppers in need of antibiotics for sore throats or other ailments. Community pharmacists under investigation were blind to the study. As soon as each trained client finished their job, they had to document details of the community pharmacist's comments and the medications dispensed for them.

In order to make sure the clients did not miss anything for data collection, the researchers prepared a small tape-recorder for everyone to record the conversation while in the pharmacy. It could be hidden inside their clothes without being noticed. The recorded contents were transcribed onto the data collection form.

Questions/ points for discussion

- The study did not require ethical approval as it is impossible to inform a community pharmacist about the study otherwise the study could not meet its objective. If you were a community pharmacist being investigated and you accidentally found out that you were being tape-recorded, what would be your reaction? What action would you take?

Bioethics education in tertiary settings: The University of Malaya experience*

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Introduction

Biotechnology and biological sciences have emerged as the focal points in the development agendas of many Asian countries. Inherent within these agendas are activities related to the promotion and permeation of biotechnology and molecular biology into agriculture, manufacturing, medicine, education, research and development and so forth. Malaysia, a rapidly developing country with a population of some 28 million inhabitants, has not been left behind

The Local Setting

Archeological findings have revealed the existence of human remains in Neolithic settlements, dated between 10,000 to 15,000 years ago in north Malaysia. It has been generally accepted that land based migrations of Homo sapiens to more southern regions and the Australian continent occurred through the Malay peninsular some 50,000 years ago1,2. In terms of recent history, Malaya was declared an independent country from British colonial rule in 1957. In 1963, Malaysia was formed, comprising the Peninsular (West) and Sabah and Sarawak (East). The country is run based on parliamentary democracy. The legal system incorporates civil law, derived from British elements, and aspects of Syariah laws for Muslims.

Biodiversity

Malaysians are a heterogeneous population. Our present culture and way of life, not unlike in many other countries, have been influenced by Hindu, Chinese, Islamic, Western civilization and thought. Presently, Malays, Chinese, Indians, Eurasians, Indigenous people and other communities make up our unique linguistic and cultural heritage and way of life.

While the present constitution enshrines the right of religious beliefs for non-Malays, Islam is the official religion and is practiced by Malay community who form approximately 55-60 per cent of the population. Buddhism, Christianity, Hinduism, Sikhism and other religions and beliefs, are practiced relatively freely and peacefully. On the whole, we have a "salad bowl of different people", the majority of whom place peace, tolerance and economic prosperity high on their agenda. This concept is more applicable rather than the proverbial "melting pot", which to my mind does not exist in the true sense of the word.

Although relatively small in terms of landmass, Malaysia has been officially designated as one of the 17 "mega-biodiversity" countries3. It has an abundance of natural resources, flora and fauna. Petroleum, timber, and other commodities continue to fuel the economy. In the quest to reach a "developed country" status, in accordance with promoting better quality of life to citizens in both rural and urban areas, governmental and private sectors, continue to fund and encourage developments in education, healthcare, science and technology. At the same time, there is the awareness that in line with rapid local and global developments, ethical, legal and social issues are important and should not be neglected.

Bioethics programmes

Bioethics is entirely relevant, more so in a multicultural and multi-religious country. Global developments in socio-economics, biodiversity discovery and depletion, scientific and technological advances,

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improved therapeutic and reproductive options, genetically engineered life forms, conservation and so on, necessitate active and informed responses from both developed and developing nations, based on not only balanced but also factual perspectives.

Efforts are being made in educational and other establishments, to promote bioethics awareness and education. In 2005, 17 public universities, and more than 30 private/joint venture universities/higher educational establishments are listed in Malaysia. The University of Malaya (UM), the first university in the country, has its roots in the founding of the King Edward College of Medicine in 1905. In this our hundredth year, the faculty of medicine still runs the largest number of undergraduate and postgraduate biomedical programmes in the country. In terms of biomedical research, it is essential to ensure responsibility, quality and accountability. Multidisciplinary and collaborative approaches are utilized in addressing questions pertinent to health and wellbeing.

In 2003, with the ethos of producing academically able, capable and ethically conscious graduates, the university initiated compulsory moral and professional ethics courses for all undergraduate programmes, the specifics of which were addressed at the faculties of science, law, arts, and many others, according to their own systems and requirements.

While the focus of most teaching programmes in biomedical sciences, clinical medicine, nursing and pharmacy, remains on delivering medical, paramedical and professional training from lab bench to bedside, biomedical ethics is viewed as an integral part of practice. The existing medical ethics committee reviews research projects, treatment regimes and other matters. Biomedical ethics is now an essential component in the various teaching and research programmes.

Courses and approaches at the University of Malaya

The following are some bioethics based courses taught in UM:

- Biomedical Ethics;
- Professional Codes of ethics for Clinician, Nurses, Pharmacists and Health Care Professionals;
- Ethics of Science and Technology, Contemporary Bioethics;
- Medico-Legal Laws and Practices

The Biomedical Ethics course is broad based rather than in depth, limited by time and available academic staff. Topics covered include origins and philosophies in ethics, ethical research practice on humans and animal subjects, data integrity, clinical trials, assisted reproductive technologies, xenotransplantation, human genetics, telemedicine, therapeutic and reproductive cloning, intellectual property and patents.

The aims are to expose, inform and train, and also to help the educators gain insights into the thoughts, practices and minds of our students through their responses. Apart from didactic teaching from texts, we also incorporate interactive sessions, where groups of students are challenged with scenes and situations in daily life, journal articles, newspaper clippings or reports of local and global events. For example, we have used articles related to the Dec 2004 tsunami disaster, "optional weapons training" in the local national service programme, the ban on smoking in public places and "anti-cancer tomatoes and eggs" reports (in references). In terms of assessment, marks are awarded via quizzes, spot tests, presentations and a written examination.

In the words of Lao Tzu, "the journey of a thousand miles begins with a single step". Where Malaysia is concerned, we may well be at the beginning of the very long road of bioethics awareness and education. In this journey, the commitment and participation of local and international experts and organizations, would help tremendously towards the better training and practice in bioethics. Comprehensive programmes that address education, training and capacity building at various levels are essential. It is imperative that efforts must be made to generate not only knowledge but also ethical thought, respect and love for life and empowerment.

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Ethical views of first-year medical and nursing students in a joint bioethics course*

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Introduction

Both health care providers and receivers are now involved in medical decision-making, and they often hold conflicting ethical views. It is predominantly nurses who are confronted with the claims of the patient and/or family in Japan, while many doctors simply ignore the existence of their wishes (Konishi, 1998). In the multidisciplinary team approach, the sensible contribution of all healthcare professionals is a prerequisite. In particular, close collaboration between the doctor and nurse is essential to the patient and family, regardless of the traditional positions of doctor and nurse. A means of achieving this collaboration and lessening the tension between doctor and nurse may be participation in joint ethics courses for medical and nursing students (Fagin, 1992; Tschudin, 2000). Because professional socialization starts with the decision to be a doctor or a nurse, opinions on ethical issues in the early days of professional training may be important for faculty education. In previous work, the opinions of medical and nursing students on ethical issues in general and on organ donation have been studied, and some differences were observed (Kurtzman et al., 1985; Peter and Gallop, 1994; Nolan and Smith, 1995; Cantwell and Clifford, 2000). These differences may depend on cultural tradition and other social factors. The present study examines differences in the views of medical and nursing students with regard to certain ethical issues.

Methods

Bioethics is a compulsory component of the first-year medical and nursing courses at Yamaguchi University, and in the first semester in 2004, 85 medical and 53 nursing students attended this course jointly (Tanida, 2005). The lecturer discussed the pros and cons of the topics without attempting to impose "right answers". At the end of each lecture, the students were asked to give answers to questions on the topics covered, with a "yes" or "no" response and a comment.

Question one, a specific question, was taken from an actual case in the United States (Gottlieb, 2003) in which a prisoner on death row became mentally ill. Because a mentally ill man cannot be executed, the authorities asked a doctor to treat the patient, and the doctor refused. Students were asked to answer the question: "Would you treat this patient?" The decision of the Supreme Court to proceed with the execution was subsequently disclosed to the students and discussed the following week.

Question two related to the American legal doctrine of informed consent. In the case study, a patient developed toxic epidermal necrosis syndrome in response to a drug prescribed by a doctor, and eventually died. The family of the patient sued the doctor, claiming that the doctor should have drawn explicit attention to the possibility of such a serious drug reaction, so that the patient was alerted and could take immediate measures if the problem eventuated. The follow-up story was presented the following week, and implications of the court decision were discussed.

Specific questions three and four referred to a claim by the family of a patient who died as a result of a complication during surgery. During an emergency cholecystectomy, a bile duct was injured, and despite repair and intensive treatment, the patient died. The family of the patient sued the surgeon on the charge of manslaughter. The mortality rate for elective cholecystectomy is a maximum of one per cent, while the mortality rate for common bile duct damage during surgery is about 20 per cent. These figures had been explained to the patient and family under informed consent. There was no obvious negligence, as the surgeon had taken all necessary measures during surgery. The Good Samaritan Law

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was explained to students before presenting this case study.

The open questions were, "When does human life begin?" and "Which issue in bioethics is of the most importance?" This last question was asked at the conclusion of the course. The statistical analyses employed SPSS 11.5 J. All p values were two-tailed. Statistical significance was suggested at $p<0.05$ and tendency at $p<0.1$.

Results

The background profiles of the students were described elsewhere (Tanida, 2005). Table one summarizes the responses to the specific questions. Medical students answered in the positive to treating a condemned mentally ill man more frequently than nursing students, and male students approved more frequently than female students overall (77 per cent versus 65 per cent, $p=0.10$). The logistic regression analysis indicated that faculty contributed significantly to the attitudes of students on this issue (Table two). Almost all students considered this a difficult decision for health care providers. Some comments by students who answered "yes" were: "Treatment is an obligation of the doctor." "It is assumed that the mentally ill person wants to be treated." "What happens after treatment is not an issue." and "The law and the request of the authorities should be respected." The reason for answering "no" was almost exclusively, "I cannot assist in killing a man, even if there is a professional obligation to treat."

Table one. Response of students to specific questions

	Medical students number (%)	Nursing students number (%)	p value
1. Treat a mentally ill man to make him fit for execution?			
Yes	65 (76)	32 (62)	0.06
No	20 (24)	20 (38)	
2. Support the American legal doctrine of informed consent?			
Yes	69 (85)	46 (92)	0.14
No	12 (15)	3 (6)	
Not decided	0	1 (2)	
3. A criminal law suit against the responsible surgeon is reasonable?			
Yes	67 (80)	47 (90)	0.20
No	15 (18)	5 (10)	
Not decided	2 (2)	0	
4. The surgeon should be prosecuted for manslaughter?			
Yes	41 (49)	35 (67)	0.03
No	43 (51)	16 (31)	
Not decided	0	1 (2)	

On the issue of informed consent, most students supported full disclosure of medical information (Table one). However, male students were less supportive than female students (86 per cent versus 91 per cent, $p=0.39$). Students in favour of full disclosure commented that any possible serious drug reaction should be explained to the patient before treatment, even if its occurrence rate is extremely rare. Students against full disclosure considered that such a small possibility of a drug reaction is clinically insignificant, and therefore should not come under the general rules of informed consent.

Most students thought that a criminal law suit against the surgeon in this case was reasonable (Table one). Male students agreed less frequently than female students (76 per cent versus 91 per cent, $p=0.03$). Both faculty and gender were contributory factors to students' attitudes on this issue (Table two). Fewer

medical students thought that the surgeon should be prosecuted for manslaughter than did nursing students, but the percentages for males and females were very similar (55 per cent versus 57 per cent, p=0.57). Faculty contributed significantly to the degree of support for the charge of manslaughter (Table two). Comments indicated that sympathy for the patient's family was a major reason for approving of criminal law suits against the responsible surgeon, and included, "the consequence is of most importance," "no excuse for loss of patient's life resulting from surgeon's action" and "the responsible surgeon should be punished as in traffic accidents". Students who disapproved commented that "it is too harsh to punish the surgeon who did his best", "informed consent was obtained from the patient and family, and the family should have understood and accepted the risk of such a complication prior to surgery" and "medicine is by no means 100 per cent successful, the surgeon's effort should be appraised". Students who answered "undecided" commented that how the surgeon and hospital dealt with the case after the incident was critical in deciding whether criminal prosecution was reasonable.

Table 2. Odds ratios and 95 per cent confidence intervals in logistic regression analysis

	Odds ratio (95% confidence interval)	p value
Treat a mentally ill man to make him fit for execution?		
Faculty (medical=1.00)	0.50 (0.22 - 1.11)	0.09
Gender (male=1.00)	1.06 (0.33 - 3.44)	0.91
A criminal law suit against the responsible surgeon is reasonable		
Faculty (medical=1.00)	3.27 (1.10 - 9.58)	0.03
Gender (male=1.00)	7.69 (0.90 - 58.8)	0.06
The surgeon should be prosecuted for manslaughter		
Faculty (medical=1.00)	1.96 (0.90 - 4.16)	0.09
Gender (male=1.00)	0.64 (0.24 - 1.73)	0.39
The answer "yes" was scored as the dependent variable, and "undecided" was counted as "no"		

Table three summarizes the responses to the open questions. Similar percentages of medical and nursing students thought that human life begins at fertilization. Twelve per cent of the nursing students thought that life started at implantation. The most important ethical issue was brain death/organ transplants for medical students and assisted reproductive technology for nursing students, followed by the issue of informed consent in both students. Many students commented on the importance of studying ethics in medical and nursing schools. In the discussion the following week, students were surprised at the differences in their opinions.

Table three. Responses of students to open questions

	Medical students number (%)	Nursing students number (%)	p value
Life starts at/when:			
First encounter of parents	1 (1)	2 (4)	0.715
Fertilization	54 (64)	33 (63)	
Implantation	5 (6)	6 (12)	
Human body shape	4 (5)	1 (2)	
Abortion impermissible	4 (5)	2 (4)	
Delivery	4 (5)	4 (8)	
Foetus becomes conscious	4 (5)	1 (2)	
Mother realizes pregnant	3 (4)	2 (4)	
Other	5 (6)	1 (2)	

Most important ethical issue:			
Brain death/organ transplant	15 (18)	6 (11)	0.399
Assisted reproductive techn.	10 (12)	12 (23)	
Euthanasia	12 (14)	5 (9)	
Terminal care	7 (8)	8 (15)	
Malpractice	8 (9)	5 (9)	
Gene technology	6 (7)	1 (2)	
Informed consent	14 (16)	11 (21)	
Communication	9 (11)	4 (8)	
Others	4 (5)	1 (2)	
The issue of truth disclosure was included in informed consent.			

Discussion

The results indicate a similarity of ethical views in some areas and differences in others. For example, the majority of students favoured treating a condemned man for mental illness to expedite his execution, although almost all students commented on the difficulties of the decision for health care providers. Many students acknowledged the importance of esteem for the traditions and culture of law in society, which suggests agreement with the Japanese position of maintaining capital punishment, as in some States of America. The students' attitudes on this issue differed by faculty but not by gender. The less affirmative attitude of nursing students towards playing a role in an execution may derive from their professional commitment to caring for patients, as exemplified by their greater support for organ donation compared with medical students (Cantwell and Clifford, 2000). The absence of gender difference in a matter associated with capital punishment might be predicted from a finding of no relationship between gender and a "justice" orientation in ethical reasoning among healthcare professionals (Kuhse et al., 1997).

Students were predominantly critical of the surgeon responsible for a patient's loss of life. Japan has a long history of punishment for medical misconduct, dating back to the first written law (Taiho-Ritsuryo) in the eighth century (The Japan Academy, 1957). Nurses are not exceptional in this regard, as the efforts or good intentions of health care providers on behalf of patients are not taken into consideration in malpractice suits in Japan. In Western culture, health professionals are protected by the Good Samaritan Law from liability for malpractice in emergency situations, so far as there is no gross negligence in practice. Although the Good Samaritan Law and its implications in medicine had been explained just before this question was asked, none of the students mentioned it specifically in their comments. The long tradition of punishing the doctor for any errors, which is considered significant for patient safety in Japan, may be the reason for this orientation. Even in the United States, where the Good Samaritan Law has been enacted, medical errors are not openly discussed, so that errors are under-reported (Volpp et al., 2003). In Japan, reporting one's own errors establishes liability for criminal charges, so that doctors and nurses hesitate to report them. In such circumstances, measures aimed at patient safety based on reported errors will be erroneous. Thus, a reasonable system which will encourage the reliable reporting of errors is still needed. This might be achieved by the separation of criminal and civil liability.

There was an epic decision made in 1996 regarding the doctor's obligation to obtain fully informed consent, when the high court overturned a district court decision and ruled that general warnings about risk were not sufficient, and the doctor must explain every material risk, even if its rate of occurrence is extremely rare (Anonym, 1997). As the Supreme Court had already rejected "the professional standard" as the criterion in malpractice suits, this decision of the high court is unlikely to be overruled by the Supreme Court. Although only decisions of the Supreme Court are effective as written law, Japanese judges appear to have accepted the American legal doctrine of informed consent. It is apparent, nevertheless, that Japanese medical culture has not accepted the obligation for informed consent. However, although a minority of students supported the traditional paternalism, the large majority of medical students appeared, in this study, to have accepted the American rule of informed consent.

The responses to the open questions indicate that students' attitudes are influenced by various cultural factors. For example, Japanese eighth century law maintained that a human being comes into existence in the uterus when a human body shape has developed, that is, at approximately at four months gestational age (The Japan Academy, 1957). This law is still in effect, as a death certificate is required for a miscarriage for later than four months gestational age. This law did not specify when life begins, and it appears that the Japanese have accepted fertilization as the start of human life, presumably influenced by Christian culture. The most important ethical issues nominated by the students in this study are in clear contrast to those found in the UK, where the issues cited as most important were euthanasia and abortion, with brain death/organ transplants coming last (Nolan and Smith, 1995). Presumably, the attitudes of students are influenced by the areas of intense debate in their respective countries.

The present study revealed areas of ethical differences between medical and nursing students at the very beginning of professional education. This was a descriptive observational study; therefore contributing factors for their ethical views were not sufficiently examined. Therefore, generalisation may be difficult from this single study, and information for other healthcare professionals is needed. Furthermore, it is important to see a long-term effect of such a joint course of ethics education. Nonetheless, the students commented that knowing their counterparts' opinions is valuable in enhancing mutual understanding on ethical issues. Knowledge of differences in the ethical views of medical and nursing students should be incorporated in the design of professional training so that ethical sensitivities can be respected and fostered between medicine and nursing. It is hoped that joint participation of medical and nursing students in ethics education will not only enhance their future collaboration but also improve patient care. In this sense, it may be necessary to incorporate joint ethics courses for the upper student classes and trainees of healthcare professionals.

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Bioethics education in Pakistan: challenges and prospects*

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Introduction

Bioethics is now regarded as an integral part of contemporary medical education across the World. Well defined strategies have been developed and are in place for undergraduate as well as postgraduate bioethics education.[1] Continuous Professional Development approaches (CPD) have also been devised to keep healthcare professionals abreast with emerging challenges to the multi-disciplinary field of bioethics. It is, however, mainly reliant on contributions made by Western bioethicists, philosophers and theologians that have been responsible for the recent development and popularization of contemporary bioethics. Developing nations, particularly the countries comprising the Islamic bloc have largely taken a back seat and have preferred to rely on "imported" bioethics. This is seen in conduct of CPD workshops for which invited foreign faculty are flown in for a few days as well as in the development of bioethics curricula for their students, for which they have turned towards foreign text books preaching unfamiliar principles.

The situation in Pakistan is not different from the rest of the Islamic countries. There are 56 medical and dental colleges both in the public and private sector in the country. Although the Pakistan Medical and Dental Council stipulates that bioethics should be taught as a mandatory course at the undergraduate level,[2] evidence indicated that this is clearly not the case. According to a recent national survey by one of the authors, only a minority (five per cent postgraduate and 39 per cent undergraduate institutions) have some bioethics teaching in their institutions. Eighty two percent of the postgraduate and 65 per cent of undergraduate medical institutions however expressed a desire to incorporate bioethics education in their curriculum (unpublished data).

An important reason for the lack of indigenous growth in bioethics has been a lack of capacity to teach bioethics. Human resources in this field were never developed in Pakistan since bioethics was traditionally never a part of curriculum at any level in the country. Of late, some CPD programs have been organized, but they remained confined to the city of Karachi and were based on sporadic personal initiatives rather than on well thought out institutional strategy. Although these programmes have certainly helped heighten awareness and interest, they cannot be expected to raise capacity in bioethics in any meaningful or sustainable way unless provided with institutional support.

Establishment of the Centre of Biomedical Ethics and Culture (CBEC) at the Sindh Institute of Urology and Transplantation (SIUT), Karachi, a public sector institute was the first step in beginning to address this deficiency in Pakistan. Inaugurated in October 2004, CBEC has embarked upon a series of educational initiatives aimed at a variety of individuals, including health professionals, pharmaceutical industry professionals, social scientists, philosophers, journalists, lawyers, students, and the lay public. The broad objective of the centre is to raise awareness about bioethics. These programmes have included a quarterly one hour lecture series called the Ethics and Culture Hour, a one-day National Seminar series on topics of general interest in bioethics, the most recent one being held on Stem cell Research and Cloning.

1 Psychopharmacology (2003) 171:112–119.
2 www.pmdc.org.pk/ethics.htm

* Paper first presented at the First UNESCO Bangkok Bioethics Roundtable, September, 2005

These varied events have been specially constructed so that the centre has something to offer to a wide audience. At the same time we also realize that there is a dire need to develop bioethics leadership in the country that can spearhead education programmes in bioethics, establish bioethics committees and enhance bioethics capacity in the country in general.

Postgraduate diploma programme in biomedical ethics

As a strategy to address the bioethics manpower shortage, CBEC started the Postgraduate Diploma (PGD) programme in Bioethics in 2006. This was the first such initiative to formally educate bioethics teachers in the country.

The authors realize that a diploma is a weaker academic programme compared to a masters or a PhD programme in bioethics. However we initiated bioethics educator capacity building in a phased manner. In this initial phase, we offer the Postgraduate Diploma Programme to mid-career professionals who have an interest in biomedical ethics and are willing to devote part of their time for a year to develop skills in biomedical ethics so that upon completion of the diploma, they can start basic bioethics programmes at their own institutions. In this way the chronic shortage of bioethics capacity can start to be addressed within a year. The graduates of the PGD programme will have a strong enough grasp of the subject to be able to teach others, set up ethics committees and develop into bioethics advocates themselves. At subsequent phases we will introduce a Master's degree programme and subsequently a PhD program in bioethics. The credits of the diploma program will accrue towards the Master's degree as well.

Development of the programme

In order to develop the PGD Programme, a core group was formed consisting of subject and educational experts. Multiple strategies were used to identify the most relevant content for the programme as well as devise the most suitable format for the programme in terms of its duration and structure. In order to gather opinions, a questionnaire-based telephonic survey was conducted of key medical educators, deans, principals, and senior faculty members of both undergraduate and postgraduate medical institutions from across the country (Tallerico, 2005). Informal discussions were also held with the participants of the various bioethics programmes organized periodically by the centre and their opinions sought about the proposed programme. Simultaneously, a review of international programmes in bioethics was also carried out to study their structure and content.

An educational consultant was included in the core group to help in the curriculum development process. Simultaneous with curriculum development, an accreditation process was also started with the Karachi University as the PGD will be offered through the Karachi University.

Course content

Four major themes have been identified on the basis of the selected learning outcomes for the diploma course. These include the following:

Foundations of Moral Thought

The participants will be introduced to the work of Greek philosophers and given an overview of the contributions of Anglo-European thinkers whose contributions have contributed to the shaping of contemporary bioethics. Participants will also be introduced to the significant contributions made by Islamic thinkers and philosophers to the chain of moral thought.

Clinical Ethics

This will be an important content area since ethical decision-making can be unsettling to many physicians, who are accustomed to seeking out the single correct answer to many complex ethical questions. Developing a physician's ability to reason ethically can contribute substantially to both the patient-physician interaction and health care delivery. A communication skills component has been included

as a subset of this content area since it was essential that physicians should not only acknowledge that there are different ways to judge what a right answer is but that they should also know how to articulate their reasons for making decisions.

Research Ethics

Education in research ethics is crucial for researchers engaged in human research. Addressing issues of human subject research requires knowledge of the rules and norms governing research and skills in ethical problem solving. The primary aim of this content area is to instruct professionals in comprehending ethics of human subject research, and be able to initiate and maintain ethical review processes at their institutions.

Basics of Curriculum Development

One of the major aims of this diploma programme is to build the capacity of teachers to develop and run courses and educational programmes on bioethics in health profession institutions. Many of the medical personnel are not aware of the principles of curriculum development, hence this module incorporates a workshop on "curriculum development" which would enable the participants to develop and organize a curriculum in bioethics in their own educational settings for both undergraduate and postgraduate medical, nursing and allied health personnel.

The course format

One of the distinctive features of this course is its modular, on-campus, off-campus part time flexible format which has been designed to accommodate the schedules of full-time professionals. Full-time professionals like physicians and nurses find it impossible to take a whole year or two off to pursue a degree programme. This modular programme has been constructed to require only four periods of one week "contact time" through the whole year when participants will need to be physically present full-time on campus and attend educational sessions. Each of the modules described above will be the focus of one contact session. The rest of the year they can remain at work and will be expected to do their assigned readings and submit their assignments through email.

Instructional and assessment methods

The curriculum is designed to enable students to experience "deep" learning; and to facilitate the development of transferable skills. It has been recognized that traditional teaching techniques often fail to encourage "deep" learning of subject content, which goes beyond short-term rote memorization to enable the assimilation of new knowledge in a way which allows re-application to unusual situations (Entwhistle, 1988).

The instructional strategy decided upon uses experiential and constructivist learning principles (Duffy and Jonassen, 1992; Kolb, 1984; Boud, 1985). Participants are provided with a range of on-line and printed information resources, and have access to tutor support via electronic mail and face-to-face meetings as necessary.

The success of a programme will be gauged by the quantity and quality of learning that has taken place and since the emphasis of the programme is on application and critical thinking, the assessment is of the same competences. Continuous and final assessment will be done and students will be graded on their understanding of concepts and appropriate application.

Conclusion

There is now enough evidence available to indicate that the Pakistani medical academia generally lacks the capacity to establish bioethics programmes in the country. That is reflected in the paucity of ethics committees, both research ethics committees as well as clinical ethics committees and also in the absence of a relevant indigenous bioethics curriculum for its students, medical and nursing students.

Attempts at importing bioethics curricula from the West are doomed to failure for obvious reasons: they frequently conflict with prevailing socio-cultural beliefs and religious values. The need of the hour is to enhance indigenous bioethics capacity by taking practical steps which start to yield results in the short-to-medium term. The Centre of Biomedical Ethics and Culture hopes that the part-time, one-year Diploma in Biomedical Ethics will prove to be such a step and it will provide, in the span of a short time a core group of bioethics educators and leaders who will be able to set up basic bioethics education programs and initiate ethics committees at their institutions as well as act as bioethics advocates. It is also hoped that this group will provide the country's first indigenous Masters in Bioethics graduates and then subsequently PhD candidates and these will form the true academic leaders in the field.

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Knowledge of bioethics among postgraduate trainees of a medical university in Southern Pakistan: Do we need to teach Bioethics?*

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Background

There is increasing knowledge among the general public about medical ethics and awareness about patients' rights vs. health professionals' responsibilities. Escalating reports of alleged inappropriate conduct of health-care professionals are being reported in the media, resulting into tense patient-physician relationships and a deteriorating image of health-care providers. Advances in biomedical technology with the resultant ethical dilemma have compounded the above issue. Although ethical conduct in medical practice was stressed as early as 1500 BC in Ebers papyrus (Berdon, 2000) the word bioethics emerged in environmental ethics and biomedical domains in 1970 (Trosko and Pitot, 2003), and thereafter a growing number of Western medical institutions have included this subject in medical curricula.

In Pakistan, most of the medical colleges/universities do not offer the subject of bioethics in curricula intended for undergraduate or postgraduate medical students. The objective of this study is to ascertain the baseline knowledge of bioethics amongst postgraduate (PG) trainees, so as to help develop a curriculum for PG studies at the Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro, Pakistan. Existing curricula that were formulated by Western universities and medical colleges were prepared in a different context, culture and religious background, therefore were considered unsuitable for Eastern/Asian medical universities. The importance of context and moral variations in ethics and its teaching was recognized and given due value in similar studies carried out by Hariharan et al (2006) and Mattick and Bligh (2006).

Methods

A one-page, 15 item questionnaire was prepared and administered on 74 PGs working in various departments (obstetrics and gynaecology, internal medicine, paediatric medicine, general surgery, radiology and anaesthesiology) of LUMHS during the month of November 2006. It contained questions about the frequency of encountering ethical problems in clinical practice, knowledge of existence of any ethics committee in the institution and its performance, need of informed consent from the patient during clinical practice and surgical procedures, instituting necessary medical treatment to patients against their wishes, patients' confidentiality/disclosure, need of informing patients about the errors/wrong-doings carried out during their management, respect of the patients' religious beliefs and recognition of ethical dilemmas. Questions were also asked to assess the knowledge of PGs about current ethical issues and the history of bioethics/research ethics. At the end of the questionnaire, opinions were sought about alleged increasing reports of misconduct by physicians. For each question the respondents were offered three options ("yes", "no", "undecided/not known") or one-sentence possible answers. The questionnaires were distributed by hand; none of the participants refused to respond, while some of them declined to reply to some of the questions.

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Table one : Specialty and Gender-wise break-up of survey participants

	Gynaecology & Obstetrics	Paediatric Medicine	General Surgery	Radiology	Internal Medicine	Anaesthes-iology	Total
Male	00	09	07	04	07	03	30
Female	24	07	04	05	00	04	44
Total	24	16	11	09	07	07	74

Results

The following tables reveal there was high frequency of encountering ethical issues in the practice of PGs. A small minority of postgraduate trainees (eight per cent) knew about the existence of ethics committees and a majority (53 per cent) of them expressed dissatisfaction on their performance. Almost all PGs (95 per cent) considered it necessary to take consent from patients (during clinical practice), while in the case of surgical procedures, informed consent was considered absolutely necessary. Fifty four per cent of the PGs chose not to administer necessary medical treatment against the patients' wishes, while 32 per cent wanted to over-ride their wishes in this situation. But when religious beliefs were involved, 43 per cent of them respected patients' wishes when treatment was against their religious observance. 31% wanted to over-rule patients' wishes in these situations, while 24 per cent were unable to decide.

The majority (54 per cent) of respondents thought that a patients' record is confidential and should not be disclosed to their relatives without their permission. Half (52 per cent) of the PGs were ready to disclose to the patients any errors (if any) committed during their management. Of the remaining respondents, half (24 per cent) wanted to hide this fact from patients, while the other half (24 per cent) could not decide regarding this problem.

Less than half (43 per cent) of PG trainees were able to recognize ethical dilemmas (withdrawal of mechanical ventilators). A large majority of them (92 per cent) considered inclusion of the subject of bioethics in medical curriculum. Only one-third (35 per cent) were aware of current bioethical issues (euthanasia). Regarding the knowledge of evolution of research ethics, a significant majority (67 per cent) of them correctly knew about the Helsinki declaration, while only 36 per cent correctly knew about the Nuremberg code. When questioned about allegedly escalating reports of misconduct by physicians, a clear majority (63 per cent) considered a lack of bioethics training as the responsible cause, while only 11 per cent fixed the responsibility on the public. Of those polled, 0.7% thought physicians were responsible for this problem.

Table two: Frequency of encountering ethical problems in practice

	Never	Infrequently	Once a month	> once a month	Decline to reply
Frequency to encounter ethical problems	08 (11 %)	02 (3 %)	17 (23 %)	36 (49 %)	11 (14 %)
			53 (72%)		

Table three: Questions about knowledge of Bioethics

Question.	Yes	No	Can't decide	Decline to reply
Knowledge of existence of Ethics Committee.	06 (8 %)	36 (49%)	32 (43 %)	
Performance satisfaction about Ethics committee.	01 (1 %)	39 (53 %)	30 (41 %)	04 (5 %)
Necessity of informed consent in clinical practice.	70 (95 %)	01 (1 %)	03 (4 %)	
Necessity of informed consent in surgical procedures.	74 (100 %)	00	00	
Administration of necessary treatment against pt's wishes.	24 (32 %)	40 (54 %)	08 (11 %)	02 (3 %)
Disclosure of patient information to relatives.	24 (32 %)	40 (54%)	09 (13 %)	01 (1 %)
Disclosing errors to patients.	38 (52 %)	18 (24 %)	18 (24 %)	
Treatment against religious beliefs.	23 (31 %)	32 (43 %)	18 (24 %)	01 (1 %)
Recognition of ethical dilemma.	32 (43 %)	28 (38 %)	13 (18 %)	01 (1 %)
Need for teaching bioethics.	68 (92 %)	02 (3%)	04 (5 %)	

Table four: Questions about history of bioethics and current bioethical issues

	Correct reply	Incorrect	Decline to reply
Meaning of euthanasia	26 (35 %)	40 (54 %)	08 (11 %)
Correct knowledge of Helsinki Declaration	50 (67 %)	05 (7 %)	19 (26 %)
Correct knowledge of Nuremberg Code	27 (36 %)	25 (34 %)	22 (30 %)

Table five: Who is responsible for alleged increasing reports of medical misconduct?

	Physicians	Public	Lack of bioethics training	Undecided	Decline reply
Responsibility of medical misconduct	05 (7 %)	08 (11 %)	47 (63 %)	13 (18 %)	01 (1 %)

Discussion

Results of the study revealed that there was a significantly high frequency of encountering ethical problems by PGs (72 per cent encountering at least once a month) but only 43 per cent could correctly recognize ethical dilemmas. This fact highlighted the need for training in bioethics. Very few of them (eight per cent) knew about the existence of ethics committees and they were not happy with its performance. This underscored the need for a visible and functionally active ethics committee in the institution. While resolving a situation, like one where administered treatment was in conflict with

the patients' religious beliefs, a significant number of PGs (24 per cent) were equivocal, this reflects an existence of strong religious beliefs and their inability to resolve the issue. Relative unawareness of current bioethical issues (euthanasia) and older research ethics milestones i.e. the Nuremberg code (while more familiarization with the relatively recent Helsinki declaration) stress the need for teaching the subject at both undergraduate and graduate levels.

Conclusions

In the current atmosphere of medical management (with advanced biotechnology, organ transplantation, genetic manipulations), frequent occurrence of ethical problems in medical practice, relative unawareness of knowledge of current bioethical issues and a lack of skills to resolve ethical problems, stresses the need to develop curricula and teach bioethics at both undergraduate and postgraduate levels. This will help trainees to recognize ethical issues/dilemmas, prepare them to wisely encounter these issues and will help them to learn skills to resolve them.

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Ethics curriculum for postgraduates in obstetrics and gynaecology: How I see it*

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Rapid advances in medical technology and the complex situations in which medicine is practiced have given rise to various ethical issues concerning what is just and right in the behaviour of doctors and patients, individuals and society (Carmi, 2003). It is the need of the times that our young colleagues should be aware of the different ethical issues prevailing and being discussed around the globe (e.g. organ donation, persistent vegetative state, abortion), the context in which they are addressed and most importantly to relate these issues in terms of our own traditions, upholding our religious, cultural and social roots.

Women with health problems at our hospital constitute an important vulnerable group. Poverty and lack of literacy contributes further to their vulnerability. They are unaware of their rights and empowerment as enjoyed in developed countries. They are living in a male-dominated society. Women have no say in decision making in the family, including their own health problems. Though it is known that principles of privacy and confidentiality are amongst the physician's obligation and contribute to the respect for the person, this seems to be lacking in the clinical situation. This scenario needs to be changed. Spreading the knowledge of fundamental ethical principles will help them to establish their clinical practice ethically.

Bioethics is an integral form of medical education and it has developed into a mandatory discipline the world over. However, in the Islamic Republic of Pakistan, bioethics is still in its nascent form. Members of the medical community played a vital role in the introduction of bioethics in the Islamic Republic of Pakistan as compared to the role played by philosophers in the West. There is no formal pre-clinical or clinical teaching done in medical colleges except in one of the private colleges (Jafarey and Farooqui, 2003). This subject is being taught and learnt sporadically by giving a few informal lectures or conducting discussions. The majority of the postgraduate trainees lack the background knowledge of formal ethics.

A lack of awareness of basic ethical principles and obligations results in coercion, forced decision making, lack of confidentiality, respect for the person and informed consent that leads to malpractices and hampers the routine of the hospital. They need to be trained to be able to identify and deal with the upcoming challenging ethical situations using their own moral judgment2. Realizing the essence of inclusion of biomedical ethics in medical curricula, the Pakistan Medical and Dental Council (PMDC), the certifying body, also stipulated (Moazam and Jafarey, 2005) that it should be taught as a mandatory subject. However, no structured curriculum has been laid so far. In the year 2002, the Code of Ethics has been revised and published by PMDC recommending the inclusion of bioethics in the medical curriculum. The College of Physicians and Surgeons, Pakistan provides regular workshops for the trainees; which includes research methodology, biostatistics and medical writing and an introduction to computer training. The initiation of mandatory workshops in the discipline of bioethics will definitely be a favourable step in developing a structured curriculum in bioethics for future postgraduates.

Besides the problem of the presence of a vacuum in medical education and a lack of structured curriculum in bioethics, there is also a deficiency of trained teachers in the discipline to teach bioethics. Currently a postgraduate diploma (PGD) course in bioethics is being run by the Centre of Biomedical Ethics and Culture (CBEC) at the Sindh Institute of Urology and Transplantation (S.I.U.T). The aim of this is to assist in "capacity building of future faculty and staff in biomedical ethics" (Moazam and Jafarey, 2005). I graduated in the class of 2006, the first batch, of PGD graduates from CBEC, SIUT. This paper was prepared as a part of the pilot project in the Medical Ethics Curriculum, designed to be implemented in the specialty of Obstetrics and Gynaecology (OB-GYN) at Sobhraj Maternity Hospital where I work.

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Sobhraj Maternity Hospital is located in the heart of Karachi and is a public sector hospital. It comes under the City District Government Karachi. It receives patients from every nook and corner of the city as well as from interior Sindh and Balochistan provinces. It is a 110-bed hospital, providing 24-hours emergency obstetric care. On average 200 patients are seen daily in the outpatient department. Reporting patients belong to vulnerable groups, i.e. women from the poor socio-economic class with a low literacy rate.

This institute is recognized by the PMDC for providing internships for six months and by the CPSP for the two year training of DCPS trainees in OB-GYN. The young trainees at the hospital lack the formal biomedical ethics education from their undergraduate level. I am an associate surgeon in the institution and in addition to clinical responsibilities, I am involved in the education and teaching programme of the trainees. The trainees have no background in ethical knowledge. They are fresh interns for a duration of six months, and the DCPS trainees for a period of two years.

Trainees at Sobhraj Hospital are frequently faced with ethical issues relating to informed consent, confidentiality, privacy, patient-physician relationships, disclosure, honesty and truth-telling. It would be appropriate to mention cases that have affected patient care.

One case involved a woman from a low socioeconomic family who had five children. She felt fatigued and found it difficult to carry out the routine chores of the house. In order to look after the family efficiently she decided to limit the number of children she gave birth to (even though it was too late) and sought tubal ligation. Her husband refused her request to undertake this procedure and threatened her with divorce. She approached the doctor and asked him not to tell her husband about the procedure. In such a situation, it often becomes difficult for the doctor to decide what to do ethically.

Another case involved a woman in her first pregnancy. She wanted to have a caesarean section on social grounds. It is the norm of the culture that her husband and family are involved in the decision making process and their wishes also have to be respected. What should a doctor do when the husband and the entire family refuses?

Surgery had to be performed on a woman in her late forties suffering from ovarian carcinoma. The husband and children insisted that she should not be informed of the diagnosis. How can one perform surgery without informed consent? Handling such situations becomes difficult for new and young doctors.

The designed curriculum is aimed at helping to build capacity in ethical reasoning skills in young doctors, which will help them to resolve everyday clinical conflicts. These bioethics sessions are conducted during the training hours of the trainees, who will be utilizing their training period in gaining extra knowledge and skills in bioethics. The objective of the programme is that at the end of six months, the trainees should be able to understand the basic ethical concepts (respect for the person, confidentiality, informed consent), identify vulnerable patients and deal ethically with them, take informed consent i.e., involve the patient in decision making prior to the husband/family, apply the principles of privacy and confidentiality and conduct literature searches and make a presentation on an ethics related topic.

The selected content for the six month programme include the following topics: introduction to bioethics/oaths with an emphasis on Hippocrates's and Islamic oaths, informed consent, confidentiality/ privacy and discussions of case scenarios based on the ethical issues encountered in clinical practice. Due to the ever changing issues related to our field, the contents of the curricula can be modified as and when needed. This programme was initiated in Sobhraj Maternity Hospital from January, 2007.

The teaching methods are adopted so as to involve students actively, promote critical thinking, ensure acquisition of knowledge and be practical so that they can be implemented during working hours. Teaching is done during the morning meetings, small group discussions during the service ward rounds and large group discussions during the teaching rounds.

A morning meeting is held daily to discuss emergency cases of the last twenty four hours with the trainees. Discussion is followed by teaching sessions or presentations by the trainees. It is utilized twice a month for biomedical ethics sessions lasting for 45 minutes each. Teaching during the morning

meetings is done through interactive discussions regarding case scenarios. Time is also allotted for students' presentations and guest speaker sessions.

Assessment of knowledge of the bioethical concepts by trainees is done by including a written question related to bioethics in the monthly OB-GYN tests. This consists of short descriptions of a particular concept, e.g. definitions, basic principles of bioethics - respect for person/autonomy, beneficence, justice and elements of informed consent.

Conclusion

Biomedical ethics education is a need of our age. The objectives of our programme have been kept few and simple and topics are closely related to clinical practice so as to make it more interesting for the trainees. Bedside teaching is preferred as it exposes trainees to different ethical issues relating to patient care. It is believed that "patients' are indirectly our teachers". Furthermore, no extra time is demanded of the trainees. Since implementation, the bioethics programme has become a teaching programme for both the trainees and the trainers. It is liable to be modified and improved as and when the need arises in the future.

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Teaching ethics and humanities to medical students in Sri Lanka: A multi-cultural approach*

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Introduction

Medical ethics is now included in the curricula of most western medical schools, but it is still not common in Asian medical schools. Teaching medical ethics is, however, now fairly well established in most Sri Lankan medical schools. The Faculty of Medicine, at the University of Ruhuna was established twenty five years ago as the third medical school in Sri Lanka. While professional ethics and legal medicine were taught in forensic medicine from the very inception of the school, medical ethics was dealt with briefly through one or two lectures. After a series of workshops for faculty staff on reorienting medical education in the early 1990s, a formal programme on medical ethics, based predominantly on Western models was introduced in 1995. In the University of Ruhuna, the medical curriculum is a traditional one, and medical ethics is taught throughout the five year course. The outline of the course introduced in 1995 and continued until 1996, is summarised below.

Medical ethics course, Faculty of Medicine, University of Ruhuna, 1995-2006

An introductory lecture is given to students upon entry to the medical school. After five terms of pre-clinical studies, at entry to the clinical course in the third year, the students have a two week introductory course of lectures and demonstrations during which the main input of medical ethics teaching occurs. This consists of a series of seven lectures and one seminar discussing ethical scenarios, given over a period of one week. The lectures include an introduction, history, ethical codes, doctor – patient relationship, confidentiality, patient autonomy and informed consent and introduction to research ethics. Student assessments are not done at this stage.

From the third to the final year, professional and legal ethics are covered by the Department of Forensic Medicine, and research ethics by the Department of Pharmacology. Summative assessments of students are done as part of the examinations of both subjects. It was originally planned to cover other specialised topics such as HIV/AIDS, abortion etc by the relevant departments, however this aspect was not done consistently. During the final year clinical ethics discussions are held in the wards. A few years ago a Medical Students' Oath was introduced at entry to the medical school. An evaluation of the ten-year programme on medical ethics carried out in 2005 will be presented.

Some innovations introduced in 2005

In order to improve the relevance of the ethics programme to our students, an attempt was made recently to include Asian medical ethics drawn from the indigenous systems of medicine which have existed for many years in India and Sri Lanka. The other innovation was the introduction of Medical Humanities in October 2005.

Medical humanities

Recognizing the need to balance the scientific practice of modern western medicine with a return to older humanistic values, medical humanities have been incorporated into the curriculum of many medical schools in USA and Europe during the past two decades. The primary aim of such courses is to promote the development of humane attitudes in the young undergraduates, who are compelled to

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pursue their medical courses in an increasingly complex technical milieu. The most common method used is to offer optional Special Study Modules (SSM), for which students can register, usually in small numbers. Sometimes they have been incorporated into existing ethics courses. In general, they have proved to be very popular with the students.

Teaching medical humanities is rare in Asian medical schools. Constraints include fear of overloading the curriculum and scarcity of local resources and expertise. In my presentation, I will describe the initial efforts at introducing medical humanities to students of the Faculty of Medicine, University of Ruhuna. Being the first time that medical humanities were introduced in Sri Lanka, it was rather experimental in nature. The course was designed to be implemented using available time, resources and skills, and therefore did not conform to what was accepted as educationally ideal.

While the major proportion of the content was drawn from Western sources, and taught in English, indigenous sources available in Sri Lanka were also used. This multi-cultural approach resulted in exposing the students to hitherto unappreciated alien cultures as well as to the realization of the universality of human values, emotions and struggles of people all over the world. Evaluation of the course revealed that the students had deeply appreciated and enjoyed the course.

In teaching medical humanities, I think we go beyond medical (or professional) ethics which deal with what doctors should do. In medical humanities, we are more concerned with what doctors should be. What they are, of course, would naturally guide them in what they do. The objectives of the medical humanities course started in 2005 were deliberately kept simple. The aim was to promote:

- Reflective practice and personal development;
- Empathy with patients;
- Compassionate understanding of individuals in society

These objectives are very generalised, and also cannot really be evaluated easily. We are also not certain how or whether aims such as promoting empathy and producing more compassionate doctors can be achieved by studying the humanities. As Robin Downie says, (quoting the example of Nazi officers), "to be versed in the humanities is not the same as being humane." Downie and others have suggested more concrete and realistic aims (eg. developing transferable skills such as the ability to communicate, or to analyse arguments etc). Janet McNaughton calls these "the instrumental uses of the humanities in medical education", in contrast to objectives such as mine, which she labels "non-instrumental values", but nevertheless worth studying for their own sake. Professor Gillon believes that even these so-called "non-instrumental" aims may be instrumental in the simple sense of "being likely to produce better doctors."

Method

Ten half hour lectures, using PowerPoint slides, were given during normal lecture hours, to fourth year medical students. The lectures were supplemented by handouts summarizing the main message of the lecture. Topics were drawn from both Western and Asian sources. Attendance was optional but students were encouraged to attend. No student assessments were done. All lectures were given by a medically qualified teacher with a degree in humanities. A preliminary evaluation of the course was done by a questionnaire after the 6th lecture.

Lecture topics were drawn from the fields of history, art, literature, poetry and archaeology. The first lecture was on the painting of "The Doctor" by Sir Luke Fildes. This was voted the most popular lecture by the students. Other examples of lectures were "Ancient hospitals in Sri Lanka", "The Anatomical drawings of Leonardo da Vinci", "History of the Nuremberg Code" and "Alternative systems of medicine".

In selecting topics, consideration was paid to their relevance to Asian culture and Asian values, students' familiarity with western culture, ethical and cultural relativism, "Asian" medical ethics of Charaka and Susruta, and the influence of Asian religions, such as Buddhism, Hinduism, Islam, Confucianism, and Taoism.

When selecting topics for the lectures, the general principle I had in mind was to introduce arts subjects related to medicine "in order to achieve a better understanding of the past, a better analysis of the present and a view of the future". This objective actually appears in a statement made by the US Congress when it created the National Endowment for the Humanities in 1965.

Since I did not have the luxury of being able to design special study modules or intensive courses on individual topics, I had to ensure that each brief lecture carried some message, meant for reflection, and for future improvement in attitudes etc. There was also no opportunity for discussion as in a small group teaching format. Thus the method used was educationally not ideal, being the didactic lecture type – very unpopular in medical education circles nowadays. My choice of method however, was driven more by necessity than by choice. Lectures still remain cost-effective in terms of human and material resources in our part of the world.

A senior Sri Lankan medical academic, S N Arsecularatne, has in the recent past highlighted certain anomalies in the teaching of medical ethics in Sri Lanka. This may be applicable to other Asian countries too. He has drawn attention to the fact that we practice medicine of western origin and instruct our students on medical ethics that is western-oriented, while treating a patient population that is predominantly Asian in ethos while being culturally heterogeneous. In other words, when teaching our students, we have not paid sufficient attention to the cultural relativism that exists in medical ethics. However, Japanese bioethicists have for a long time, recognized and written about the cultural relativism displayed by Japanese people when facing ethical issues in medicine, whether in practice or research.

Recognising that cultural relativism should be acknowledged, I have introduced indigenous, Asian and Arabic sources to my teaching of medical ethics, such as eg. The Code of Ethical Conduct for Medical Students, dating to Caraka, an Ayurveda physician of ancient India. And I have also encouraged the students to take into consideration their own as well as their patients' social, cultural and religious values when presented with ethical dilemmas.

However, when I was planning the series of lectures on Medical Humanities, I decided that not only will I try to get the students to understand the social, cultural and historical determinants of medicine and healthcare in Sri Lanka by studying arts subjects related to medicine in Sri Lanka, but, I will also try to make them realize the universality of certain basic human values and the commonality of human emotion and struggles of people from all over the world.

Just as for medical ethics, we have to realize that there is a "cultural relativism" in relation to medical humanities too. According to one of Sri Lanka's greatest novelists, Martin Wickremesinghe, western culture is generally based on reason and science. He maintained that traditional Sri Lankan (Sinhalese) culture is based on aesthetic intuition. He goes on to say that this contemplative method of developing the intuitive faculty was originated by Indian thinkers, and that the Buddha perfected the method and developed his intuition to the highest degree.

In the 2500 year old history of Sri Lanka, the predominant cultural ethos was Buddhist, (with Hindu roots), until the advent of western colonizers and Arab travellers beginning 500 years ago. Now, while being culturally more heterogeneous, the ethos is still predominantly Asian.

With these observations in mind, topics were selected from both western and indigenous sources. Sri Lanka is particularly rich in suitable literary sources for teaching medical humanities. For example, the original birth stories of Lord Buddha provide great psychological insights into character, which are relevant even today. Sri Lanka is also rich in historical and archaeological sources. It is almost unique in having a written history extending 2,500 years and has been acknowledged as one of the earliest countries to have constructed hospitals, not only for humans, but also for animals.

Some ancient kings of Sri Lanka have also practiced as physicians and have written medical treatises that are in existence today.

One has to keep in mind that 500 years of western colonization was not conducive to the preservation or the development of indigenous culture during the latter half of the second millennium. Sri Lanka being an ex-British colony, older generations are quite familiar with Western, especially British culture.

Most of the present day medical students however, have not been exposed to good western literature, music or art. A pleasant by-product of the medical humanities course was the introduction of western literature and art to the students, who were very appreciative of this new avenue of enjoyment.

Results

Ninety nine students, in a batch of 135, attended the 6th lecture and completed the questionnaire. Student enjoyment of lectures ranged from 80 per cent to 97 per cent and agreement on the relevance to objectives ranged from (80-88 per cent). The preferred method of teaching was half-hour (69 per cent) lectures (71 per cent). Except for four neutral comments, all other comments (38) were positive, appreciative and indicated that the lectures were effective. 96 per cent wanted continuation of the course. Art and medicine was the most favoured topic.

Conclusions

It is difficult to prove that teaching medical humanities in any form to medical students will result in more humane physicians or better-cared for patients. However, I conclude that short, didactic lectures are feasible, acceptable and effective as a preliminary method of introducing medical humanities to undergraduates in a developing Asian country with limited resources.

While I have provided quantitative data with respect to feasibility and acceptability, one may question my conclusion that this course was effective. One cannot say that it was effective in producing more empathetic or compassionate doctors, at least not yet. However, if one accepts that the three objectives of the course could be considered in a broad sense as being "likely to produce better doctors", then it would be difficult to ignore the students' own judgments and opinions on how they have benefited from the course of lectures.

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Ethics in paramedical studies - mapping a new agenda

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Introduction

Most bioethicists today understand and accept the need for a clear and systematic analysis of moral value judgments and decisions. However, they also see all ethical questions as relative to the attitudes and customs of the particular society in which they arise. Medical ethics has assumed a kind of principalist orientation over the years operating on main principles like autonomy, beneficence and justice. A meta principle, deriving from these, which applies to medical ethics in particular, is professionalism. This principle provides that physicians/nurses/paramedical personnel have an obligation to observe certain basic rules, principles and moral precepts governing relationships to patients, colleagues, the profession as a whole and the community at large.

The setting at St. John's Medical College

The history of medical ethics at St. John's Medical College (SJMC), which was the first of the Institutions of the St. John's National Academy of Health Sciences (*SJNAHS)* dates back to the history of the college itself. As recently as 1998, SJMC was the only Medical College in India teaching medical ethics as a regular part of its curriculum. Some of the topics are addressed by the Department of Forensic Medicine, while interns are required to attend monthly clinical ethics sessions at which cases involving ethical issues are presented and their resolution discussed by members of the Department of Medical Ethics. The Rajiv Gandhi University of Health Sciences (RGUHS), to which the college is affiliated, has lately incorporated medical ethics into its syllabus, largely using the SJMC template and requiring 40 hours over the whole MBBS course of studies

At the start of the new millennium, when the university introduced B.Sc. courses in medical laboratory technology, radiology, renal dialysis and perfusion technology, SJNAHS felt the need to expand its ethical umbrella to include paramedical students as well as students of the College of Nursing, which also forms part of the academy. This paper traces our initial steps in this venture and the lessons we have learned about approaches to medical ethics education and educational strategies which could be successful in the Indian context, as well as constraints and limitations experienced.

Rationale

The paradigm shift from clinical examination based on investigations based treatment increases the importance of the role and responsibility of the paramedical staff. As the World Medical Association indicated in one of its documents, some procedures, formerly performed by physicians, are now routinely done by medical technologists, nurses and paramedics. This results in physicians relying on data for diagnosis and the technician's role becoming increasingly important (WMA Ethics Manual, 2005). In this changing scenario of increasing inter-connectedness between health care providers at different stages of the system, certain ethical principles need to be included in the courses of students of medical, nursing and paramedical students, so that the system holds together and remains trustworthy, while still providing a personal approach to patients as far as possible.

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The Paramedical Ethics Education experiment

At the request of the Coordinator of Paramedical Courses, SJMCH, a sample study was conducted by the Department of Medical Ethics to assess the level of awareness of ethical issues as they apply to paramedical students. The first year B.Sc. students of the batch of 2004 were selected. The list of graduate disciplines included under the paramedical courses includes:

- Laboratory technology - includes all laboratory services, including the blood bank
- Cardiac perfusion - related to the operation theatre, especially cardiac and thoracic surgeries
- Renal dialysis - related to kidney problems; machine-assisted quality of life
- Radiography- related to diagnosis of medical problems; can be extended to radiotherapy of cancers

The Ethics topics included as part of the study are listed below:

1. Introduction to ethics
2. Ethical applications in the world of medical technology;
   -Beginningoflifeissues;
   -Conflicts in midlife;
   -End of life issues
3. Concept of life - applied aspects
4. Ethical principles related to diagnosis of medical problems
5. Confidentiality

The programme was semi-structured and conducted over a period of six days.

Methodology

At the start of the programme, the students' responses to an oral quiz helped to determine how they envisaged their role as technologists in the continuum of health care providers and to assess their knowledge and understanding of human rights, duties and responsibilities, personal value systems, and the meaning of ethics as it applies to their role in the paramedical profession.

The subject matter was then presented using various methodologies, ranging from the conventional lecture method to group discussions of case studies and narratives, as well as the use of audio-visuals and films. The sessions were designed to be as interactive as possible and maximum student participation was encouraged. When a case was presented or a topic introduced for discussion, the immediate, spontaneous responses were first elicited and then a proper discussion initiated, so that students became aware of their personal biases and processes of socialization. Similarly, films were followed up by a cine forum so that student reactions could be summed up to highlight a principle or compare differing viewpoints.

At the end of the programme, each student was required to submit a written assignment on different general aspects of medical ethics, requiring a module of personal library reference work and discussion of the topic with a group before the final write-up. A questionnaire was also distributed to obtain individual feedback on the experience.

Results

The group was a heterogeneous group represented by different religion and languages where there was eight different languages (not dialects) spoken and six different states in India were represented. Fifteen of the participants were of the Catholic faith, six participants were of various Christian faiths, five participants were of the Hindu faith and one participant was of the Muslim faith. The methods included oral quizzes, case studies and group discussions. A qualitative assessment of the responses was done

and the final conclusions were drawn based on the questionnaire given at the end of the programme.

The initial oral quiz

The initial oral quiz showed that the level of ethical awareness was a new concept to nearly all students, and was considered as important in the medical field. Results indicated that ethics was perceived as a moral code essential to discern between right and wrong. Furthermore, the insight of participants into medical technology principles of applied ethics was very low, and students were not aware of either financial or legal pressures.

Hypothetical case studies

In descending order of approach, the group discussions were based on, expected responses, religious beliefs, personal moral codes, common sense and logical reasoning.

Final assignment

(Library module, followed by discussion in groups).

The assignment helped to illustrate certain ethical aspects relevant to the life of students such as plagiarism (a new word and concept to most of the group), transparency in reporting results, integrity and honesty about personal contributions in a collaborative effort and inner commitment to these values.

Questionnaire and evaluation

- The students commented that through this short exposure they were:
- awakened to ethical principles;
- sensitized to balance between different benefits, risks and duties;
- helped to understand their biases through their immediate responses;
- made aware of important legal aspects;
- helped to better understand their role as pivotal to the health care team;
- challenged to being professional (not mere lip service).

They also felt that the course was too short and asked for more input. They highlighted that more films should be included as they had the greatest impact. Participants noted that they were challenged by listening to the comments of others and also commented that the library module was very instructive.

Impact of the following aspects on personal change in ethical matters

Finally, it could be seen that the greatest impact on personal change in relation to ethical matters was education (especially the films), followed by societal factors, to be balanced with education. Religious factors were considered as only one compartment of life; while tradition was seen as a possible factor (however the present had greater weight). Factors such as conscience were seen as important for oneself but cannot be imposed on others, while the law was seen as important, but the risk factors very high and often unclear.

Discussion

The fundamental objective of the health care profession is to enhance the overall quality of life, dignity and well being of individuals needing health care. Furthermore, the health care profession aims to create a more equitable, accessible, effective and efficient system of services. Paramedical personnel who form the backbone of the healthcare system need to be aware of their responsibilities and their role in decision making at every stage of life in patient care. They need to realize that the principles

which apply to persons equally apply to individual cells, blood and body fluids and the data derived from them.

Although the duration of the project was too short to permit assessment of its lasting impact on the present batch of paramedical students, it highlighted several areas of importance in the planning of future programmes in medical ethics education. The first relates directly to a five-point approach to medical ethics for paramedical students and may be summarized as follows:

1. Dealing with data: It could be said that data is to the paramedic what the patient is to the physician. Hence data represents the patient and is, therefore, deserving of utmost respect and confidentiality. Accurate reporting, non-tampering with results, care in maintaining records and ensuring that they are stored and transmitted securely in the era of computerization and managed care. These ethical aspects of dealing with data strengthen the bond of trust with patients and must be given priority in the context of paramedical ethics.

2. Competence: is one of the basic principles of medical ethics. Applied to the paramedical field, it includes regular upgrading of technology, technical skills and life-long learning.

3. Relationships: Being an important part of the health care team, the paramedic needs to understand the ethical value of verbal and written communications, collaboration (working with others responsibly), accountability (at several levels, including to oneself and the courts of law) and loyalty both to society (in the use of technical resources) and to the patient (informed consent to any procedure prescribed, patient equality and rights, respect for patient autonomy and confidentiality of computerized data).

4. Conflicts of Care Givers: Sharing in the work of healing, paramedics must be aware of the fee-splitting phenomenon, referrals, and the process of conflict resolution, especially in the context of being whistle blowers and professionals in their own right. Modern thinking tends to put paramedics on a par with, or even above, physicians. Hence, this could be an additional area of conflict needing resolution in daily practice.

5. Professionalism: relates not only to what professionals are expected to do, but, more importantly, to the type of persons they are meant to be. Since this principle cannot be quantified or tested, except in the unfolding of life's events, it is difficult to ensure that it is communicated effectively in a classroom situation. Educators, therefore, face a great challenge in discussing professionalism as a principle of ethics. We hope our strategy (outlined below) will succeed at least to some extent.

With advances in technology, the role of the medical technologist and technician will gain greater importance, giving it the status of a profession in its own right. We, therefore, recommend that paramedical students are reminded (similar to the Hippocratic Oath for medical professionals) of the sacred role they play in health care. Such a pledge would certainly help to deepen in paramedical student's sincerity in the quest for a professional ethic.

Secondly, the experiment has encouraged us to introduce twenty hours per year of ethics teaching into laboratory practice/paramedical studies as part of the curriculum over the three years of undergraduate study and the year's internship. At every level, but especially in the first year while introducing the basic concepts of medical ethics, the orientation will be towards personalization of values. The main topics to be included at each stage of the programme are outlined in Table one.

Table one: Suggested syllabus outline for paramedical courses at SJMC

First Year	Second Year	Third Year
(The students learn anatomy, physiology, biochemistry, pathology, microbiology, which are common to all disciplines, and are introduced to their respective disciplines): - Introduction to Ethics - Respect for life – Justice and Care, Informed Consent - Autonomy, in the context of Indian culture - Professionalism – Personal Value-based Ethics; - Confidentiality, Reliability, Accountability	(The students learn more about their respective disciplines and are aware of medical practice): - AIDS and ethics; - Cancer and ethics; - Reproduction and ethics; - Transplant Ethics; - Genetics and ethics; - Animal experiments. - Introduction of application of basic ethical rules in clinical settings;	(The students are involved only with their respective disciplines): - Legal aspects - Dying and death - Euthanasia

Finally, we found that students tended to use deeply rooted traditions and religious beliefs in approaching moral dilemmas. It was felt that conscience had to be the final judge in personal matters, though no one was happy about imposing their values on others, conscientious processes were generally religion, home, family and education. Personal biases were difficult to overcome, resulting in disagreements during discussions of case studies, although the majority of the group was Indian. Students admitted, however, that they profited from interacting with each other and that their discussions continued beyond the classroom. There was general consensus that values communicated through audio-visuals remained more deeply embedded and had the greatest potential for changing thought patterns, thus influencing behavioural change.

Multi-cultural, multi-religious, multi-lingual context

The importance of a multicultural approach to medical ethics both in the classroom and in the clinic is receiving much attention in the context of the pluralistic societies existing in major cities of the world today (Turner, 2001, 2003, 2005 and other authors). There is also a search for an approach to bioethics for the Asian region (**de Castro, 1999; Tai et al., 2001) as well as for the sub-continent (Desai, 1988; Shah, 2003). Ethicists are becoming more aware that a** cross-cultural approach is vital and the true challenge is for each country to develop its own system and methodology (Macer, 2001).

Being a national academy, SJNAHS is home to students from several parts of the country and abroad. Analysis of the group in the present study indicates that six different Indian states, four religions and eight different languages were represented. This reflects fairly accurately the normal distribution of student population in all streams of the academy, though we often have a larger number of Muslims, as well as Jains, Buddhists, Sikhs and Jews. In the 1,200-bed hospital, there is an even greater spread of religions, languages and backgrounds among the patients and staff, making the academy truly a mini-world of interlinking cultures.

It is also a sad fact that the health care system in India is plagued by a severe moral malaise. It is for this world, however, that we prepare our students, hoping that the professional approach we seek to incubate in them will have an impact on the system. The question that needs to be answered afresh with every fresh group of students is: How can we incubate professionalism within such a system?

The healer in the Indian context

All religious traditions in India attribute a special role to the healer who is expected to be a special type of person. Thus, in our context, the most appropriate approach to medical ethics education would be one that focuses on the person of the health care professional, since it would have the appeal of a philosophical and scriptural base. Rights, principles and duty-based ethics have their value, but their moral effectiveness still turns on the disposition and character traits of the persons through whom they come alive. This is pre-eminently true in times of illness, when the vulnerability and dependence of sick persons forces them to trust not just in rights, but in the type of person the doctor, nurse or technician is. As medical ethics educators, our objective must be to make each student the type of person who will intend and do the right and good thing because they cannot really do otherwise.

Thus, while we may discuss the principle theories of ethics, our approach must tend more towards that of a Virtue-Based Ethic (Pellegrino, 2001) and the sub-category of the Ethic of care (Carse, 1991). We hope that at least some degree of sensitization will take place in the classroom, even though it may not guarantee persons who are ethical at core. Most attempts at revival of medical ethics in the Indian setting appeal to just such a radical approach to inner transformation **(Pandya, 2000; Shah, 2003)**. It is true that classroom courses in ethics can be undone in just a few moments by the attitudes of a physician at the bedside, so we propose the following strategies.

- Universities must tackle medical ethics education on a mandatory footing. Subjects must be incorporated into the curriculum along with "hard" medical subjects, and these additional subjects must not be seen as "soft", additional options. The subjects must exist in a framed module for each year of a course. Conduct periodic evaluations with consequences which students are forced to take seriously.
- Medical institutions must place medical ethics at the heart of the institution's goals and actively encourage it at all levels, in the classroom, at the bedside and in the clinic.
- Recruit teams of interested educators, preferably physicians, whose approach is professional. Prepare them for this important task through workshops and well-planned courses in medical ethics.
- Organise a local medical ethics education cell with the responsibility of preparing educational material, case studies, narratives, audio-visual material so that the task of teaching is not tedious.
- At the Asia-Pacific regional level, initiate collaboration between groups, make possible the development of a regional resources centre through which relevant educational material on ethical issues in the form of audio-visual library facilities, films and interactive CDs could be obtained or at least a catalogue of such material made available.
- Finally, the suggestion to develop medical ethics training centres for medical professionals of the Asia-Pacific region is worth re-considering (Miyasaka, 1999).

Conclusion

Although the world of the paramedics may seem to be hidden behind the scenes of the actual medical encounter between physician and patient, it is vital in the high-tech medical world of today where diagnosis tends to depend increasingly on the results obtained from technical procedures and tests. Hence, paramedical students must realize that they are not merely the hands and feet of the physician, but have a vital role to fulfil in the continuum of the health care system today. As medical ethics educators at SJNAHS, our hope is that our students at every level will be able to influence the present health care system in our country by serious application of ethical principles and by aiming at a professional approach in all they undertake.

Our attempt at SJMC to map a new agenda through an ethics programme relevant to paramedical students is in keeping with the UNESCO Declaration on Universal Bioethics and Human Rights (UNESCO, 2005). Such collaborative efforts, along the lines of the UNESCO regional workshops suggested for the new millennium, would make bioethics education a rewarding experience for all educational institutions interested in promoting the subject in the Asia-Pacific region.

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To accomplish the life education mission through bioethics courses in a medical school in Taiwan*

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Introduction

Similar to other countries, the increasing suicide rate led to initiation of a life education programme. Suicide has been the ninth most common cause of death in Taiwan since 2000 and is the third most common cause of death in teenagers since 2001. However, life education should have a wider view to help the youth to understand life, respect life, enjoy their life and then value their and other's lives.

According to the report of a life education project sponsored by the Taiwanese Ministry of Education in 2004, the core concept and the content of life education should include five dimensions. These are: interpersonal relationships; career planning; ethics; life and death education; and religious values (Hwang, 2005). Bioethics, a multidisciplinary learning of how to practice a moral life, is an indispensable part to accomplish the objective of life education.

Recently, the social and ethical issues raised by the use of modern biotechnology are being more widely discussed across the world. In order to have a sustainable future, we need to promote the bioethical maturity of society which means the ability to balance the benefits and risks of applications of biological or medical technology (Macer, 2004).

University students of all disciplines, especially health care professionals, need to reconstruct their value system and make ethical decisions on how to use science and technology products in their future carrier. In addition, modern science and its applications have empowered ethics to play a greater role in legal, medical, scientific and policy issues. Therefore, there is a wide-ranging need to find new ways of "knowing" what can effectively create a scientifically informed and ethically involved society and this could be regarded as a holistic aim of "life education".

In Taiwan, to fulfil the educational concept of the whole development of an individual, the general educational (GE) curriculum has been advocated to be designed as a foundation course in universities. In general, the GE curriculum consists of life science and liberal art courses and was deliberately arranged to follow four basic principles of educational goals, namely: to cultivate a liberal mind of modern citizen; to enhance ethical concepts as a human being; to establish native cultures and international outlooks; and to strengthen the ability of thinking and judgments.

Bioethics education, an international project for informed citizens across culture (Macer, 2004a) featured in its multidisciplinary learning, and was intended to cultivate skills in identifying existing ideas and beliefs, making students aware of multiple perspectives, and to search for relevant information and communicate the findings to others. It supposedly can enhance the achievement of life education and reach the goal of general education at university levels.

Background

I joined the international project on bioethics education for informed citizens across cultures (Macer, 2004b) in 2003, working as a chapter writer and as coordinator for Taiwan. Since the teaching materials were available only in English initially, they are ideal for high schools in English-speaking countries but they were more suited for the university level in Taiwan (in particular the full length chapters).

The authors of the textbook included bioethicists from several countries and the contents included a variety of cases (such as organ donation, genetic tests and privacy, germ-line gene therapy, AIDS testing,

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euthanasia, telling the truth about terminal cancer, animal rights, genetic engineering, genetically modified food, artificial assisted reproduction and ecotourism and ethics). Students can select the chapters which they are most interested in and teachers could chose those they felt most comfortable to teach, or that they judge to be the most useful in students' everyday living or future career. This material could be used as a main structure of teaching, however students should not just follow the texts, but some basic reading and illustrations can also be searched from the web-site resources as supplementary materials for this course.

This project in Taiwan aimed to evaluate the effectiveness of bioethics education in medical schools and to assess the criteria of success in bioethics teaching. In the earlier year in 2004 there were also trials conducted with Beryl Lee in freshman English classes in the medical school (Lee, 2004). To follow the concept of the international project, "bioethical maturity" and increased diversity of ideas are criteria that can be used to measure the success of bioethics education.[1] Accordingly, we may modify and improve our curriculum and find a consensus in life education policy which also corresponds to our cultural background.

Implementation

Class trials were carried out in five paramedical departments of my medical university – the departments of Oral Hygiene, Public Health, Sports Medicine, Occupation Safety and Cosmetics and Pharmacy.

Instead of large class didactic lectures, group activities were the main task in our bioethics course-based class. Actually, learning from team work was encouraged as a way to approach bioethical deliberation. In accordance with method of autonomous learning, students were grouped into several teams, each team can select the chapters they felt were the most interesting to work on and present these in the class. Organ donation, genetically modified food and telling the truth about terminal cancer were the most popular topics students chose, followed by, euthanasia, lifestyle and fertility, and ethical limits of animal use. The supporting reasons for choosing the topic were diverse. For example, students may report that they feel familiar with and have confidence in the background knowledge (e.g. organ donation), or the selected issue is a hot topic of a soap opera (e.g. fertility, truth telling about terminal cancer), or it meets their perception of a real world issue they face (e.g. GM food, fertility), or it relates to their personal experience (e.g. truth the telling about terminal cancer), or it can connect to their favourite TV program (e.g. animal rights on Discovery channel), and the topic can help them to prepare themselves for their future role as a health giver (e.g. truth telling about terminal cancer, euthanasia).

After students settled down to focus on a topic, they started to search and read the related materials. Textbooks from the project were treated as a fundamental resource of reading. Most of the time, the students used the Internet and searched for the websites listed in the textbook. Local websites with Chinese characters have made it easier to gather further background knowledge so that they can have deep thinking and are able to critically evaluate issues, and potentially take action to face the current issues.

Then, students prepared for their presentations which included various activities including role plays, film shows or dramas made by themselves, invited guests' lectures, group debates and cluster discussions. In addition each student had to make an outline for the chapter chosen, and present a short talk from the team members to the other classmates. To my surprise, students were all very creative in presenting these topics. The teacher then would summarize and give supplements about the topic after their presentation. In general, students enjoyed their creative and autonomous way of learning. The main role of the teacher was to give space and to facilitate learning. In addition, each student should answer the real-life problems according to her experience from her career specialty. The requirement of team work enabled them to work collaboratively, develop skills for creating deep knowledge and to contribute to the learning community regarding their ideas about bioethics.

1 See the chapter by Macer in this volume.

Benefits of bioethics learning at the university level

The lack of background knowledge may be a barrier for bioethics learning. Students need to develop knowledge in bioethics contexts so that they are able to make sense of issues, and have thoughtful consideration and debates for ethical issues (Macer, 2004b; Conner, 2008). University level students are better prepared in the background knowledge and are better at abstract thinking compared to most high school students. It is more likely to expect them to interconnect knowledge contents of personal and social dimensions and to make informed judgments on bioethical issues.

Benefits of team collaboration and autonomous learning

Our trials proved that students at the university level had the required social skills to work collaboratively. Their progress in bioethical maturity also enabled them to contribute to the learning community regarding their different ideas and diverse thinking. The policy of carrying out PBL (Problem-Based Learning) in our medical school has prepared sufficient teacher tutors to guide students in their small group discussions. This made us feel more confident to expect that students would not lose their learning direction as they are strengthening their attitudes of self-directed learning.

Benefit of the Internet as a learning tool

Bioethical knowledge needs to be updated frequently to catch up with the speed of rapid improvement in biotechnology. University students are supposed to be skilled to access information from internet research which makes them alert to every essay related to bioethics assignments. Besides that, a website page was set up to facilitate student learning. Basically, it included four parts; teaching materials and links to related information web-sites; a discussion forum; students' feedback; and messages announcement of class activities. These are ways to improve the course involvement of students and to benefit in their autonomous learning.

Benefits of course-based classes and English

To attempt to use an English content–based approach was more likely to succeed at the university level. In our trial, we had quite sufficient rationales to justify that the English materials are beneficial to university students, not only in their bioethical maturity but also in their learning motivation in English. This was based on the assumption of the contents-based approach of second language teaching. It can also be in accord with English and the government bilingual policy in Taiwan.

Evaluation and conclusion

We adopted the "Bioethics Maturity" model proposed by Darryl Macer (in this volume) as a very important concept to evaluate bioethics education. However, to count the numbers of ideas throughout the class and to examine how many different ideas students have are not the only ways to assess students' ability to balance the benefits and risks of moral dilemmas. A number of performance assessments were developed to measure the outcome of the course which included essays, oral discourse, exhibitions or performances, and portfolios. For example, as the course progresses, we encourage students to observe the social and ethical issues arising in their everyday life and to hand in an essay to analysis one of those issues according to their view points. Value clarification and value analysis were the main purpose of this assignment. Throughout the process, the students would not only review the ethical knowledge they learned through the course, but also explore their own moral/value systems regarding those particular issues. After review of those essays, we are sure that bioethics education may provide a learning context to improve students' sense of identity which may help them to contribute themselves to others and to society.

Oral discourse during the class is another important part of class evaluation. Most students do not hesitate to bring out their diverse point of views. For example, during the discussion of altruism in organ donation, some suggested to view this from the perspective of Buddhism. Accordingly, they claimed that

if people believe the dying soul may suffer from extreme pain when the body was touched or moved within eight hours of their passing away; to comply to the organ donation means they had readied to sacrifice themselves and had prepared for the suffering. Oral discourse may also stimulate a dialogue within the class. For instance, in considering animal rights, many Taiwanese customs like soaking wild animals in wine as nutrient medicinal liquors, or raising super pigs for super pig competitions in folk festivals were critically re-evaluated by students. As students relate bioethics issues to controversial customs in society it can make bioethics learning more realistic to everyday life.

The performances of students have shown that "bioethics maturity" can be improved through having a bioethics course. The effectiveness of bioethics learning was verified by getting students to have critical thinking and to internalize many important concepts about life. As noted, students' opinions about ethical issues were based on their critical reflection of a personal view. However, global worldviews should be given emphasis to cultivate open-mindedness and to promote goodwill to accommodate new views. Generally speaking, we need to keep students thirsty for more updated information, and promote an attitude of lifelong learning.

Finally, what can bioethics provide to life education? It is, as Socrates said: "We are discussing no small matter, but how we ought to live."According to our trials, bioethics, the study of issues related to human life, can provide a learning context which may address priorities for a life education of the young people in Taiwan.

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Biomedical ethics education in post-communist Eastern Germany*

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I will first introduce the present curriculum and guidelines of the ethical education of students studying medicine in Germany. This is meant to show the ethical content that future physicians receive in Germany. It has to be noted that the situation in post-communist Eastern Germany differs from that in the western parts of Germany.

To demonstrate, I present two examples relevant for biomedical ethics. In a third step I interpret the existing differences. This will then lead to the fourth part where I question how far a biomedical ethical education should also make normative regulations beyond a mere hermeneutic-descriptive approach. Finally, I argue that we have to use normative guidelines in biomedical education in post-communist Eastern Germany in order to achieve the learning aims of the curriculum.

The present biomedical ethics education in Germany

The new Approbation order for physicians from 2002, includes for the first time, biomedical ethics as an aim of their training in Germany. Since the winter term of 2003/2004 the "intellectual, historical and ethical fundamentals of medical behaviour" (BMG, 2002, 2405) are no longer taken for granted but have explicitly become part of the medical training. This field is called "Theory, History, Ethics in Medicine" (BMG, 2002, 2413) and establishes "Ethics in Medicine" as a subject of medical studies that is relevant for the examinations.

Despite including ethical education as an aim of medical studies, the approbation order does not contain detailed information about the content and its implementation. Instead the medical faculties have to shoulder this responsibility. Therefore the "Academy of Ethics in Medicine" (Göttingen) created a syllabus that the board of the academy recommends the faculties realize (Biller-Andorno, 2003, p. 119).

This syllabus was created, critically following the British core curriculum and consists of three "General Aims" and eleven "Specific Aims".

A) The General Aims

The three general aims refer to (1) the communication of a "basic knowledge" concerning ethics, (2) skills and capabilities concerning one's own moral attitudes and those of others, as well as (3) certain medical "attitudes and views" such as responsibility, respect, tolerance and beneficence (Biller-Andorno, 2003, p. 119). These fundamental issues are the basis for the following eleven specific aims.

B) The Specific Aims

The specific aims contain the topics:

- patient autonomy, information and consent;
- physician-patient relationship, relations to the nursing staff and relatives;
- medical research;
- medicine and reproduction (e.g. abortion, PND, PGD);
- medicine and genetics;
- paediatrics;

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- mental illnesses and disabilities;
- transplantation medicine;
- euthanasia;
- public health system;
- Responsibility and self-conception of physicians and students.

The autonomous patient leads this list, however it is strange, if not typical for the situation in Germany, that the authors of this syllabus, who are physicians dealing with ethics, and not ethicists, do *not* mention this first topic in their own textbook for physicians (Wiesemann and Biller-Andorno, 2005). Instead they begin with the second point and the physician-patient relationship. The authors hardly pay attention to the topic of patient autonomy in their book.

Thus it is expected that the ignoring of this topic also finds its way into the practice of biomedical ethics education as this is, in Germany, mostly carried out by physicians as the only competent persons in every subject concerning medical issues.

For many or most German physicians patient autonomy is merely considered a "syndrome".

Differences between East and West Germany; Two examples

The aim of the new Approbation order is to achieve a uniform educational standard for the whole of Germany. In East Germany, however, biomedical ethics education is confronted with differently orientated values compared to West Germany. I would like to illustrate this with two examples.

Statistics concerning abortion show significant differences in East and West Germany. The average of whole Germany is 175 abortions in a 1,000 births. With reference to this, the number of abortions in six West German landers lies beneath that average (minimum: Rhineland-Palatinate: 125) and two lander (not taking into consideration Berlin, Bremen and Hamburg) are slightly above (maximum: Hesse lander at 200). The numbers of the five East German lander are quite different. Here the number of abortions per 1,000 birth ranges from 210 (in Saxony) to 275 (in Mecklenburg-Western Pomerania). On average, the number of abortions in East Germany is significantly higher (average: circa 250) than in West Germany (average: circa 155).

A survey about *euthanasia on request* from the Allensbacher Institute asked people whether they would or would not agree with the following statement: "A terminally ill patient in hospital should have the right to choose death and to ask the physician to give him a deadly injection." In East Germany 80 per cent agreed (Stimme zu), six per cent disagreed (14 per cent undecided); in West Germany the survey resulted in 64 per cent agreement and 19 per cent disagreement (17 per cent undecided). It can be seen that in East Germany the acceptance of active euthanasia is significantly higher than in West Germany (80-64 per cent).

Interpretation of the examples with the help of the socialization hypothesis

Those two examples could suggest that the right for self-determination of the individual or patient autonomy, which is based on a strong position of the individual, is more prevalent amongst the East German population and is therefore much more in demand than in West Germany. But this must not necessarily be the conclusion. We can call this assumption the "autonomy hypothesis". A competing hypothesis uses the specific *situational* change as a basis for interpreting the differences between East and West (situation hypothesis). In literary discussion up to now none of the two hypotheses has succeeded over the other.

A totally different assumption considers those two examples with respect to those values, that were supposed to be implemented during the GDR socialism and considers that 15 years after the system's breakdown of 1989/90 still (Pfahl-Traughber, 2000, p. 13) or again (Förster, 2003, p. 13f) influences the

population's mentality. The world views of materialism and atheism that were propagated in the GDR could also serve to explain the two examples. With the background of a materialistic-atheistic world view and philosophy of life it is thinkable that a terminally ill life (euthanasia) or an early unborn life (abortion) is more easily at disposal. As you know, a theological elevation of human life ("sanctity of life") as it is proclaimed in West Germany, e.g. through the Christian churches does not culturally work in the post communist East Germany and therefore exerts little influence as a lifesaving momentum. This assumption I call the "materialism-hypothesis".

The "autonomy hypothesis" is *not* tenable to explain the attitude of the East German population concerning euthanasia and abortion because the presupposition for "respect of autonomy" (Beauchamp/Childress) is a strong sense of individuality and therefore an absolute acceptance of the rights and values of each individual person. The absolute acceptance of the individual does not quite belong to the convictions of a socialist system. The socialist ideology has other preferences (Zeyi, 1989). The collective has the precedence over the individual; this means "the primacy of the private interest in contrast to the public welfare has become history […] through the socialist concept of society" (Hoerning, 1999).

Therefore I consider the autonomy-hypothesis is *not* a safe basis to explain the attitudes of the East Germans concerning abortion and euthanasia.

The normative points of view in ethics in medicine

In contrast to the autonomy-hypothesis, the materialism-hypothesis is much more in accordance with the world views that were spread in the GDR socialism. There, "life" is not so much a value on its own but rather a value for society and therefore functionally determined. To say it more drastically: The value of life is determined through its efficiency for the society. A strongly paternalistic attitude in socialist systems is therefore only consequent. Only healthy, strong, productive and strictly educated humans can serve society. The political system has therefore a vested interest to take care of that.

But this is where my question comes into place, this kind of functional-political determination of the value of human beings stands in contrast to the statements of the *Universal Declaration on Bioethics and Human Rights*:

There it says in article three:

> *Human dignity, human rights and fundamental freedoms are to be fully respected;*
>
> *The interests and welfare of the individual should have priority over the sole interests of science or society*

Here, the priority of individual interests, individual rights and fundamental freedoms is mentioned, and that these values should be enforced also against the interests of society.

Conclusion

In order to enforce those values of dignity, rights, and individual freedom meaning the right of patients for self determination in the sense of Informed Consent or even Informed Choice, especially in East Germany it is necessary to introduce an explicit *normative* orientated education in biomedical ethics. Hence my thesis;

Without a normative-orientated biomedical ethics in the sense of the *Declaration on Bioethics and Human Rights* there is the possibility that patients will not and cannot achieve patient autonomy, that is their patients' rights with physicians that were socialized in East Germany and hold on to a paternalistic rationality as typical for socialistic policies (since the days of Plato). The way from paternalism to informed Choice in East Germany *still* will be a "long and windy road".

Acknowledgment

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Teaching moral values for high school students in the Indian context*

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Introduction

Among all the creatures in the world, humans are the most powerful species. Humans are distinguished from other creatures with special features like the sixth sense and a generally higher Intelligent Quotient (IQ). When the culture of humans developed, moral values also formed, such as to persuade people to live in peace. In this article, moral values which must be embedded in the minds of the high school students and the reasons for acquiring such values are explained in the Indian context.

Respecting other's freedom

People who are living in the world are equal and all the people of the world are granted equal rights. Everyone has the freedom and right to live, as they desire. If a person tries to dominate others it will be an undesirable action, which must be strongly opposed. It is important for people to realize that others have the same freedoms which are possessed by all of humankind. When a person respects another's freedom, so too will his or her freedom be respected. If individuals fight to uphold the freedom of others, they are considered a tolerant citizen.

The teacher kindles the hearts of the students to pay respect to the freedom of others. The teacher can improve the attitude of the students to respect the freedom of others, narrating the true life-incidents of eminent leaders who fought for the rights and freedom of others. For example, the contribution of Rajaram Mohan Roy, Mahatma Gandhi, Thanthai Periyar (Mr. E.V.R.) who fought to eradicate untouchability from Indian society may be cited. Several famous Indian historical movements carried on the fight for others, and may be given as examples of freedom like the Vaikkam movement and the temple entry movement of dalits (untouchable caste), and the teacher must facilitate the student's understanding of the importance of respecting other people's freedom.

Respecting the feelings of others

The sense of feeling and sharing the feelings with others is a good way to distinguish human beings from other living beings. There are many human feelings such as, the sense of hunger, sleep, love, desire, anger and joy. One must know the importance and the value given to one's feelings as well as the feelings of others. The sense of kindness shown to humankind, understanding and responding to others' feelings in a good way are the noblest of human feelings. Understanding and responding to others' feelings in a poor way causes confusion in family, cuts the friendship and creates ill feeling in the society. The human mind irrespective of its youth and elderliness has the tendency of having pleasing moments. In isolation the human mind is either happy or worried by recalling so-called pleasing moments.

If any other person tries to know the confidentiality of the other person, a quarrel will take place between the two. Hence, everyone has the right to confidentiality.

When the family members fail to respond to other's feelings, jealousy increases and destroys the love

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among the members which breaks down the family unit. Because of the above stated reason, the parents are either made to live in an "aged home" or left as "orphans." The ratio of parents either placed in an "aged home" is rapidly increasing in India. This is the country where "Rama" renounced his "crown of empire" and lived in the forest facing numerous difficulties for 14 years for a single word of his father that indicates the demolition of social values. If one starts to give respect to others' feelings, then the person will respect the noblest human feelings called love, adjustment and sacrifice. So, it is the great duty of the teacher and parents to create in the students the sense of "respecting other's feelings."

To motivate the students to make adjustments with one another, to sit as a group and share with them food and feelings helps to create an atmosphere of involvement. By doing this, the teacher can inculcate the sense of respecting others' feelings in the student's mind.

Socio-cultural restrictions

Every society has its own traditions and culture. The tradition and culture of the society are kept intact by means of moral values and socio-cultural restrictions. A society that follows the social rules and restrictions in the best manner will become an ideal society among societies in the world. The moral values and rules followed by the society have been formed to help the people to live in peace with the social boundaries. These values and rules have primarily been formed for the welfare of the society and frame the individual's desires and freedom, because a person who has several desires will not be offered unrestricted freedom to have his desires fulfilled. If one was to fulfil all of his or her desires, this would have an impact of disturbing social cohesion. There are no boundaries for human desires. A fresh desire will arise at the time when the older one gets fulfilled. The endless desires cause many difficulties. So, the desires of the individual must be strictly shaped.

The desires of the individual, which affect the social values, must be sacrificed for the well being of the society. If an individual realizes that a desire is not beneficial to the society, immediately the desire must be sacrificed. Every individual is a brick of the great social building, the moral values where socio-cultural restrictions are the cement which binds the individual bricks. If a brick (an individual) tries to come out of the cement binding (Moral values and socio cultural restrictions) the whole building will be destroyed.

So, the teacher should train the students to realize that endless and unfair desires would demolish the socio-cultural edifice. The teacher can cite examples from the "Purina's and Folk tales" for such endless and unfair desires, which cause destruction. They can explain the life incidents of great leaders like Mahatma Gandhi, Kama ajar who even sacrificed their great and fair desires for the well being of the society. The teacher can inspire the minds of the students to follow such great leaders.

Patriotism and national awareness

In many of our contemporary societies, violence, terrorism, rationalism, communalism and corruption are major problems which have made inroads into the foundations of the Indian nation. The students must be aware of these problems. The teacher should discuss with the students, the reasons, solutions and the methods of tackling these problems. The teacher can mould the students into patriots by telling the features of the Mother land, its honourable traditions, and the martyrs who sacrificed their lives for the nation. Then only an energetic younger generation, which has both the sense of solving the problems, faced by the nations and burning with patriotism, can be created.

Reservation system in India

The reservation systems followed in education and employment by the Indian government were formed to promote and equalize the economic inequities and improve the life background of all the people of independent India. This system of reservation is formed on the basis of the economic background of the people in India at the period of independence. However, the people do not understand properly the advantages of the reservation system. They think that it was formed on the basis of the caste system. After 60 years of independence, the reservation system is not able to achieve its ultimate goal. The

people commit malpractices to get the governments' concessions. The competition of wealthy persons with the poor for government concessions makes this system inefficient. If the government concessions rapidly increase, it will decrease the self-confidence of people and they will begin to long for free concessions. The selfish politicians take this attitude of the people for increasing their wealth, as they are given a lot of free concessions. The people also support the politicians who are able to own a lot of free concessions. This causes plenty of expenses and affects the nation's economical status as well as its development.

The teacher can explain to the student the basis and ultimate goal of the reservation system and must discuss with the students the reconstruction of the old reservation system on the basis of today's crisis. The teacher should motivate the students who are eligible to apply for government free concessions. By such steps, the next generation could be prompted to have loyalty and the mentality to help the government to achieve its goal.

The reasons for curtailing the desires

Students are deluded to believe that their parents and teachers always curtail their desires. But, the reasons for curtailing their desires are not explained to the students, nor are they interested to know them. If all the desires of the students are fulfilled, it will make the students stiff-necked persons. The great desire is a dangerous one; hence a Tamil proverb says that "Great desire, great loss." If a student has all their desires from childhood days fulfilled, it will make them feel egoistic and supreme (I'm the best, all things must happen as I desire). If a student has such mentality and possesses great desire, ego and is stiff-necked, it will affect the mentality and personality development of the students and also social welfare.

The teacher must explain such conditions to the students and prevent the students from facing the above said problems. The parents and the teachers curtail some desires of the students, and the teacher must also explain the socio-economical reasons for curtailing some desires of the students by the parents.

Prejudices among the students

The world is full of competition and is of different kinds. But the competition rising among the students is entirely different. The way of handling the problems by the students in school days will determine the methods of handling problems by the students in the future. So, the students come forward to solve the problems that arise among them with an open heart and a sacrificing attitude. This habit will help students to become great leaders in the future.

The class student leader misuses authority to punish classmates who have a difference of opinion, with the help of the teacher. It implies the attitude of misusing the powers by the students. If a student has tried to stop a good opportunity which comes to students who are more talented in education, sports and other extra and co-curricular activities, jealously was implied among the students. To attract girls, boys often indulge in teasing other boys and get involved in meaningless arguments. Often male students will try to behave as a "hero" among the boys which causes animosity among the students.

The teacher must explain to the students that if they are involved in such activities, it will affect their best student days that develop their education and other talents. By encouraging the students to acquire noble principles such as respect for others' talents, solving their problems by sacrifice, friendship, loyalty, love, hard work, attitude of competence and self-confidence, the teacher can teach tolerance among the students and also help them to develop the personality of the students.

Impact of mass media technology

The development of mass media technology with the help of science and technology is gaining rapid momentum. Hence, the 21st century is called "The century of mass media technology." The cinema and internet are the two branches of mass media technology which impact a lot of the student body.

Cinema

Of the impact of cinema on society, the bad films have an evil influence. Contemporary films are characterized by violence and often highly sexualized scenes and are most often released. A sense of evil is forced upon the people's mind through these types of films. Because of this, civil society, and in particular students favour these types of films indirectly. It spoils the social culture. A lot of harmful impact is caused to the students by such films. The primary one is, hero-worship given to the film stars by the students. This attitude forces the students to change their style of dressing, walking, speaking and they imitate the so-called film stars. The students miss their classes and go to watch films en-mass. The students also get involved in following worthless activities. These activities spoil the precious time and opportunities of the students.

Internet

The public use the Internet for many good purposes. Any information from any part of the world can be gathered easily through this medium. Some people also use the Internet as a source of income, sometimes unfairly. To earn money, a lot of bad and unfair information is telecast through the Internet. The availability of illegal information such as pornography, diverts students away from their studies. The students who are involved in these activities with the guidance of bad friendship divert their concentration and they not only fail in their studies but also lose their good moral habits. Hence, the students fall prey to evil habits like indulging in undisciplined activities such as stealing. Because of these reasons, the future of the students has become bleak.

The teacher can explain to the students how to avoid these mass media technologies like cinema and the Internet, which can cause a bad influence. The teacher must train the students to use these technologies only for their education and future life in a good manner. It is the duty of the teacher to explain these things to the students. He must tell them, "The cine-heroes are not real heroes. In day-to-day life they are also common people like other people, and in any way, the students are not less important than them." By such explanations, the teacher can develop the self-confidence of the students. The teacher must also to make the students realize that their attitude spoils the hope of their parents.

Conclusion

It can be concluded that moral values must be taught to the students who are studying in high schools, because this period of age is a suitable one to imbibe moral values in the minds of the students. The teacher has a vital role in teaching moral values to the students and a responsibility to shape the students' behaviour and in doing so, their futures. It has become clear that students must be aware of the evils of mass media like cinema and the Internet. Furthermore, it is important for students to maintain their self-confidence, by concentrating on activities that help to shape their future life and social welfare.

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Environmental education and eco-ethics – current trends in education*

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In a recent judgement (2002), a bench of judges, Justice Shri. N. Santosh Hegde and Justice Shri. B. P. Singh asked the Indian National Council of Educational Research and Training (NCERT), the All India Council for Technical Education (AICTE) and all the state governments in India to explain the serious lapse on their part on not implementing the court order to make environmental education compulsory in all the higher education institutions.

The court had directed the University Grants Commission (UGC) to prescribe a course on environmental science for undergraduate and postgraduate levels of higher education. An expert committee was appointed by the chairman of UGC under the chairmanship of Prof. Erach Bharucha, and Bharati Vidyapeeth, Director, Institute of Environmental Education and Research, Pune.

In the vision statement they said:

- The importance of environmental studies cannot be disputed;
- The need for sustainable development is key to the future of humankind;
- degradation of our environment is linked to continuing problems of:
- pollution;
- loss of forests;
- solid waste disposal;
- issues related to economic productivity and national, as well as ecological security;
- no citizen of the earth can afford to be ignorant of environmental issues;
- managing environmental hazards and preventing possible disasters has become an urgent need;
- need for public awareness;

The module consists of eight units as below:

I- multidisciplinary nature of Environmental studies
II-Natural resources
III- Ecosystems
IV-Biodiversity and its conservation
V-Environmental pollution
VI-Social issues and the environment
VII- Human population and environment
VIII- Field work

We need to educate points such as: Why we should not over exploit our Natural resources? Why should we conserve and protect our ecosystems?; The importance of biodiversity; The impact of environmental pollution; The importance of field work - to understand what is going on around our habitat. They explained the importance of "values" education. "Values" education is not just the same as ethics, or environmental ethics?

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How we can inculcate these values among the youth

Value education is to produce a citizen with good character and personality. Good citizens are paving the way for the development of the country. Value education, environmental education with ethical values – or environmental ethics makes an individual conscious of the importance of environment, making them a more responsible citizen to protect and conserve nature for future posterity.

Many questions are important to develop respect for all forms of life:

- Where do the things that I consume come from? Nature and interlinking with flora and fauna;
- What do I know about the place where I live? Our role in society and nature;
- How am I connected to the Earth and other living things? Food chain and food web;
- What is my purpose and responsibility as human being? Protection and conservation.

Can we advocate the following?

- **Refuse:** Sewage and industrial waste water should be adequately treated and raw materials recovered from it whenever possible before it is released into rivers and water ways.
- **Reduce:** Reduction is the best option if there is a reduction of waste generation and the pressure on our already stretched natural resources is reduced.
- **Reuse:** The next best option as a product is reused in its current form without any energy expenditure to convert it in to a new product.
- **Recycle:** The last option, although it converts waste into a resource, it uses energy to transform that resource into a new usable product.

In the campus environment there are some practical suggestions:

- Can we have certain healthy practices in our campuses which are simple but useful? Such as rain water harvesting.
- Use of alternatives for plastic bags: The fancy packaging of consumer products in two or three layers is not necessary. Furthermore, we can use our own reusable cloth or jute bags instead of plastic bags.
- Can we promote and support eco clubs? Residual waste can be converted into reusable resource. For example, using kitchen waste to make compost that can be used as an organic fertilizer or sewage in a biogas plant to make fuel.
- Can we involve students in educating our neighbourhood about the environment and health? Cloth rags from the textile industry are brought and used by paper and other industries.

The judgment leaves us some important educational challenges, namely:

- Do we have enough people power to teach this compulsory subject?
- How to develop capacity building: Make others follow environmental friendly practices.
- What is your plan of action? Try to get motivated teachers, even those who have not studied the subject during their course of education and give them more field oriented knowledge.
- Organize more exposure programmes: Environmental sensitivity can grow through a major public awareness campaign. Like electronic media, press, school and college education, adult education and education for policy makers. The types of field sites include: Ecosystems - grassland, different aquatic ecosystems, hills, forests; Polluted industrial sites.
- Educate them to appreciate nature and natures' beauty

Environmental ethics helps us to respect, appreciate, protect and regenerate the environment. It creates a love for nature and it forces us to use nature's gift more prudently, avoiding and reducing the waste and destruction. We need a "Green" lifestyle, to change our directions. "Nature has everything for everybody's need, but not enough for one man's greed."

Value Education: Treasure of a Nation*

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Introduction

Nelson Mandela said: "The question of poverty and lack of education, those two combined is the greatest problem facing the world right now". What he meant is we need the education embedded with noble human values to alleviate poverty. The problems faced by educationists are innumerable. One such problem is the introduction of value education. In many educational institutions, value education is taught as a separate optional or compulsory subject. Values of individuals and society change from time to time. But values which educate on the right way of living never change. Value education text materials are prepared with great care incorporating wonderful examples. Yet students take this course very lightly.

Values should not be taught in a formal way. Values are caught rather than taught. A better method to introduce values will be to teach it along with the main subject. For example, while teaching Newton's third law of motion in physics, after giving proper explanations, the teacher can say "good actions in life bring good rewards and bad actions bring punishments". Thus values could be introduced in each and every subject whenever and wherever possible. An attempt is made in this paper to study the effectiveness of the direct and indirect methods of instructional procedure to teach values at any level of education. A carefully framed value education reading material will mould the pupils' as better citizens of their country.

As we march in the twenty-first century enthused by the extraordinary human achievements in the fields of science and technology, the picture on the other side concerning human society appears gloomy. If a well known writer said that today's age can be described as an "Atomic Giant" and an "Ethical Infant", another observed that the problem of modern world is the mismatch between increasing technological power and decreasing social wisdom.

Many people do not have a clear idea about values, and the significance of values in social life. "Values" are abstract ideals. In most of the subjects taught, we are forced to say that the ideal parameter is never attainable. For instance, in physics we say "An ideal heat engine never exists". If such is the plight of an exact science, we can imagine the practicality of an abstract quality of life. Yet "value" is the most abstract ideal which can be practiced cent-percent in a human's life. It is the strategies which are planned by the teacher and executed in and out of the classroom that make an everlasting impact on young minds.

Methods

"Value Education" can be imparted by direct or indirect methods. Nearly 20 schools and 10 colleges in the Madurai region of Tamil Nadu State offer an optional paper on "Value Education". One Hour is allotted per week for teaching "Values". A good syllabus is framed which contains the methods, procedures,

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contents and practical aspects of achieving human values. Teachers who volunteer themselves are given a chance to handle these classes which is in addition to the prescribed working hours. Seminars are arranged where speakers from various service organizations are invited to interact with the students. At the end of the academic year an exam is conducted in schools and the results of this exam plays an important role in the promotion of pupils from one class to the higher class. In colleges at the end of the first semester a student has to write and pass a compulsory examination. This is the method followed in schools and colleges in teaching "Value Education" to students. It is a better method in itself as it gives the students a change from the monotony of academic subjects.

Indirect methods

Since values are abstract ideals they can be taught to students by indirect methods. The methods that can be suggested are:

i) Value oriented Educational Procedures in the classroom and teaching

ii) Extension Activities

iii) Field–trips and Excursions

i) Value oriented educational procedures in classroom teaching

In the classroom teachers focus on:

- Motivating the learner towards desirable objectives.
- Facilitating his attainment of these objectives, through providing suitable learning experiences.

Teaching is useful only to the extent it facilitates learning. An incidental and casual approach to teaching must be replaced by a planned and conscious approach. It is well said that a country's future is shaped in the classroom. This is true as far as teaching of any subjects is concerned. The subjects taught in the classroom are unique (e.g. physics, chemistry, etc.), interdisciplinary (e.g. bio-physics, medical physics, etc.) and trans-disciplinary (e.g. bio-ethics, bio-logic etc.). Teachers should update their knowledge everyday by exposing themselves to the mass media where more information is available.

In this section, an attempt has been made to link the law or principle taught in the unique subject to the values of life. Every subject (discipline) has its own inherent values. It is the role of the teacher to explain the law and relate it to life situations which will create an everlasting impact on the learner.

Though many teachers want to adopt this method in their classroom teaching, the heaviness of the syllabus gives limited time for discussing "values" which are found in the subjects taught. The method is very simple and more effective.

When a teacher introduces Newton's third law of motion, he explains the law, derives the necessary equations and quotes some examples. Though the teaching of law is over, the "value" behind it can be extended by saying "a good action in life fetches us good rewards and bad actions fetches us evil rewards". This is an indirect method of introducing "values" in the classroom. When the teacher has a will there is a way for him. This is an easy example to introduce the value of "being good". In each and every aspect of the subject taught, the teacher can link them to the "values" of life. This is not limited to physics only but can be applied in any subject at any level whenever and wherever possible. This requires the willingness of the teacher to submit him entirely to the teaching profession and by updating his knowledge through books, journals, diaries and magazines.

(ii) Extension activities

Besides NCC (National Cadet Corps), or NSS (National Service Scheme), many institutions in Madurai region offer extension programmes to students where it is compulsory to pass the course. In the present case a survey was made while the students of our college were undergoing the extension programme

in a nearby village. Nearly 120 students of the second year undergraduate courses admitted that they came to know the hardships of physical labour. The learners came to know the value of physical work done by farmers and child labourers. More number of surveys of this type can be conducted and the outcome of the extension programme can be analyzed in terms of achievement of "values" of life.

(iii) Field-trips and excursions

Field-trips and excursions can play important roles in cultivating positive human values in young minds. The students of the third year physics undergraduate course were taken on a tour and were asked to visit the homes of the mentally challenged and physically challenged in different regions of Tamil Nadu. After a week's tour to other academic and cultural places of interest, a questionnaire was given to each student to pick out the best place they have visited. Almost 78 per cent of the students wrote: "The visit to the home for mentally retarded" while 14 per cent of the students wrote: "The visit to the home of the physically handicapped": whereas only eight per cent of the students wrote: "The visit to the planetarium".

This study reveals that the students have indirectly been oriented towards noble values such as caring, helping and offering compassion to others. They had weighed the "gift" of their life by comparing it with the less fortunate people whom they came across during their tour programme.

Direct method versus indirect method – an analysis

A survey was made in 10 Colleges in Madurai Region where "value education" is offered in the first semester of the degree course at the undergraduate level. The survey was made to explore the effectiveness and usefulness of "Value Education" being taught as a separate subject, one hour per week. The study was restricted to the final year undergraduate students as they have rich experiences in "Value Education" compared to first and second year students who undergo "Ethics Education", Religious Education", "Social Dynamics" and "Extension Activity" in the first four semesters of the undergraduate degree.

Due to a shortage of time and other ethical reasons which often hinders the progress of any research activity (particularly in the field of "education") the questionnaire could not be served to all the third year students of all the ten colleges. It was not a questionnaire but a survey of opinion. In two colleges it was circulated with the prior permission of the management and in other colleges through the good offices of friends and postgraduate students. The survey of opinion reads as follows:

> *Dear Friend,*
>
> *Greetings, you have studied "value education" in the course of your studies and you have greatly benefited from it. You have also undergone training in community service by the "Extension Activity". You are doubly benefited by the inclusion of this type of programme. Moreover teachers also relate "values" of life while they are teaching your major or ancillary subjects. Two statements are given below. Write your order of preference. Be free and frank. Your answer will be kept confidential. Go ahead.*
>
> *- I am satisfied with the theory classes on "value education"*
>
> *- Though I am satisfied with the theory classes partly, it will be wholesome when I am taught them in the real subject situation and in a practical life situation*

The population was 423. This included boys and girls from science and arts disciplines. The survey of opinion was analyzed and the preference of the students were studied and entered in Table one as raw data.

Table one: Results of question on value education (N=423)

Item	1st Preference	2nd Preference	Same Preference
(a)	49	350	24
(b)	350	49	24
Total	399	399	48

Analysis of the data

Analysis of the raw data collected indicates that students prefer (b) to (a). Students have a liking for "value education" being taught as theory. They feel that it will be more helpful if "values" are taught along with major and ancillary subjects and also through extension activities.

Advantages of the indirect methods

1. Students appreciate the usefulness of the major subject in relation to daily life.
2. It makes the classroom teaching more lively.
3. Learner gets firsthand experience in the subjects and mends his ways accordingly.
4. The teacher becomes a source of inspiration.
5. The monotony of the daily, orthodox, traditional method of instruction is broken.
6. There are more chances that the abstract values studied put into practice in the classroom itself, at home then and in the society at large.

The learner is motivated in the right direction to face the challenges of life when embarking on a career in the future and throughout the span of adult life.

Report

Though "Value Education" and "Value Oriented Education Procedures" help learners to mend their walks of life in the right path it is "Value Oriented Educational Procedures" plays a major role in incubating the positive values of life by touching their heart rather than the brain.

Impact of media on values

The media is one other medium which transports "values" into young minds. The present day media focuses at least 70 per cent on "negative values". Since the learners are in the period of adolescence the media plays an important role in shaping young minds. It is the duty of the teachers and parents to censor some of the unwanted news and programmes in the media. A counselling centre can be attached to every school and college and dedicated teachers' services can be made use of in giving counselling to students individually or as a group about the "negative values" projected by the media.

Conflict between social and personal values

Conflict is a word used to identify those situations wherein a person is motivated to behave in two incompatible ways. There is a difficulty in choosing between two alternatives. Lewin describes conflict as an interaction between an individual and the environment.

Social values are more important than personal values. A noble person sacrifices his "personal values" if the society is disturbed by his actions. Adjustment mechanisms are almost used by all people. The learner is given orientation towards the "social values" than "personal values". Learners should be taught in such a way that the personal values fall in line with the social values and in the most difficult situation to strike a balance between the two.

Value crises and setting priorities

The present age is one of many crises. The "energy crisis" is one among the many crises met by humankind. Value crises arise due to social, cultural, economic and intellectual differences. When one speaks of the "Value Crises" it means the absence of positive, healthy values which pave way to a healthy and harmonious social living. When more positive values confront an individual he falls prey to the "Value Crises". The learner is educated to set his own priorities when there is a value crisis in such a way that these do not affect the well being of the society. When the society values the learner as a gem, it is the burden of the learner as a gem, it is the duty of the learner to set a top priority of 'Social Values' because it is the society that directly and indirectly finances his education by direct and indirect taxes. This should be made known to the learners and also their accountability to the society should never be undermined.

Values in present day education

Population expansion has led to a "knowledge explosion". No one today respects weaklings and spineless persons, much less in a huge sub-continent like ours and elsewhere where everyone is waiting for his slice of cake. The world belongs to those who know their jobs, are prepared to stand up for their rights, assert themselves and work to secure justice. In today's world no one can be secure by making the neighbour insecure, no country can be strong by making the neighbouring country weak. My security and happiness depends much on the security and happiness of my neighbour. As Betrand Russell observed, "it is co-existence or no existence".

The present day education system is more "material" than "value" oriented. The curriculum is heavily loaded with contents which have no values, and which cannot orient the student towards positive values unless the teacher, who is an embodiment of all virtues sets himself as a role model to the students. In brief the teacher is a "Precious Value" to his pupils. The policy makers may change, the educational system may change, the management may change but the values taught and practiced by the teacher should never change in order to have an everlasting positive, healthy impact on moulding the lives of the young future leaders of the country.

Conclusion

This study was conducted in November 1999 and the participants who have undergone this experimental procedure as "Subjects" are well placed in the society and are making a positive impact on their respective fields of work. As we enter the twenty-first century and enter the third millennium the role of the classroom teacher becomes multifaceted due to the prevailing negative values in the society. Jesus Christ, the wonderful Teacher says: "I know my sheep, and they know me". It is the duty of every teacher to know each and every student's social, economic, cultural, intellectual and home background and cater to the individual differences of the individual learners. Truly the parents are "living values" at home and the teachers are "living values" at school and to the society. It would be better to conclude by quoting Pandit Jawaharlal Nehru's words: "if all is well in universities and colleges then all is well in the nation". The third millennium is at the door step.

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Bioethics education trials at Ateneo De Manila High School in the Philippines in 2004-2005

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Introduction

The formal inclusion of bioethics issues in biology classes at the Ateneo de Manila High School started in school year 2003-2004 through the holding of trial classes in bioethics in cooperation and funded by Eubios Ethics Institute. As the school participated in this Bioethics Education Project coordinated by Dr. Darryl Macer, the biology teachers handled trial classes on selected bioethics chapters/modules that were timely and relevant to the Biology curriculum (Macer, 2004).

In the school year 2004-2005, the Science and Technology Department of the high school mandated the teaching of bioethics as an integral and formal part of the biology curriculum. This move is in keeping with the general provisions of the Constitution of the Republic of the Philippines that seeks, among others, "to teach the rights and duties of citizenship, strengthen ethical and spiritual values, and develop moral character and personal discipline." Along the same vein, the formal integration of bioethics into the fabric of the biology curriculum, implements the school's philosophy and objectives of providing a well-integrated program for the development of the students' ability, among others, "to make relevant judgments and to discriminate among values… as responsible persons and productive members of the community." This development in the biology curriculum was aided by the provision of bioethics materials and textbooks through the bioethics education project with Dr. Darryl Macer.

Bioethics in the biology curriculum

In the conduct of the actual bioethics trial classes, the biology teachers selected the bioethics chapters or modules to integrate or use in their lessons from those available in Macer (2004). In table one, the specific bioethics chapters or modules are matched with the corresponding topics of the Ateneo de Manila High School Biology curriculum for the school year 2004-05 from June 2004 to March 2005.

Table 1: Bioethics Chapters/Modules' Integration into the Ateneo de Manila High School Biology Curriculum for the school year 2004-05.

Theme/Topic	Bioethics Chapter/Module
A. Introduction to Biology	
Introduction to Bioethics	Chapter 1: Making Choices, Diversity and Bioethics
B. Organisms are Made up of Cells	
Chemical Basis of Life	Chapter 3: Genetic Privacy and Information
C. Organisms Reproduce	
Reproduction	Chapter 8: Lifestyle and Fertility Chapter 9: Assisted Reproduction Chapter 11: Telling the truth about terminal cancer

D. Organisms Grow and Develop	
Genetics	Chapter 4: Testing for Cancer Gene Susceptibility Chapter 5: Human Gene Therapy Chapter 10: Genetically Modified Food/Ethics of Genetic Engineering
E. Organisms Use Energy	
Respiration	Smoking and Fertility in Chapter 8 on Fertility and Lifestyle
Circulation	Chapter 6: Brain Death Chapter 7: Organ Donation Chapter 12: Euthanasia Chapter 13: AIDS and Ethics
F. Organisms Respond and Adapt to the Environment	
	Chapter 2: Ethical Limits of Animal Use Chapter 14: Sustainable Development Chapter 16: Ecotourism

Other Bioethics Sessions

In addition to the formal bioethics trial classes in the Biology classes, bioethics has also been the topic of seminars, workshops and non-class activities with clientele including teachers and participants from other high schools. Table two gives the details of these activities on bioethics.

Table two: Bioethics in other Activities in the Ateneo de Manila High School for the school year 2004-05.

Date	Participants	Activity
April 2004	25 Teachers (students of an education graduate programme course)	Seminar Workshop on current trends in Biology: Bioethics. Bioethics topics covered were introduction to Bioethics, ART, Cloning of human stem cells in South Korea, GMOs, Organ selling in the Philippines, Organ Donation, the Bioethics project of Dr. Darryl Macer
July 2004	Advanced Biology Class; 2 Regular Classes	Bioethics trial classes using Chapter 1, Introduction to Bioethics – demonstration class for external observers: Mr. Tetsuya Ishizuka, Project Officer for the Sasakawa Peace Foundation, Japan, and Ms. Mary Ann Ng, country coordinator for the bioethics project.
August 2004	Advanced Biology Class	Debate on GMOs, as supplementary activity to Chapter 10 on Genetically Modified Food/Ethics of Genetic Engineering
September 2004	All 14 Sophomore classes	Outbound Education in a Rainforest in Laguna province, outside Metro Manila – used as a take-off point for the Bioethics Chapter on Ecotourism

October 2004	11 Biology teachers from different schools in Metro Manila	A brief follow-up session in an Outreach Seminar of the AHS Science and Technology Department for teachers from various public high schools in Metro Manila; Majority of these teachers were participants in the 2003 Outreach Seminar on the topic "Bioethics of Biotechnology"; The teachers were provided free copies of the textbook Bioethics for Informed Citizens Across Cultures, Dr. Darryl Macer (Ed.)
December 2004	Advanced Biology Class; 3 Regular Classes	Supplementary Bioethics class on Importance of Trees - to capture and learn from the events of the previous week, in particular, the devastation brought about by the recent typhoons. This is a Bioethics session on the importance of trees on the environment, in general, and on the well-being of men, in particular. This topic is a follow-through on the previous topic on photosynthesis. Also, this is an opportunity to capture a "teachable moment" that has touched the lives of Filipinos at this time, and to learn how to be better persons who are "stewards of God's creations."
February 2005	Advanced Biology Class	Supplementary Bioethics class on Organ Selling in the Philippines; Utilization of Role Playing activity in the Chapter on Organ Donation

Conclusions

This paper presented an update from the results in the first year of the bioethics class trials (Abito, 2004) on the use of the materials from Macer (2004). The students welcomed the inclusion of bioethics across the curriculum, and teachers were able to cope with the materials. The student reports were evaluated and showed that they had learnt how to question the ethical aspects of many new technologies, which should enable them to be better decision makers in society. We hope that other schools will also include bioethics into their teaching.

Acknowledgments

We appreciate the assistance of Eubios Ethics Institute in the project.

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This year's flowers are redder than last year - a brief introduction of the bioethics project in the High School affiliated to Beijing Normal University in 2003-2005

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The existence of life is a precondition for all human activities and the quality of life is the foundation of the progress of humankind. Life education, therefore, is an eternal educative theme. Bioethics invites the values and principles of ethics to test how human activities influence human life, animal life, plant life and ecology. In September 2003, the High School Affiliated to Beijing Normal University[1] as an experimental school in the mainland of China, took the lead in introducing bioethics, a new subject, to the Chinese high school system (Zhuo, 2004).

Formation of the curriculum

Necessity for a offering bioethics curriculum

As life sciences develop rapidly, bioethics has been included into the scope of ethics education of citizenship in various countries. Nowadays, China's bioethics education is mainly confined to advanced medical schools. In science education in ordinary high schools, teachers focus on cultivating students' scientific knowledge. From the aspect of humanity, Chinese traditional culture and ethics concentrates more on individuals' responsibilities to society and their country, holding that the pursuit of the Holy Spirit is above anything else. All those have potential effects on students, some of whom feel puzzled at the matters of life ethics. As China materializes the concept of scientific development and builds a harmonious socialist society, bioethics can improve adolescents' awareness of life. This will help to lay the foundation for an ideal society where life is respected and treasured.

Applicability of bioethics education

Since the reform and opening up 20 years ago, China has obtained great achievements in various fields. The development of economy and culture makes people ponder over the ethics of society. In addition, the progress of society demands commensurate maturity of social ethics. In today's China, the rapid development of bioethics matches the demand on itself.

As a famous school with a 100-year history, our Affiliated High School has rich resources of education, affiliated to Beijing Normal University (BNU). It carries out external exchanges frequently and has established cooperative relationships with many institutions, which paves the way for offering a bioethics curriculum in our school.

(a) Advanced Educative Visions The High School makes various resources accessible to its students. It is responsible not only for their higher education, but also for their lifelong development. Although bioethics is not a subject of the entrance examination, fundamentally it cares about juvenile's growth and is significant in helping to build an ideal society. With this in mind the school values greatly the bioethics curriculum.

(b) Rich educative resources In the Department of Biology, half of the postgraduates and the

1 http://www.bjsdfz.com (in Chinese)

teachers have gone abroad for further study. They have great potential to conduct teaching and research. The knowledge and skills they master are supplementary to each other. Separately, they study zoology, organic embryology, ecology, environment, education and so on. Further, there are teachers who specialize in combining class teaching and information technology. Some teachers are members of animal protection associations. In brief, teachers in the department of biology are capable of offering the new curriculum.

(c) Emphasis on management The headmaster of the school looks into the subjects and has identified bioethics as a featured subject of the school. The management gives full support to the bioethics curriculum, financially and materially. In order to promote the sustainable development of bioethics, we are also active in offering opportunities for external exchanges.

Implementation of the curriculum

The organization of the Bioethics Curriculum is structured as an optional subject for Senior II students (at the age of 17). Bioethics enriches students' knowledge of biological science. Having acquired relevant knowledge from biology, a compulsory subject, the students now gain further understanding of the relationship between biological science and society, and sense life education.

The time of the lecture is 15: 25-16:45pm on Wednesdays for 80 Minutes. The course is given for one semester. To facilitate interaction, class size is limited to 30. In the first year, we used Bioethics for Informed Citizens across Culture (Macer, 2004), provided by the Eubios Ethics Institute (Zhao, 2004). The teaching experience of the first year told us that some chapters of the original textbook were not always suitable for our students. Due to the fact that different nations have different economic and cultural backgrounds, our students have difficulty in comprehending some cases and metaphors. As a result, in the second year, we used the English textbook as a framework and began to compile teaching materials more suitable for Chinese students.

The teachers of the department of biology have primary responsibility for lectures. Teachers of politics and English, along with the specialists from other institutions, take an active part in co-ordinating the programme as well. Because there is no domestic precedent and relevant experience, teachers choose the topics freely on the basis of their familiarity with the students and their respective specialties. Every lecturer will be responsible for two or more topics in which they are interested (See Table one).

After the first round of experiments, we seriously listened to the feedback from the students. Some students pointed out that they didn't like the depressing topics, like Palliative Care. Some said that such topics such as testing for cancer gene susceptibility were not closely connected with their own daily life styles. The concept of ecotourism was not so familiar. On the other hand, they were interested in ethical problems in association with cloning and embryonic stem cell research.

Some students were interested in the recent events, such as SARS and Avian Bird Flu. The question of drug abuse was also raised by some of our students. Based on the needs of the students, we adjusted our curriculum the following year. We selected those topics that were more interesting and linked closely to reality. More teachers, with their specialties, were encouraged to join. (See Table two)

Table 1: Curriculum for the Semester 2003-2004

Topics	Lecturers	Dates
1. Making Choices, Diversity and Bioethics	Su Baoqi	September 10, 2003
2. Genetic Privacy and Information	Fu Jinhua	September 17, 2003
3. Brain Death	Kuang Li	September 24, 2003
4. Organ Donation	Yu Yuan	October 8, 2003
5. Ecotourism	Li Jianzhi	October 22, 2003
6. AIDS and Ethics	Zhuo Jing	October 29, 2003
7. Assisted Reproductive Technology	Fu Jinhua	November 5, 2003

8. Genetically Modified Food	Gu Yongmei	November 12, 2003
9. Palliative Care	Kuang Li	November 19, 2003
10. Euthanasia	Zhuo Jing	November 26, 2003
11.Testing for Cancer Gene Susceptibility	Yu Yuan	December 3, 2003
12. Animal Rights	Li Lei	December 10, 2003
13. Sustainable Development	Li Jianzhi	December 17, 2003
14. About Life	Wang Bin	December 24, 2003

Table 2: Curriculum for the Semester 2004-2005

Topic	Lecturer	Dates
1. Introduction of Bioethics	Fu Jinhua	September 8, 2004
2. Genetic Privacy and Information	Fu Jinhua	September 15, 2004
3. Brain Death	Kuang Li	September 22, 2004
4. Organ Donation	Yu Yuan	October 6, 2004
5. AIDS and Ethics	Zhuo Jing	October 13, 2004
6. Human Dry Cell Research and Ethics	Liu Xiaoyan	October 20, 2004
7. Genetically Modified Food	Gu Yongmei	October 27, 2004
8. Euthanasia	Liu Xin	November 3, 2004
9. Animal Rights	Li Lei	November 10, 2004
10. Treasure Life and Refuse Drugs	Li Jianzhi	November 17, 2004
11. Human Plague	Wang Hao	November 24, 2004
12. What to do before the Clone?	Bai Wenbin	December 15, 2004
13. Assisted Reproductive Technology	Fu Jinhua	December 22, 2004

As a form of teaching we aim to combine explanation and discussion. Teachers provide basic materials and explain the relevant knowledge concerning biology. After that, the students will be encouraged to discuss the issues of Chinese legislation and prospects in the fields of AIDS Prevention, Organ Donation, Human Embryonic Stem Cells and so on.

Assignments are important for appraisal. Students are required to write three articles, either in English or in Chinese. Grades are based on their participation in the lectures and the quality of writing

Achievements and reflections

After one year of teaching, we have realized that life education is a combination of science and sentiments. Apart from selecting the typical and touching cases, we should pay attention to the knowledge of science, because science knowledge can change students' behaviour and attitudes. Teachers should allow students to discuss and express their ideas freely and fully. On the basis of discussions and idea expressions, teachers make conclusions accordingly. So, in the next year, teachers not only transmit the knowledge, but also organize students to discuss the typical cases. In that process, students are able to think about the matter of ethics and make their own judgments. The bioethics curriculum does perfectly in encouraging the initiative of teachers and students. Teachers have displayed more pictures and visual materials. Some lectures have students play roles. We organize our students to make surveys (e.g. public opinion on cloning) and visit exhibitions (e.g. anti-drug campaigns).

Feedback from the students showed that they are attracted to the bioethics curriculum. They gained a lot from instructive lectures and the free discussion in the classes. Because quite a few teachers take turns to give lectures, students have the opportunity of learning various teaching styles in a short time. In addition to discussions with teachers and classmates, students also exchange ideas with their parents, which makes family education a part of school education.

By studying bioethics, students not only get to know the most sophisticated science and technology, but also receive a profound life education. They begin to realize the significance of science, society and life. They gradually understand how precious life is, and what responsibilities they should take in society. Bioethics enables students to learn "how to behave, how to understand, how to co-exist, and how to survive", which paves the way for their lifelong development.

By getting involved in this international project, every teacher benefits from it. First of all they obtain first-hand materials. Besides, the project heightens the prospect for their professional development. Our teachers have published some papers on bioethics, which has had some influence in China. Mr. Liu Hu, a headmaster, wrote a paper Bioethics, a New Curriculum of Life Education published in the Fundamental Education References, an academic magazine of the Chinese Ministry of Education. Bioethics curriculum provides a stage for teachers to collaborate and communicate with foreign participants. Second, teachers better understand their students. Teachers have learned that not only are students willing to learn science, they are also eager to know more about society and express their ideas about the reality. Finally, bioethics curriculum promotes our educative vision of STS (Science, Technology, Society). Our teachers have begun to transmit the thinking of bioethics on purpose.

In short, through the joint efforts of teachers and students, the teaching system of bioethics in the school has initially come into being and will enjoy further development.

Suggestions

The 21st century has witnessed the rapid development of life sciences. New terms like the Post-genomic Era, Human Brain Project, Molecular Neurobiology, Systems Biology, Bioinformatics, Nano-Biology, Biochip, Biological Motor, and so on, have come up at an amazing speed. So bioethics needs to refresh itself in contents and reflects the features of the times.

Because every country has its own conditions, such as the level of scientific development and language, uniform textbooks will cause the difficulty in understanding. Therefore, we suggest, with basic principles observed, every country should develop its own subjects in accordance with their national conditions.

Different institutions should strengthen their mutual exchanges and collaborations and assimilate each other's experience. The healthy development of bioethics cannot be separated from the joints efforts of different bodies. More people should be encouraged to learn bioethics. Pupils in elementary schools and college students are all targets of the education.

In conclusion, the success of bioethics curriculum shows that it has a bright future. We believe that we can do better and play a more important role in the development of scientific culture.

Acknowledgments

This paper is presented on behalf of all members of the school. We appreciate the assistance of Eubios Ethics Institute in the project.

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The actualities and prospect of bioethics education in a Chinese middle school*

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Introduction

At present, as described by Ms. Wang1 we have carried out several bioethics trials in our Chinese middle school from September 2003. With the development of this project, we have accumulated more and more experience and concluded the lessons from the practice. In this paper I supplement some of the information provided in the previous overview. We can ask does the material assembled in Bioethics for informed citizens across cultures (Macer, 2004) adapt well to Chinese middle school students? What did the students learn in this class? Is this subject beneficial to the students and does it have an influence on their behaviour, life view or value view? As the coordinated school, what does this project bring us? I also want to share some comments from students.

Curricular provision of the optional courses

At the beginning of the last term, our school totally offered twenty four optional courses to the grade two students (N=725). These included calculus, literature, Japanese, painting, dancing, and so forth. Every teacher must make an introduction about the course which she took charge of in the auditorium. So every student could get some necessary information and decide to choose their favourite course. When I finished the introductory presentation on bioethics, the response was very strong. The students showed much enthusiasm. More than 200 students of the 705 students wanted to select this course. Due to the limitation of the classroom accommodation and the quota of 30 people, only 30 students can seize the opportunity to join in this group. Even though, the result encouraged us to squeeze fifty students into our class. In fact, it's a little crowded in the classroom, but the students felt they were fairly lucky to study bioethics.

Curricular design of bioethics

The material we used is Bioethics for informed citizens across culture (Macer, 2004) supplied by the Eubios Ethics Institute, including sixteen chapters. It provides a new angle of view for us, so we used this book for reference. But the length of every chapter is not very long, and few cases are available. After considering the interest and the intellect of the middle school students, we selected fourteen topics and added some real cases to each lecture, which closely accorded with Chinese conditions. In addition, since the book is in English, the student's wasted much time in looking up the new words in their electronic dictionaries in the class. We are all hoping for Chinese translations.

We devised a variety of teaching methods, including analyzing cases, discussing, collecting questionnaires, demonstrating PowerPoint files, watching visual materials and role play as teaching aids. So these means make up for the shortcomings of teaching theory simply and make the teaching course more lifelike and visual. Furthermore, through these methods, the students can combine knowledge with social life. The purpose of this project is not to gain a high score, so there is no examination required in bioethics. Therefore, the students can write some essays at the end of the term and get their credits.

* Paper first presented at the First UNESCO Bangkok Bioethics Roundtable, September, 2005

1 Previous paper in this volume

Example feedback from the teachers

Miss Liu Xin: "The text of "euthanasia" first presented the concept of euthanasia and the views of different religions on this question. Then it described some important historical events about euthanasia, especially the Nazi regimes' big massacre. At last, it presented the statutes about "euthanasia" in the Netherlands and other states.

This text is a good reference for my teaching, and in my lesson, I spoke of almost all its content to the students. However, I think the contents of this text are too little and too simple, because this lesson is intended for the middle school students and it will cost them two class hours. I think the contents, for example the religions views are distant to the condition of China and the students' everyday life. So, I think it's fit for reference material for Chinese middle school and primary school."

Liu Xiaoyan: "The studies on embryonic stem cells become more and more popular. On the one side, there are many people who need this technology, so the market on this field is broad. On the other side, some people realized that embryonic stem cells are also humans so thought that the study on them should be banned. The study had involved in bioethics problem. In some countries, people who are in poverty sell embryos and ovum. Bioethics about this field is not included in our book. We need to know how to balance different benefits, risk about this. So we think this part should be included in our project."

Wang Hao: "I taught about SARS and the bird flu. I think we should introduce wider knowledge to students and help them to learn more background discussions about bioethics. Then, bring forward some profound and recommendable issues to students. Meanwhile, establishing the communication between students and teachers is very important, which can promote information's transfer and share. Our responsibility is to spirit up students' thinking on bioethics and helps them to establish correct evaluation on bioethics."

Fu Jinhua: "I taught genetic privacy and information as an elective course. The goal of this course is for students to learn not only the basics of genetics but also to be updated on the latest advances in genetic engineering. Furthermore, this course aims to stimulate the students' interest in genetic engineering and cultivate their creativity as part of character building and ethical learning"

Example feedback from the students

Liu Ruirui: "Every scientific progress would bring some problem to our society. Brain death is one of them. Maybe it is difficult to receive; however, I support it. You can't believe that your family or friend who is still breathing are said to be dead; you can't believe that your family member or friend whose heart is still beating are diagnosed that he has no chance to wake up. But please face to the fact, he has gone. He won't move or talk forever. We waste a lot of things and money without using brain death. Some people think they prefer their body to be whole when they died. I have no right to evaluate. But some patients can get new organs to save their lives. In fact, these people more prefer keeping the hopeless body than saving other patients lives. Certainly, I must recognize the problems which are brought by brain death at the same time, such as the illegal trade between the doctor and the patient. However, brain death is a new concept to the majority of the people. We must make rules to prevent the bad phenomenon rising. Brain death can benefit the society. I hope brain death will be received by all the people as soon as possible."

Zhang Qian: Firstly, I think bioethics is a comprehensive subject. It combined the biology and the ethics together. My classmates and I both think this class is very interesting. It's suitable for the senior school students. It tells me some knowledge that also advanced what I need to know about my required subjects and broadens our minds. Secondly, through studying the animal right and the sustainable development, I think the human being should get along with the animals and the environment harmoniously. In addition, I hope teacher will teach us from easy to difficult problems, and give us more time to discuss and debate. Through the feedback from the students, it's easy to see that they have great enthusiasm on this subject. And they thought this course is helpful in forming a scientific worldview. In the class, we mainly discussed in groups. In this way, the students can learn from others. They hope that

bioethics will become more popular among the middle school students."

The relationship between biology and bioethics education

As we all know, in a Chinese high school, biology is a required course and a compulsory course for students who want to pass the college entrance examination. Innovators of biology education have realized the importance of ethics. When they revised the material, they permeated these ideas into the new materials. For example, genetic privacy and the information, genetically modified organisms, appeared in the required books. Genetics is important in our regular syllabus for issues such as variation, and AIDS for immunity. In fact, bioethics not only does well to the students but also benefits the teachers. This information helps them to prepare an attractive lecture, which especially helped the young teachers. Bioethics and biology are combined to realize our educative objects and our conformity of science, technology and society.

To our school, this supplied a good opportunity to carry out life education. The principal sang high praise for this course and wrote a disquisition about bioethics as the new curriculum in life education. This was published in the basic education review in July 2005. I think this project will be used continuously and will become more popular for Chinese students.

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To treasure your life, refuse drugs*

Li JianZhi
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Learning target

In recent years, drug abuse has become a common problem around the world. Illegal drugs have spread to more than 200 countries and five continents, reflecting a tendency of further abuse. Most worrisome is that teenagers are the main group taking drugs. We cannot wait for the authorities to improve drug awareness. The main targets of my lessons in the bioethics course in China were: learn what drugs are; know the potential harm of drugs; reasons for adolescent drug abuse; spread the message to keep children away from drugs; and consider ethical issues involved in drugs.

Teaching process

Introduction of the subject

The poppy, originally a beautiful plant has become a flower of evil since people extracted a kind of white powder from its flower. There is a saying that "the most poisonous snake has the most beautiful appearance", and in this case a most poisonous flower is the most beautiful looking (Figure 1).

Figure 1: poppy flowers



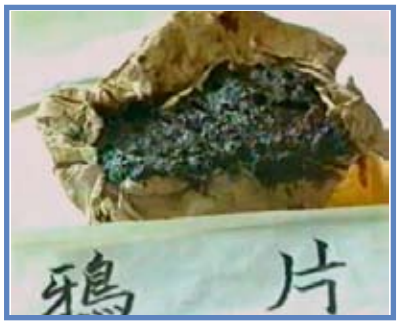
True colour of drugs

Illegal drugs, a kind of special medicine, are controlled and mandated by the state as they tend to make people addicted after the abuse of the substances. Meanwhile,, the characteristics of drugs are poisonous, addictive and illegal. The common drugs are opium, heroin, Methamphetamine (ice), dancing outreach, Morphine, marijuana, etc. Some pictures were shown to the class (Figure 2). I asked a question to make students think: "Is pesticide a drug? Cigarettes and alcohol can make people addictive, are they drugs?"

Figure 2: Pictures of some common illegal drugs.



Heroin



Opium

* Paper first presented at the First UNESCO Bangkok Bioethics Roundtable, September, 2005



Methamphetamine(Ice)



Dancing Outreach



Morphine



Marijuana

Harm of drugs

The harm of drugs can be summed up as "self-destruction, family-breaker and society-destroyer". I told them: "When you appreciate bewitching poppy flowers, death is looking at you too." In May 2000, Ms. Whittier, a British female student, died of heroin overdose. Her body was found on the day of her father's birthday, three days after her death. She died in a kneeling position, seemingly as though she were questioning herself and apologizing to her parents, confessing to God, charging the drugs and cautioning others (See Figure 3).

Figure 3: Observe the pictures:



Kneeling Position when Ms. Whittier died





The character in the first picture once lived in a good house and didn't worry about food and now he is seen begging alone in the streets. The second picture depicts a scenario such as this: taking drugs --> getting into debt --> stealing --> robbing --> going to jail.

Consider the figures

According to an investigation by the US government, some 94% of money for drugs was gained from criminal activities. Statistics from Kunming, China, reveal more than 80% of the city's drug abusers have committed crimes. Drug abuse is a complex social phenomenon and many ethical problems occur because of drugs and drug abuse. I asked further questions:

> Question 2: I.V. drug users are a high target group of HIV infection. According to statistics, more than half of HIV-infected people are victims of drug injection. So, drug clubs are founded in other countries to provide clean needles for drug injection addicts. Do you agree with this method?
>
> Question 3: Currently, the Ministry of Health stops "Surgery therapy in drug dependence" in an emergency. This method is curing drug addiction by destroying people's nervous systems. However, a likely side effect is that it will lead to feelings of indifference for the person and everything around them. In addition, the short-term effect of the surgery is favourable but the long-term effect is difficult to estimate presently. Do you think "Surgery therapy in drug dependence" should carry on?
>
> Question 4: Morphine, Dolantin and anodyne are generally used in hospitals. For relieving the pain of patients, doctors often use Dolantin and in turn some patients become addicted to the medication. Should the doctor bear the responsibility?

From these case studies, students realise that not only doctors, but also health policy is responsible for the health of humans, which has implications involving profound ethical principles. There are many similar ethical matters in life. Bioethics is not to provide a definite and simple solution for them. However, its discussion and introspection for those matters help us figure our behaviour with a prudent attitude when we encounter similar matters later on.

How far are drugs from us?

It is a core and end-result of drug education. The Chinese National Drug Abuse Control Committee conducted a statistical survey of the age structure of Chinese drug abusers in 2004. The result is as follows in Figure 4:

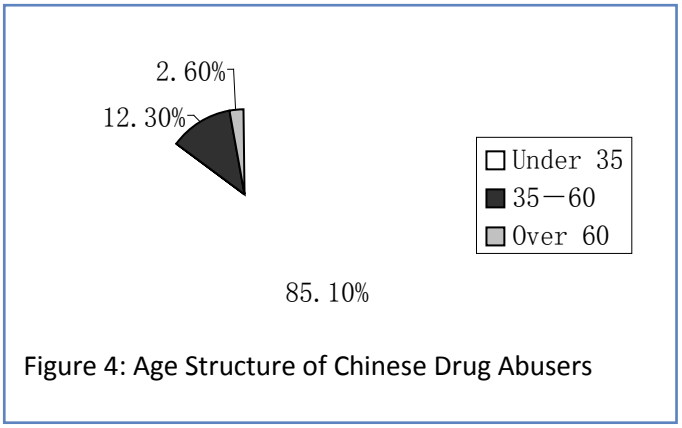


Figure 4: Age Structure of Chinese Drug Abusers

Question 5: What conclusion can you draw from the above figure? What are the reasons for teenagers taking drugs? Analyze the case: Wang, a female aged 14 doesn't work hard at school and often spends time with juvenile delinquents. Her curiosity caused her to experiment with hard drugs from a group of drug addicts.

Question 6: Is it correct that teenagers try anything unknown? (It enabled students to fully view the matter on drug abuse.)

Question 7: Your parents are afraid that you will take drugs because one of your friends does and then they privately test your urine for substance abuse. Can you accept this?

Question 8: A friend handed you a cigarette at the party. You didn't want to smoke but were afraid of losing face, or your friends. What will you do?

Question 9: Do your classmates smoke? How do you suppose you could persuade your friend to give up smoking?

Question 10: Under what condition will you meet people who may tempt you into taking drugs? What should you do to say "no" to drugs?

Based on the analysis of adolescent drug abuse, students were able to find corresponding preventive measures for drug abuse and showed the ultimate target of drug control education by the questions above.

Review

The classes revealed that students are interested in learning and are concerned about drug education. Students not only acquired basic knowledge on drugs and drug addiction, but they enhanced their awareness of the potential harms of drugs. Furthermore, they learnt a more scientific approach to thinking. This meant that they were more willing to express their opinions in class. I gave several example questions in this paper. In addition some students made a poster for drug control as an assignment.

Organ transplants and organ donation*

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I undertook the teaching of a special topic "organ transplants," which is a part of the school elective course of "Ethics and Moral Standards" in 2004-2005. The following is the format of the teaching design I used. Students might be very familiar with the words "organ transplants", easily giving many examples. However, they have little knowledge about the definition of "organ transplants" and the conditions of organ transplantation or whether the transplant will be approved by our moral standards. Therefore, I worked in accordance with the student's knowledge level, based on the teaching material "Bioethics for informed citizens across cultures" (Macer, 2004). I carefully designed the teaching process, making full use of the case studies and relative background materials.

The teaching procedure I used was to put forward several questions for discussion. For example:

- Did you ever have a blood transfusion or make a blood donation? Can a blood transfusion or donation be considered an organ transplant?
- Do you know actually what an organ transplant is? When did it begin?
- What problems should be solved during the organ transplant?
- What is the key factor of a successful organ transplant?

These questions allowed me to gauge the concept further and I could therefore, describe the concept, history and current situation of organ transplants. This engaged the students and they continued to ask questions. I introduced some background knowledge, such as:

a) History of organ transplants and overview of development;

b) Variety of organ transplants;

c) Key factors of a successful organ transplant;

Whether an organ transplant succeeds depends on many factors. The stitching of the blood vessels and immune rejection are the most important problems. The break-through of the brain death concept, overcoming the obstacle of tissue matching and developments of the new immune inhibitor are also important.

d) Organ transplants and ethics

Do ethical standards allow us to obtain a survivable organ and transplant it to another person? Are any ethical problems encountered? Regarding our students, I arranged a debate and asked both sides to back up their views with sufficient evidence.

The students who argued in favour of transplants firstly put forth data evidence. A survey undertaken in Beijing, Shanghai and Wuhan indicated that organ transplantation is regarded as a popular concept. Eighty seven percent viewed this kind of medical technology as promoting the well-being of humankind, 72% expressed the view that if there is a need and a possibility, they will receive organ transplants and 70% expressed their willingness to donate their own organs. For this reason, they deemed organ transplants a medical practice favourable to human health that can be approved by ethical standards.

* Paper first presented at the First UNESCO Bangkok Bioethics Roundtable, September, 2005

Organ transplantation is a noble medical practice and a modern medical method to help heal the wounded. For a sick patient, organ transplantation will bring the possibility of prolonging their lives.

The students opposed to the practice argued that organ transplantation destroys human integrity. This is influenced by Chinese traditional culture and the theory of Chinese medicine, so people generally think life should always be complete and that dissecting the corpse is similar to an act of treason. Harvesting organs from a living people is even more objectionable, in their view. Secondly, it is a kind of superior technology, expensive, and some patients won't like the idea of it. There will be many extra charges such as nursing, monitoring and immunosuppressive medicine.

Thirdly, in the case of a shortage of organs, organs could be harvested from other categories of living beings. More and more problems appear when it comes to harvesting organs from other kinds of living beings. What's more, it can break the harmony that exists. Meanwhile, transplanting animal organs may pass animal viruses to humankind, such as mad cow disease and AIDS.

After viewing arguments from both sides, everybody generally supported the "pro" view. Our students not only understood the process of organ transplantation and the ethical problems which arise, but they also showed their good character when discussing these issues. They showed their readiness to accept an organ transplant and they accepted that they would donate their own organs if they are really needed.

e) Source of organs

At present, many patients die while waiting for organ transplants. If several patients urgently need the same organ at the same time, but only one can be supplied, a critical question is how should the transplant continue? Should we offer the organ to the critical patient or a wealthy merchant or powerful bureaucrat? It is difficult to make a decision on the fair distribution of organs. Furthermore, the collection and donation of organs is tricky and is a pertinent ethical and moral question.

Students were educated that in order to guarantee that organ transplants can give hope to a new life for critically ill patients and benefit human health. The World Health Organization made guidelines for human organ transplantation at the 40th World Health Assembly in 1987. There is a relatively objective medical and social standard for one who has priority to transplant organs. At the same time, in the course of organ donation, we must follow the principle of free will.

Moreover, problems always arise (for example, buying or selling organs) that conflict with the law and brain transplant problem. Due to time restraints, I cannot give details about all of these complex issues.

Then I introduced some legal cases regarding organ transplants and recommended some reference books to help students with their further understanding of the issues and ethical standards.

Student achievements

Through the study, students have not only developed an understanding of ethical issues but they have also grasped the way to recognise and analyze problems. They have a deeper understanding about the following:

a) Follow the principle of free will while donating the organ. The donor has the right of informed consent;

b) For the organ trade phenomenon in the society, we must strengthen the sense of self-protection;

c) There are certain conditions and age limits for organ donation that should be abided by legal regulations.

Acknowledgments

Here I must express my gratitude to Professor Darryl Macer for providing the teaching materials to help our students understand the relationships between organ transplants and ethics standards, from a sensible to a rational level.

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Responses to bioethics education in selected schools in Tamil Nadu, India*

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Introduction

The first author taught bioethics in the Faculty of Life Sciences at the University of Madras prior to his retirement. University students were very interested in bioethics, but it remains an interesting question as to how high school students will approach bioethics. We joined the project, launched by Darryl Macer, of the trials of the textbook "Bioethics Education for Informed Citizens across Cultures" (Macer, 2004a). In response to a global need for such materials, that textbook was produced for use in school and university classes to teach about bioethical issues. For this purpose, it is necessary to assess the need of each sector of a society. This paper presents some results of trials from selected schools in Tamil Nadu, India.

During 2004, an attempt was made to test the text across a range of disciplines and social strata so as to better picture the bioethical mindset of students and elders. The results are reported in this paper in the sharing of teaching materials and class trials to teach students to cope with bioethical, environmental and medical ethics issues.

Two types of questionnaire were given to the participants of the class trials: (i) a list of about 28 topics which are of bioethical importance and a copy of the response sheets found in selected topics from the book "Bioethics Education for Informed Citizens across Cultures". The respondents were also asked to prioritise their current need in acquainting themselves with any five of the 28 bioethical topics listed. The paper provides comparative results of the class trials.

Corley Higher Secondary School (Tambaram, Chennai city, India)

Dr. Jayapaul Azariah conducted trials on the preferences for bioethics topics expressed by students and teachers in several schools in India, following short visits and introductory lectures using the bioethics textbook. Further analysis of the student reports from classes is ongoing. The medium of Instruction in Corley School was both Tamil/English and the first school visit was on 19 March 2004. Results of trials in class with N=61 students and 1 Teacher are in Table 1.

The medium of instruction for bioethics was English. The procedure used was that a handout was given to each student. They were asked to listen to the guest lecturer (Jayapaul Azariah), who then explained that they need not write their name but only their class on the feedback form. They were asked to answer the first column, which tested their awareness and familiarity with the topic. Then I explained in detail what each topic meant and gave them an example. Then they were asked about their choice and desire to study each topic. Then they were asked to mention if the subject was difficult to understand or easy.

* Paper first presented at the First UNESCO Bangkok Bioethics Roundtable, September, 2005

Table 1: Results from Corley High School (%)

No	Topics	Have you heard about it?		Would you like to study these topics?		Is the subject understandable?		Teachers: Can you teach?
		Yes	No	Yes	No	Yes	No	
1	Artificial Insemination, Sperm, Egg & embryo donation	37.8	62.2	54.1	45.9	49.2	50.8	Yes
2	Surrogacy	13.2	86.8	42.6	57.4	44.2	55.8	Yes
3	Somatic Cell Gene Therapy	23.0	77.0	70.5	29.5	50.8	49.2	No
4	Germ-line Gene Therapy	18.0	82.0	39.3	60.7	37.7	62.3	No
5	Human Cloning	65.6	34.4	65.6	34.4	49.2	50.8	Yes
6	Eugenics	22.9	77.1	40.9	59.1	36.1	63.9	Yes
7	SARS Severe Acute Resp. syndrome	68.8	31.2	83.6	16.4	72.1	27.9	Yes
8	Benefits Versus Risks	21.3	78.7	49.2	50.8	52.4	47.6	Yes
9	Animal Rights	59.1	40.9	68.8	31.2	65.5	34.5	Yes
10	Intrinsic and Extrinsic ethical factors over animal use	14.8	85.2	29.5	70.5	27.9	72.1	No
11	Genetic Testing &Privacy	19.6	80.4	45.9	54.1	45.9	54.1	Yes
12	Testing for Cancer Gene susceptibility	40.9	59.1	60.7	39.3	47.5	52.5	Yes
13	AIDS Testing	88.5	11.5	83.5	16.4	83.6	16.4	Yes
14	The Heart Transplant	54.0	46.0	77.0	23.0	67.2	32.8	Yes
15	Ethics and Diving Cars	27.8	72.2	44.3	55.7	45.9	54.1	No
16	Ecotourism and Ethics	8.2	91.8	19.6	80.4	27.8	72.2	Yes
17	Sustainable Development	21.3	78.7	70.5	29.5	64.0	35.0	No
18	Euthanasia	21.4	78.6	39.3	60.7	32.8	67.2	No
19	Telling Truth about Terminal Cancer	50.8	49.2	59.0	41.0	62.3	37.7	Yes
20	Autonomy	37.7	52.3	53.9	36.1	52.5	47.5	Yes

		Yes	No	Yes	No	Yes	No	
21	Justice	73.7	26.3	65.5	34.5	59.1	40.9	No
22	Making Choices, diversity & bioethics	31.2	68.8	45.9	45.1	42.6	57.4	No
23	Genetic Engineering & Food	42.6	57.4	57.4	42.6	55.7	44.3	Yes
24	Reproduction and Fertility	75.4	24.6	70.5	29.5	57.4	42.6	Yes
25	In Vitro Fertilization (IVF) Technology	8.2	91.8	52.5	47.5	47.5	52.5	No
26	Bioethics	34.4	65.6	77.0	23.0	69.2	32.8	No
27	Water Management	70.5	29.5	90.2	9.8	77.0	23.0	Yes
28	Assisted Reproductive Tech	24.6	75.4	57.4	42.6	52.5	47.5	Yes

In addition there were open questions, and the responses to the question: Which five topics you would like to study? There was only one class teacher and her response is given at the last column of the response sheet (Table 1). Her most favourite subjects were (Topic Number and name):

4 Germ-line Gene Therapy
17 Sustainable Development
18 Euthanasia
25 In Vitro Fertilization (IVF) Technology

The most popular topics the students would like to study (they could chose five each) were:

1	SARS	59.2%
2.	Animal rights	54.4%
3.	Heart transplant	41.6 %
4.	Cloning	36.8%
5.	Water Management	32.0%
6.	Bioethics	20.8%
7.	Reproduction & Fertility	20.8%
8.	Justice	20.8%
9.	Genetic Engineering	19.2%

This pattern is different from what was reported from the other Far Eastern countries such as the Philippines or Taiwan at the Fifth Asian Bioethics Conference (Macer, 2004b). The school is an English medium school but students have classes explained in Tamil most of the time. It is in between an English medium and Tamil medium school. Most students belong to a lower middle class social group or even lower. The pattern may change in a school with a different social class background. There is also wide diversity inside each school.

Pulicat National School (Ponneri district, Tamil Nadu, India)

Pulicat National School, Pulicat, Ponneri District, was visited first on 28 June 2004. Six teachers were interviewed, and the results are in Table 2. The language of instruction at this school is both Tamil and English. Teacher and student preferences for topics are presented below (Table 3 for student preferences).

In Pulicat the responses to the question: Which five topics you would like to study? found that for teachers, the most popular topics that they would like to study were: Heart Transplant 67 per cent, Water Management 67 per cent, Artificial insemination 50 per cent, Sustainable Development 50 per cent, Germ line gene therapy 33 per cent, SARS 33 per cent, AIDS testing 33 per cent. The most popular topics the students (N=27) would like to study (they could chose five each) were:

- Euthanasia 66.6 per cent
- Sustainable Development 62.9 per cent
- Bioethics 59.3 per cent
- Water Management 48.2 per cent
- SARS 29.6 per cent
- Animal Rights 29.6 per cent
- Justice 25.9 per cent
- Autonomy 22 per cent
- Human Cloning 14.8 per cent
- Germ line gene therapy 14.8 per cent

Table 2: Preferences among teachers at Pulicat National School (N=6, results in %)

No	Topics	Have you heard about it?		Would you like to study these topics?		Can you teach?	
		Yes	No	Yes	No	Yes	No
1	Artificial Insemination, Sperm, Egg & embryo donation	100	0	83.3	16.7	66.7	33.3
2	Surrogacy	83.3	16.7	100	0	66.7	33.3
3	Somatic Cell Gene Therapy	83.3	16.7	83.3	16.7	66.7	33.3
4	Germ-line Gene Therapy	83.3	16.7	83.3	16.7	83.3	16.7
5	Human Cloning	83.3	16.7	83.3	16.7	83.3	16.7
6	Eugenics	66.7	33.3	83.3	16.7	66.7	33.3
7	SARS Severe Acute Resp. syndrome	100	0	83.3	16.7	100	0
8	Benefits Versus Risks	33.3	66.7	33.3	66.7	33.3	66.7
9	Animal Rights	16.7	83.3	83.3	16.7	50	50
10	Intrinsic and Extrinsic ethical factors over animal use	16.7	83.3	50	50	50	50
11	Genetic Testing &Privacy	66.7	33.3	83.3	16.7	66.7	33.3
12	Testing for Cancer Gene susceptibility	50	50	83.3	16.7	83.3	16.7
13	AIDS Testing	83.3	16.7	83.3	16.7	83.3	16.7
14	The Heart Transplant	100	0	83.3	16.7	83.3	16.7
15	Ethics and Diving Cars	16.7	83.3	33.3	66.7	66.7	33.3
16	Ecotourism and Ethics	66.7	33.3	66.7	33.3	66.7	33.3
17	Sustainable Development	83.3	16.7	66.7	33.3	83.3	16.7
18	Euthanasia	33.3	66.7	100	0	83.3	16.7

		Yes	No	Yes	No	Yes	No
19	Telling Truth about Terminal Cancer	50	50	50	50	33.3	66.7
20	Autonomy	100	0	83.3	16.7	66.7	33.3
21	Justice	66.7	33.3	50	50	66.7	33.3
22	Making Choices, diversity & bioethics	50	50	33.3	66.7	33.3	66.7
23	Genetic Engineering & Food	16.7	83.3	66.7	33.3	33.3	66.7
24	Reproduction and Fertility	66.7	33.3	66.7	33.3	50	50
25	In Vitro Fertilization (IVF) Technology	0	100	66.7	33.3	50	50
26	Bioethics	66.7	33.3	83.3	16.7	66.7	33.3
27	Water Management	83.3	16.7	66.7	33.3	83.3	16.7
28	Assisted Reproductive Tech	83.3	16.7	100	0	83.3	16.7

Table India-3: Student preferences for topics at Pulicat National School, India (%)

No	Topics	Have you heard about it?		Would you like to study these topics?	
		Yes	No	Yes	No
1	Artificial Insemination, Sperm, Egg & embryo donation	96.3	03.7	92.62	07.4
2	Surrogacy	07.4	92.6	70.4	29.6
3	Somatic Cell Gene Therapy	55.6	44.4	85.2	29.6
4	Germ-line Gene Therapy	14.8	85.2	88.9	14.8
5	Human Cloning	85.2	14.8	85.2	14.8
6	Eugenics	18.5	81.5	70.4	29.6
7	SARS Severe Acute Resp. syndrome	100.0	00.0	88.9	11.1
8	Benefits Versus Risks	11.1	88.9	63.0	37.0
9	Animal Rights	37.0	63.0	74.1	25.9
10	Intrinsic and Extrinsic ethical factors over animal use	33.3	66.7	63.0	37.0
11	Genetic Testing &Privacy	33.3	66.7	96.3	3.7
12	Testing for Cancer Gene susceptibility	22.2	77.8	85.2	14.8
13	AIDS Testing	51.9	48.1	92.6	7.4
14	The Heart Transplant	81.9	18.5	85.2	14.8
15	Ethics and Diving Cars	55.6	11.1	59.3	40.7
16	Ecotourism and Ethics	88.9	11.1	74.1	25.9
17	Sustainable Development	29.6	70.4	92.6	7.4
18	Euthanasia	25.9	74.1	77.8	22.2
19	Telling Truth about Terminal Cancer	44.4	55.6	96.3	3.7
20	Autonomy	81.5	18.5	85.2	14.8

21	Justice	92.6	7.4	100.0	00.0
22	Making Choices, diversity & bioethics	51.9	48.1	92.6	7.4
23	Genetic Engineering & Food	55.6	44.4	92.6	7.4
24	Reproduction and Fertility	81.5	18.5	81.5	18.5
25	In Vitro Fertilization (IVF) Technology	18.5	81.5	81.5	18.6
26	Bioethics	25.9	74.1	92.6	7.4
27	Water Management	88.9	11.1	81.5	18.5
28	Assisted Reproductive Tech	37.0	63.0	77.8	22.5

Results of teaching trials

Pulicat school is an example of a rural school. Three chapters were tested (Macer, 2004a): 16. Ecotourism since the Pulicat Lake is a tourist place, 10. Genetically modified food, and 13. AIDS testing. In all of these, the balancing of risks and benefits was explained. Copies of these chapters were given and written answers were received which are being analysed.

The comments were written directly onto the bioethics page by page copies that were given out. The 27 students from the Pulicat trial had mixed religious backgrounds (Hindu 17; Muslim 4; Christian 6; Male 15 and Female 12), but it appears there was a similar diversity of views on bioethics issues that were tested, consistent with the results of earlier studies (Macer, 1994). Regarding GM food many students answered that they do not have access to a supermarket and that they grow natural foods themselves. In these aspects it would be very interesting to develop intercultural communication between students and teachers in the different "worlds" in which they live.

However the materials were interesting in this rural school and show that they can be used in different cultures. The results to the questionnaire between Pulicat and Corley are quite different. Since the students attending Pulicat School hailed from a rural area it was suggested to them that they can use Tamil, and this could be one factor.

Bioethics education is an area of immediate concern and students should be prepared to meet the challenges of current scientific developments in both biosciences and medical sciences and their applications in human welfare. They should be equipped with necessary skills to deal with bioethical dilemmas in resolving the philosophical and ethical issues involved in day to day life. Students are future researchers and they should have the moral foundations to apply ethical standards and professional codes of conduct. The appropriate means to do this must be found and used.

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International approaches to evaluation of bioethics education*

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Introduction

Crucial to the development of bioethics education is a method of evaluation that allows for improvement of materials to better meet the needs of students in different countries. This paper looks at several methods of evaluation including: development of specific evaluation forms for student and teacher responses to chapters and the textbook or course; ways to analyze the content of student essays and reports; forums where educators and researchers can discuss and improve the content of the textbook and materials, and discuss evaluation; and ways to assess various styles of student feedback from different programmes. These results are based on my experiences as a bioethics educator for two decades, and the results of a project of bioethics education I coordinated under Eubios Ethics Institute on "Bioethics Education for Informed Choices Across Cultures" (Macer, 2004a). This project was funded by a grant from Sasagawa Peace Foundation, to compile and test open source teaching materials, and these materials have been evaluated through numerous class trials as described in other papers in this book, and papers presented at the Fifth Asian Bioethics Conference in 2004 in Tsukuba, Japan (Macer, 2004b). Some translations of the materials were made in several languages, including Chinese, Japanese, Korean, Tamil and Thai, which allowed trials of bioethics education to be conducted in the local language in selected pilot countries.

Some Internet sites offer their own exclusive bioethics resources, but these are not always openly available. One of the new sites on bioethics education that has not adopted an open access approach is the BioEthics Education Project (BEEP).1 BEEP is funded by the Welcome Trust and is based at the Graduate School of Education, University of Bristol, UK. The introduction reads well: "It is an interactive website and virtual learning environment for secondary school science teachers and their students. It is a teaching resource developed to highlight the moral, ethical, social, economic, environmental and technological implications and applications of biology."

It also is aimed at web-based evaluation, "BEEP is also a research project; we aim to investigate whether online discussion can be used successfully to support school science teachers. Thus use of the website will be evaluated by researchers at the University of Bristol. Data on method of use and user opinion will be collected and documents and presentations may be published concerning the project. However, end user contribution will be anonymised so that no individual or school will be identifiable in such publications." It provides a list of topics and ties these to several UK school curricula. The copyright clause is restrictive however, stating: "Pages on BEEP are protected by copyright. No images, parts of images, or any other part of our website may be permanently copied or reproduced in any form or reproduced on any other website or stored in or transmitted to or from any other electronic or digital form in whole or in part without our prior written permission. In addition you may not alter, manipulate, add to or delete an image or any part of an image. You may access and download the contents of these pages and store a copy of them on a temporary basis for the sole purpose of viewing those pages." Thus for teachers to store, modify the pages to be suitable for their own local needs, use them, and place the pages on their own websites would be breaking this copyright. Some distance learning courses targeted to persons of particular value systems, such as the Jesuit Distance Education Network, Centre

1 http://www.beep.ac.uk/content/index.php

* Paper first presented at the First UNESCO Bangkok Bioethics Roundtable, September, 2005

for Online Bioethics Education[2] are also found, but this project is aimed at cross-cultural materials for a range of value systems.

Goals of bioethics and evaluation

Although the expected achievements of each bioethics course differ with the educational goals chosen, this paper discusses general principles of evaluation. There can be several goals of bioethics education, and each could be associated with different measures in evaluation. In the action plan for bioethics education developed at the UNESCO Asia-Pacific Conference on Bioethics Education[3] the goals are grouped into knowledge, skills and personal moral development. There is no consensus in the academic literature and teaching community on the most important goal to measure, nor on the best criteria to assess whether the education is successful.

For more than 60 years it has been recorded that both quantitative and qualitative data are important in social science research, as was said by Merton and Kendall (1946), "Social scientists have come to abandon the spurious choice between qualitative and quantitative data: they are concerned rather with the combination of both which makes use of the most valuable features of each. The problem becomes one of the determining at which points they should adopt the one, and at which the other, approach". Thus an appropriate methodological tool should contain methods to utilize and assess both types of data.

The goals of bioethics that were important to measure as indicated by feedback from the project were found to include: 1) Increasing respect for life; 2) Balancing benefits and risks of Science and Technology; 3) Understanding better the diversity of views of different persons; 4) Understanding the breadth of questions that are posed by advanced science and technology; 5) Being able to integrate the use of scientific facts and ethical principles and argumentation in discussing cases involving moral dilemmas; 6) Being able to take different viewpoints such as biocentric and ecocentric perspectives. We do not need to achieve all goals to consider a class to be successful, and different teachers and schools put a different amount of emphasis on each goal.

One important goal of teaching about bioethical issues is to get students to critically evaluate the issues (Conner, 2003). In a Mexican case (Rodriguez, 2005), bioethics classes were used as a way to improve the general behaviour and study aptitude of students. Each institution is likely to put a different amount of emphasis on each goal. Also, different activities are likely to enable some goals to be met and not others (Macer, 2004c). Therefore we do not need to assess all the institutional objectives when evaluating the success of the trials. Instead, case studies of how students and teachers responded were also sought to give a wider descriptive account of various approaches.

One of the goals of this project was to examine criteria that could be used to measure the success of bioethics education, and the effectiveness of different forms of education for making mature citizens. There is a consensus among many Western scholars that the balancing of four main bioethical principles, which are Autonomy, Justice, Beneficence and non-maleficence, is central to making better decisions (Beauchamp and Childress, 1994). Autonomy includes ideas such as respect for privacy, respect for personal choice.

Justice is to respect the autonomy of others, and to treat persons equally. Beneficence is to try to do good, and non-maleficence is to avoid harm. When solving or trying to reach a consensus about bioethical problems, these four main principles can be a good guide in balancing which ideas should be mostly weighed. One measure of bioethics education could then be whether students are able to use these principles in decision-making, which was examined by presence of these keywords in discourse (oral or written). In the future the use of principles as expressed in the UNESCO Universal Declaration on Bioethics and Human Rights (2005) will also be analyzed to broaden the description of bioethical reasoning, and UNESCO is developing a core curriculum to teach bioethics based on inclusion of the consensus view of bioethics as included in that Declaration.

2 http://www.ajcunet.edu/distanceeducation.aspx?bid=543
3 The action plan is included in this volume.

Still, reaching a good decision is often difficult, which also may not be the same if made in different times and situations. Another approach that is common in education is to teach learners to break down ethical dilemmas into manageable problems, for example, the separation of action, consequence and motives connected to a moral decision. This separation is reflected on the different bioethical theories. Utilitarianism is an example of a bioethical theory, which looks at the consequences of an action, and is based on the work of Jeremy Bentham and John Stuart Mill. This principle asserts that we ought always to produce the maximal balance of happiness or pleasure over pain, or good over harm, or positive value over disvalue. Utilitarianism can be then broken down into rule utilitarianism, and act utilitarianism.

"A rule utilitarian may use moral rules as authoritative instrumental rules, so the morally right action is conformity to a system of rules, and the criterion of the rightness of the rule is the production of as much general happiness as possible (Macer, 1998a)". Act utilitarians on the other hand, look at the particular act only, and object to moral rules to be only an approximate guides, which could be broken if maximal good is not obtained. Another example of a bioethical theory is rights based theories of Immanuel Kant, and human rights law (Beauchamp and Childress, 1994; Macer, 1998a). The use of utilitarian-style logic and rights arguments were also examined among the discourse. The evaluation tools developed here could be extended to look for presence of other concepts such as virtue ethics for example.

Integration of scientific facts is also important in moral reasoning. Science educators discovered during the last few decades that the most efficient way to educate science is to discuss the science together with examples of technology and put the facts into the social context. This method of teaching is generally called the Science, Technology, and Society (STS) approach (Yager, 1990; Ramsey, 1993). Advances in biology and medicine have led to another pressure upon educators, namely how students can be prepared to face the ethical dilemmas that the technology often raises. The ethical issues associated with biology are generally grouped under the phrase "bioethics". Bioethics is one part of the approach of STS, and a survey of bioethics teaching is also one method to measure the extent that society issues are included (Macer et al., 1996; Macer, 1999ab). In general there are less teachers using STS approaches in Asia than in the USA (Kumano, 1991), and Australasia (Macer et al. 1996), but it is growing still. Even within one country, such as the USA, there are a diversity of views on how to effect efficient education of social issues and even the science itself (Waks and Barchi, 1992). In the project in Korea the partner teachers at high school level are an STS network of teachers, and the Chinese school has a STS approach to teaching biology. In some other countries, such as New Zealand, STS approaches are integrated into a broad participatory paradigm of education across all subjects.

Stages in moral development

In discussions held during this project there has been a consensus that the theory of moral development developed by Lawrence Kohlberg, and what has come to be called Kohlberg's stages of moral development, does not universally apply when teaching bioethics. The problems are not only with non-Western students, but researchers in Australia and New Zealand have also found that it does not serve as a model. Kohlberg's (1969) theory holds that moral reasoning, which he thought to be the basis for ethical behaviour, has developmental stages that are universal. He followed the development of moral judgment beyond the ages originally studied by Jean Piaget looking at moral development throughout life, and created a model based on six identifiable stages of moral development (Scharf, 1978).

Kohlberg's six stages were grouped into three levels: pre-conventional, conventional, and post-conventional. He claimed it is not possible to regress backwards in stages nor to "jump" stages; each stage provides new perspective and is considered "more comprehensive, differentiated, and integrated than its predecessors." A brief explanation follows.

Level 1: Pre-Conventional

The pre-conventional level of moral reasoning is especially common in children, and said to be up to the age of nine in US children he studied, although adults can also exhibit this level of reasoning. Reasoners in the pre-conventional level judge the morality of an action by its direct consequences. The pre-conventional level consists of the first and second stages of moral development, and are purely concerned with the self (egocentric). In stage one (obedience), individuals focus on the direct

consequences that their actions will have for themselves. For example, an action is perceived as morally wrong if the person who commits it gets punished. In addition, there is no recognition that others' points of view are any different from one's own view.

Stage two is a self-interest orientation, right behaviour being defined by what is in one's own best interest. Stage two reasoning shows a limited interest in the needs of others, but only to a point where it might further one's own interests, such as "you scratch my back, and I'll scratch yours." In stage two, concern for others is not based on loyalty or intrinsic respect. Lacking a perspective of society in the pre-conventional level, this should not be confused with stage five (social contract) as all actions are performed to serve one's own needs or interests.

Level 2: Conventional

The conventional level of moral reasoning is typical of adolescents (age nine+ years) and adults. Persons who reason in a conventional way judge the morality of actions by comparing these actions to societal views and expectations. The conventional level consists of the third and fourth stages of moral development. In Stage three, the self enters society by filling social roles. Individuals are receptive of approval or disapproval from other people as it reflects society's accordance with the perceived role. They try to be a *good boy* or *good girl* to live up to these expectations, having learned that there is inherent value in doing so. Stage three reasoning may judge the morality of an action by evaluating its consequences in terms of a person's relationships, which now begin to include things like respect, gratitude and the golden rule. Desire to maintain rules and authority exists only to further support these stereotypical social roles.

In Stage four, it is important to obey laws and social conventions because of their importance in maintaining a functioning society. Moral reasoning in stage four is thus beyond the need for approval exhibited in stage three, because the individual believes that society must transcend individual needs. If one person violates a law, perhaps everyone would - thus there is an obligation and a duty to uphold laws and rules. As a cultural observation, this is a very common attitude in Asian and Pacific communities.

Level 3: Post-Conventional

The post-conventional level, also known as the principled level, consists of stages five and six of moral development. Realisation that individuals are separate entities from society is important in North American society where Kohlberg developed his theory and so he judged it to be a higher level of morality. In that culture one's own perspective should be viewed before the society's is considered. Interestingly, the post-conventional level, especially stage six, is sometimes mistaken for pre-conventional behaviour. In Stage five, individuals are viewed as holding different opinions and values, all of which should be respected and honoured in order to be impartial. However he considered some issues are not relative like life and choice. Laws are regarded as social contracts rather than dictums, and those that do not promote general social welfare should be changed when necessary to meet the greatest good for the greatest number of people (a utilitarian view).

In Stage six, moral reasoning is based on abstract reasoning using universal ethical principles. Decisions are made in an absolute way rather than in a conditional way. In addition, laws are valid only insofar as they are grounded in justice and that a commitment to justice carries with it an obligation to disobey unjust laws. While Kohlberg insisted that stage six exists, he had difficulty finding participants who use it.

Implications

After Kohlberg's stage four, the transition from stage four to stage five, people have become disaffected with the arbitrary nature of *law and order* reasoning and he said they become moral relativists. This transition stage may result in either progress to stage five or in regression to stage four. As has become clear during the bioethics education project, there is such a range of cultural, family and school value systems across the world, that students of one age in one country will most likely be in different stages at different times, even if all persons did follow this progression from stage one to stage six in moral

reasoning, and not revert back to other levels. Stage six would correspond to a person that followed the textbook bioethics of Beauchamp and Childress (1995). Macer (1998) has argued that bioethics is love of life, and that principalism based on following the standard ethical principles alone is not sufficient as an explanation of why people behave the way they do. The role of religious values is also obviously important, as concepts like karma and removal of oneself from the matters of the world do affect the values systems people use when approaching moral dilemmas.

Kohlberg used moral dilemmas to determine which stage of moral reasoning a person uses. The dilemmas are short stories that describe situations in which a person has to make a moral decision, yet they provide no solution. The participant is asked what the right course of action is, as well as an explanation why. This style is still commonly used as case-based ethics teaching. There is a need to develop more local cases for dialogues between Asian and Pacific cultures.

A dilemma that Kohlberg used in his original research was the druggist's dilemma:

Heinz Steals the Drug In Europe: A woman was close to death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to produce. He paid $200 for the radium and charged $2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about $1,000 which is half of what it cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said: "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug for his wife (Kohlberg, 1969).

Should Heinz break into the laboratory to steal the drug for his wife? Why or why not?

Like many cases of bioethics, from a theoretical point of view, it is not important what the participant thinks that Heinz should do. The point of interest is the justification that the participant offers. Below are examples of possible arguments that belong to the six stages. It is important to keep in mind that these arguments are only examples. It is possible that a participant reaches a completely different conclusion using the same stage of reasoning:

Stage one (*obedience*): Heinz should not steal the medicine, because he will consequently be put in prison.

Stage two (*self-interest*): Heinz should steal the medicine, because he will be much happier if he saves his wife, even if he will have to serve a prison sentence.

Stage three (*conformity*): Heinz should steal the medicine, because his wife expects it.

Stage four (*law-and-order*): Heinz should not steal the medicine, because the law prohibits stealing.

Stage five (*human rights*): Heinz should steal the medicine, because everyone has a right to live, regardless of the law. Or: Heinz should not steal the medicine, because the scientist has a right to fair compensation.

Stage six (*universal human ethics*): Heinz should steal the medicine, because saving a human life is a more fundamental value than the property rights of another person. Or: Heinz should not steal the medicine, because that violates the golden rule of honesty and respect.

One criticism of Kohlberg's theory is that it emphasizes justice to the exclusion of other values. As a consequence of this, it may not adequately address the arguments of people who value other moral aspects of actions more highly. His theory was the result of empirical research using only male participants (aged 10, 13, and 16 in Chicago in the 1960s). Carol Gilligan argued that Kohlberg's theory therefore did not adequately describe the concerns of women. She developed an alternative theory of moral reasoning that is based on the value of care. Among studies of ethics there is a tendency

in some studies to find females have higher regard for ethics theories (Ford and Richardson, 1994). Gilligan's theory illustrates that theories on moral development do not need to focus on the value of justice. Other psychologists have challenged the assumption that moral action is primarily reached by formal reasoning. People often make moral judgments without weighing concerns such as fairness, law, human rights and abstract ethical values. If this is true, the arguments that Kohlberg and other rationalist psychologists have analyzed are often no more than *post hoc* rationalizations of intuitive decisions. This would mean that moral reasoning is less relevant to moral action than it seems (Crain, 1985).

Integrating evaluation methodologies with goals of bioethics education

In current assessment of students there is a trend from merely making lists of many examples, or listing the positive and negative sides of an argument towards making students exhibit their reasoning as well. One of the common goals of school education is that students can produce a good argument. Stephen Toulmin's model has become popular in development of students' argumentation skills (Toulmin et al. 1984). An argument consists of integrating the following:

A conclusion or claim – assertions or conclusions about an event or theory

Facts – data that is used as evidence to support the assertion

Warrants – the statement that explains the link between the data and the claims

Backing – underlying assumptions which are often not made explicit

Rebuttals – statements that contradict the data, warrant or backing of an argument

To create an argument a person needs to state their claim, then support it with facts (data) that are arranged logically. For each fact, they should give the evidence for the fact (warrant), and for each warrant, state the quality of its validity (backing). Then for each warrant and its backing, people should think of an opposing point of view (rebuttal). They then consider further possible warrants and backing for the rebuttals. At the end then they review, having argued the rebuttals, do they need to qualify their original claim?

The mental mapping project, or human behaviourome project (Macer, 1992) identified nine classes of ideas, and attempts to explain the linkages between ideas in the construction of moral choices by different persons (Macer, 2002a). The practical applications of that model are yet to reach a stage at which teachers could simply assess the moral development of their students. The Ideas, Evidence and Argument in Science Education (IDEAS) project of Osborne et al. in the UK[4], has as its goal the assistance of teachers in developing their skills to teach about ideas, evidence and argument in science. The materials they wish to develop include worksheets and video clips to enable teachers to teach children to develop and evidence scientific argument. The IDEAS project suggests the following criteria can be used in evaluating students' arguments: Is there a claim? Does the argument have data to support the claim? Does the argument link the data to the claim? Are there further justifications to support the case? Is there any anticipation of a counter argument and how it could be opposed?

Ratcliffe and Grace (2003) outline the knowledge, understanding and skills that students studying ethical issues in science acquire and that can be used to design assessment questions. They listed several different levels of knowledge:

Conceptual knowledge: Learners can demonstrate understanding of: underpinning science concepts and the nature of scientific endeavour; probability and risk; the scope of the issue – personal, local, national, global, political and societal context; and environmental sustainability.

Procedural knowledge: Learners can engage successfully in: processes of opinion forming/ decision making using a partial and possibly biased information base; cost-benefit analysis;

4 http://www.kcl.ac.uk/depsta/education/ideas.html

evidence evaluation including media reporting; and ethical reasoning.

Attitudes and beliefs: Learners can: clarify personal and societal values and ideas of responsibility; and recognize how values and beliefs are brought to bear, alongside other factors, in considering socio-scientific issues.

As with the above examples of questions that Kohlberg used for the linkage of student arguments to moral stages of development, there are a number of ways that could be developed into evaluation tools for assessment of bioethics education.

One of the difficult questions in bioethics education is how to evaluate the usefulness of the materials provided, beyond mere student or teacher satisfaction. One concept that has been used by Macer is whether students demonstrate "bioethical maturity" in some way. "Bioethical maturity assumes a certain level of recognition of weighing up the different arguments that can be used to discuss an issue, the different ethical frameworks that can be used, and comparisons and balancing of the benefits and risks of the dilemmas (Macer, 2002a). This process also gives an indication as to how many different ideas people have, and the way they understand the dilemmas, and is ongoing as part of the behaviourome project (Macer, 2002a; 2004b). Classroom observations, audio and video tape recordings, and written essays and homework done by the students were collected. This feedback is being continually used to modify the texts and accompanying questions and materials for teachers. Another way to assess the usefulness of the materials for developing ethical principles in making ethical decisions was to look for key words and concepts in the answers students give to oral questions.

Evaluation must be done ethically (Alderson and Morrow, 2003), and there are a variety of methods in research which can be applied for evaluation depending on the style of class and purpose (Cohen et al., 2003). It is very important to examine the future direction of bioethics education and how this might enable people to question scientific endeavours and what impact their moral decisions will have on them as individuals and upon their societies. The skills that are required to do this involve the ability to identify existing ideas and beliefs, listen to others, be aware of multiple perspectives, find out relevant information and communicate the findings to others. These skills cannot be "given" to students through a didactic approach to teaching, where the teacher imparts the knowledge. Instead, students need to experience situations that will allow them to develop these skills through interacting with the teacher and with each other. This project allows sharing of cases and experience in a range of cultures as well.

When bioethics is applied to professional behaviour, such as in medical ethics, methods to evaluate have included the way students conduct a patient examination. In Buffalo University Bioethics programme[5] (Singer et al., 1993), they applied the technology of the objective structured clinical examination (OSCE) (Cohen et al., 1991) using standardized patients to the evaluation of bioethics. Methods to evaluate the clinical-ethical abilities of medical students, post-graduate trainees, and practising physicians that have been used include multiple-choice and true/false questions (Howe and Jones, 1984), case write-ups (Siegler et al, 1982; Doyal et al., 1987; Redmon, 1989; Hebert et al., 1990), audio-taped interviews with standardized patients (Miles et al., 1990), and instruments based on Kohlberg's cognitive moral development theory (Self et al., 1989).

The reliability and validity of these methods have seldom been examined. Auvinen et al. (2004) applied the use of Kohlberg's stages of moral development to assess ethics teaching in nursing students in Finland, and they found significantly higher ethical maturity when nurses actually had to deal with ethical dilemmas in their practical training in clinics.

Evaluation Instruments

Previous papers in this volume and in Macer (2004) have presented much of the general results of the project. An attempt at a centralized instrument for recording feedback was made, so that after pilot trials the set of evaluation sheets that appear in the initial pages of *A Cross-Cultural Introduction to Bioethics* (Macer, 2006; pp. vii-xvii), were developed. There was a balance in the development of specific

5 http://wings.buffalo.edu/faculty/research/bioethics/eval.html

evaluation forms for student and teacher responses to chapters and the textbook or course between examination of the way that the thinking progressed and the privacy of the respondents. A comparison of the questions in the form with the goals of bioethics is presented in Table 1.

Table 1: Examination of indicators that correspond to the goals of bioethics in instruments

Goals	Teacher Chapter Questions	Student Chapter Questions	Report Coding Categories
1) Increasing respect for life	Indirectly	Indirectly	Overall conclusions
2) Balancing benefits and risks of Science and Technology	Indirectly	Indirectly	Both Sides of View
3) Understanding better the diversity of views of different persons	Q7 The chapter was helpful in provoking meaningful discussion in the class; Q12. Was there any content and/or questions that are not appropriate for your cultural values and norms?	Q5. The chapter was helpful in provoking meaningful discussion in the class. Q10. Were there any contents and/ or questions that are not appropriate for your cultural values and norms? Q15. The ethical concepts were learned through a series of discussions more than the teacher's lecture.	Personal opinion versus Others Both Sides of View
4) Understanding the breadth of questions that are posed by advanced science and technology	Q2. What key words were repeated throughout the discussion among the students?	Q2. What key words were repeated throughout the discussion?	Number of Ideas Both Sides of View Utilitarian Views Environmental/ Biocentric Views
5) Being able to integrate the use of scientific facts and ethical principles and argumentation in discussing cases involving moral dilemmas	Q9. The questions in the chapter are helpful to guide meaningful thinking and further study/ research on the topic.	Q7. The questions in the chapter are helpful to guide meaningful thinking and further study/research on the topic. Q13. The teacher welcomed questions/ comments.	Scientific Facts Quantitative Facts Principles & Keywords Rights Utilitarian Views
6) Being able to take different viewpoints such as biocentric and ecocentric perspectives.	Indirectly	Indirectly	Environmental/ Biocentric Views

The raw data was input into Excel tables for analysis as it included both multiple choice question responses and text strings. The results show that the students were very positive to the materials and topics. Significant numbers wanted to have longer to discuss the materials and topics, though in these trials the class times varied. The results show that the students were very positive to the materials and topics. Significant numbers wanted to have longer to discuss the materials and topics, though in these trials the class times varied from 50 to 120 minutes. In all classes I gave as pilots (mainly in India, Japan and Thailand) the students felt that they had enjoyed a meaningful discussion. The teachers were

unanimous in judging the materials to be adequate, and strongly agreeing with the utility of chapters. They also wanted more time for the discussion.

The comments given in the response forms were the most useful parts of the form for the whole range of age groups. One open question (Q2) asked students to list keywords, and the students usually wrote three keywords about each chapter, often the title plus a principle that was emphasized during the lecture. The open comments that looked at what the students wrote as having learned through reading the chapter usually elicited a sentence or two. The answers were coded. More often younger students listed more facts in response to this question than older ones, with increasing proportions of students mentioning ethical principles in their comments in the older medical students. Only 12-24% of Indian students gave a comment that illustrated they had learned about both sides of view. If the questionnaire directly asked whether they had learned about different points of view more said so, but still most students focused on the facts or keywords of the chapter in their comments.

One of the concerns in developing cross-cultural materials is whether some contents are not appropriate in a culture. This concern was also raised in Catholic schools that used the first edition of the textbook, though they judged all the contents to be appropriate. The results show that most students and teachers believed that the materials were appropriate, though some further specific materials to issues arising in their local environment and society were called for. One example is the topic of assisted reproductive technology, which was given in a lecture at a girl's senior high school in India, with the approval of the principal and teachers, because it was something considered difficult to teach. The issue of reproduction also was relevant to teenage girls.

Overall, 25 students of 107 (23%) thought that the lecture included materials difficult for their culture, in particular surrogacy. Given the widespread moral condemnation of surrogacy around the world it may be a similar response in other cultures. What is interesting is that in the city, Chennai, there are several surrogacy clinics operating commercially. It would be quite interesting to arrange lectures by the clinicians with students and see their reaction to practical cases, and this was done for University of Madras students in January 2006, with much interest shown by the students. The chapter does not support surrogacy or condemn it, taking a neutral view, thus we would expect a greater disagreement if the materials promoted only one side of an argument.

Evaluation and networking

Forums where educators and researchers can discuss and improve the content of the textbook and materials, and discuss evaluation methodology were held in several countries in order to examine the types of meetings that can provide useful feedback in material development. These proved to be important because they seem to be better opportunities to obtain detailed feedback by the educators and researchers conducting bioethics education than using forms or reports.

The largest and most international of these meetings was held in September 2005 in Bangkok during the First UNESCO Bangkok Bioethics Roundtable. During that meeting the question of evaluation was discussed. If bioethics becomes compulsory, should it have an exam? If yes, then should there be a question book? Will an exercise book be produced? Despite a common idea that exists on the ground in many Asian countries, to teach ethics with evaluation via multiple choice questions is opposed to the spirit of this project. Evaluation can still be done by writing essays, reports and oral interviews. Text analysis of the reports for keywords was undertaken, extending categorisation methods that have been developed (Maekawa and Macer, 2005), and the results are described in an accompanying paper (Macer et al., 2008). However, the real results are in the value systems and decision making processes that are established in the students.

The common evaluation methods described included client participation, tests, essays, reports and surveys. Lindsey Connor described the situation in schools in New Zealand. They have a lot of environmental programmes. There are two systems for evaluation, one informal and one formal system. The informal system includes discussions, teacher questionnaires, and students working together and designing their own questionnaires, designing interviews they might do in the community. Sometimes they develop pamphlets and posters. It is not part of an exam though. In the formal system, there might

be questions and a test or they may be assessed formally through assignment work. Sixteen to 17 and 18 year old senior biology students are assessed by essays. There is a shift from central examinations to the assessment being done by the teacher. Some are moderator checked at other levels by external examiners. There are no marks out of 100. It's all about what students have shown that they can do. The assessment is very different, it is graded on what they can do. They can achieve merit or distinction, there are no numbers involved.

The standards are very clearly described in curriculum documents, there are four broad levels so the teachers have examples of what a merit or excellence might include. There are examples of those assessments on a national level with science so that both students and teachers can go and see examples of what levels of criteria might be. This aspect is new in New Zealand; it just came in 2004. When asked what might be defined as "underachieved", Connor answered that it depends on the standards, there are 24 credits for each subject. So each standard, depending on the subject is divided up differently. Some standards are worth three credits, some are worth five credits. Some standards target practical work, some standards targets target recall of knowledge and some standards target bioethics etc. It's very different depending on the standard. Teachers and students can go to the website for references. For tertiary level, New Zealand has both informal and formal assessment methods at university. Informal assessment is about participation and the contribution to group work, which is not documented but assessed by the educator at the time. Formal assessment is still by essay.

Michael Anjello Jothi Rajan from rural India said when the first text book on bioethics education was introduced, it was handled by management as the textbook for values education. In the class of 650 students the evaluation was done by questionnaires including both open-ended and closed-ended questions.

Qui Renzong from China noted there is an important issue of how to evaluate the bioethics teaching. In his opinion, there are two aspects of the evaluation. One, how much knowledge do they learn after class or in the course? Second, have they learnt and what is their capacity for ethical argumentation? What is their capacity for solving ethical issues in practice? The first part is easy, but also they are just like the written method of exam assessment. But how do you know the students haven't just taken the answers from the textbook? Around 300 students attended his class on bioethics. Later, he asked them to analyse. After class, we provided the same questions so that we can compare what they have learned at the end of the class to what they knew at the beginning of the class. There are many aspects of varied education. Most of them use written works. They use the case-studies. The ethical argument is second using the written paper. How do you know if they are using the ethical arguments? Xiaomei Zhai noted that the syllabus is totally different.

We have to focus on capacity building. We have a different goal, a different method, a different assessment. For medical students, the first part is after university after they have finished the very basic phase of general knowledge. During the second stage, after they have practiced at hospital then we focus on case-studies for the assessment, etc. Usually we just focus on those practical issues. What is the purpose for you attending these courses? Then we can modify and revise our course. After the courses we have another questionnaire about that.

For training of ethics review committee members, they can be given a mock review, for example. Xiaomei Zhai from China noted that in almost every course for IRB members, we have at least two group exercises and one is a mock ethics review. And then all the participants are able to analyse it. During the mock review usually there is a very hot debate on this. All the participants have to call upon their ability. Yanguang Wang said that when she teaches post-graduate training, some physician doctors learn bioethics. Even if they did not have bioethics courses, they can ask: "Try to find out what is a bioethical question?" They get the students to work in hospitals and submit this survey form. The question is to ask whether the student really knows what and how to deal with this.

Daphne Furtado from India said that there was no formal assessment but at the end of the last year just before medical students become interns, they are supposed to write a paper. It can be on any subject. Then they compete for an ethics prize. Very often it is someone who has more capacity for language or someone who has read more, rather than capacity building for ethical practices.

Teachers from Affiliated High School to Beijing Normal University said that China is one of the first countries to consider the trials and they have two evaluation systems in the country. Classes in the middle school attached to Beijing Normal University, Xuanwu District, in Beijing, required students to write three articles, either in English or in Chinese. Grades are based on their participation in the lectures and the quality of writing. The teachers analyzed their results and improved the performance. There is a second evaluation system of the course, mainly done by questionnaires and surveys.

To extend these meetings there were also comments circulated on the yahoo group's "listserve"[6], which will continue as a method to circulate news on the project. Although the chapters were tested in several different countries, there was little correspondence through the yahoo group's <Bioethics_for_students@yahoogroups.com> and <Bioethicseducation@yahoogroups.com>. There was direct correspondence between some teachers, but the bulk of discourse occurred during special events held to discuss the project. There was also a value in smaller meetings of about a dozen experts that can bring together comments focused on particular themes in free discussion. National-level meetings that focus on correlation to particular national systems of evaluation can also be very useful in mapping linkages for formal assessment criteria that can be integrated into the examination systems that each country, or school system, uses. Because investigating bioethical issues is complex, the educators need to consider what knowledge needs to be developed in order for students to make sense of moral issues, to be able to critically evaluate them and to possibly take action based on this knowledge.

A growing number of people, involved in trials and meetings, eventually developed into the International Bioethics Education Network, which was first founded in Tsukuba in 2004. This network has since met every year as one subgroup within the UNESCO Asia-Pacific School of Ethics. The emerging International Bioethics Education Network was adopted as part of the ethics network from UNESCO Bangkok as the UN started to pay more attention to the regional needs for bioethics education.

As the project expands to more countries and more classes, the budgetary constraints will need to be overcome. The fundamental extent of the project will depend on those factors, and gathering teacher enthusiasm, which was generated through three years of funding under SPF.

Conclusions

This international and cross-cultural project has expanded our understanding of the range of goals of bioethics. We do not need to achieve all goals to consider a class to be successful, and different teachers and schools put a different amount of emphasis on each goal. What is important at all these levels is how to evaluate whether our teaching is having any impact or not. Because investigating bioethical issues is complex, the educators need to consider what knowledge needs to be developed in order for students to make sense of moral issues, to be able to critically evaluate them and to possibly take action based on this knowledge. Knowledge in this sense includes: Knowledge of the science/technology content; knowledge of reflective processes (individual views); exploration of morals/values (values clarification); knowledge about bias and how to detect it (values analysis); knowledge about political agendas, for example (Conner, 2005). Sadler and Zeidler (2005) showed that tertiary students frequently rely on combinations of rationalistic, emotive and intuitive knowledge as they worked to resolve scenarios about genetic engineering. Persons at all levels do mix ideas in different ways (Macer, 1999b; 2002a) and this was shown in the evaluation report that is an output of this project.

Evaluation reports (completed student and teacher feedback forms, and also student reports) continue to be gathered to revise the materials in an ongoing process. The evaluation tool included in the textbook is workable and has gained useful comments from students and teachers, however most teachers are too busy to fill in any evaluation form unless some extra incentive is given. There is still a need for analysis of reports and discourse in order to gain a greater impression of how student values changed, and a suggested coding frame is made. It can be extended case-by-case to add new keywords and concepts which are important for the specific research goals of the evaluation, as well as topic-specific goals.

6 Bioethicseducation@yahoogroups.com

Pre and post questionnaire surveys about specific topics relating to the content of the lecture or teaching intervention (Maekawa and Macer, 2004) can be useful to measure change, however, in my opinion, report and discourse analysis provided a more reliable judgment because the object is to see the use of ethical principles and moral reasoning all the time. The object is not to just write tests for students.

There are several different ways to assess learning in bioethics. Different teachers have overlapping priorities and these are consistent with the results of surveys of teachers a decade ago (Macer et al., 1996). There needs to be assessment methods to map these different goals, including: how to demonstrate increased respect for life; how to balance benefits and risks of scientific technology; how to balance different perspectives, scientific data and ethical values; to get students to acknowledge individual, cultural and political influences over societal policy making, as well as upon their own moral choices.

A mix of qualitative and quantitative methodology can help in the monitoring of bioethical maturity, but there is more to gain from qualitative discourse analysis. Pre and post questionnaire surveys about specific topics relating to the content of the lecture or teaching intervention (Maekawa and Macer, 2004) can be useful to measure change, however, in my opinion, report and discourse analysis provide a more reliable judgment because the object is to see the use of ethical principles and moral reasoning all the time.

The project exposed many teachers and students to the concepts and practice of bioethics education. The increased motivation in a number of teachers to develop their own materials and class strategies for teaching bioethics is the grounds upon which future expansion can be expected. The expansion of the topics and themes in the second compiled resource book (Macer, 2006) called *A Cross-Cultural Introduction to Bioethics,* was the result of an ongoing evaluation process that educators wished for more broad coverage and access to materials beyond high technology issues.

This was an outcome of the First UNESCO Bangkok Bioethics Roundtable. A discussion from that meeting is also available (Macer, 2005). In this sense the project helped expand the boundaries of bioethics internationally. That book and some translations of materials in the book in several languages, including Bahasi Indonesian, Chinese, Japanese, Khmer, Korean, Spanish, Tamil, Thai, Urdu, and Vietnamese are available through the website. An on-line living bioethics dictionary is also a useful resource (Macer, 2002b). Materials to teach bioethics are becoming more accessible as more languages and subjects are added, and these are being widely distributed with the textbook. The teachers resources and notes on the web are being developed further, along with internet links which allow students who wish to write projects on these themes to extend their knowledge (such as postgraduate students in countries where reports form an integral part of the assessment). Improvements were made to the UNESCO/IUBS/Eubios Bioethics Dictionary (Macer, 2002b), which is on-line to extend and cross-link definitions, as another resource which teachers can download and use (in MS Word and html formats).

There have been other books produced as teaching resources which provide materials for teachers and students, e.g. Levinson and Reiss (2003), but they cannot be accessed for free, making these resources difficult to use in developing countries. One of the positive points expressed over this project's text/resource book was that the science is also up-to-date, compared to textbooks used for teaching science in even a rich private school in the Philippines, which were ten years out of date. One of the key objectives is to provide up-to-date information breaking down the information divide so that the facts used in the construction of moral arguments are current scientific knowledge. This is also attractive to learners.

Approaches are also now being made at the policy level through UNESCO to help complement the grass roots initiative in this project to produce materials. The position of UNESCO Bangkok, as the Regional Bureau for Education in the Asia-Pacific Region, with access to curriculum policy makers at the governmental level, means that the project can continue with input from the top level down.

In addition, access to experts in the development of education will aid the necessary process of adaptation of materials that have been gathered to the specific needs of each curriculum. The approach will not attempt to interfere with the syllabuses and curricula decided by educational authorities, but the intention is that the materials will augment existing curriculum delivery. In a number of countries, the curriculum documents state the general goals of educating students to better face the ethical and social issues relating to the use of science and technology, but lack practical measures to implement

these ideals. As part of the increased attention given to bioethics education, we can expect to also see other resources being placed on the Internet for teaching about these issues. There is a need for more freely available resources to be placed on the Internet in multiple languages, suitable for a range of levels, school systems (and informal education) and countries. At some stage in the future it may be useful to have some symbol of accuracy and neutrality of the information, because there is already a range of materials on the Internet that are presenting a distorted view of information.

Teachers from all countries continue to express a need for supplementary teaching materials, and these are being deposited online for free download. Depending on the country these include overhead transparencies, PowerPoint files, DVDs or video tapes, drama scripts and museum displays. In additional movie guides for teaching bioethics from movies are being added to the online resources.

As part of a participatory method of education it is suggested that students in future pilot trials from different cultures produce media resources, including power point presentations, posters, games, films, puzzles, etc., that can then be shared between cultures and schools. Rather than having outside persons make resources, the student-created resources have been found to be very useful. Examples of such materials from trials in different countries here suggest it is feasible, and will motivate students and teachers. It will lead to learning among those who create the resources, as well as sharing knowledge between cultures.

There are several different ways to assess learning in bioethics. There needs to be assessment methods to map these different goals, including: how to demonstrate increased respect for life; how to balance benefits and risks of scientific technology; how to balance different perspectives, scientific data and ethical values; to get students to acknowledge individual, cultural and political influences over societal policy making, as well as upon their own moral choices. A mix of qualitative and quantitative methodology can help in the monitoring of bioethical maturity, but there is more to gain from qualitative discourse analysis.

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Content analysis of bioethics reports*

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Introduction

This paper presents the results of text analysis of reports about bioethics topics using keywords. The research was undertaken to examine the results of the "Bioethics Education for Informed Citizens Across Cultures Project" (Macer, 2004a), extending categorisation methods that have been developed to look at the content of discourse (e.g. Maekawa, 2002; Maekawa and Macer, 2005).

For analysis of both "personal moral development" and making time trend analysis through "thematic comparisons over time", summary data tables are presented below to visualise the trends and ideas of each selected report. The analysis used the following evaluation criteria in order to analyse each report from different perspectives. The abbreviations used for the coding categories are below:

Both Sides of View (BV): More than one side of an argument or a question being mentioned. Sometimes the views were not clearly stated in individual sentences so the judgment of the report containing a BV or not had to be made after the full evaluation of the report.

Personal vs. Other Persons' Views (PO): The writer's point of view (e.g., an "I think" statement) plus other people's point of views being stated regardless of whether they concurred with those of the writer or not. Views/feelings of non-humans were not included in this category.

Scientific Facts (SF): A concrete and/or detailed scientific fact more intellectually demanding than common sense or the broad theme of the report. Generally this was not merely the citation of sentences from reference material(s).

Quantitative Facts (QF): The use of statistics and/or numbers in a factual manner.

Environment and Biocentric Ideas (EB): A statement made mentioning concerns for the environment or ecological concerns, or for example the care or treatment of animals raised as a concern. Generally people tend to reason and write from an anthropocentric viewpoint.

Utilitarian Views (UV): A utilitarian view is judging an act as being morally acceptable based on the opinion that the benefits of the action to one group or individual will outweigh the risks or harm produced affecting a larger population. It also considers the balance of society versus individuals.

Principles and Keywords (PK): A keyword denoting an ethical principle or connotation of one regardless of whether being directly stated or not. If only the term "rights" was mentioned, it was marked as "R" and not "PK". Keywords included specific bioethics principles and keywords such as benefit and risk assessment, informed consent, enhancement, public welfare, autonomy, justice, equality of life, animal welfare etc.

Rights (R): Clear mention of a right or a connotation of a right. This was limited to the rights of human beings. "R" is a specialised category of "PK".

Number of Ideas (NI): An idea is a distinct message unit, statement or concept that may be from the materials or from the writer's own thinking. Key words and concepts were numbered when going through the reports and the same idea when repeated was not scored twice.

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Main Idea (MI): The selection of a main idea was based on the main themes of the argument. It is related to the causal relationship between two or more ideas. Often the sentence answering the topic question was chosen as the main idea.

Example comments below give some explanation of the coding:

> "Animals are life as we are. I think all life should be allowed to live. So I think that they have a right to live."(R)
>
> "I thought my knowing was worth dissecting without consciousness." (UV)
>
> "We have legal rights (R) which shield us from unjust things. Instead of it, we have to fulfil duties."(PK)
>
> "I don't agree to give animals legal rights. (R) But I think that we should not kill animals uselessly (BV) and it is important we protect the environment." (EB)
>
> "All cells of transgenic animals have injected genes. Injected genes can be expressed in specific tissues with proper promoters." (SF)
>
> "I do not want to use animal tests for the safety of cosmetics, but some other people think that it is better to have everything tested on animals." (PO)

The first quotation mentions rights, which can vary in other reports such as the right to choose, right to information, and the right to death, just to mention a few. The second quotation mentions utilitarian views. Other utilitarian views include comments such as "If it can cure many people, animal experiments are inevitable" or "For the progress of science there are always some sacrifice." The third quotation is an example of a specific bioethics principle and keyword, "duty". The next example shows both sides of view where this person disagrees to give legal rights to animals, but considers unnecessary killing. Also the importance of environmental protection is mentioned for animals to be able to live in their natural habitat, which is a rare case. The next example shows some scientific background, SF. The last example takes the position of the animal that is being experimented. Other possible position may be that of the scientist, or of persons deeply against animal testing, but the key point is comparing their own opinion with others. In order to verify coding, the reports were discussed among three primary coders with the author checking the codes of the tables.

The above codes were written at the appropriate places in the report upon reading and then tallied. The raw data that was used to validate the coding system were reports in English made by students attending classes of Darryl Macer at the University of Tsukuba, Japan. This standardises for the range of students, culture and teacher, which are all potential variables on the type of reports that were given. Such factors need to be taken into account when comparing results between institutions.

There was still variation in these factors among the reports being analysed, as noted in the classes used as samples. The common ideas and thoughts expressed in student reports can also be compared with the teaching materials used, and there is an existing analysis made by Maekawa (2002) of a number of reports in the classes from 1990-2001. The comments in all discourse were discussed anonymously to respect privacy. Both thematic comparisons in the same classes and personal moral development over the course of lectures (and in some cases over several years) were made.

Table 1: Summary of student and keywords to follow personal trends (%) (Results of analysis and evaluation of reports from trials in 2004 at the University of Tsukuba)

Code	432	431	429	428	427	426	425	424	423	422	421	420	419	418	417	416	415	414	413	412	411	410	409	408	407	406	405	404	403	402	401
Classes	50	15	30	30	30	30	30	40	30	40	40	30	30	40	30	30	40	40	30	30	30	30	30	30	30	30	30	30	30	40	40
Number of Reports	10	3	10	10	9	10	9	12	9	12	12	8	8	10	9	5	10	12	7	9	6	9	10	10	8	10	6	6	9	12	13
Both sides of view	60	0	80	40	89	60	78	67	78	58	67	63	50	60	78	40	50	50	71	78	50	78	30	50	75	50	50	50	100	50	38
Personal versus Others	40	33	50	20	11	10	45	50	22	17	17	25	13	30	17	20	50	9	43	11	0	11	30	20	13	10	33	50	67	17	38
Scientific Fact	20	0	0	40	0	10	0	17	33	17	17	25	38	0	0	0	10	17	29	33	17	33	10	0	13	10	17	0	0	25	15
Environment / Biocentric	50	0	40	20	22	10	33	17	22	25	17	38	25	10	33	20	30	33	29	33	17	11	30	0	13	40	50	0	22	25	23
Utilitarian	20	0	40	50	56	30	45	33	22	25	33	50	13	70	33	40	30	58	29	11	17	33	40	10	13	40	17	17	67	58	54
Rights	40	33	20	30	44	30	11	33	22	17	25	13	50	30	11	20	10	50	29	22	17	22	10	30	13	10	33	17	33	9	31
Principles / keywords	20	0	30	30	22	20	22	17	45	17	42	25	50	0	11	20	40	9	14	33	0	33	30	20	25	10	33	17	33	9	23
Quantitative facts	10	0	0	0	0	0	0	0	11	0	0	0	25	0	0	0	0	9	0	22	0	0	0	0	0	10	0	0	11	0	8
Gender	f	f	m	m	m	f	m	f	m	f	m	m	f	m	m	f	m	m	m	f	f	f	m	m	m	f	m	m	f	f	m

Table 2 (part 1): Summary of student and keywords to follow personal trends (%) (Results of analysis and evaluation of reports from trials in 2003 at the University of Tsukuba)

Code	326	325	324	323	322	321	320	319	318	317	316	315	314	313	312	311	310	309	308	307	306	305	304	303	302	301
Classes	30	30	30	30	30	30	30	30	30	30	40	30	30	30	30	30	30	40	30	30	30	30	30	30	40	30
Number of Reports	9	6	10	3	5	5	6	6	3	6	8	5	6	4	5	4	6	9	3	5	3	6	6	5	8	4
Both sides of view	89	50	100	67	80	40	100	33	33	67	63	80	50	0	100	50	83	56	67	80	67	0	67	80	75	50
Personal versus Others	0	0	20	33	20	20	0	0	33	17	13	20	0	0	20	0	0	33	0	20	0	0	17	20	0	0
Scientific Fact	11	17	20	0	20	40	17	17	0	0	50	40	17	25	20	50	17	23	33	0	0	17	33	0	13	0
Environment / Biocentric	11	0	20	0	20	20	0	17	0	17	13	0	17	0	20	0	0	0	33	0	0	17	0	20	13	0
Utilitarian	33	17	30	0	20	0	17	33	33	0	63	20	0	0	40	0	33	11	33	0	33	0	17	20	38	25
Rights	0	17	30	33	40	0	17	17	33	0	25	0	17	25	0	0	0	56	67	20	0	17	33	0	0	25
Principles / keywords	11	17	20	0	0	0	17	0	33	17	13	20	0	25	0	0	17	22	67	20	0	50	0	0	38	0
Quantitative facts	11	0	0	0	0	20	17	0	33	0	13	0	0	25	40	0	17	0	33	0	0	33	0	0	0	25
Gender	f	f	f	f	f	m	f	m	f	m	f	m	m	f	f	f	f	f	f	m	f	f	m	f	m	m

Table 2 (part 2): Summary of student and keywords to follow personal trends (%) (Results of analysis and evaluation of reports from trials in 2003 at the University of Tsukuba)

Code	339	338	337	336	335	334	333	332	331	330	329	328	327
Classes	10	10	20	20	10	10	30	30	30	30	50	30	30
Number of Reports	3	2	5	6	3	3	6	12	9	6	12	4	6
Both sides of view	67	50	80	17	100	100	50	83	22	67	67	50	67
Personal versus Others	0	50	0	0	33	67	0	33	22	0	33	25	17
Scientific Fact	0	50	20	0	0	0	0	42	33	33	0	25	0
Environment / Biocentric	0	0	0	0	33	33	0	33	11	0	8	25	17
Utilitarian	67	0	40	50	67	33	17	42	11	17	25	50	17
Rights	33	50	40	50	33	33	17	33	33	0	8	0	17
Principles /keywords	0	100	20	33	33	33	33	9	33	0	16	0	17
Quantitative facts	0	0	0	0	0	0	0	42	33	0	8	25	17
Gender	m	f	f	f	f	f	f	f	f	f	m	m	f

Table 3: Summary of keyword frequency in different class reports (%) (Results of analysis and evaluation of reports from trials, in 2003-2004, at the University of Tsukuba)

Coding: N= Number of reports; D=second year students; R=third year students; B=bioethics class (mixed); BG=Bioethics and Genes (mixed); EE=Masters' level Environmental Ethics class. Reports in series over time by last number, 1,2,3 etc.

Code	Report title	N	BV	PO	SF	EB	UV	R	PK	QF	Average ideas	Coder
4D1	Gene therapy	17	82	29	35	0	0	35	82	12	18	1
4D2	Cosmetic tests in animals	15	53	14	53	67	53	33	7	14	10	2
4D3	Intrinsic/extrinsic animal ethics	14	100	29	0	86	86	0	79	0	31	?
3D1	Genetic test results	17	94	48	12	0	48	94	0	0	18	3
3D2	Truth telling	18	78	17	0	0	6	6	0	0	28	1
3D3	SARS quarantine for students	20	15	40	35	0	90	35	60	5	17	2
4R1	What are values	25	0	80	0	12	24	4	12	0	27	3
4R2A	Examples of cruelty	12	25	9	17	50	17	25	25	9	14	2
4R2B	Animal experiments done	18	33	28	11	78	94	6	61	0	16	2
4R3	Gene therapy	30	67	20	30	17	77	3	30	3	15	1
4R4	Whale Rider movie	23	87	13	0	8	13	9	26	4	25	1
4R5	Fertility and lifestyle	26	73	27	15	0	0	88	8	12	23	3
4R6	Restrictions on donor insemination	26	62	15	0	0	8	31	8	0	16	3
4R7	Thanking organ donors	25	56	28	0	0	40	4	20	0	17	2
4R8	Frankenstein	27	78	7	15	33	52	48	63	0	12	2
4R9	Ethics of GMOs	25	80	54	24	76	44	16	16	12	19	2,3
4R10	Genetic privacy	24	67	17	21	29	17	4	9	0	30	1
3R2A	Risks of genetic testing	14	71	7	14	0	0	0	0	14	21	3
3R2B	Sister tests positive for BRCA1	18	39	0	22	0	0	0	0	11	21	3
3R4	What affects fertility	30	67	3	47	7	10	0	7	10	15	1
3R5	Government funding fertility treatment	28	29	4	4	4	43	21	0	18	20	3
3R6	Differences inheritable and non-inheritable gene therapy	29	83	14	14	0	10	14	3	0	19	3
3R8	Testing cosmetic safety	24	88	42	13	33	33	25	54	13	31	1
3R9	Euthanasia	23	48	0	0	0	0	24	4	9	22	3
4B1	Would you eat a talking cow?	6	100	17	33	100	33	17	67	0	12	2
4B2	Living will	10	50	0	0	0	20	10	10	0	41	1
4B3	Use of brain tissue from a 12 week old aborted foetus	10	60	10	10	10	20	20	80	0	25	3
4BG1	GM food for world hunger	22	73	9	14	41	9	0	9	14	24	?
4BG2	Cloning	22	45	23	45	9	27	23	32	0	19	2
4BG3	Gene therapy conditions	21	95	0	10	0	5	10	33	5	23	3
3B1	Humanised chimpanzee	12	58	33	8	16	16	58	100	0	41	1
3B2	How to use my last week	11	0	9	0	0	56	0	0	0	24	3
3B3	Ecotourism	9	0	0	0	100	0	0	0	11	25	3

3B4	Organs from a prisoner	11	45	64	18	36	64	91	9	0	17	2
3BG1	Ethics of GMOs	11	91	18	9	82	73	0	55	0	21	3
3BG2	Good and Bad Genes	11	100	9	64	27	27	0	9	0	28	2
3BG3	Cloning images after movies	10	0	0	0	10	0	30	0	0	8	3
3BG4	Teachers clone good students	10	100	50	30	30	90	30	40	0	16	2
2B1	Why I don't eat humans	12	67	17	8	25	25	25	58	0	31	1
2B2	Choosing kidney recipient	11	82	54	27	0	36	27	63	18	24	2
2B3	Cloning class debate	13	85	31	38	23	31	54	38	0	19	2
2BG1	Should we use GM plants?	25	76	8	44	48	52	0	32	20	24	3
2BG2	Donate DNA to a gene bank	27	81	8	0	8	33	19	11	8	18	3
2BG3	Abortion of handicapped foetus	29	59	45	42	0	52	62	59	6	22	2
4EE1	What I can do for env. ethics from my relation to nature	15	0	7	13	13	93	7	20	73	32	3
4EE2	Why I would not eat a dog	17	94	16	5	100	47	5	0	16	35	3
3EE1	Ecotourism	13	0	0	0	69	0	0	0	38	38	3
3EE2	Ethics of transportation choices	11	82	2	72	100	46	27	64	45	31	2
3EE3	Environment/ Holidays question	17	0	0	0	100	0	0	6	6	23	3
2EE1	Bioethics principles guide international policy	14	64	14	7	50	20	43	71	29	80	1
2EE2	Should we give great apes equal rights to human beings?	16	100	31	19	44	50	100	56	25	79	1

Results

In these pilot studies there was some examination of the reliability of coding and variations relating to factors including user of the coding frame, topic, ability and age of students. The most significant predictor of the student response to a given topic in a report was the student themselves. In other words students who had scored positive on each of these indices for one code were more likely to score positive in a future report, even one year later, and the contrary also held true for those starting out negative for the keywords. What is interesting is the few cases where scoring of students for some indicators of bioethical education improved over time, for example, some students did increase the frequency of giving both sides of view, or of mentioning environmental or biocentric thinking. These changes could be reinforced by the teacher, and in fact these trials suggest that without such positive feedback the students will not change their report writing.

This tendency not to increase the frequency of scoring positive for bioethical indicators in reports is despite an increase in oral discussion through the classes of the students' ability, commonly found in all students. This also means that in oral tests of critical thinking students would score higher after the classes, but in their reports it was difficult to see unless a more complex discourse analysis was used to examine the main ideas of the reports and the degree of argumentation used. As an evaluation methodology it appears that the best for reports is a total textual analysis of the types of argumentation used, following the case of Kohlberg given above.

Changes in the frequency of keywords and concepts need to be measured against several variables,

including internal factors connected to the class such as the wording of the title, the nature of the materials used, the comments given by the teacher, and the comments made during the class. For reports in the classes analysed here, the students must discuss and question others' opinions, and for analysis of class discourse there was audio recording of classes and debates. Text analysis of the reports for keywords using the above methods can be conducted and then discourse in the class compared. Trials of the textbook as a whole and all chapters were conducted over several years, and the results will be assembled in the future.

One of the observations of this report analysis is that utilitarian views appear to be more person-specific rather than varying with the topic, more clearly than other keywords. Gender trends were examined. There may be a trend that students who took bioethics classes use more principles and keywords, however, it is not clear if this is because of the bias of students choosing the subject or the styles of teaching and class content. Table 1 includes a student code number for analysis, the number of classes they had attended (75 minutes each), the number of reports analysed from that student, then the percentage of reports that included the items under the coding system.

There were found to be more topical trends in the use of keywords as shown in Table 3. Some are obvious, for example, we would expect students to mention the environment or have a biocentric view if the report was about animals or the environment, than not. A report specifically with rights in the title may make the student use the term rights rather than general principles like autonomy. It is important to modify keywords for specific research purposes and essays, extending this list. This initial keyword analysis will short cut a full qualitative analysis, and allow for greater ease in making cross-cultural comparisons between languages. Still a list of example sentences for each coding point in each language would need to be made to ensure that the persons coding have the same standard.

The reports written by Master's students in environmental ethics (EE) generally have a greater number of ideas, which is partly related to the generally longer length, but also due to the older age of the students. However, still the frequency of keywords seems to be related more to the topic than any other factor. The greater maturity in terms of experience and age did not correlate strongly with a greater use of keywords, except for the higher frequency of eco-centric viewpoints.

There is some comparison made of three coders (persons who did the initial report coding) for the reports in Table 3. This means that checking and discussion amongst coders is needed, and experience. In general, coder 1 scored a greater number of ideas, although attempts were made for standardisation of coding and for checking of initial coding.

A further possible step in confirming the results from the analysis of the reports is to examine the tape recordings of class discourse to see how students initially discussed these topics and then later after being explained more bioethical principles relating to the analysis of the topics, that they then modified their argumentation.

What has become apparent from the analysis of student trends and total class trends is that the greatest factor in the use of keywords is not time, rather it is more dependent upon the person, the topic, the report title, and the materials used. Therefore to examine the progress of moral development requires more detailed discourse analysis of the report, or an oral interview.

Discussion

There were also extrinsic factors such as news stories at the time of the report. A commonly used source of material in many schools is newspaper articles and cuttings. Teachers would sometimes take two opposing articles and have the students discuss them. For many years prior to the development of the textbook, I used short articles from scientific journals, such as the *New Scientist* or "News and Views" from the journal *Nature*, to have the most current scientific debates as a starting point for discussion.

There are also cultural values and family values that affect the reports, as well as the total educational curriculum. Students may introduce ideas from many other sources. Despite the popular belief that movies do change ethical attitudes, very few students cited movies in reports. However, when students were asked to write about movies they all mentioned many movies that had bioethical/ethical issues

related to science and technology. From the reports, it seems that the integration of concepts they had seen in movies into class reports was uncommon – perhaps mentally they had distanced these. It will be an interesting research question to see how the earlier introduction of movies about ethical issues into the teaching course will open up sources in the integration of values from movies into academic lessons.

This study does not give conclusive evidence that the process of Kohlberg's stages of development is useful in this context. Moreover, the goals of bioethics education are not usually construed to follow the ideas that Kohlberg described, thus the evaluation tools that were developed did not follow that model of moral development. Educators of bioethics are looking for the types of categories explored by these keywords, and careful choice of topic and material can effect change in the outputs learners make. Whether that leads to lasting value change is not known, however the comments to both the questionnaires and the comments students give back at the end of the lecture series in different countries have been positive.

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Teaching Compassion*

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What people desire from medical professionals

It is widely accepted that there are two things patients want from medical professionals: Competence and compassion. Every patient hopes that doctors, nurses and others involved in the treatment of his illness can perform their works properly, and hopefully, superbly. Moreover, confronted with unexpected or serious (from a personal point of view, and not necessarily medically) medical problems, they will find kind words or compassionate acts from medical providers very encouraging and helpful. Hence medical education aims to teach not only high skills in medical practice, but also to foster compassionate and sympathetic attitudes in future medical professionals.

But there is a difference between these two goals. Competence may be measured more or less objectively. For instance, a doctor's ability to diagnose disease, to prescribe proper medication for that problem and so on can be measured by the outcomes. Due to the ever-increasing complexities in medical settings, it has become more and more difficult to realise high competence in future medical professionals. However, at least the goal is clear.

On the other hand, compassion is an elusive goal. Whether an act is seen as compassionate or not depends on the context. However hard one tries to be kind to others, the intention does not automatically translate into appreciation, explicit or implicit, of kindness by them. There is no such thing as objectively compassionate behaviour or objectively kind words. Compassion or kindness is an evaluative judgment, made by the other partner in the interaction, and therefore influenced by the nature of the interaction as well as the mental states of the other partner. Herein lies the difficulty of teaching compassion in the formal curriculum of medical education.

Cultivation of compassionate attitudes

There could be two ways to teach compassionate attitudes in medical education. One is what I would call the general approach, and the other the specific approach. The former concentrates on character building, while the latter uses the case method, showing what acts or words are seen as compassionate in each particular situation.

The general approach aims to teach the students to be virtuous, first and foremost. Since compassion is one of the cardinal virtues, they are expected to become kind and compassionate too, after the successful completion of the educational curriculum.

But one wonders if people can teach others to be virtuous as such, abstractly and without examples. Saying simply: "be virtuous" will not produce any effect. We may recall that even the German philosopher, Kant, who emphasised the purity of motive in morality above all, proposes, when it comes to moral education, to start from the students' examinations on whether a particular action is in accordance with the moral law externally, in the section titled "the Methodology of Pure Practical Reason," in his *Critique of Practical Reason* (Kant, 1788). He was well aware that people cannot have pure minds, free from sensual influences, from the very beginning, but have to take steps to purify their minds with the accumulation of particular experiences. This consideration suggests that the general approach is effective only when supplemented with a specific approach.

Furthermore, there arises another doubt, when we concede that the general approach alone could produce the intended educational result. This approach assumes that once someone becomes virtuous

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and has full knowledge of the circumstances concerned, whatever she does is bound to be virtuous, and, more specifically in this context, also to be kind and compassionate. To many people, this assumption will seem too optimistic. Our everyday experiences tell us that we cannot be wise in our everyday transactions until we have learnt, step-by-step and bit-by-bit, what the world is like. To act properly in this world, purity of motive is not enough. It has to be supplemented by the knowledge of what people are, what they think and what they do. Even if this assumption should ever be applicable to some exceptional few people, it is certainly not the case with the many who hope to become medical providers.

Hence we are led to the second alternative, i.e. a specific approach. This aims to teach how to be kind in each particular situation. That is, the students are supposed to understand each patient's particular situation at each moment, and then to accommodate their behaviour to ever changing mental states of the patient. In educational settings, cases and vignettes, actual or fictional, are often utilised to induce students to think what actions to take in various situations. This method is widely supported, especially by those who stress the role of dialogues in the patient-medical provider relationships, or who present the ideal of shared decision making in the informed consent doctrine

But one worry is that this may be too demanding for them. Doctors and nurses encounter many people every day, most of them being strangers or at least near strangers. Even when they know a patient rather well, like a hospitalised patient, still it is not easy to see what he or she is thinking about or is worried about at that very moment, let alone to see the intensity of the worry.

If medical providers are conscientious, they will take seriously the task, or even the duty, of being compassionate. The enormity of the task will eventually overwhelm them and may lead to some form of burnout on their part. Schneider (1998) puts this point very well:

> If this [kinder care] means assuring patients that doctors and nurses are genuinely motivated by deeply felt concern, that they truly empathize and sympathize with their patients, and that they will manifest those feelings at every turn, the effort is hopeless. Insight and concern are fragile plants, and they wither easily when they must be mustered routinely for every person, however boorish and belligerent, who comes along. (Schneider, 1998, p.220) [*parentheses mine*]

Another problem is that the appreciation of kindness depends on the context, as was pointed out above. It is commonplace to observe that in our everyday life, what we intend to do to others is not necessarily so understood by them. The following example illustrates this point:

> One young lawyer with ovarian cancer told me: "I didn't want to understand about my own cancer; it was too distressing and scary. I didn't want to know the survival statistics or how fast the tumours grow. I had broken up with a boyfriend just before my diagnosis. In trying to be helpful, he came over with a book that was full of this kind of information. I told him, "No, I don't want to read this. He told me he thought it was something I needed to do. And I felt like I wasn't being a good patient." (Gruman, 2007)

At this particular moment, his apparently kind act produced an opposite effect and turned out to be hurtful to her. But it is not unlikely that, if her ex-boyfriend had done the same thing a week later, when she had regained her strength somewhat, she could have been very grateful to his act. She might have said: "I want to know what is going to be done to my body, and this is exactly what I want to know." So the timing may be very important, and we may add, it will be humanly impossible to know in advance exactly when the time is right to do so.

What matters is not only the timing of doing a certain act. Also, what kinds of actions patients consider to be kind and sympathetic is diverse. For instance, the diagnosis and prognosis of a patient's condition is the most basic information medical providers give to her. Sometimes this information has some soothing effect on the patients, sometimes it does not mean anything to them.

Eric Cassell (1985), at the very beginning of *The Healer's Art*, recalls an enigmatic therapeutic effect his explanation of the expected course of change had on a patient with full-blown pulmonary edema (water in the lungs) resulting from a blood clot in her lung.

> "I stood at the bedside feeling impotent, but the old woman's face and her distress pleaded for help. So I began to talk calmly but incessantly, telling her why she had the tightness in her chest and explaining how the water would slowly recede from her lungs, after which her breathing would begin to ease bit by bit and she would gradually feel much better.
>
> To my utter amazement that is precisely what happened. Not only did her fear subside [which would not have surprised me] but the noises in her chest disappeared under my stethoscope, giving objective evidence that the pulmonary edema was, in fact, subsiding. By the time the equipment came, things were already under control and the patient and I felt as though together we had licked the devil." (Casssell, 1985, pp.13-4)

Here Cassell emphasises the therapeutic effect and does not talk in details about how the patient's mental state changed through his talk: he says only "Not only did her fear subside." But undoubtedly, this is because his explanation was perceived to be caring and compassionate by the patient.

But this type of information does not always bring about the expected result. Rather, some other remark, which the speaker would not have anticipated to mean much, might have the same effect.

> "It is often sympathy that people want rather than concrete assistance or advice about how to solve their problem. . . . I observed an elderly white woman hospitalized with a crushed hip. She told her nurse (and everyone who came within hearing range) that she had spent a difficult night. The nurse first responded by arranging the bedding to try to make the patient comfortable, but the woman kept complaining. Next, the nurse offered advice: "If you just eat more and take your medication, you'll feel better." The patient's reaction was to repeat the details of her tortured night. Finally, the nurse said: "I know how you feel." "Thank you for your sympathy," the woman said, and she immediately relaxed her taut muscles, wiped away her frown, and lay back on her pillow to sleep." (Clark, 1997, p.19)

Here the nurse hoped the information about her diagnosis and prognosis would help the patient, but it did not succeed. Probably as a last resort and not hoping for much, simply she said: "I know how you feel." Maybe much to the surprise of the nurse, it calmed the patient's mind.

A caveat. In the above quote, the author contrasts sympathy with concrete assistance or advice. As we noted in the first section, sympathy is a subjective judgment made by the patient, while concrete assistance or advice can be observed by third persons. The phrase "I know how you feel" was perceived to be sympathetic on this occasion, but even in similar circumstances it could have been seen as an old cliché. Or, as in Cassell's case, the latter also could be perceived to be sympathetic.

We have seen two problems involved in the specific approach, though it is widely adopted in medical education. One is that it requires too much from medical providers and it might lead to a burnout. The other is that, however hard one tries to read the patient's mind, there is a limit to the degree one can fathom the nuances of ever changing mental states.

What is involved in the appreciation of compassion?

We have noted at the outset of this essay that the appreciation of compassion by patients depends on the nature of the interaction between patients and medical providers. In order to see more clearly what the nature of the interaction is all about, I would like to look into the arguments put forward by two British philosophers, David Ross and Henry Sidgwick. Though their discussions are not about medical encounters but about morality in general, I will try to show that they offer significant insights into the relationships between patients and medical providers: from Ross, luck as an indispensable ingredient of the appreciation of compassion, and from Sidgwick, patients' perception of compassion is a by-product of some acts by medical providers, since aiming to be kind to patients directly does not necessarily produce the intended result.

Ross is famous for his distinction between *prima facie* duties and actual duties. An actual duty is what we should do morally in a particular situation, while a *prima facie* or conditional duty is what will become an actual duty, if the contemplated act has no other competing significant moral characteristics. Based

on the representative human relations, he enumerates seven *prima facie* duties: 1) fidelity; 2) reparation; 3) gratitude; 4) justice; 5) beneficence; 6) self-improvement, and: 7) non-maleficence. When one act fits with one of the categories and does not conflict with any other, it will be an actual duty in the circumstances. On the other hand, if one act satisfies one category but infringes another, we are faced with a difficult task of discerning what our actual duty really is.

> "Our judgments about our particular duties...are not self-evident. Where a possible act is seen to have two characteristics, in virtue of one of which it is *prima facie* right, and in virtue of the other *prima facie* wrong, we are (I think) well aware that we are not certain whether we ought or ought not to do it; that whether we do it or not, we are taking a moral risk. We come in the long run, after consideration, to think one duty more pressing than the other, but we do not feel certain that it is so." (Ross, 1930, pp.30-1.)

Where two rules conflict with each other, we are at a loss what we should do, and even if we gather more data about the situation and analyse them in more details, feeling closer to the right judgment, there always remains a possibility of making a wrong judgment.

> "And though we do not always recognize that a possible act has two characteristics, and though there may be cases in which it has not, we are never certain that any particular possible act has not, and therefore never certain that it is right, nor certain that it is wrong." (Ross, 1930, p.31.)

There are cases where a contemplated act seems to relate only to one *prima facie* duty. If this is the case, it is straightforwardly the actual duty. But we cannot exclude a possibility that due to the complexity of the human world, the act might indirectly impinge on another prima facie duty.

> "There is therefore much truth in the description of the right act as a fortunate act. If we cannot be certain that it is right, it is our good fortune if the act we do is the right act." (Ross, 1930, p.31.)

Ross's observations on moral duties illuminate the nature of the interaction where some acts are judged to be kind and compassionate. There are many rules of thumb which tell us what to do and say to patients in medical encounters, such that our acts are likely to be appreciated by patients as kind and compassionate. But they are only rules of thumb and there is no guarantee that those acts would be judged to be sympathetic. There is always a risk (like Ross's "moral risk") that those acts do not have any impacts at all, or worse, even hurt the patients' feelings at the particular moment, as we saw in the case of an ovarian cancer patient in the last section. However hard we try to utilise our conventional wisdom to show kindness to patients, our acts would be judged to be compassionate only when good luck is on our side. The lesson from Ross's thoughts is that luck is an essential ingredient in the appreciation of compassion.

Now we turn to Sidgwick (1907). We will summarise briefly his discussion on the fundamental paradox of hedonism, with a view of showing that directly aiming to be kind does not always bring about the intended result. Sidgwick distinguishes between the pleasures of Attainment and the pleasures of Pursuit. The former are felt when we attain the goal we pursue, like the satisfaction of hunger when we finally have a bite. On the other hand, the latter are felt when we are engaged in some eager activity, like a competitive game. In this kind of game, an initial desire to win the game is stimulated a great deal when the competition becomes intense, and then the contest itself becomes pleasurable, if things go well.

In other words, with the initial goal of victory working as a starter, the contest or pursuit itself gives us pleasurable experiences. Here in this pursuit, the agent does not aim to obtain pleasures, but only tries to win the game, with pleasures coming to him as by-products of the activity. Therefore, in the case of our active enjoyments especially, he observes that "the impulse towards pleasure, if too predominant, defeats its own aim," and calls it the fundamental paradox of Hedonism. (Sidgwick, 1907, p.48.) And the reason why he singles out the latter group as the basis of his general paradox thesis is that the pleasures of Pursuit are thought by many to be more important and fulfilling than the pleasures of Attainment.

Though Sidgwick's discussion is about self-regarding experiences, it can be extended to other-regarding

intentions. There may be two types of situations where we express gratitude. One is where what we want is clear and it is satisfied, like asking the directions to a station in an unfamiliar place and receiving the appropriate information from a passerby. The other is where we are not sure what we need, nor are the people around us. Taking Clark's example from the second section, the lady with a crushed hip kept complaining about her ordeal, not knowing what will calm her distress. The nurse tried three things: arranging the bedding, advice, and a simple phrase "I know how you feel." Rather than the first two, the last one, seemingly the most insubstantial, worked and elicited words of gratitude.

Therefore, we may be able to distinguish two types of gratitude. One is the gratitude we show to others, when they perform what we ask for, while the other is the gratitude we feel, when we are in serious trouble and despair, not knowing what to do, and something relieves us from the pains and sufferings. When people with life threatening diseases say they would like to receive encouragement from medical providers, quite often what they mean is the second type of relief, a kind of salvation from the bleak reality they are thrown into. Like the pleasures of Pursuit, this second type of gratitude feels more impressive and has a far deeper impact on the patients' mental states.

Seen from the point of view of people offering kindness, the first could be tentatively called compassion in attainment, and the second compassion in pursuit, adapting Sidgwick's phraseology somewhat to the present context. Those medical providers who want to be compassionate to patients may try to learn and perform various skills in the area of compassion in attainment: the proper beddings so that patients can feel comfortable, the accurate information disclosure so that they can foresee what will likely happen to them in the future, or simple words like "I know how you feel."

These acts or words may have some good effect on the patients' psychology, or as often, may be simply taken for granted. These are matters of luck, as Ross emphasised. But luck works at a deeper level, too. As for the more important type of compassion, i.e. compassion in pursuit, people cannot aim to be compassionate in this sense. Like the pleasures of Pursuit, this type of compassion is realised when they are engaged in some other activity, without having compassion in mind and when luck accompanies it. The appreciation by patients of compassionate attitudes at this level is a fortunate by-product of the activity seemingly unrelated to this kind of compassion.

Then, what sort of training?

In the second section, we saw the problems when we attempt to teach compassion. The problems in the general approach are 1) a doubt about whether it will produce the result hoped for, and 2) a doubt about whether every deed a virtuous person performs will be virtuous (this is an important topic in virtue ethics, which we cannot discuss in more details here). The problems about the specific approach are 1) a worry that it may be too demanding for medical professionals to be well versed in and meet many patients' various needs all the time, and 2) an observation that patients' needs are so diverse that it is almost impossible to act in a way they would thank for the expression of kindness.

In the third section, we have learned that whether we act compassionately or not depends a great deal on good luck, not simply on our intentions and that the judgment of compassion by patients is quite often a by-product of some actions we do for other purposes.

Then, what sort of training is desirable, to foster compassionate attitudes, or more precisely, to help perform actions which are likely to be judged compassionate by patients?

Schneider's suggestion in *The Practice of Autonomy* seems instructive. Patients' recollections about their illnesses are full of stories about what horrible experiences they underwent, or how badly they were treated. He suggests that we should, first of all, try to minimise those awful experiences. Since those experiences are also subjective judgments made by patients, like the judgments of compassion, and moreover they are made by people in difficulties, there may not be any system which guarantees to eradicate those experiences. Therefore, he proposes to start from seemingly trivial matters, i.e. not treating patients badly, or treating them decently.

This is mainly matters of manners and civility. This does not require being a really conscientious person who likes all the patients and genuinely shares all their troubles. Simply this asks you to think about the

effect on the patients of what you do and say, and to try to avoid the actions that may result in treating them badly.

He proposes the following ten rules. (Schneider, 1998, pp.221-226.)

Rule 1. Do not keep people waiting.
Rule 2. Respect privacy.
Rule 3. Introduce yourself to strangers.
Rule 4. Grant other adults the same courtesy in titles you accord yourself.
Rule 5. Take the time you need to talk to the patient.
Rule 6. Listen, and seem to listen.
Rule 7. Say "please" and "thank you".
Rule 8. Express sympathy when you deliver bad news
Rule 9. Return your phone calls.
Rule 10. Think about the effect on your patients of what you do and say. (This is the general principle from which the rest follow and from which other obligations may be inferred.)

Many of the rules are such matters of fact that these may seem quite boring. But first we have to take note that these are not always followed, and failures to comply with these are quite often sources of patients' complaints. Second, Rule 6 shows the characteristic of his approach. "Listen to what the patient has to say" has been said quite often, but he adds, "and seem to listen." Sometimes you may be tired of hearing the same old complaints, or sometimes you may get impatient with the patients' slow understanding of the information. You do not have to feel guilty of having those feelings (having no such feelings will mean being a saint), but at least you should strive to appear to be listening. Third, Rule 8 mentions sympathy. Here, what is required is not true empathy, but some expressions of regret and concern as part of common courtesy.

Some people may be critical of this approach, since this is concerned only with outward appearances, not sincerity of heart. Yet as one physician notes, such little things as "a daily visit, a few minutes of friendly conversation, or sometimes just a new young ear to hear the old story all over again" (Zuger, 2007) make huge differences.

If we follow these rules, the relationships between patients and medical providers may remain more or less businesslike or contractual, but sometimes the attitudes of the medical providers may be appreciated as showing compassion, with good luck, and as a by-product of their activities. After all, compassion is cherished so much because it is rarely felt.

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Can formal education promote beneficence?*

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Introduction

Most people find it very difficult to say, in specificity and in detail, what their own values are. Some distinguish positive values from negative values. Some categorise values by content or source: aesthetic, economic, religious, and political. Values are very easy to speak about but much harder to follow. Values are abstract ideals. Sociologist Dennis Foss defined values to mean "beliefs about classes of objects, situations, actions and wholes composed of them in regards to the extent that they are good, right and obligatory or ought to be".

Bioethical Principles

Bioethical principles usually include respect for the "person" and personal autonomy, non-maleficence (*primum, non nocere*; "above all, do no harm."), beneficence (helping, caring, offering compassion and charity) and pursuit of justice. Unified morality is scarcely seen among individuals. Even the organised religions have not helped much. Keeping this view in mind, and to fill some lacunae in the morality of people, a perspective on a single value – beneficence – was taken for the present study. This can be achieved only through education, education at home, school and the society (family), and allow humans to regard themselves as a mine rich in gems of inestimable value. Tagore said that school is the lap of the mother for the child. Education alone, can cause is to reveal its treasures and enable mankind to benefit there from.

There is a symbiotic relationship between "education" and "development". The two are very vital socio-economic, political and cultural activities of the modern world, though this relationship is not getting much attention in our discourse upon education. Although nations, like persons have different characteristics, needs and goals, there are certain common human values that drive the world's population. There is justification for adopting certain educational systems based on the common cultural heritage of humankind. But there is the simultaneous need for making education relevant to the immediate social environment. Alternatively, the educational system of a nation should develop in a cultural environment that has historical validity. Most experts would agree that education is the process by which a human being learns facts and skills, develops abilities and attitudes for personal benefits first and then hands them down to the next generation along with the cultural and moral values imbibed through the process, all of which depend on the educational priorities and goals of the people. Persons who are educated develop physically (economically), mentally, morally and socially. They are likely to know the "whys" and the "wherefores", of events and issues surrounding them. They can map their world, their immediate environment and live a more meaningful life.

We cannot give to anyone what we do not have. Only if we are the educated group, can we educate the world at large. The formal agencies of education are schools and colleges. The important characteristics of formal education are deliberate, staffed, financially supported, time-spaced and fixed procedures. Though the value "beneficence" can be included as one of the topics in the curriculum, the essence of its success in implementing it and to touch the heart of the pupils entirely depends on the classroom

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teacher. Politicians, who are the policy makers and the administrators of the educational system, only evolve a theoretical background for an intensive practical fieldwork, which is to be carried out by the classroom teacher.

The art of teaching

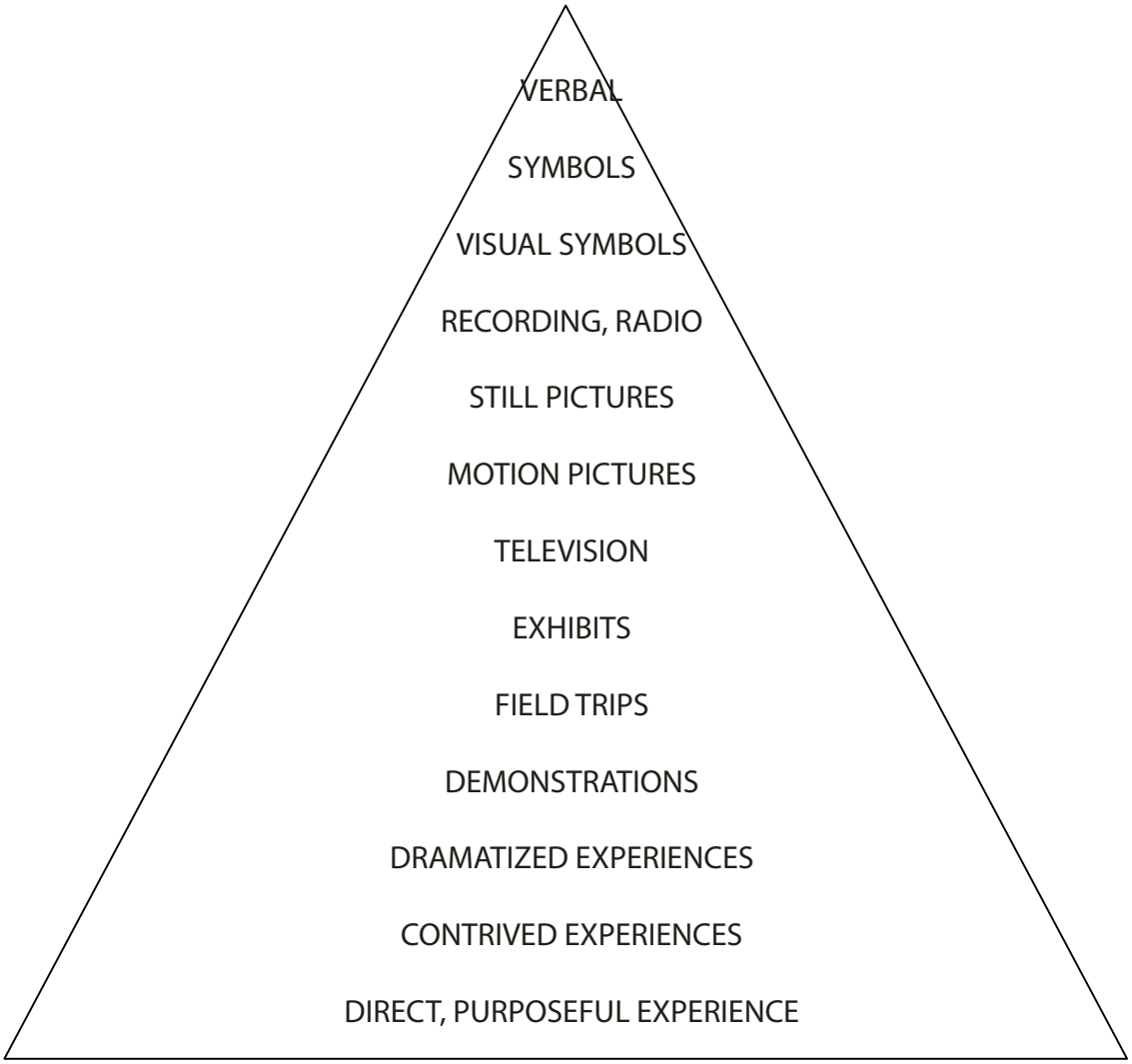
Teaching is derived from the root word *taikjon* which means "show how". Teaching involves difficult, complex series of functions. It is indeed a profession in terms of the demands it places upon its practitioners. It is probably even more difficult than medicine itself. Though teaching is one of the oldest professions, as old as humankind and has been with us for a long time, a unified conception of teaching acceptable to all has not been arrived at yet. Teaching is an art, a science and a skill. The teacher has to have the creative proficiency of an artist, the precise attitude of a scientist and the perfected skill of a craftsman. Teachers engage in explaining activities, guidance activities, demonstration activities, order maintaining activities, mental hygiene activities, record keeping activities, assignment making activities, testing and evaluation activities and many other kind of activities. Thus the teacher's task centres on:

- Motivating the learner towards desirable objectives;
- Facilitating the attainment of these objectives through providing suitable learning experiences.

Teaching is useful only to the extent that it facilitates learning. An incidental and casual approach to teaching must be replaced by a planned and conscious approach. Experimental evidence has shown that sight is the most useful of our senses to advance learning. The percentage that we learn through the various senses and the effectiveness of the senses in learning are related. On average, the sense of sight which caters to nearly 83 per cent of our learning is using much. Hearing caters to 11 per cent while the senses of smell touch and taste caters to five per cent and one per cent of our learning respectively (unless we lack one of these senses in which case the balance changes). So the use of audio-visual aids in teaching will facilitate better, easy and interesting learning.

The inter-relationship of various types of audio-visual aids are explained well by Edgar Dale's Cone of Experience (Figure 1). The cone of experience is merely a visual aid. It represents the audio-visual aid and their effectiveness. The effectiveness of the aids increases from top of bottom of the cone. The teacher has to choose the right type of aid to suit the situation, and the standard of students, to use if effectively.

Figure 1: The Cone of Experience



Edgar Dale's cone of experience helps the teacher select the proper method to explain the values of helping, caring, offering compassion and charity.

Co-Curricular activities

Field trips and excursions can play an important role in imparting noble values. Visits to zoological parks, trips to orphanages, playing and spending time with handicapped children, visits to institutions for the mentally disabled and other places of interest to the students can touch the heart of the pupil rather the brain. In these types of visits the students may pose many questions to the teacher. The teacher has to come to the level of the student and answer all the questions, as and when asked by the students.

A patient hearing the questions of the pupils directly or indirectly projects the teacher's "caring" for his students and in turn moulds his students. Thus the teacher becomes a role model for the student.

A survey conducted in our college pointed out that 50 per cent of students want their teachers to be like their parents. They want their teacher be a friend, philosopher and guide. Nearly 80 per cent of the students want their teachers to be role models. Nearly 10 per cent of the students considered their teacher to be "God".

In every subject whether it is science, arts or commerce the values of life can be taught as an analogy. For instance a physics teacher while teaching Newton's third law of motion can extend this to life. The

law states: "For every action there is equal and opposite reaction". After giving proper explanations it can be linked to life as: "Good actions bring good rewards; bad actions bring otherwise".

In a nutshell, teachers shape the students. The home, the neighbourhood, the community, the state, the social, cultural and religious institutions are all informal agencies of education. For example the education given by successful leaders to their party members is informal. "Beneficence" experienced informally helps in the total development of the child's personality. It is rightly observed that education starts at home and children begin their education from the time they are born. It may be observed that the instinctive desires of children are vague and it is education and opportunity that can mould them into responsible citizens. The raw material of instinct is ethically neutral and can be shaped to good or evil by the influence of the environment. Hence one has to note that it is the polluted socio-political environment that is causing damage to human society in general and educational institutions in particular. It is in fact becoming increasingly popular to mourn the demise of the humanities which reminds us of the popular verse of Henry Van Dyke:

> "Seven pupils in the class
>
> of Professor Callias
>
> Listen silent while he drawls
>
> Three are benches, four are walls".

This is problematic in the classroom as the teacher remains a source of mockery and the student fails to see the sanctity of learning. It is this polluted environment that is having its impact on the educational institution. Bertrand Russell's appeal to distinguish between education of character and education in knowledge is hardly visible. The rapid strides in the communication and information systems will be meaningfully utilised if the print and electronic media can seriously take up the problem of education as a social responsibility. The teacher should courageously accept the moral responsibility of moulding the student by showing cheerful willingness in Tagore's spirit. "Where tireless striving stretches its arms toward perfection". A coordinated effort on the part of the parent, the teacher and the print and electronic media and the educational administrator will put the system back on the rails.

A true incident

Death with dignity is a value. An old terminally ill man left to die was taken to the home of Mother Teresa in Calcutta. He was attended to with compassion and care. Before dying a few days later, with his eyes shining in wonder, he said: "All my life I have lived like an animal. But now I am dying like an angel." Here we conclude that the institution informally made the dying person feel the gift of life. The home plays an important role in moulding the child. The helping nature of the parents toward their neighbours and the needy makes an everlasting mark on the child's heart to help others as their parents do. The care with which the parents look after their children makes an everlasting impression in their heart that they should take care of their parents in their old age and also care for the suffering of human beings.

In one situation, a group of nuns were collecting funds for their orphanage. One nun stood before a multi-storied bungalow and was waiting at the door to ask for alms. The head man of the house then spat on the hands of the nun. She accepted it with grace and said: "Let me have this; give something for my children in the orphanage". On hearing this comment the whole family wept and begged pardon from the nun and offered help to the orphanage. Here we see that the compassionate act of the nun moved the hearts of family members. Though the incident is trivial, all the human virtues like helping, caring, offering compassion and charity were practiced in a small act of sacrifice and by the words: "for my children".

Some of the great people we have encountered also possessed great virtue through guidance at home. Thomas Alva Edison, who invented many electrical devices, had a large head not proportionate to other parts of his body. The class teacher often remarked: "Edison! You have a big head with no brain". This comment pricked the tender mind of the young Edison. His mother approached the class teacher and challenged him that one day her son would become a great person. Edison was removed from school

and educated by his parents. Later in life, Edison invented many electrical devices, including the Edison Safety Lamp which helped miners work more safely in mines by reducing the threat of gas explosions. Edison was not only a great scientist but also an embodiment of the virtues of a helping, caring society that offers compassion and charity.

Family and beneficence

Thus, it is worth mentioning here the importance of the family, and particularly parents in shaping young lives. Parents should be educated on how to bring up their children to fight the evils of society. Parents ought to be role models for their children and "should not spare the rod and spoil the child." Parents should have an eye over their children regarding their studies, moving with friends, cultivating good habits, the society around them and their physical growth. Parents should have good rapport with their children. They should be allowed to grow in a healthier climate at home in spite of poverty and other problems.

In the case in which learning is more incidental than intentional, we have a non-formal education situation. It is not restricted to any particular place and time. It is a process designed not only for children and youth but also for adults. It is an open system of education without any rigid rules, regulations and conditions. It is life oriented and environment based. It aims at socio-politico-economic growth of the individual as well as society.

Society and beneficence

Educating a mentally disabled child needs special training. Voluntary organisations come forward to educate mentally and physically disabled children through meagre grants given by central and state governments. We will be surprised to know the type of education imparted to less fortunate children, yet these voluntary organisations learn to help others. To quote an incident, I was attending the Annual Day celebrations of a rehabilitation centre for the mentally disabled on the outskirts of Madurai City, India. W

While I was walking my footwear broke. I approached a person, around thirty years of age, and asked him for a safety pin. To my surprise the man took out the safety pin from his Annual Day badge which he had pinned onto his shirt. He simply put the badge aside in his pocket and smiled at me. I was surprised by this act of caring from a member of the centre, which is known as "Shrisiti", a voluntary organisation run by noble hearted people under their head, the M.S.Chellamuthu Trust and Research Foundation.

The main objective of the Trust is to alleviate the sufferings of the mentally disabled. This voluntary organisation is a registered non-profit, secular non-government organisation. Because a large proportion of the population in the world is semi-literate let us suggest a strategy for education. We suggest that voluntary organisations can make use of modern day advertising technology. Video clips of various organisations working for the welfare of the people could be screened during their leisure time. Most people go to work in the fields and other places and their leisure time could be improved by giving them a proper education to care for others and find happiness. Street plays, dances, dramas could be enacted in an effective way and thus rural adults could be educated to be instruments of the true value of "beneficence".

The capacity for lethal violence is particularly great in humans. The exceptional features of our intellect, self-awareness, sense of morality contribute to a life of great social complexity. A number of opponents of socio-biology have claimed that donating blood for free is a kind of "pure" altruism practiced for no possible reproductive advantage. The donors are supposedly behaving simply out of a moral concern for others whom they will never meet, from whom they can receive no repayment.

According to Peter Singer (1981) "Common sense tells us that people who give blood do it to help others, not for a disguised benefit to themselves". Alexander (1987), however, suggests that "giving blood is a fine way of suggesting that "one is so altruistic that he or she is willing to give up a most dear possession for a perfect stranger." This could yield pay offs in the future, not from the stranger but from those who live and interact with the donor and view him as potentially more cooperative and

helpful than others who are not known to be so 'altruistic". Martin Daly and Margo Wilson suggest that our brains tell us that it feels good to engage in low cost "do-goodery". At the approximate level this feeling currently motivates us to give blood occasionally or exhibit other inexpensive forms of culturally approved charity. Such a mechanism could have the generally adaptive consequences of maintaining a good reputation and facilitating reciprocal relations as Alexander claims.

Beneficence is not to be preached in a vacuum as an abstract concept, for "as the body apart from works is dead" (The Holy Bible). Those who are practicing beneficence have to be in the forefront, working for the people, defending their rights as citizens, as loyal committed sons of the soil for whom the country and its people, the poor, the downtrodden the forsaken, the deserted, the neglected, the despised, are their brothers and sisters. Their religion, though unique and God-given, makes no sense to our half-starved, naked, homeless masses if it does not help them to solve their mundane problems of day-to-day existence. Such a practical religion deeply concerned and involved in the worldly problems of our masses will alone make them appreciate it and love it. We cannot give to anyone what we do not have. Our love and concern over others, is the basic concept, by which much can be done to transform the world. Neglect to do so in future will be at our own peril.

Three types of people

People can be broadly categorised under three groups: those who enjoy working with people; those who enjoy working with things; and those who enjoy working with ideas and information. The nature of those who work with people are:

1. Caring for others, helping or serving people;
2. Persuading people or negotiating;
3. Working as a member of a team;
4. Leading or supervising others in a democratic way.

Throughout the millennia prophets, saints and sages, have implored humankind to take its responsibilities seriously. In India for example, Mahatma Gandhi preached on the seven social sins:

- Politics without principles;
- Commerce without morality;
- Wealth without work;
- Education without character;
- Science without humanity;
- Pleasure without conscience;
- Worship without sacrifice.

Globalisation, however has given new urgency to the teaching of Gandhi and other ethical leaders. Violence on our television screens is now transmitted by satellites across the planet.

Conclusion

A teacher is a role model; but a bioethics teacher is a living role model. In India education for all is the national policy and about six per cent of national net product is invested in education. We have failed in passing onto the younger generation values that we once cherished: the spirit of sacrifice for the motherland; the restlessness to alleviate the miseries of our poverty-stricken masses; and the urge to build a strong India, restoring to it pride of place in the community of nations. We have failed to inculcate in them love for our cultural values based on the concept of sacrifice and service, not only to our fellow countrymen but humanity as a whole.

In this context, the role of education needs to be re-defined. Education should aim to integrate physical, mental, moral and spiritual knowledge besides imparting knowledge in various disciplines. It should strive to make a person an ideal citizen capable of shouldering the responsibilities of national reconstruction.

As the eminent political commentator, Rajani Kothari, put it: "As we look at the situation at the end of 58 years of India's independence, it is becoming increasingly clear that what has saved the poor from total eclipse is not some poverty alleviation scheme launched by the bureaucracy of the planning commission, but the poor people's own struggles against the system, their own strategies of survival and gradually, their own growth in confidence and sense of dignity and self-esteem".

Out tasks ahead are to eradicate hunger and homelessness. We need to affirm our faith and commitment to create a new India, free from social and economic bonds and backwardness. It is not a difficult task if united we fight against class differentiation, social backwardness, gender discrimination and caste oppression. What we need is development through social justice. An awareness of what is going on at the national and global level should be highlighted to the students by the teachers, people by the philanthropists and to the illiterate by well trained voluntary organisations which are not bound by the government. The press can play important roles in the awareness programmes.

In the United States' President's Commission's analysis, three basic principles predominated:

1. That the well-being of people be promoted;
2. That people's value preferences and choices be respected and;
3. That people be treated equitably.

The UNESCO World Conference on Higher Education (WCHE) in Paris grappled with a number of important issues such as relevance, quality, equity, international collaboration and diversification. The *Declaration for the Twenty First Century* that emerged rightly spells out the missions and functions of Higher Education.

The advancement and dissemination of knowledge through teaching and research is not the sole purpose of Higher Education, the preservation and enhancement of cultural values is also vital. In this context, the reference to the reinforcement of international understanding and the culture of peace is quite apt. The conference also insisted that the educational institutions should at the same time be accountable to society.

The idea of pursuing success and profit at any cost and by any means, fair or foul, during the last few decades is inviting social disaster. If the lamp of ethical values is to be lit in the brains and hearts of the high level functionaries of the system, among teachers' unions and students, and through them politicians and the bureaucrats, there will be a reduction of substantial resources lost through malpractices that will then be available for the elimination of poverty, eradication of illiteracy and higher education. Soon character building will be the sole solution for checking the desertification of the human spirit which is responsible for the present crisis not only in India, but also in the world at large.

The education system has to be the focus point to generate and uphold education of values viz-à-vis beneficence. This means that the weak in society also have a secure place under the sun.

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Bioethics: Love of life through the knowledge of chanting for health and peace*

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Chanting is a part of sacred rituals in all religions, rituals that have become traditions and are interwoven with religious culture in each region. At the beginning of civilisation, oral tradition was the most important means of communication among people. Sound waves have been used in all parts of the world for healing since ancient times. In Buddhism, *Pali* and *Sanskrit* have been used since Buddha's time until now. *Pali* is used in the main texts of Buddhism, and also in chanting. The West also tries to discover the secret of sounds through research and scientific methods and has found out that sound vibrations really affect man on the physical, mental, emotional and even spiritual levels.

Darryl R.J. Macer's book *Bioethics is Love of Life: An Alternative Textbook* inspired me to write this paper on chanting for health and peace. Knowing what is good for us, we are much more likely to act upon it. Having knowledge is power. Socrates said: "Virtue is knowledge." If we have the knowledge of what is good for us we will practice it, as all of us have "the love of life" that Macer (1998) speaks of. This paper will elaborate upon the benefit of chanting to humankind, a sacred activity that was long practiced by our ancestors in the distant past.

This paper tries to present the following points. First, through human love of live, we can use the effectiveness of sound vibration in chanting to heal ourselves. Second, in studying the attributes of each chant with its sound and power, we can clarify why each is effective. And finally we must investigate the beginning and ending of all our actions if we want to realise the power of it. What is the essence of words in relation to our mind? Do our minds work like a computer that collects all the data we receive? And how can we maintain peace through chanting?

Some of the questions that surface from this investigation are: What is the relationship between recited words and the human mind? Do our minds work like computers compiling and categorising all data? If so, can the human mind protect itself from the propaganda of this capitalist society? How can we prevent human-made and natural catastrophes from affecting our mental and consequently, our physical condition? Will knowing the secrets of the mind's mechanism help us to maintain balance and order and consequently health and peace in this ever changing, impermanent world?

In his book, "*Plang Rangsi Dhamma*" (The Power of Dhamma), Phra Acharn Dr. Singhon Narasapo (1999), a revered Thai Buddhist monk, wrote of the importance of Pali sounds and how they are related to specific organs in the body. He believes that sound vibrations stimulate the seven Chakra (the centres of pranic energy in yoga). Accordingly, certain vowels stimulate specific organs. For instance, when the "eeoo" sound is vocalised, the lung is stimulated; when the "aueo" sound is vocalised, the liver is stimulated and when the "chee" sound is vocalised, the lung is stimulated; when the "aueo" sound is vocalised, the liver is stimulated and when the "chee" sound is vocalised the bladder is stimulated.

In his Book on Yoga, Swami Vishnu Swami Sivananda (1995) stated that sound is a form of energy made up of vibrations or wave lengths. Certain wave lengths have the power to heal; others are capable of shattering glass. Mantra in Sanskrit syllables, words or phrases that are repeated in meditation, will bring the individual to a higher state of consciousness." The word, "Om" the original mantra, popularly used by yogis and ascetics is the root of all the world's sounds, letters and thought. Here the "O" is generated deep within the body, and slowly joins with the consonant "m," resonating through the entire head. "Repeating Om for twenty minutes relaxes every atom in your body." (Sivananda, 1995).

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Dr. Richard Gerber and Dr. Andrew Weil both mention the effects of chanting and vocalising sacred words as being magic potions for healing. As Gerber (2001) points out in *Vibration Medicine*, when some of his patients who have suffered from strokes are exposed to fifteen minutes of key sound frequencies, their bodies start to stabilise. This test has been repeated and the same results have been confirmed. Nicole LaVoic produced sound frequency tapes called Sound Wave Energy (SWE) to harmoniously stimulate and balance various energy levels in the human energy field (Gerber, 2001). Some of the tapes on SWE chakra play the complex blending of fifty-two different sonic frequencies based on various biological elements associated with the first chakra and its related physiological functions.

In China, five musical notes form the Five Element System that comprise a pentatonic scale. They have been used in that country as a basis for musical composition and improvisation. Melodies with emphasis on particular elements have been developed there to stimulate healing for various organs of the body (Gerber, 2001, p.527).

Sound waves have, since ancient times, been used for healing across the globe. Western scholars and specialists have made the attempt to unravel the secret of sound waves through research and scientific methods. These vibration treatments are in fact related to Einstein's theory of substance and energy whereby man generates complex energy in dynamic equilibrium to develop the soul. Laboratory tests show that sound vibrations affect humans physically, mentally, emotionally and spiritually. Accordingly, a person has the ability to heal themselves if they know how to stimulate the infected organ and maintain good health with vibrations from chanting. The root sounds originated by our ancestors are in use to this very day and we can utilise them for healing as our forefathers have done.

The verses in each chants have different meanings and purposes. For example, the verses of many Buddhist chants praise the Buddha as the exalted one who discovered the truth of life (*Annica*, *Dukka*, *Anatta*: impermanence, suffering and non-self). With this truth, he ultimately overcame all odds and obstacles to become enlightened. He preached the truth to those who had a little dust in their eyes.

Buddhists pay their respects to the Buddha's great compassion, wisdom, virtue, and knowledge, Other chanting verses praise the three essential elements in Buddhism, namely the Buddha, the Dhamma and the Sangha.

The *Mangkala Sutta* containing verses that teach virtue and wisdom are recited by beginners, advanced practitioners and those who are close to attaining enlightenment. Other *suttas* were composed to provide protection from evil whether in the mind or from a danger outside. During the Buddhist Lent, the Buddha gave the *Metta Sutta* to the monks as they had been disturbed by Mara, the evil spirit, as well as other distractive forces in the forest. The *Metta Sutta* offers compassion and good will to all sentient beings and thus, after chanting it, the monks were able to meditate throughout the three-month rains retreat.

Some *Parita Katha* or protection verses come from the Abhidhamma of the Buddhist Scriptures. Among these is the *Phoochangka Parita*, a *katha* from Sudhanta Pitaka Sankyouttanikaiya which invokes the seven wisdoms that enable a person to become enlightened. During the Buddha's time, this *katha* was chanted to heal those who were stricken with illness and the tradition continues in Buddhist countries to this day. When we chant or state the truths of wisdom, it has a profound impact on the listener. The path to wisdom and enlightenment empowers one to be filled with strength and compassion. The supreme energy of the truth can move man and his environment.

Fugimoto Noriyuki (2004), a scientist who conducted an experiment to differentiate the energies that affect water, observed molecules of water from different places, namely from a jar of water in front of a computer, a pond in the vicinity of a temple and a water-filled bowl that was placed in the midst of chanting rites. He displayed different pictures of types of atomic structures of water. The result was that the molecules of water in front of the computer had been distorted whereas molecules of water in a bowl and in the temple pond were well formed. In Thailand, Buddhist monks pass a red thread through their palms connecting it to the bowl of water as they chant blessings, an example of how the attributes of energy from water affect the human mind and body.

What connection do we have with all these sacred words? Many facets of the human mind work like a

computer. Our sense perceptions receive information from all directions. When the brain compiles data, it certainly affects our body, mind and spirit. It is our great responsibility to select the kind of data or information we want to store. When we pronounce the truth and the virtues that accompany it, we can become profoundly influenced by them. Ultimately, choosing the right data is very important to our well being.

The world's great religions use prayers and chanting to lead practitioners on the path to peace and happiness. Buddhist chanting is a way to enlightenment for as the practitioner chants, he cultivates *samadhi* or concentration. The chanting of meaningful words implants them in the mind. A mind that is pure and calm has the power to focus in much the same way as the intense and penetrating beam of a laser.

When the meditator reaches the *Samadhi* stage, he or she can attain a state of happiness, well being and satisfaction in the present moment. As human beings of this century, we are subjected to a host of temptations and catastrophe. Chanting calms the mind and puts us in a meditative state whereby we can attain a healthy and peaceful level of mind and body.

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An earnest appeal: We need spirituality in medical education*

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Why this appeal? An introduction of a personal nature

Did the physician trained in modern Western medicine gain the world and lose their soul? I asked myself this question when I was informed that Dr. RA had been convicted of the murder of a fellow physician in India. As I am writing this paper, RA is serving life in an Indian jail for being actively involved in killing his medical colleague, using medical knowledge and clinical skills. I got to know RA personally for a number of years as we both pursued our undergraduate and postgraduate studies together in the same two medical colleges in India. As if this was not enough to make me reflect on what the profession of medicine really means, I came to learn that Professor Dr. SM, our teacher and a reputed clinician, was convicted in a court of gross professional misconduct that led to the death of another doctor's wife.

Sensational stories of gross professional misconduct, negligence, or serious apathy leading to hopeless suffering and the loss of a patient's life appear in the Indian media at regular intervals. While sitting at a roadside teashop near the medical college where I used to work, I heard a man comment that doctors are just educated butchers! With no solution to the problems in sight, and even worse, no effective system to address the grievances, this unfortunate situation escalated to the extent that Dr. V. Jaykar, a cardiologist, was shot dead outside his dispensary by a relative of his deceased patient (Pandya, 2001). Why? Because the cardiologist was strongly believed to be responsible for the death of the said patient!

How did we reach this horrible state of affairs? All these incidents may be the worst case scenario. However, they nonetheless represent the eye-catching tip of the iceberg manifestations of the "inhumanity of medicine" (Weatherall, 1994). In the land that gave birth to *Ayurveda* and an elaborate code of medical ethics that surpasses the Oath of Hippocrates in both "eloquence and moral idealism" (Jonsen, 2000), medicine has entered into a spiral whirlpool of erosion of values and virtues and lost its soul. What will cure the medical maladies? Who will heal the healing profession? The appeal, therefore, is to breathe in new life, the spirit, - to incorporate spirituality in medicine and the medical education of tomorrow's physicians. To understand better what it means in the present state of affairs, let us journey down memory lane to reflect on the nature of medicine and its historical relationship with spirituality and humanities.

Medicine: Then and now

Medicine has been known, historically and traditionally, as the art of healing. Interestingly, religion/spirituality and medicine had common roots of origin in the conceptual framework of relationship between human beings, nature, and God. In that harmonious relationship, there was no dichotomy or any major conflict between faith and reason; rather they were complimentary to each other in the pursuit of knowledge and patient care. Like in many other ancient societies, the priests were also the physicians in Egyptian medicine. *Ayurveda,* the Hindu system of medicine, had its roots in the *Rig Veda*, the most ancient body of knowledge in human civilisation, and was narrated in the *Atharva Veda,* the last one of the four *Vedas*.

Hindu sages and monks considered knowledge in medicine as sacred, God being the ultimate source of this knowledge of life (Bhagwati, 1997). Lord Buddha (563-477 BC) was known as a great physician in his

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own times. Asoka (died 232 BC), the legendary Buddhist emperor of India, made medical care available to both men and animals in his whole kingdom (Hughes and Keown, 1995).

Like Lord Buddha, Lord Jesus Christ was also known as the healer of both body and spirit. In the periods of early Christianity, religious devotees established hospitals in the Western world and played a significant social role to provide medical care to the sick (Koenig, 2001[a]). Islam also significantly contributed to what is known as modern Western medicine today (Majeed, 2005). A close relationship between religion and medicine thus continued throughout the centuries until a chasm developed between religion and medicine by the end of the seventeenth century (Koenig, 2001[b]).

Historical events such as the persecution of Galileo (1564-1642) for supporting the Copernican view of the universe separated religion/spirituality and medicine into two different worlds. Isaac Newton was born in the year Galileo died. Since the time of Newton (1642-1727), scientists have accepted the model of material universe as governed by physical laws, thus keeping faith and religious perspective apart from science. Later, Thomas Huxley (1825-1895) championed the theory of evolution of Charles Darwin (1809-1882) as something of a sharp contrast and opposite polarity to religious dogma (Koenig, 2001[b]).

The philosophy of modern Western medicine can be traced back to Rene Descartes (1596 – 1650), a French philosopher and scientist, who put forward a mechanistic view of life (Kriel, 1989). The human body was understood in the conceptual framework of a working machine consisting of specific arrangement and functioning body parts. Health is the state when the machine works well; disease is the condition when some organs/body functions go wrong and the machine cannot function or functions less than optimally. Spectacular advances in the application of scientific method and technology in the 20th century further isolated modern medicine from faith traditions, religion, spirituality as well as humanities. The success of molecular and cellular biology in the recent era further reinforced the mechanistic view at a more fundamental level of cells, genes and other molecules. Human life has been thoroughly deconstructed bottom down to the cellular level where "you're nothing but a pack of neurons." The language and method of science has spread over the whole spectrum of health and medicine and marginalised the humanistic, philosophical or theological dimensions in knowledge virtually to the point of exclusion.

The source of strength of modern Western medicine has also been that of a serious weakness. Medicine concentrated attention on disease, but lost sight of the person who had the sickness. Chronic physical diseases, characterised by the slow dying process, occupied the spectrum of disease and death in the late 20th century. As the relief of symptoms, not cure, is the mainstay of therapy in chronic diseases, the notion of healing of the whole person with care for the body, mind, and spirit became more prominent.

Furthermore, advancement in technology made health care increasingly mechanised, for example, sustenance of life for almost an indefinite period became possible, thus blurring the distinction between life and death. Healthcare professionals therefore became confronted with existential questions of life (e.g. the meaning of suffering and death) that go beyond the domain of what has been known as science. These questions of an existential nature, however, have been addressed, traditionally and historically, by religion, spirituality, philosophy and humanities. Spiritual issues at the end of life became more important in the slow dying process of chronic physical diseases and the "biopsychosocial-spiritual" model of care was thus felt to be the need of the hour (Sulmasy, 2002).

Medicine now – the Indian context

The ethos of medicine in contemporary India is contrary to moral values and high ideals that medicine, as a noble profession, has espoused. Modern Western medicine was introduced by British colonialists in the first half of the 19th century (Rao, 1968). For socio-political reasons, modern Western medicine was kept segregated from India's indigenous or traditional systems of medicine such as *Ayurveda, Siddha or Unani-tibbi*. In the era of economic liberalisation and globalisation, medicine has turned into a glamorous money-making enterprise in recent decades.

There has been an astounding 900% increase in the number of private medical colleges between 1970 and 2004 in India (Mahal and Mohanan, 2006). Medicine is neither a calling, nor a vocation any more, rather perhaps the most commercialised profession next to politics. The doctor-patient relationship, which was characterised with trust, care and compassion, has also deteriorated into one of distrust, greed and corruption (Pandya, 2001; Pandya, 2006). Academic dishonesty in Indian medical colleges has been known and also reported to be widespread from the top to the bottom of the establishment (Gitanjali, 2004). The situation got so bad that that the head of the Medical Council of India was removed from his post because of corruption charges (Sharma, 2001).

The curriculum followed in Indian medical colleges has hardly undergone any significant fundamental change since colonial times. Thus, in the land which presented the world with Eastern religions, there is no place for religion, spirituality, philosophy, humanities, or arts in the medical curriculum. In both Nepal and India where I have worked as a medical teacher, the importance of medical ethics and history of medicine, although they exist in black and white as just a few lectures, are neither emphasised by the teachers nor taken seriously by the students. For all practical reasons, the medical students have virtually no exposure to any humanistic and philosophical knowledge during the formative years of their medical training.

Before we discuss the role spirituality plays in health and medicine and the importance of incorporating it into medical education, it is essential to discern spirituality to understand better its relationship with health and medicine.

What is spirituality?

The words of religion and spirituality are often used interchangeably; they mean, however, different things to different people. Contemporary scholars have developed a fair consensus to characterise religion and spirituality.

The word "religion" is derived from the Latin *religare*, which means, "to bind together" (Gove, 1961). Religion thus appears as "a set of beliefs, practices, and languages that characterise a community that is searching for transcendent meaning in a particular way, generally based upon belief in a deity" (Sulmasy, 2002; Astrow et al., 2001). Religion therefore organises the collective experiences of a group of people into a system of beliefs and practices. Religious involvement or religiosity refers to the degree of participation in, or adherence to, the beliefs and practices of an organised religion (Mueller et al., 2001). Distinctions have been made between intrinsic and extrinsic religiosity. Intrinsic religiosity refers to "living" a religion – practicing and believing for its own sake. Extrinsic religiosity refers to "using" a religion, that is, practicing and espousing beliefs for the sake of something else other than religious pursuit (Mytko and Knight, 1999; Sulmasy, 2002).

The word "spirituality" is from the Latin *spiritualitas*, which means "breath" (Gove, 1961). Spirituality refers to a person's or a group's relationship with the transcendent, however that may be construed; and thus spirituality is about transcendent meaning in life (Astrow et al., 2001). Furthermore, spirituality has been characterised as an experiential process whose features may include the quest for meaning and purpose, transcendence (i.e., the sense that being human is more than simple material existence), connectedness (e.g., with others, nature or the divine) and values (e.g., love, compassion, and justice). (Emblen, 1992; Mueller et al., 2001).

It appears that spirituality is a broader concept than religion (Astrow et al., 2001; Sulmasy, 2002). Most institutionalised religions aim to foster spirituality, thus religiosity and spirituality are not mutually exclusive concepts, and they can overlap and also exist separately (Mytko and Knight, 1999). Spirituality may have group expression when it may appear as a religion, whereas intrinsic religiosity may involve a search for meaning and purpose in life, transcendence, and connectedness with values thus appearing as spirituality. Although everyone does not necessarily have a religion, anyone who is in the quest for ultimate or transcendent meaning in life, could be stated to have a spirituality (Astrow et al., 2001; Sulmasy, 2002).

Is spirituality important in medicine?

In recent years, there has been a surge in interest in understanding more about the interplay of religion, spirituality, health, and medicine. Several books on spirituality, faith, prayer, health and healing, authored by physicians trained in modern Western medicine, were published, and received popular recognition (Benson, 1996; Chopra, 1998; Dossey, 1993; Matthew, 1998). A number of research articles, commentaries and reviews on religion and health were published in major medical, behavioural medicine and public health journals. Several academic and professional organisations including the American Psychiatric Association, the American Psychological Association, the American Academy of Family Physicians, the American College of Physicians and the Association of American Medical Colleges stressed the need for addressing religious and spiritual issues in patient care as well as for better training of future health care professionals (Larimore et al., 2002). Renowned academic centres such as Harvard and Duke University became involved in incorporating religion and spirituality into medicine. More than 80 US medical schools now offer courses on spirituality as part of their curriculum (Fortin and Barnett, 2004). Interestingly, medical students in the West are now learning more about non-Western religions, medical ethics of several faith traditions and acquiring the skills of taking the spiritual history of their patients.

Whither scientific research on religion, spirituality, health and medicine?

The dynamic relationship of religion/spirituality and health has attracted the attention of the researchers and there has been increasing recognition and appreciation of the role that religion and spirituality can play in health and medicine. A large number of published empirical studies have shown consistent positive association between religious involvement and better outcomes on individual and population health (Chatters, 2000; Koenig, 2001, Larimore et al., 2002; Mueller et al., 2001). Despite methodological and analytical limitations in some of these studies (Sloan et al., 1999; Sloan et al., 2000; Lawrence, 2002), which are characteristic of an emerging field of research, the overall positive influence of religion/spirituality on health and medicine can hardly be missed.

The association (positive, negative, or neutral) between religious commitment and mental health status, as published in studies in two leading psychiatric journals from 1978 to 1989, was analysed in a 1992 report. It found that in 84 per cent of the associations (religion and mental health), religious commitment was found to be clinically beneficial, 14 per cent were neutral, and only three per cent of results were found harmful (Larson et al., 1992). Furthermore, between two-thirds and three-quarters of more than 850 studies have shown that people have better mental health and adapt more successfully to stress if they are religious (Koenig, 2000). Not only are religious beliefs and practices associated with significantly lower anxiety, less depression, lower suicide rates, and less substance abuse, they are also associated with greater well-being, hope, and optimism, more purpose and meaning in life, greater marital satisfaction and higher social support (Koenig, 2004).

Religious involvement was also found to be beneficial in terms of physical health. Analysis of research published in the *Journal of Family Practice* over a 10-year period showed a positive association between religious commitment and health outcome in 81 per cent of the studies, a neutral relationship in 15 per cent and negative in only four per cent of the studies (Craigie et al., 1990).

A large number of published clinical and epidemiological studies suggest that religious people are healthier, live with healthier life-styles, and require fewer health services (Koenig, 2001[ab]; Mueller et al., 2001). Furthermore, religious involvement and practices have been found to be associated with reduced death rates from cancer, lower rates of heart disease, emphysema, cirrhosis; lower blood pressure; lower cholesterol, reduced rates of myocardial infarction, and increased longevity (Craigie et al., 1990; Koenig, 2001[ab]; Koenig, 2004; Mueller et al., 2001; Thoresen and Harris 2002).

What about patients' spiritual needs?

Religion and spirituality are very important in the lives of many people. Many patients turn more to religious beliefs and practices as they cope with their stressful experience during illness. Religious faith and spiritual coping have been found to be common among patients with many diseases including asthma, chronic pain, coronary artery disease, cancer, human immunodeficiency virus (HIV) disease, renal disease, burns, and fracture (Mueller et al., 2001). Also, illness, disability, and death profoundly affect life, thus they impose a demand to re-evaluate values and attitudes towards life, which raises some existential questions. When a patient consults a physician to determine the cause and treatment of an illness, he/she may also ask questions, for example: "Doctor, why did this disease happen to me?" "Why me, after all?" This is beyond the domain of modern scientific medicine. Furthermore, medicine simply cannot ignore the broader perspective of the patient as a whole person, and thus it needs to be sensitive to the religious beliefs and the emotional and spiritual needs of patients.

If religious issues and spiritual needs are not addressed, internal struggles may result in an existential crisis thus leading to the perception of dejection, (e.g. "God does not care for me"). The unmet spiritual struggles take a toll on recovery and survival, including an increased risk of death, poor mental health and low quality of life.

The link between depression, suicidal thoughts, and hopelessness has been consistently found in studies of medically and terminally-ill patients. Spiritual well-being is inversely related with depression - and addressing the emotional and spiritual needs of the patient is of paramount importance in providing compassionate patient care. Furthermore, addressing spiritual needs in patients with diseases, disabilities, and facing near certain death, plays a significant role in finding hope, strength and patent satisfaction (Clark et al., 2003).

What do the patients say?

Several studies show that patients would also like their physicians to address their spiritual needs (Ehman et al., 1999; King and Bushwick, 1994; MacLean et al., 2003; Maugans and Wadland, 1991; McCord et al., 2004). In one study with outpatients, 52 per cent believed in the right of the physician to inquire about a patient's religious beliefs, but a majority of the patients could not recall any physician ever having addressed that aspect of life (Maugans and Wadland, 1991). In another study, 94 per cent of outpatients with religious beliefs (strongly) agreed that physicians should inquire about their religious or spiritual beliefs if they become gravely ill (Ehman et al., 1999). In a study with inpatients, 77 per cent believed that physicians should consider patients' spiritual needs, 48 per cent said that they wanted their physicians to pray with them.

However, 68 per cent said no physician had ever discussed their religious beliefs or spiritual needs (King and Bushwick, 1994). Furthermore, two-thirds of respondents in clinics at a multi-centre health care centre felt that physicians should be aware of their patients' religious and spiritual beliefs (MacLean et al., 2003). In another survey of patients and their accompanying adults, 83 per cent of respondents wanted physicians to inquire about spiritual beliefs in at least some circumstances. About two-thirds of patients believed that information concerning their spiritual beliefs would influence physicians' ability to encourage realistic hope, give medical advice, and also change medical treatment (McCord et al., 2004).

What do the physicians say (and do in practice)?

Many physicians also think emotional and spiritual issues are important in clinical care. In a study of physician preferences regarding spiritual behaviour, about 85 per cent of physicians believed they should be aware of the patients' spirituality, but most would not ask about spiritual issues unless a patient were about to die. Less than one third of those physicians said they would pray with patients if they were dying. This number increased to about 77 per cent if the physician is requested to pray. Interestingly, family practitioners were more likely to take a spiritual history than general internists

(Monroe et al., 2003). Another study found that less than 10 per cent of physicians routinely initiated spiritual history (Chibnall and Brooks, 2001).

There are a number of reasons for this apparent discrepancy between what physicians may believe and what they do in practice. Some physicians are not trained to take a spiritual history and address patients' religious concerns and spiritual needs. Constraints of time may also be a major limiting factor. Some physicians may also have reservations about the appropriateness of touching deeply personal issues and some others may believe that addressing religious issues in medicine runs the risk of taking over the role of the priest and clergy in society. From the observations made in the studies reported, it appears that, in general, patients are positive and are in favour of physicians acknowledging and addressing their religious issues and spiritual needs.

What do the students say?

In one study in the US, which examined the knowledge, attitude and skills of medical students regarding spirituality and medical practice, 81 per cent of the students agreed that the physician should consider the spiritual well-being of the patient along with physical and mental health. Moreover, 98 per cent thought that key elements in spiritual care such as empathy, understanding, compassion and listening were also very important aspects of being a good doctor.

Eighty per cent of students believed that taking time out of their own lives was important for self-reflection, self-understanding, and spiritual growth (Anandarajah and Stumpff, 2004). An evaluation of a brief pilot workshop on spirituality and medicine observed a modest effect in improving attitudes and perceived competence of both medical students and residents (Barnett and Fortin, 2006). It appears that medical students are, in general, positive toward the incorporation of spirituality into medical education.

Conclusion

Modern Western medicine has been criticised to be obsessed with the methods and language of science with virtual elimination of other dimensions of knowledge. Medical education has been criticised for being a dehumanising experience. Tomorrow's physicians need to be educated and trained in such a way that they can take care of the physical, mental, and spiritual well-being of the patient as a whole person with disease, rather than just conducting diagnosis and treatment of the diseases. Medicine simply cannot ignore the real needs of patients and medical education must be sensitive and synchronous with the noble ideals of medicine.

Spirituality plays an important role in the lives of many people, including patients. Thus, it is of utmost importance to acknowledge and address religious issues and spiritual needs of patients with respect and care. Incorporating spirituality into medicine may also offer unique opportunities to make positive quality changes in the nature of medical practice in India. To offer courses on religion, spirituality, health and medicine, as being practiced in the US medical schools, is a move in the right direction. More research is needed to understand the multidimensional and dynamic relationship of religion, spirituality with health and medicine, upon individual and population health, at both local and regional levels.

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Perspectives on sex education*

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Introduction

When a child is born, the first question often asked is, "Is it a girl or a boy?" Society is organised around the distinction of the sexes and our treatment of the infant from day one is influenced by the assigned gender. Huge societal pressures, both overt and unconscious, come to bear on the child and family based on this designation. This is not a modern 21st century phenomenon. Nearly all societies throughout history have been captivated by the psychological and physical mysteries of reproduction and the different roles of the sexes. The classical view of human sexuality holds that humans are invested with a particular sex within which they develop individually. Recent attempts to alter this concept and to explain psychosexual maturation as developing from a neutral rather than a sexual base are topics of continual discussion.

There are two theories that help to describe human sexuality. Essentially, a psychosexual neutrality-at-birth theory holds that male and female patterns of sexual orientation and behaviour are attributable exclusively to learning or imprinting phenomena. This theory is derived from clinical observations of individuals manifesting morphological sexual incongruities (hermaphrodites, pseudohermaphrodites). The other theory discusses the view of inherent somatic sexuality organising mankind's psychosexual development by reviewing one's place on the evolutionary continuum, and the broad base of sexual behaviour. These theories try to help us understand the genesis of human sexuality. What we witness today is the need to impart a true life value education to our youngsters that human sexuality is much more than an instinct and has various domains like biological, physiological, genetic, sociological, cultural and traditional values. In this paper an attempt is made to understand sex education in its totality.

Sex education is the process of acquiring information and forming attitudes and beliefs about sex, sexual identity, relationships and intimacy. It is also about developing young people's skills so that they make informed choices about their behaviour and feel confident and competent about acting on these choices. It is widely accepted that young people have a right to sex education, partly because it is a means by which they are helped to protect themselves against abuse, exploitation, unintended pregnancy, sexually transmitted diseases and HIV/AIDS.

It must help to reduce the risks of potentially negative outcomes from sexual behaviour like unwanted or unplanned pregnancies and infection with sexually transmitted diseases, and to enhance the quality of relationships. It may help develop young people's ability to make decisions over their entire lifetime. Effective sex education is sex education that contributes to this overall aim.

For sex education to be effective it needs to include opportunities for young people to develop skills, as it can be hard for them to act on the basis of only having information. Skills such as being able to communicate, listen, negotiate, ask for and identify sources of help and advice, are useful life-skills and can be applied in terms of sexual relationships. It may help develop young people's skills in negotiation, decision-making, assertion and listening. Other important skills include being able to recognise pressures from other people and to resist them, deal with and challenge prejudice, seeking help from adults, including parents, carers and professionals, through the family, community and health and welfare services.

It is important that these skills equip young people to be able to differentiate between accurate and

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inaccurate information, discuss a range of moral and social issues and perspectives on sex and sexuality, including different cultural attitudes and sensitive issues like sexuality, abortion and contraception. Young people are exposed to a wide range of contradicting and confusing attitudes and beliefs in relation to sex and sexuality. For example, some health messages emphasise the risks and dangers associated with sexual activity while some media coverage promotes the idea that being sexually active makes a person more attractive and mature.

Young people are very interested in the moral and cultural frameworks that bind sex and sexuality. They often welcome opportunities to talk about issues where people have strong views, such as abortion, sex before marriage, lesbian and gay issues and contraception and birth control. It is important to remember that talking in a balanced way about differences in opinion does not promote one set of views over another, nor does it mean that one agrees with a particular view. Part of exploring and understanding cultural, religious and moral views is finding out that you can agree to disagree.

Individual attitudes and beliefs of sex educators about sex and sexuality must not influence negatively on the sex education that they provide. For example, even if a person believes that young people should not have sex until they are married, this does not imply withholding important information about safer sex and contraception. Imposing narrow moralistic views about sex and sexuality on young people through sex education has failed. Moral deterrents and frightening young people away from having sex will not supplement effective sex education. It may include work on attitudes and beliefs, coupled with skills and development that enables young people to choose whether or not to have a sexual relationship by taking into account the potential risks of any sexual activity.

It may provide young people with an opportunity to explore the reasons why people have sex, and to think about how it involves emotions, respect for one self and other people and their feelings, decisions and bodies. It may give them the chance to explore gender differences and how ethnicity and sexuality can influence people's feelings and options. It must allow them be able to decide for themselves what the positive qualities of relationships are, as opposed to negative ones such as bullying, stereotyping, abuse and exploitation.

Information about sex and sexuality are available from a wide range of sources including the media: advertising, television and magazines, as well as leaflets, books and websites. Sex education therefore provides additional information to add to the individual's existing knowledge, and helps to correct any misinformation they may have.

Information regarding physiological, psychological and patho-physiological aspects of the following topics need to be given:

- Sexual development;
- Reproduction;
- Contraception;
- Relationships.

In terms of information about relationships people need to know about what kinds of relationships there are, about love and commitment, marriage and partnership and the law relating to sexual behaviour and relationships as well as the range of religious and cultural views on sex and sexuality and sexual diversity.

Before young people reach puberty, and develop established patterns of behaviour sex education may be provided. Providing basic information helps to establish the foundation on which more complex knowledge is built up over time. This also means that sex education has to be sustained. For example, when they are very young, children can be informed about how people grow and change over time, and how babies become children and then adults, and this provides the basis on which they understand more detailed information about puberty provided in the pre-teenage years. When they are young they can also be provided with information about viruses and germs that attack the body. This provides the basis for talking to them later about infections that can be caught through sexual contact.

It is an important responsibility to talk openly with children about sex and sexuality, this contributes to greater cultural openness about sex and sexuality and improved sexual health among young people. Different settings provide different contexts and opportunities for sex education. At home, young people can easily have one-to-one discussions with parents or carers which focus on specific issues, questions or concerns. They can have a dialogue about their attitudes and views. Sex education at home also tends to take place over a long time and involve lots of short interaction between parents and children. There may be times when young people seem reluctant to talk, but it is important not to interpret any difference as meaning that there is nothing left to talk about. As young people get older, advantage can be taken of opportunities provided by things seen on television, for example, as an opportunity to initiate conversation. It is also important not to defer dealing with a question or issue for too long as it can suggest that you are unwilling to talk about it.

School-based sex education will include formal programmes with the following elements:

- A focus on the meaning of sex education;
- How to prepare to avoid risky sexual behaviour and make it habitual;
- Theories to explain the influences of people's sexual choices and behaviour;
- Providing accurate information about the risks associated with sexual activity, contraception and birth control, and methods of avoiding or deferring intercourse;
- Dealing with peer (and other) social pressures on young people;
- Providing opportunities to practice communication, negotiation and assertion skills.

School-based education programmes are particularly good at providing information and opportunities for skills development and attitude clarification in more formal ways through offering lessons within a curriculum. Community based projects provide opportunities for young people to access advice and information in less formal ways. Sexual health and other health and welfare services can provide access to specific information, support and advice. Sex education through the mass media, often supported by local, regional or national government and non-governmental agencies and departments, can help to raise public awareness of sex health issues.

There are cross-cultural and political differences in adopting a unified approach to the teaching of education for the creation of healthy society. Sex education therefore needs to be imparted taking into consideration that it does not clash with regional, religious or cultural values. Love and care, caution and prevention, and a positive approach to life will therefore mould and shape the destinies of our younger generation. Life values embedded education will create a healthy environment to face and fight the threat of AIDS and make our region a haven of young minds fine-tuned to a healthy family life.

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Toward Successful Bioethics Education*

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Introduction

The ultimate goal of pre-and post-graduate bioethics education for healthcare practitioners (healthcare students and professionals) is good medical practice. To this end, it is vital to educate "healthcare practitioners to be ethical." By "ethical" we mean an individual with an honourable personality and the ability to make appropriate decisions. Compared to a decade ago, the bioethics education of medical students in Japan improved in terms of quality and quantity, and there is now a greater awareness of bioethical issues at healthcare facilities than in the past. Furthermore, with the exception of some particular cases, the demeanour of medical professionals, especially that of physicians, has generally improved.

However, compared to the degree of progress and extent of the improvement of pre-and post-graduate bioethics education, the changes in medical practice still remain unsubstantial from a bioethical perspective. In other words, bioethics education for healthcare practitioners has yet to produce sufficient results. Despite regional differences, there are many places where the practice of healthcare remains unchanged by the current ethical milieu. With this in mind, this paper delineates and discusses reasons why pre- and post-graduate bioethics education for healthcare practitioners is unable to produce practical results. We believe the study of bioethics has to be pragmatic. Bioethical issues should be resolved where medicine is practiced and healthcare practitioners should embody the appropriate characteristics that promote ethical decision-making. We would like to consider how this can be made possible.

Pre-and post-graduate bioethics education for healthcare practitioners does not yield sufficient results for five reasons:

1) Lack of training opportunities

Compared to a decade ago, the numbers of hours and opportunities for pre-graduate bioethics education have certainly increased. However, we are compelled to believe that this is insufficient for a systematic and comprehensive approach to bioethics education. The number of classroom hours currently allotted are in no way sufficient for introducing detailed example cases, discussing papers, and holding meaningful class discussions and presentations. Based on our experience, it takes at least 90 minutes to discuss a single case entailing an ethical issue. Discussing a paper requires a full lecture period, and several hours are needed to fully examine a single issue.

Opportunities for post-graduate ethics education are lacking entirely. It is especially difficult for medical professionals such as physicians and nurses to set aside time to discuss example cases. The opportunities for bioethics instruction that some facilities provide to their staff are offered at most once, or twice a year, and most facilities do not provide them at all. In many cases, the only staff members that receive training in bioethics are new interns or nurses.

The primary cause for this situation might be that the responsible party does not understand the importance of bioethics, the priority for which is set lower than many other subjects, despite the fact that the importance of ethics in medical fields has been emphasised socially. Some universities and institutions may provide bioethics education only as a formality so as not to degrade their external evaluations because the absence of bioethics education for medical researchers and practitioners can

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negatively impact evaluations of medical institutions.

2) Problems with quality (content)

By whom? For whom? What? When? For what purpose? And how? The way pre-and post-graduate bioethics education for healthcare practitioners is implemented are important questions, the answers to which have yet to be determined. The means by which bioethical issues are integrated into the classroom could vary. For example, there may be instructors who, concerned with bioethics as it is practiced in the United States, give no consideration to Japanese bioethical perspectives. It is possible that a medical school professor who has no expertise in bioethics merely expresses their personal moral views in the classroom, uncritically believing that it is good bioethics education. Depending on the various curriculums followed by the institution, it is possible that only first-year students may have an opportunity to receive an education in bioethics. Some instructors may only address social issues that are the subject of their own interests. At present, the actual state of bioethics training during post-graduate education is not well understood.

Of greatest importance is the sense of purpose and pedagogical approach of bioethics instructors provide as it relates to their subject of expertise. Do they regard bioethics education merely as a form of cultivation; or do they consider it as an opportunity for them to impart knowledge, a means for social change, or an educational opportunity for their students to develop character? What and how information is presented and what sort of discussions and conclusions students are instructed in will differ greatly based on an educator's awareness of the problem.

Certainly when the purpose of bioethics education is understood as the offering of knowledge and the acquisition of ethical reasoning methods, it is possible to overlook whether or not a student came to a conclusion on their own and what kind of conclusion they reached. The way an instructor's performance is evaluated (class evaluation) is different depending on the established purpose of bioethics education.

How should educators conduct themselves in front of students of healthcare-related professions if they cannot accept contemporaneous ethical guidelines, regulations, commonly accepted norms, public order and morals? And how should they talk about ethical matters for which a uniform opinion has not been established (issues involving conflicting opinions)? Such important questions have yet to be resolved.

3) How to evaluate students

By what criteria we should evaluate students is also a major issue. Should we check their knowledge of bioethics, measure their receptivity to bioethical issues using an existing scale, or evaluate their argumentative ability by having them write an essay? Should we pass or fail them based on whether or not they have a certain ethical attitude? Evaluation methods must be closely related to bioethics educational goals, but a suitable evaluation method cannot be determined where there is no consensus on the goals of bioethics education.

Whether or not multiple-choice questions measure anything other than a student's memory is questionable. At the very least, they do not measure a student's sensibility, reasoning ability, or conversation skills. Even if the established goal of bioethics education is to "make students more ethical" as we emphasise, a tool to correctly measure their "ethical degree" might not exist.

4) The self-termination of bioethics education

If we consider making a student "ethical" to be the purpose of an effective education, then in our opinion, successful results are especially important for the bioethics education of pre-and post-graduate healthcare practitioners to be perpetually effective outside of the classroom. However, it remains a matter of concern that bioethics education is limited to the classroom and ends there. In most cases, this ends merely in satisfying the complacency of the instructor and student. It does not result in realistic criticism of the current situation, and does not lead to a change in performance in the workplace later on. Only a superficial knowledge remains and as time passes, most of this learning will be lost. Even if

a student's education is stored as knowledge, or as a way of thinking, these views and values are not exchanged with others in conventional conversations.

As the proverb goes, "Only when a man can afford food and clothing will he understand etiquette"; and pressure from the workplace deprives individuals of the time and psychological energy to spare for taking a moment to think or engage in discussion. It is possible that the roles of ethics committees are viewed as an unfair and unnecessary intervention to the discretion of healthcare professionals and the doctor-patient relationship. There are many senior physicians who have an aversion even to hearing the word ethics. There may even be some healthcare professionals who regard themselves as a paragon of ethics, unreceptive to viewpoints that differ from their own. When such people are their own boss, it is likely that the ethical perspectives of novice healthcare professionals may be compromised.

Midway through a bioethics education, all participants are expected to discuss ethics. However, few healthcare practitioners voluntarily join open-participation study groups, and the number of physicians attending such groups is especially low. Furthermore, individuals who voluntarily initiate ethical discussions are perhaps rare. Presumably, Japanese people are traditionally burdened with the trilemma of "won't speak," "won't decide," and "won't think" when it comes to ethical issues. They feel a strong psychological resistance to ethical discussions, and vigorous discussions are not generated equally with others.

Some may feel discomfort and fear that they will be criticised by their colleagues and superiors if they express their own ethical perspectives. The "follow-the-crowd" mentality and unassertiveness often observed among Japanese people, the tendency to eschew free thinking and discussion for individuals, hierarchy and conventionalism at the workplace, formal education that does not place value on voluntary statements, and, furthermore, the deficiency of practical medical ethics training in medical educational institutions might be the remote causes for this. For the Japanese, stating ethical convictions may be the same as unguardedly revealing yourself as a "potential adversary."

5) What does "being ethical" mean?

In the beginning, we said that "being ethical" is having an honourable personality and the ability to make appropriate decisions. However, we know this kind of definition will incite antipathy and a large number of questions, because it is unclear as to what kind of personality is honourable and what kinds of decisions are appropriate. The fundamental question remains concerning what kind of decisions are good, and how we define what it means to "be good."

Looking back on the history of bioethics, there are no ethical issues that have reached an ethical conclusion free of objections. A strong premise to persuade individuals with an ethical judgment has yet to be found. Occasionally, either public guidelines or current law is mistakenly taken as "ethically correct" and not given due consideration.

There are some medical practitioners who cannot differentiate between substantial justice and procedural justice since they claim that the only thing needed to resolve ethical problems are appropriate procedures. Freeman also argues that some ethicists turn from the important issue of what to do, to the issue of whom to ask, to who should decide, as if that were a substitute for what should be decided (Freeman, 2006).

Character guidance and moral education might not be possible. If possible, they could lead to brainwashing or indoctrination. Universally acceptable character traits may not exist, but if they did, opinions would be especially divided over what kinds of decisions those traits should marshal in certain cases. On the other hand, the list of desirable character traits is clearly defined in professionalism education for medical practitioners, which is attracting more attention. Citing many examples, Darryl Macer (2007) persuasively suggests that personal moral development is one goal of bioethics education. Realistically, few people would think it no problem that medical practitioners are unethical or disagreeable. Thus, there currently exists no consensus on character guidance.

Toward the establishment of bioethics education that strikes a chord with students

In the aforementioned sections we delineated several points that we believe are detrimental to effective bioethics education and to making healthcare practitioners ethical. It is necessary to have the number of hours of education increased, continue to explain the necessity of bioethics education for healthcare practitioners, and examine and understand the present state of bioethics education. Furthermore, as researchers, educators must also be committed to working on the resolution of normative ethics and meta-ethical issues. However, when a student's education ends, so too does evaluation; but how can their education continually demonstrate their effectiveness after a student enters the workplace as a healthcare practitioner?

Unfortunately, no breakthrough plan exists. However, in order to produce results that lead to healthcare practitioners becoming ethical, we feel that the values of a bioethics being imparted to students is more important than anything else and that bioethics education need strike a chord with students. Mere knowledge, reasoning techniques, and ability to analyse papers are not enough. It is necessary that ethical matters examined and talked about at the pre-and post-graduate stages stimulate a student's passions and from time to time arouse a deep resonance that can lead to action by sympathising with certain thoughts and behaviour. It should not be some kind of "tear-milking" education that appeals only to the emotions, but instructors with nihilistic demeanours are also unfavourable. Coercive moral teachings and "sermons" will not do, as students will close their minds to such instruction from the very beginning. An instructor with some degree of normative beliefs is called for. An extremely delicate balance is required.

Ordinary students are not impressed by philosophical texts and bioethics textbooks. Educational materials need to stimulate a student's five senses as much as possible; and supplemental materials that get students to think after seeing, hearing, and feeling them are also desired. This is the case for works of literature, films, and nonfiction commentaries. However, propaganda-like materials that promote a particular standpoint too much must be avoided. Educational materials are needed that are emotional and intellectual, but able to stand up to critical appreciation. More than anything else, education that gets students to think naturally is desired. Emotions devoid of intellectual interests are only temporary.

Making opportunities to discuss with others from diverse backgrounds—such as students of nursing, medicine, and/or healthcare fields at the university level—is especially important. It is expected that a student's aversion to ethical discussion will decline as they become accustomed to talking about ethical issues. Once ethical thought comes to a conclusion in one's mind, it is often stifled and the opportunity to improve individual thought by exchanging opinions with others is lost. Education in communication is required at this time so that students will sympathetically and composedly listen to what others have to say, and be able to express their own opinions with consideration to other people's feelings. Of course, for students to just speak with others is not an adequate form of education; academic lectures by instructors and opportunities to become familiar with textbooks and papers are also necessary.

To summarise, to better foster ethical student healthcare practitioners, presenting issues and discussions that use intellectually and emotionally stimulating, balanced, impressionable materials and opportunities for productive exchange of opinions is necessary. Bioethics education is needed that strikes a chord with students. We must continue our efforts in the pursuit of an ideal education.

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Changes in bioethics education in Japan, with special comments on medical ethics education in Japan during World War II*

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Based on my own experience as a medical student during World War II, and as a medical practitioner of around 60 years, this paper includes a few comments on bioethics and medical ethics education in Japan, with special attention to my experiences during World War II. "Bioethics" was introduced to Japan in the 1970s from the United States and has been popularised rapidly since the 1980s, triggered by a series of discussions on induced abortion, brain death/organ transplant, *in vitro* fertilization/embryo transfer, euthanasia and so on.

Bioethics education was started in Japanese medical schools in the 1980s, and then it spread rapidly spread to nursing schools, law schools, etc. Up to the 1970s traditional medical ethics was taught in Japanese medical schools, usually based on the Hippocratic Oath and Encheridon Medicum (by a German medical philosopher Christoph Wilhelm Hufeland, 1762-1836).

Because in the early 1980s there were so few bioethics specialists in Japanese medical, nursing, and law schools and universities, the media played a great role as quasi-educators and/or stimulators of bioethics, announcing domestic and foreign hot news. Besides the media, a great number of non-medical specialists have played a major role in bioethics education and discussions since the 1980s in Japan. These people are principally lawyers, religious leaders and university professors of ethics, sociology, philosophy, and other related subjects.

Specialisation is progressing in bioethics today. Many bioethicists are discussing topics such as human rights, informed choice or consent, euthanasia, organ donation, DNA and genes, for example. At the same time, the others have had a great interest in environmental issues, overpopulation, natural resources, nuclear issues and global warming. Furthermore, many are discussing metabioethics. Where is bioethics going? What should be taught and discussed on bioethics in schools? Everything is always changing and moving, and nothing stops.

A new style medical education is necessary. Medical ethics education should not just involve leading staff such as deans of medical schools and key personnel in hospitals. More people need to get involved. At the same time, new style medical textbooks should be published. Traditional descriptions in medical textbooks are almost limited to etiology, symptomatology, diagnostics, therapy and treatment, prognosis and clinical statistics. Almost nothing is described and discussed regarding ethical, legal and socio-economical issues. This is the main reason why new style medical textbooks are necessary.

Medical ethics education I received during World War II

I would like to share my own experiences of medical ethics education for historical interest. During World War II, I received a medical education at the Tohoku Imperial University in Sendai, which is now called Tohoku University. I graduated to become a physician. At that time, far more people were suffering from tuberculosis and other infectious diseases and there were no such technologies as *in-vitro* fertilisation or organ transplantation. No particular attention was paid to informed consent or human rights. Regarding ethics for those engaged in the field of medicine, we were taught about the duties of doctors.

We were taught in detail the Hippocratic Oath and *Enchiridion Medicum* by C.W. Hufeland. As a matter

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of fact, Hufeland's book on doctors and ethics was translated from German to Dutch and the Dutch version was brought to Japan during the Edo period. So, back in 1838, the Japanese version was readily available in Japan.

Hufeland particularly valued and emphasised not only the duties of doctors in general, but also the duties of doctors to the sick and the duties of doctors each other. Up to this point, bioethics education had not changed so much. Let me now talk about some things that were emphasised during the war but are seemingly barely taught today.

First of all, we were taught how we physicians should deal with patients with infectious diseases. We were taught that it was unavoidable to isolate such patients, giving them various restrictions and even violating their human rights. Patients suffering from acute infectious diseases, such as dysentery, as well as leprosy patients were the ones who had to be the most strictly regulated and isolated. Tuberculosis patients, particularly those who discharged tubercle bacilli in their sputum, were also strictly handled. Rumours were widespread that leprosy patients were forced to undergo sterilisation operations and induced abortions, and this turned out to be true after the end of the war.

The second thing we learned was the fact that the job of a military doctor would be different from a doctor employed in a medical practice for the general public in various ways. Suppose, for example, you are in charge of physical examinations for conscripted soldiers and there are 10 equally healthy young men in front of you, and you must pick five and send them for military induction. The professor asked us what principles we would use to select the five. Among the 10 might be the son of a poor tenant farmer who works hard to support his household on the one hand and a landowner's son who is always fooling around on the other hand. Someone may be the only son in the family, while the other potential conscript may be the youngest one of seven brothers. Whereas one may be unable to read or write, the other may have graduated from college. "Now, how would you choose five out of 10?" the professor asked us at the end.

Then, suppose you are finally at the front line in the war. With the conflict intensifying, the number of casualties is so large that a team of only one doctor and two medical orderlies is unable to take care of all the injured. Some soldiers look more dead than alive, and it seems impossible to save them. On the other hand, some seem to have the chance of survival with immediate treatment while others have sustained minor injuries. The professor, then, asked us how we would deal with these people, whether we would put priority on the soldiers in the higher ranks, leaving those in lower ranks to succumb to their injuries, or should we adopt some other method of choice. His answer was to start treating those who appeared to have a chance of survival and leave those with minor injuries behind. In this way, we learned a variety of things students nowadays are not usually taught in bioethics education.

Apart from the things mentioned above, we may have been taught about the International Red Cross principle to bring assistance without discrimination to the wounded on the battlefield. But it somehow does not remain so clear in my memory. On the contrary, stories like how harshly the American soldiers handled injured Japanese soldiers in Guadalcanal and other places were circulated among students.

However, we were actually taught something more awful and what was not supposed to exist. According to what we've heard, the primary task of army doctors is to see through feigned illness: A soldier complaining that he can no longer walk even though he should be able to; a patient who always has a fever when his temperature is taken, though he appears to be able to leave hospital; a soldier yelling that his legs ache so much when they are touched a little, saying that he cannot march. "To see through whether they are deliberate or real, it is the military doctors' biggest task," a teacher told us.

Furthermore, one of my seniors whispered to me and this is what I would like most to emphasise what he said. "In the world where we live, there are so many more places that are far more awful and dreadful than the army. In these places, completely different ethics and morals go on openly, and there are prisons and sanitariums, particularly those for leprosy patients," he said. He said these places were almost completely isolated from the outside world, which was then often referred to as *shaba* in Japanese, and inmates of these facilities were not allowed to go out even on Sundays and national holidays.

Quite recently, I read an article on slackers in the German weekly magazine *Der Spiegel* (Page 56, 11th

issue, 2007). According to the story, an increasing number of malingerers (who are called *Drueckeberger* in German) who evade military service (an act called *Ausmusterung* in German) have surfaced as a serious problem in that country. But I will not go into details. Perhaps things do not change so much, but we still need ethics.

Current status of ethics education at agricultural universities in Japan

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Introduction: Why ethics in agriculture?

According to "The Report of the Panel of Eminent Experts on Ethics in Food and Agriculture" by the United Nations Food and Agricultural Organization (FAO), the most urgent ethical task in agriculture is described as "to assess activities relating to food and agriculture in the light of their actual and potential impact on the reduction of poverty, hunger and malnutrition" (FAO 2001a).

Since then, the FAO has published a series of publications on ethics in food agriculture arguing various topics including genetically modified organisms, sustainable agriculture, and fisheries (FAO 2001b, FAO 2001c, FAO 2004, FAO 2005). The background of the argument is based on the recognition that the accessibility to the quality of food is deeply related to the human rights issue. However, issues related to the accessibility to quality of food are diverse and complicated in nature (Macer et al., 2003).

The coordination of government and public sectors is essential to address this important agenda. Under these circumstances, the higher education system needs to play a central role in conducting research and education on ethical issues in agriculture. Japan is not an exception from the issues and the higher education system in agriculture has been playing important roles in improving food productivity.

When we look back, the major historical events that occurred in Japan in the area of agricultural education over the past 150 years, the education system in Japan experienced two major reforms: 1) after the Meiji restoration in 1868, when the Tokugawa government fell because of heavy political pressure, and the power of Emperor Meiji was restored. 2) After the end of the World War II in 1945. It is quite ironic that the westernisation of Japan was started at the Meiji restoration in 1868, and the speed of westernisation was even enforced after World War II. There is no question that the education system in Japan was greatly influenced by these two historical events.

In May 1991, the Standards for the Establishment of Universities were amended. And in April 2004, all the national universities were reorganised as a national university corporation. It was very fortunate that we launched a project in 1987 at the Agricultural and Forestry Research Centre at the University of Tsukuba to compile all the agricultural courses offered at agricultural universities in Japan. This covers the data since 1983 and was entered into a newly created database called "AgBase". We are now able to monitor the changes before and after the amendment of the Standards for the Establishment of Universities using "AgBase". In the present manuscript, we will first overview the historical development of the agricultural programme at universities in Japan and describe the current situation of bioethics education afterwards.

Historical development of agricultural education at universities in Japan

According to Nagai (1965), the Japanese university system could be divided into three periods. The first period was from the Meiji era to the early Taisho era (1868-1918). The second period was from 1918 to the end of World War II (1945) and the third period was from the end of World War II to 1965, the time of Nagai's report (but which, for the purposes of this paper, has been extended to 1991). Although social

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conditions around Japan varied greatly during these periods, improvements in agricultural production was always seen as a national imperative.

First Period (1868-1918)

The first period began with the Meiji Restoration in 1868. The Meiji Government recognised that Japan's scientific and technological development lagged behind that of the United States and Europe and the administration implemented measures to turn Japan into a major industrial nation. Naturally, this had a significant effect on the educational system. From the outset (1886), Tokyo Imperial University, the first university in Japan, offered traditional academic programmes in its colleges of law, liberal arts, and sciences, as well as programmes in applied fields such as engineering.

During this period, the Japanese government invited numerous foreign professors to teach at Japanese universities; in 1873, for example, the government allocated 14 per cent of its educational budget to pay foreign professors, and 18 per cent of this budget to pay Japanese nationals to study at universities outside Japan. During the 34 years from 1875 to 1908, the Japanese government was clearly stressing the importance of natural sciences, sponsoring 259 Japanese nationals to study natural sciences at foreign universities, in contrast to the 114 social science students, 42 students of humanities, and 15 art majors who were sent overseas.

Of these 259 natural science students, 87 were studying engineering, 85 studying medicine, and 17 were studying agricultural science, in contrast to the 53 students in basic sciences, clearly indicating the emphasis on applied fields. It should also be mentioned that the major role of all the campuses of Tokyo Imperial University, i.e., the colleges of law, humanities and science, was to translate and introduce technical papers, originally written in English or other European languages, into Japanese. This means that Japanese universities started not as institutions pursuing purely academic interests, but as institutions which sought to acquire and diffuse practical knowledge from technologically advanced Europe as well as USA. In the over 100 years which have elapsed since then, this fundamental trend toward emphasising applications over purely academic pursuits has remained strong in Japanese academia.

The establishment of Sapporo Agricultural College and Komaba Agricultural schools

There are basically two schools of agricultural education, one originating from the Sapporo Agricultural College (SAC) (presently the Department of Agriculture and the Department of Veterinary Medicine of Hokkaido University) and the other based at Komaba Agricultural School (presently the Department of Agriculture of the University of Tokyo). Therefore, a brief examination will be made on the backgrounds under which each school was established and the distinguishing features of their respective methods of instruction.

Sapporo Agricultural College (SAC)

During the early Meiji Era (that is 1870s or thereabouts), most of Hokkaido, with the exception of coastal areas and the southern districts, was undeveloped. The development and settlement of this island therefore became a major concern of the government. In particular, since the late Edo period, trouble had often occurred with Russia, which was seeking to expand southwards. Therefore, the clearing of land and settlement with Japanese nationals was not merely to promote development, it also became a key focus of diplomacy issues. Given this situation, the *Kaitakushi* ("Bureau of Development") was created in 1869 to intensively pursue the development of Hokkaido under the very strong leadership of the director of the bureau, Kiyotaka Kuroda.

Without his farsighted strategy, the development of Hokkaido would have been very much different. Many technicians, primarily from the USA, such as Horace Capron were employed at the Bureau, which sought to draw on the technical know-how and experiences of Europe and America for this endeavour. To foster the development of talented individuals in Japan, the Bureau established the *Kaitakushi-kari-gakko* ("Temporary School of Development") in Tokyo in 1872. One of the requisites of this new school was to establish technical schools in Hokkaido in the future, which was later referred to as Sapporo

Agricultural College (SAC).

Under a recommendation by Kiyotaka Kuroda, the director of *Kaitakushi*, the Japanese government signed a one-year contract with William Smith Clark (1826-1886), the then-president of Massachusetts Agricultural College (MAC), in Washington, D.C., on March 3, 1876. Under the terms of the contract, the Japanese government was to employ Clark as vice-chancellor, as well as an instructor in agriculture, chemistry, and English. The MAC curricula included not only technical education in agriculture, but also sought a holistic instruction including ethical and physical education. Clark incorporated the concepts of MAC's curricula in the formation of the curricula of SAC, which therefore became extremely distinguished. Specifically, the relative importance of English as a language increased; subjects related to speech-making and debate skills were offered, as well as a multi-disciplinary liberal arts education offering courses in the humanities and social sciences. Together with MAC alumni William Wheeler, David Pearce Penhallow, and William Penn Brooks, Clark put all his effort into the establishment and development of SAC. One of the major dilemmas of the school arose when Dr. Clark, a devout Christian, made a request to teach students based on his strict Christian beliefs.

As a government supported school, it was impossible for Director Kuroda to officially accept his proposal. However, with the perseverance of Dr. Clark, Director Kuroda decided to unofficially accept instruction at SAC based on Clark's Christian beliefs. It is, therefore, not a coincidence that many of the graduates of SAC, such as Inazo Nitobe, Kanzo Uchimura, Jyo Niijima, etc, served as devout Christians for the rest of their lives.

Though Clark's actual stay at Sapporo was only nine months, he was able to establish the basic systems required by the new school with the tremendous support of Director Kuroda. Among the early graduates of the SAC were numerous men who would later influence political, academic, and educational circles in Japan. In 1907 the college was reorganised again as the College of Agriculture at Tohoku Imperial University. In 1918 it was once again reorganised, this time as the College of Agriculture at Hokkaido Imperial University. After reorganisation in 1949, it is presently known as the Department of Agriculture at Hokkaido University.

Komaba Agricultural School

In 1874, the *Noji-shugakujo* (Farming Education Institute) employed five instructors from Britain who lectured on farming, veterinary medicine, and chemistry in English. However, British theory did not match with the actual conditions in Japan and graduates were unable to apply their theory into practice on Japanese farmland. Therefore, German instructors were invited to come to Japan in 1880, when the contract with the British instructors expired.

As a result, instruction at Komaba Agricultural School quickly converted from the British style to the German style. This is partly because academia in Japan began to take a decidedly German slant. German instructors such as J. L. Yanson (veterinary medicine, arrived 1880), Osker Kellner (horticultural chemistry, arrived 1881), and M. Fesca (agriculture, arrived 1882) began to lecture on farming practices of their home country. Kellner introduced to Japan the Liebig's research method, which was widely acclaimed in Germany due to its superior results and undertook chemical analysis of farming, particularly to explain about soil, fertiliser, and plant nutrients.

He was keenly aware of the farming conditions existent in Japan, and focused his attention on paddy field cultivation. For example, using hydroponics to investigate fertiliser consumption of rice plants, he sought to formulate the most rational standard for fertilisation. In the mornings, he lectured at school and in the afternoons, he had students experiment with analytical methods. Written records show that because superior results were being reported to German academia and published in English-language journals, students zealously pursued their studies. In 1890, Komaba Agricultural School was reorganised as the College of Agriculture at Tokyo Imperial University, then in 1949 the name was changed to the present-day Department of Agriculture of the University of Tokyo. In contrast with Sapporo Agricultural College, religious influence was limited in Komaba Agricultural College.

Regional Agricultural School

At the beginning of the 1900s, there were strong demands to establish a number of regional advanced educational institutions in various fields, including agriculture. This resulted in the issuance of the College Order in 1903, which helped to establish many agricultural schools. These schools have played a major role in fostering agricultural specialists within Japan. After World War II, many of these agricultural schools became regular four-year universities.

Second Period (1918-1945)

The second period lasted from 1918 to 1945. The year 1918 saw the proclamation of the University Order, and all at once many private schools, including Waseda, Keio, Meiji, Hosei, Chuo, Kokugakuin, and Doshisha, were officially sanctioned as universities.

At the same time, a large number of new national universities were being established and the number of students at institutes of higher education increased 2.5 fold. Underlying this growth was the fact that from 1915 to 1925, Japanese mine and manufacturing production quadrupled, and the demand for college-educated salaried workers was steadily increasing.

On a discipline-by-discipline basis, the role of humanities and social sciences departments was especially noteworthy in the nurturing of future salaried workers. Demand for medical practitioners and engineers also increased. Therefore, universities began to give particular emphasis to professional education. At the close of World War II, there were 48 universities in Japan with a total of about 100,000 students. This period can be characterised as "the period of the tremendous expansion of [the] university system" (Nagai, 1965).

Beginning in the early 1900s, the demand to establish many high-level regional technical schools for instruction in agriculture and other fields increased. This resulted in the promulgation of the College Order in 1903, under which Sapporo Agricultural College and the *Morioka Koto-norin-gakko* (Morioka Higher School of Agriculture and Forestry) were designated as agricultural colleges. By 1914, agricultural higher schools in Kagoshima (agriculture and forestry), Chiba (horticulture), Ueda (sericulture) and Tokyo (agriculture) had also joined the ranks of colleges.

From 1920 to 1924, a new agricultural school was established every year: Tottori and Mie (1921), Utsunomiya (1922), Gifu (1923), and Miyazaki (1924). Among the distinguishing features during this period were the development and improvement of agricultural education at the secondary level, as well as the advance of farming instruction for women, and the expansion of facilities for advanced agricultural training.

In 1914, agriculture alone accounted for 45.4 per cent of the total output of agriculture, fisheries, mining, and manufacturing, but by 1919, agriculture's share had fallen to 35.1 per cent, as opposed to manufacturing's share of 56.8 per cent. During this period, Japan's primary production shifted from farming to manufacturing.

In 1927, farmers slipped into very hard times and controversy increased over tenant farming (rights, rents, etc.). During this period, the government was forced to ameliorate this situation in farming communities.

Third Period (1945-1991)

The third period starts from after World War II, when Japan was governed by General Headquarters (GHQ) under the command of General Douglas MacArthur. As part of the democratisation of Japan, GHQ made many proposals; central among these was educational reform. To achieve this, the US government sent an education mission to Japan under the leadership of Dr. George D. Stoddard. A month later, the mission submitted its report to General MacArthur on 31st March 1946. The Report of the United States Education Mission to Japan (1946) highlighted two problems with curriculums at Japanese institutions of higher education.

The first was its narrow focus and over emphasis on occupational education due to the early start of specialisation, and therefore few opportunities for liberal arts education existed. The second point was the need to foster more humanistic attitudes to provide a background for freedom of thought and a better foundation for occupational training.

In addition, the report suggested that "free thinking, adventurous research and action to inspire the people" was needed at Japanese universities. Specifically, the report stressed that the most pressing concerns were the establishment of universities, sexual equality, financial assistance for students, and the importance of a liberal arts education.

In June 1948, the Ministry of Education announced its "Eleven Principles for the Establishment of National Universities." The result was that, with the exceptions of Hokkaido, Tokyo, Aichi, Osaka, Kyoto, and Fukuoka prefectures, all the national post-secondary schools within a prefecture were consolidated into one university. Following these principles, agricultural schools everywhere became agricultural departments of new-system universities. As a result, in 1949 there were 24 national universities with 26 departments concerned with agriculture, seven private universities, and eight prefectural universities (six of which were eventually moved to the national system).

In 1956, the Ministry of Education issued its "Standards for the Establishment of Universities" (October 22, Ordinance No.28) and two years later, *Nogaku-kankei-gakubu Setchi-kijun-yoko* (Standards for the Establishment of Agriculture-related Departments) with the decision by *Daigaku-kijun-toh Kenkyu-kyogikai* (Council on the Standards for the Establishment of Universities) on March 31. These set minimum standards necessary for the establishment of departments and faculties related to agriculture. Section One of Article Two of the 1958 "Standards for the Establishment of Agriculture-related Departments" delineated which primary faculties should be included in any agriculture-related department, which were classified according to major discipline. In addition, Article Three stipulated the subjects and courses which were to be included as special studies in each faculty of these departments. These ordinances established the framework of agricultural education in Japanese universities and until the Standards for the Establishment of Universities were amended in 1991, the number of universities increased but their systems remained basically unchanged.

Fourth Period (1991 to 2003)

Japan achieved remarkable economic growth during the 1970s and 1980s. One factor cited as a driving force behind this growth is the large highly trained workforce that the education system provided. However, having brought uniformity to education, there have been calls for a "less-pressured education" and for "education that fosters individuality." As a result, class hours and curriculums have been reduced in primary and secondary schools.

In May 1991, the Standards for the Establishment of Universities were amended. Included in this amendment was a stipulation that "every effort must be made by applicable universities to monitor and evaluate the current state of their instruction and research activities." Thus, universities throughout the country began self-monitoring and self-evaluation programmes of their educational curricula and research activities. Most universities have reorganised their educational and research system. Accordingly, the period since 1991 is treated as a fourth period in this report.

The reforms that started in 1991 have taken the form of allocating budgets once the Ministry of Education has reviewed the proposals submitted by each university. This means that universities, which had previously been compelled to comply with numerous regulations, now have the freedom to create their own curriculums. However, it has been suggested that the various revisions have been made based on the suggestion or comments by Ministry of Education against the proposals submitted by the universities. Thus, like previous educational reforms, this reform of the university system was conducted under the significant influence of the Ministry of Education.

Debate over the reorganisation of agricultural departments, which started in 1991, has considered the following points

1) The decline of the agriculture industry in Japan

During the early 1990s, the cost of food imports decreased due to the rapidly rising exchange rates for the yen. However, the market price of farm products remained high primarily due to government policy to maintain domestic agricultural production. This led to criticism from the manufacturing industries and from people in urban regions casting doubts over the necessity of maintaining the agricultural sector at the existing scale. These arguments had a strong impact on the reorganisation of agricultural education programmes at universities.

2) Diversification in career routes for agriculture majors

There has been a diversification in the career routes open to agriculture majors, and it is now not unusual for the graduates of agricultural majors to find employment in areas unrelated to agriculture. This has led to discussion on the optimal number of student enrolment in agriculture majors.

Moreover, after a period of steady advancements, the building of an agricultural infrastructure is now almost complete and improvements in farm productivity have reached their limits. Having achieved their goals of national agriculture policies, there have even been reductions in production levels, such as for rice farming. Agriculture's potential for growth as an industry has lessened, and the numbers of new agricultural workers has dropped drastically. In school curriculums, agricultural education has lost its clear objective of cultivating self-employed farmers.

As far as we are aware, no lecture course on ethics was offered at an agricultural university in Japan during Period One through to Period Three. Since the needs of the national goal during this period were focused on the increase of domestic food production to meet an increasing population, priority was not given to ethical issues in agricultural programmes. However, ethical issues in agriculture became a serious matter of concern after Japan experienced rapid economic growth during 1970s and 1980s. Particularly, after the negative impacts of agricultural chemicals, as pointed out by Rachel Carson in *Silent Spring,* first published in 1962. This triggered public concern on the effects of agricultural chemicals on the human health.

Fifth Period (2004 to present)

It is our current assumption that year 2004 can be considered as the first year of Period Five because of the fact that "the National University Corporation Law", a new law governing the national universities, came into operation. It has long been pointed out that the administration of the national universities in Japan is under substantial influence of the central government. Under the new law, however, major emphasis is placed on the autonomy of each national university corporation and the leadership of the president is highly expected. This has brought fundamental changes in the relationship between national universities and central government. Another important factor to consider is the rapid decrease in the number of high school graduates due to the sharp decrease of the birth rate.

These two factors have enormous impacts on the overall university education system. Universities in Japan are now required to revise the curriculum in order to attract high school graduates to maintain the number of enrolment. In this context, it is extremely interesting to look at how each university has reformed their curriculums and objectives since 1991. However, examining only individual examples, it will be impossible to gain an overall perspective as the measures taken by the universities have varied greatly. Thus, an attempt was made to quantitatively analyse the recent changes to the curriculums of Japanese agricultural universities as a whole.

Current status of bioethics education at agricultural universities in Japan

To investigate the agricultural education curriculum at universities in Japan, it was first necessary to create a database by collecting data about the education curriculums from all universities. Accordingly, the data on the curriculum of all universities in Japan that had an undergraduate programme in

agriculture from 1983 to the present were collected at the Agricultural and Forestry Research Centre, University of Tsukuba, and are shown in Figure 1. For reference, the total number of universities and the total number of full-time student enrolments in Japan are shown in Figure 2. The number of universities as well as the total number of fulltime student enrolment has been constantly increasing since 1949.

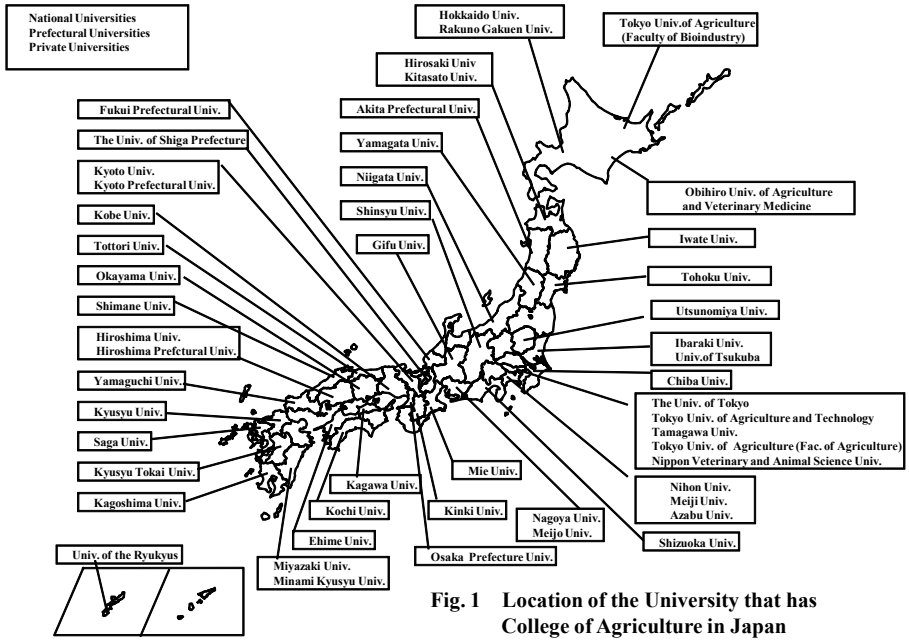


Fig. 1 Location of the University that has College of Agriculture in Japan (as of 2006)

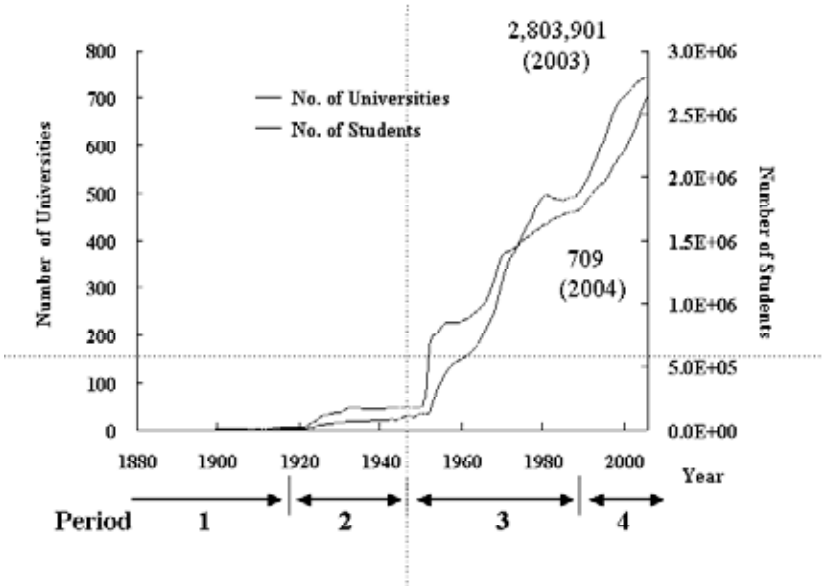


Fig. 2 Number of Universities and Undergraduate Students in Japan (1877-2004) .

Th ral major) and the number of departments (educational unit) in agricultural areas are shown in Figure 3. The number of universities that have agricultural departments (typically called *Noh-Gakubu* in Japanese) has increased from 47 in 1983 to 51 in 2003. Recent increases in the numbers of agricultural departments can be explained by the conversion of regional junior colleges (two year programmes) into four year regular universities. The same kind of conversion from junior college to university can be observed in many academic areas including humanity sciences, social sciences and natural sciences. The major driving force to convert junior colleges into universities is to facilitate the recruitment of newly graduated high-school students. The student recruitment is very important for school management, since the number

of high school graduates is expected to decrease due to the reduction of the birth rate.

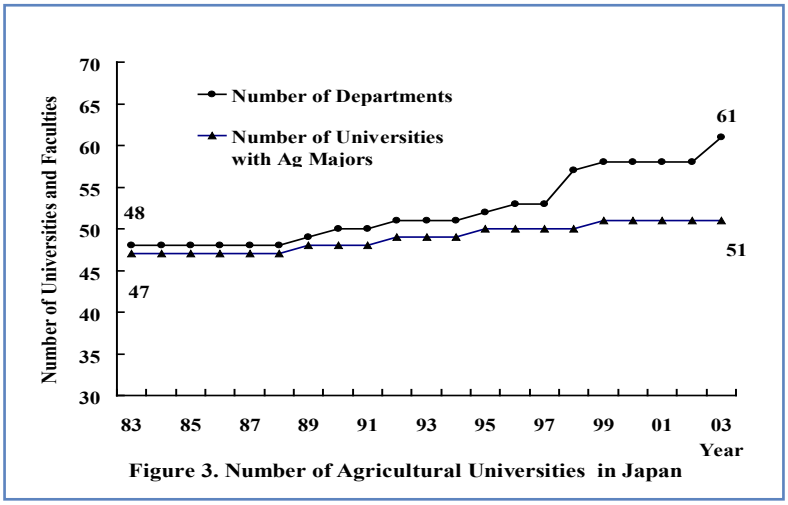
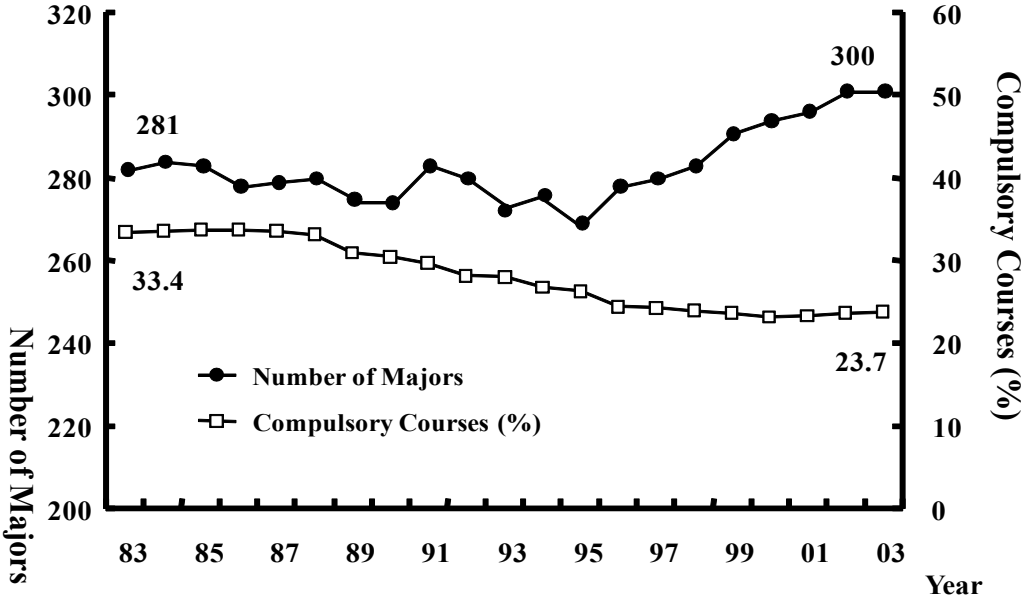


Figure 3. Number of Agricultural Universities in Japan

In order to analyse the educational programme at agricultural universities in Japan, the data was collected and compiled into the "Database of Agricultural Education Curriculums at Universities in Japan ("AgBase"). The survey covers all agricultural fields apart from those related to fisheries. To date, 519,244 records have been registered into the database covering data from 1983 to 2005, and over 20,0000 records are being added each year. The data covers the following nine items: 1. Year, 2. University name, 3. Department name, 4. Majors, 5. Course title, 6. Class attributes, 7. Standard year of study, 8. Number of credits, 9. Whether compulsory or elective.

Figure 4: Numbers of majors and proportion of the compulsary courses at agricultural universities in Japan



Microsoft Access was used for the creation and management of the database, using Visual Basic to analyse the data. The results of the analysis of "AgBase" showed that Department of Agricultural Economics of Hokkaido University was the only university that offered an ethics course at the undergraduate level from 1983 to 1992. It was called an "Introduction to the ethics". In 1993, 11 universities started to offer ethics courses and the number increased to 31 universities in 2005. Among these 31 universities, 19 universities offered a single course, nine universities offered two courses, two universities offered three

courses, and one university offered four different ethics courses.

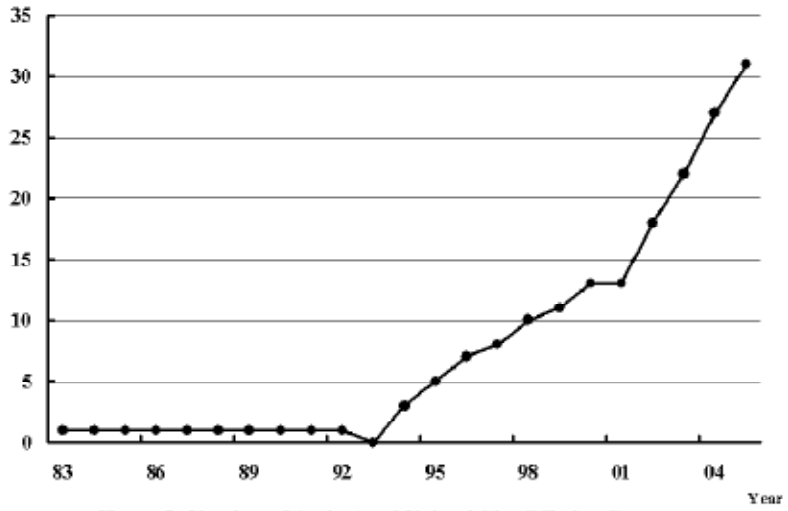


Figure 5. Number of Agricutural Univerisities Offering Courses on Ethics in Japan (1983-2005)

As shown in Table One, the most popular course title on ethics was "Ethics for Engineers" in 2005. Most likely, this course was offered within the agricultural engineering department, where credit on ethics is required to acquire certification for professional engineers (PE). "Bioethics" was the second most popular course title (nine Universities) followed by "Environmental Ethics" (eight universities).

Table 1: List of courses on Ethics offered at Agricultural Universities in Japan (2005)

Course title	# Universities	Course title	# Universities
Ethics for Engineers	15	Veterinary Ethics	5
Bioethics	9	Ethics in private enterprises	2
Environmental Ethics	8	Ethics in Agriculture	2
Ethics in Science and Technology	5	Ethics	2
		Total	48

These tendencies are fairly understandable due to the importance of nurturing an ethical way of thinking in the area of agriculture. Unexpectedly, only five out of 16 veterinary programmes offered a course on ethics as of 2005. The clinical veterinarians play a central role in health and hygiene management of commodity animals, companion animals and wild animals. Ethical issues related to animal welfare and management should be taught in all of the veterinary programmes.

The agricultural universities in Japan are currently under major reformation to cope with the rapidly changing social, environmental and technological circumstances. Among the many agendas to reform, education on ethics is undoubtedly becoming one of the key issues for the agricultural programmes. This is because food produced by the unethical use of agricultural technologies to modify the phenotype of commodity animals and plants, is not accepted by the consumers.

Furthermore, many of the technologies to control human reproduction, such as cryopreservation of sperm and egg, *in vitro* fertilization, embryo transfer, etc, were originally developed by researchers of agriculture sciences. The hot discussion on the production of cloned human embryos was started immediately after the birth of "Dolly the sheep", the first somatic cloned mammal was produced at the Roslin Institute, a research institute on animal agriculture in England (Wilmut *et al*. 1997).

It is therefore essential for the agricultural university to provide systematic curricula on bioethics to educate future agricultural researchers. In fact, one of the major scientific journals in the area of animal science called *Livestock Science* published by Elsevier, devoted an entire issue on "Ethics in Animal Agriculture" in September 2006 (Livestock Science, 2006). Furthermore, Chrispeels and Mandoli (2003) published a paper entitled "Agricultural Ethics" in *Plant Physiology*, a scientific journal on plant science.

Conclusion

In conclusion, the importance of the ethical issues in agriculture is becoming recognised among agricultural universities but the percentage of universities that actually offer the lecture course on ethics is still limited to 61 per cent of the 51 universities that have undergraduate agricultural programmes. Continuing quantitative expansion and qualitative enrichment of the subjects on ethics are apparently necessary in agricultural programmes at universities in Japan. One hundred years has passed since the word "ethics" was translated into Japanese as *Rinri* by Tesujiro Inoue (1855-1944), a philosopher teaching at the University of Tokyo. Ethical issues inevitably have become one of the key educational components of agricultural programmes at universities in Japan.

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Appendix A:

Structure of the current formal education system in Japan is as follows (Information provided by Ministry of Education, science, culture and sports. The original information can be accessed at http://www.mext.go.jp/english/org/f_formal_22.htm)

Compulsory education

Elementary school aims to provide children aged between six and 12 with six years of general elementary education suited to the relevant stage of their physical and mental development. Lower secondary school aims to provide children between 12 and 15 with three years of general secondary education suited to the relevant stage of their physical and mental development, based on the education they have received in elementary school.

Upper secondary education

Upper secondary school provides children who have completed compulsory education with both general and specialised upper secondary education. Upper secondary school subjects include general educational courses (ordinary courses) and specialised subject courses (specialised courses) such as agriculture, industry, business, fisheries, home economics, nursing, information, welfare, science, mathematics and English language. However, as a part of the reforms made in upper secondary education, in April 1994, a newly established integrated course programme went into effect, which provides general and specialised education on an elective basis to students. In addition, some upper secondary schools offer part-time and correspondence courses to working young people.

Outline of higher education

The institutions for higher education in Japan consist of universities, junior colleges, colleges of technology and specialised training colleges (specialised schools) which offer specialised courses. Since the end of World War, the scale of higher education in Japan has expanded remarkably, particularly in the number of private institutions. Today the scale of higher education in Japan ranks among the highest in the world.

(1) Universities and graduate schools: The purpose of universities, as the centres of advanced learning, is to provide students with wide-ranging knowledge and to conduct in-depth teaching and research in specialised academic disciplines. The term of study is four years (six years for medicine, dentistry and veterinary medicine). Graduates are awarded a bachelor's degree.

A university may also establish a graduate school offering master courses (two-year standard term of study) and doctoral courses (five-year standard term of study: four years for medicine, dentistry and veterinarian medicine) or professional degree courses (two-year standard term of study; however, depending on the field in some cases it can take between one and two years or more than three years). Those who have completed the graduate course are awarded either a masters, a doctorate or a professional degree.

(2) Junior colleges: The purpose of junior colleges is to conduct in-depth learning and research in specialised disciplines and to develop abilities necessary for employment and daily life. The term of study is two or three years and the graduates are awarded the title of associate.

(3) Colleges of technology: The purpose of colleges of technology is to conduct in-depth learning in specialised disciplines and to develop students' abilities necessary for employment. Colleges of technology, unlike universities or junior colleges, admit graduates of lower secondary schools. The term of study is five years (five and a half years for mercantile marine studies) and graduates are awarded the title of associate.

* Paper first presented at the joint UNESCO:UNU-IAS Roundtable on Japanese Perspectives on Bioethics Education held in Yokohama, Japan in February, 2007

Bioethics as a challenge*

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Introduction

Teaching courses in bioethics for years and occasionally presenting my views in academic societies, I think bioethics is not only an academic discipline, rigorously surveying and analysing the ethical implications of biomedicine and health care, but it is also a movement concerning the state of human life and health involving not only academics, but also common citizens. It is always raising questions and asking us to probe our way together in search of a better view of health, and better agreements on health practices, policies, etc.

This is mainly because of incessant developments in medicine as science and technology which force us to think afresh of a better way of coping ethically with what we can do technologically. It is also because of the expansion or deepening of our horizons as to how we view our own immediate life in its interrelatedness with the lives of other people in the world and in the future. We are more and more realising the fact that our life is linked to not only other lives in other parts of the world but also to lives in the future.

Bioethics is not merely a concern about a patient's rights or patient-centred medicine, or the patient-physician relationship. It was at its outset, as we know from the spirit of Nuremberg code and the Helsinki Declaration and others, sometimes regarded as a set of principles and guidelines safeguarding the human rights of patients or research subjects. But as procreational tourism or the organ-transplant-trade become rampant and enhancement medicine became a huge industry in developed countries, whereas in developing countries there is not enough food and clean water supply, let alone primary medical care, bioethics cannot remain concerned about patients' rights alone.

When neuroscience and genetics are becoming more able to investigate and invade into what and how each one of us thinks and behaves, bioethics has to re-examine its raison d'être.

Yet, this means that the basic spirit of bioethics remains and is ever more important, namely; its concern about human dignity and respect for the person, even though the content of these notions are not immediately given clearly and simply.

Bioethics mirrors problematic situations concerning our life and society and the world and asks us to think afresh about this life of yours and mine, life on the planet, more and more humanely. Bioethics remains a process of mutual education, not merely a set of principles and/or codes and guidelines, nor a business of a bunch of academics or their discipline in academia. It has to go beyond the institutionalised subject of academic courses taught by bioethicists, and it also has to help change our view of school education which is part of the institutional devices of the modern age.

Education in Japan

Now let us turn to the state of education in Japan and we notice that it is in a critical situation, if not in a shambles. In the midst of affluent society where one can pursue one's desire freely around the clock, young people are not interested anymore in education, that is, drawing on the possibility of developing what one as a whole human person can become through encounters with other persons and the world.

It has been pointed out over these two or three decades that students are interested only in the

instruction which they deem amusing, easy and useful to them. In other words, they satisfy themselves with whatever comes their way conveniently, virtually or materially, and are becoming more enveloped in themselves. Narcissistic as they are, they avoid confronting or encountering other individuals and situations different from what they regard as relevant to their interests. Japanese children as well as those in other East Asian countries, tend to score well in school subjects but they are neither enthusiastic nor truly interested in learning, for instance, from natural science or about other people in the world (as every educational indicator comparatively studying school children's attitudes and academic achievements shows).

Quite a few students are interested only in scoring good grades so that they may succeed in schools, go on to colleges and universities, and gain advantages in a harshly competitive society. As knowledge in our days accelerates in its quantity and in its abstractness and sophistication, it is increasingly difficult to live up to the current level of specialty and expertise and come up to the point from which to have a good perspective of how we are and how humanity is, how the universe is, etc.

We are tempted to get ensconced in an ever smaller speciality or private pursuit of whatever happens to come our way. People enjoy more uniform amenities, commodities and what the mass media offers, and yet they tend to live in a more withdrawn lifestyle meticulously and nervously guarding their privacy. Naïve interest in being in the world with other beings and cooperating with other people is getting weaker. If young people tend to be content with what is convenient to them and are not interested in encountering what is different from their individual temperament and divertissement, education in its original sense and ideals is bound to wither. Hundreds of thousands of young people in Japan are withdrawing from society, confining themselves in their room at home or doing no work or schooling (so-called NEETs). We are in dire crisis as a society, for what we witness is not just a crisis of education but it is a crisis for being a human being in the world.

Telling young people to study hard so that they may become successful in society, so that they may contribute to the competitive nation-building has its significance. It is high time, however, to realise that being a good person concerned about other living beings is as important or more so. Here, bioethics comes in as a basic humane subject for all students, common concern for students in different majors, whether one is interested in social science or natural science or humanities. That requires, as I see it, a change or broadening of scope of bioethics education.

E-School

Let me described in the remainder of the paper what I have been doing at Waseda University. At our School of Human Sciences. Waseda University, we have started a so-called e-School or on-demand method correspondence school where students are in various stages of life, some young, some old, and in all walks of life, workers, homemakers, retirees. Among students I have in my bioethics course at the e-school, there are nurses, pharmacists, nutritionists care-providers, and so forth. While they attend my course on the Internet, students write in their views and comments and share them among themselves and with their educational coaches. This discussion on the web goes on as the course progresses with different issues each time, giving a forum to participating students. I too benefit from what they exchange among themselves. This form of education is one way of opening the vista of bioethics as not merely a course but as a practice of ethics concerning the state of human life and health.

Bioethics and other practical ethics

The modern world is run by sophisticated and complex civilizational systems, with people in many different roles and capacities, with each of their professional specialties collaborating together. Sometimes the degree of specialisation is such that if people are in different occupations or professions, they do not understand each other's specialty at all. The traditional community and religion/ideology are falling apart; we are divided among ourselves, not sharing much in common except mass consumerism propelled by mass production and mass media. In these circumstances it is ethical concern as fellow humans that bonds us together and keeps us humane. In keeping with diversified professions and various roles which constitute the society, ethics in our days, too, is envisioned and practiced as practical

and professional ethics, such as research ethics and engineering ethics, media ethics, business ethics, and so on.

At the core of all practical and professional ethics are bioethics and environmental ethics. Respect for each person and human dignity are cardinal to all people in the world. I have been involved in research ethics committees and teaching research ethics and I think it necessary to have the liaison with other practical ethics and cultivate students interest in them too so that ethical sense, ethical imagination, ethical concern may be considered essential in our world to have unity as humans responsible not only for ourselves, but also for posterity and for the environment. At the core, to repeat, is a bioethical concern because it concerns the life and health of everyone, even if they do not engage in a profession.

A comparative eye

We know we need to develop the awareness that the world is one, sharing one and only planet, and that we are humans in so far as we share the concern for each other and for the environment has come to us men and women after many thousands of years of conflicts and exploitations and blindness to the chain of beings. Now at last we are keenly aware of this ecological oneness and the common human responsibility to it at the time when we are threatened by the global crisis of environment which is, in turn, closely linked to a crisis of humanity in the aftermath of the loss of great traditions.

Yet if we look at human predicaments of suffering from illness, ageing and death, which are common to all of us humans, and which make us reflect on being human and humans and think together as to what is good as humans as part of living beings on the planet, we could be united in ethical concern for each other. For one thing, instead of segregating the sick, the elderly or the dying in institutions, we need to be communicating with people in suffering. For another, by teaching about the reality of organ transplant tourism, the curiously high suicide rate among Japanese, or the German sensitivity about ES cell research, we will come to see our situation of life better and consider what health is, and so forth. We need to develop comparative eyes in bioethics teaching.

In this sense, bioethics is an ever new challenge soliciting us to radically re-examine our way of thinking and doing concerning life and health. It is a challenge for Japanese teachers and students, enabling them to look at themselves as part of the human family, sharing human suffering and concern for each other. Concern and learning about human suffering, not only of my own and of my loved ones, but also of other people in other parts of the world will be educational and will help people to be more humane. We need to accept the challenges bioethics harbours in itself and develop bioethics better through this sort of international exchange of views through UNESCO and the United Nations University.

L'enseignement De L'ethique De La Science Et De La Technologie Dans Les Universites Africaines*

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L'enseignement de l'éthique de la science et de la technologie couvrant des domaines de l'éthique appliquée comme la bioéthique, l'éthique de l'environnement, l'éthique des sciences dans les universités africaines est de plus en plus reconnu comme une nécessité. L'évaluation des méfaits et bienfaits des avancées et applications de la technoscience n'est plus l'apanage de certaines personnes ou de certaines universités des pays développés depuis la Conférence mondiale sur la science organisée par l'UNESCO et le CIUS à Budapest (Hongrie) en 1999. En effet, la Déclaration sur la science et l'utilisation du savoir scientifique adoptée à cette Conférence stipule en son article 41 que

> «Tous les scientifiques devraient s'engager à respecter des normes éthiques rigoureuses et il faudrait établir, sur la base des normes pertinentes énoncées dans les instruments internationaux relatifs aux droits de l'homme, un code de déontologie à l'usage des professions scientifiques. (…) Les programmes d'enseignement des sciences devraient inclure l'éthique scientifique, ainsi qu'une formation concernant l'histoire, la philosophie et l'impact culturel de la science.»

Il s'agit des scientifiques du monde entier. Aussi actuellement sur le continent africain met-on en route plusieurs initiatives tendant à favoriser particulièrement l'enseignement de la bioéthique et la formation de réseaux ouverts aux chercheurs et enseignants de bioéthique. On peut, à ce propos, citer les exemples de PABIN (Pan African Bioethics Initiative) des Premières journées de bioéthique pour l'Afrique de l'Ouest et du Centre. Des centres de formations en bioéthique sont fonctionnels sur le continent dont la South African Research Ethics Training Initiative (SARETI), Health Research Ethics Training Initiative in Egypt (HRETIE), West African Bioethics Training Programm.

Des initiatives de cours se prennent dans différentes universités par des philosophes, juristes et médecins.

Notre objectif, dans cet exposé, n'est pas tant de faire le bilan de l'enseignement de l'éthique de la science et de la technologie qui n'est qu'à ses débuts, mais plutôt de faire un plaidoyer argumenté pour plus de solidarité et de coopération multilatérale et bilatérale en vue du renforcement des capacités des universités africaines pour cet enseignement.

Pourquoi renforcer l'enseignement de l'éthique dans les universités africaines?

En Afrique, quelques universitaires qu'il s'agisse de philosophes ou autres redécouvrent la question éthique fondamentale kantienne du « que faire » pour bien faire face à la mondialisation de la technoscience « omniprésente » dans quelques principaux domaines comme la santé, les communications, l'environnement, l'alimentation et l'énergie.

La santé : Dans le domaine de la santé, s'accentue le souci de la responsabilité de la communauté humaine d'employer la technoscience à promouvoir la santé publique et un égal accès aux médicaments et aux soins de santé d'une part et de l'autre le souci des bonnes pratiques en matière d'expérimentation sur des sujets humains, et embryons humains, ou encore en matière de procréatique, de fin de vie, de transplantation d'organes et de tissus, et de manipulation génétique. Les Africains s'intéressent entre autres, à se doter de réglementations éthique et juridique afin de réduire l'exploitation de leur

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contient comme « paradis » de recherches biomédicales et biopharmaceutiques et d'essais cliniques. Ils se préoccupent également de l'accès équitable des populations vulnérables aux soins de santé et aux produits pharmaceutiques.

Les communications : La société actuelle se caractérise par l'avènement d'une société de l'information qui se réalise grâce à l'apport de la science et de la technologie à l'information. Elle n'est pas sans susciter des questions éthiques liées à la production et à la consommation de l'information, au souci du choix des techniques d'information à développer. Dans ce domaine, les Africains s'intéressent, entre autres, plus à un accès équitable aux Nouvelles Technologies de l'Information et au respect et à la sauvegarde de leurs identités culturelles face aux communications transnationales.

L'environnement

L'augmentation de la détérioration de l'environnement due aux activités humaines a amené à la recherche de normes éthiques devant guider l'agir humain vis-à-vis de l'environnement.

L'Afrique possède d'abondantes ressources naturelles. Paradoxalement l'exploration et l'exploitation de ces ressources demeurent un facteur de dégradation de l'environnement et d'exploitation inéquitable. L'application des sciences et des technologies, dans ce domaine, si elle est fondée sur des valeurs éthiques peut contribuer à la préservation des ressources et à la croissance économique nationale.

L'alimentation

La manipulation génétique dans le domaine de l'agriculture et de l'élevage qui s'accélèrent depuis les années 60 suscite des questions éthiques liées au souci de trouver et de garantir le respect de normes sûres tant pour la production que pour la consommation d'organismes génétiquement modifiés, de même que pour permettre à tous les pays particulièrement africains un accès équitable à la technologie et aux bienfaits qui en découlent.

L'énergie

Le recours aux progrès de la technoscience pour résoudre les problèmes de pénuries énergétiques s'accélère depuis quelques années, mais il n'est pas sans susciter des controverses sur la façon éthique d'agir.

Tels sont certains des principaux domaines où la technoscience est «omniprésente» et suscite des mutations sociales qui obligent à formuler ou à reformuler nombre de questions et de réponses éthiques qui constituent de véritables défis pour la communauté internationale y compris l'Afrique. Ces défis interpellent les établissements d'éducation sur le type de citoyen qu'ils veulent contribuer à former.

Dès lors, pour participer efficacement à ce débat collectif, comme nous le disions plus haut, des initiatives se prennent particulièrement par des universitaires africains afin de contribuer à développer les compétences éthiques des étudiants, futurs responsables.

Comment aller de l'avant?

Les initiatives de cours et de centres de formation en bioéthique qui voient le jour sur le continent ont besoin d'être connectées en réseaux et renforcées comme le recommande la Déclaration de Dakar de juillet 2005. Dans cet ordre d'idée, il serait salutaire que les pays africains, dans les années à venir, collaborent davantage avec le Programme de l'UNESCO sur l'Ethique des sciences et de la technologie et que la COMEST mette à la disposition d'un grand nombre d'universités africaines le rapport intitulé : L'enseignement de l'éthique qu'elle a adopté en 2003 à Rio de Janeiro, Brésil, afin que celles-ci se l'approprient en l'adaptant aux réalités nationales. Cet enseignement doit avoir une base légale nationale.

L'enseignement de l'éthique de la science et de la technologie sur le continent africain est indispensable. S'il est vrai que l'Afrique traditionnelle attachait une grande importance à l'éducation morale comme

base de l'éducation particulièrement dans la famille et les camps d'initiation, malheureusement on assiste actuellement à un affaiblissement des remparts des valeurs morales que constituaient la famille, les communautés initiatiques voire religieuses. Ces institutions éducatrices à la morale ont de moins en moins d'influence sur une société plurielle. Par ailleurs, elles s'avouent incompétentes à donner des avis normatifs sur les problèmes éthiques que suscite la technoscience contemporaine. D'où la nécessité des recherches approfondies sur les traditions africaines ; recherches qui impérativement devront demeurer très attentives aux conclusions et théories des sciences contemporaines.

Par ailleurs, il faut reconnaître que l'enseignement de l'éthique fondamentale et de l'éthique appliquée est difficile, car il est une vocation et une technique pédagogique qui contribuent à développer le bien et à lutter contre le mal chez l'apprenant. Malgré cela, il constitue la seule activité qui permet à l'apprenant de développer l'aptitude à identifier et à analyser les problèmes éthiques de façon à prendre de manière autonome ses décisions éthiques. Il équipe l'apprenant en science à ne pas s'isoler des sciences sociales et humaines, tout comme l'apprenant en sciences sociales et humaines à s'intéresser aux informations scientifiques. Bref, l'enseignement de l'éthique de la science et de la technologie permet de combler le « fossé » entre les sciences et les valeurs humanistes dont parlait le fondateur de la bioéthique Van R. POTTER. Par conséquent on ne s'improvise pas enseignant-chercheur en éthique ; il faut une formation initiale et continue. Dans cet ordre d'idée les plus gros obstacles auxquels l'enseignement de l'éthique de la science et de la technologie fait face dans les universités africaines sont le manque de ressources humaines hautement qualifiées en éthique appliquée et le manque de documents récents et appropriés. Si ces obstacles majeurs sont levés grâce à la coopération internationale et interuniversitaire, l'ensemble des établissements universitaires peut développer la compétence des étudiants et étudiantes dans la plupart des disciplines enseignées et dans des cours spécifiques d'éthique, et par des activités parauniversitaires tels des services à la collectivité.

A ce propos, les cours spécifiques d'éthique dispensés dans les départements de philosophie constituent des cadres privilégiés pour développer des enseignements menant au doctorat en éthique et approfondir la réflexion en lien avec les problèmes éthiques actuels consécutifs aux avancées et applications de la technoscience

Au premier et second cycle, l'ensemble des disciplines scientifiques peut contribuer à développer la compétence éthique aujourd'hui plus nécessaire aux scientifiques qu'au temps où François Rebelais disait que « science sans conscience n'est que ruine de l'âme ». La pratique des sciences de la nature est indissociable d'une éthique de la science, de la recherche scientifique, et du souci de l'environnement. La pratique de la médecine est indissociable d'une éthique médicale, de la recherche biomédicale de l'expérimentation sur les êtres humains et autres. La pratique des sciences sociales et humaines est liée à l'éthique de la citoyenneté démocratique indissociable d'une compréhension suffisante de la sécurité environnementale, et des questions scientifiques.

En conclusion, l'Afrique n'est pas épargnée par les sérieux défis et dilemmes éthiques qu'entraînent les avancées et applications de la technoscience. Le renforcement des capacités en Afrique en vue de développer la compétence éthique des futurs scientifiques et technologues tout comme des futurs spécialistes des sciences sociales et humaines interpelle la solidarité et la coopération internationales.

Joint plan of action for regional networking in bioethics education towards better bioethics education*

We are participants at the UNESCO Asia-Pacific Conference on Bioethics Education, held 26-28 July 2006 in Seoul, Republic of Korea. Together with other members of the UNESCO Asia-Pacific School of Ethics we adopt the following joint plan of action:

1. Rationale for bioethics education (Reason for actions)

Given the rapid development of science and technology, for example, genetic engineering, neuron-engineering, and nanotechnology, and the implications these raise for individuals and society, people need to have the opportunity to shape the direction, purposes and goals of science and technology.

Societies and communities will progress in a more just, equitable and sustainable direction if the cultural, ethical, and spiritual values of those societies are central determinants in shaping technology and science.

Bioethics includes ethical issues related to (all branches of knowledge, including) the environment, life sciences, and medicine and associated technologies, and the participants at this conference accepted the broadest possible understanding of bioethics. They also recognise that many of the same points can be said for development of education to address the ethical issues associated with science and technology in general.

To ensure public participation and making wise decisions about their and their children's future, providing bioethics education at all levels is necessary.

As individuals from some of the member states who have agreed to Declarations on Bioethics, we recognise that working together as a regional network will be an effective means of achieving the goals below. Taken together, there is a need for people to be able to express/discuss their values through bioethics education for all groups of human society.

2. The societal mandate for bioethics education

We remind governments and all persons involved in bioethics education of the commitments made in the Declarations adopted by all member states of UNESCO relating to bioethics education, specifically including:

Universal Declaration on the Human Genome and Human Rights (adopted by the UNESCO General Conference 1997 and endorsed by the UN General Assembly 1998)

"20 States should take appropriate measures to promote the principles set out in the Declaration, through education and relevant means, inter alia through the conduct of research and training in interdisciplinary fields and through the promotion of education in bioethics, at all levels, in particular for those responsible for science policies."

Universal Declaration on Bioethics and Human Rights (adopted by the UNESCO General Conference 2005)

"23. (i) In order to promote the principles set out in this Declaration and to achieve a better understanding of the ethical implications of scientific and technological developments, in particular in young people, States should endeavour to foster bioethics education and training at all levels as well as to encourage information and knowledge dissemination programmes about bioethics. (ii) States should encourage the participation of international and regional intergovernmental organisations

* Statement adopted and revised by participants of the International Bioethics Education Network and members of the UNESCO Asia-Pacific School of Ethics at the UNESCO Asia-Pacific Conference on Bioethics Education, held 26-28 July 2006 in Seoul, Republic of Korea.

and international, regional and national non-governmental organisations in this endeavour."

3. Goals

Research has shown that there are a number of goals of bioethics education including:

a) Knowledge

- Development of trans-disciplinary content knowledge;
- Understanding the advanced biological concepts;
- Being able to integrate the use of scientific knowledge, facts and ethical principles and argumentation in discussing cases involving moral dilemmas;
- Understanding the breadth of questions that are posed by advanced science and technology;
- Knowledge of cultural values.

b) Skills (capacity building in skill acquiring should be multi faceted or many sided, and the goals include):

- Balancing benefits and risks of Science and Technology;
- Being able to undertake a risk/benefit analysis;
- Develop critical thinking and decision making skills and reflective processes
- Develop creative thinking skills;
- Develop foresight ability to evade possible risks of science and technology;
- Skills for developing "informed choice";
- The required skills to detect bias in scientific method, interpretation and presentation of research results.

c) Personal moral development:

- Understanding better the diversity of views of different persons;
- Increasing respect for all forms of life;
- Elicit a sense of moral obligation and values including honesty and responsibility;
- Being able to take different viewpoints to issues including both bio-centric and eco-centric worldviews rather than only anthropocentric perspectives;
- Increasing respect for different people and culture, and their values;
- Developing scientific attitudes, reflective processes, and an ability for holistic appraisal, while not ignoring the value for reductionist analysis;
- Knowledge about bias in the interpretation and presentation of research results, benefits and risks of technology and bioethical issues, and how to detect bias;
- Exploration of morals/values (values clarification);
- Values analysis and value based utilization of our scarce natural resources;

We note that many of these goals apply to ethics education and (education) development of critical thinking in general.

4. Implementation challenges

We applaud the efforts made by those involved in bioethics education to date, and UNESCO for convening this conference, as well as other meetings with the goal of building capacity in the region for teaching bioethics.

We call for increased support for implementation of all methods for bioethics education at all levels in culturally appropriate ways. Sound discussion of the underlying values and cultural factors in setting

these targets is important.

We will work to overcome obstacles for implementing bioethics education by all available methods including:

- using objectiveness in evaluation;
- training more professionals (teachers, medical experts, philosophers, industrialists, engineers, managers, etc.);
- developing a wider range of appropriate support materials for different contexts/situations;
- increasing the time allocated to the teaching of bioethics;
- increasing the value or credit given to bioethics components of courses or bioethics courses;
- developing teaching and learning methods that encourage motivation to learn about bioethics;
- encouraging scientists to engage with bioethics;
- integrating all forms of ethics education into the core curriculum (main-streaming);
- extending ethics consultation systems;
- in all these aspects to conduct research that can find the best method to develop concrete mainstreaming of ethics into subunits and blocks into the curriculum;
- Fostering team spirit and healthy inter-personal relationship among team members and networking personals;
- Establishment of teaching resource and research centres open to all.

5. Targets

There are a variety of targets of bioethics education. We identified specific target groups for bioethics education, and conducted workshops on some of these. There were many overlapping needs, including groups such as:

- The General Public (and cooperation with the public media). Influencing the government to develop better policy in science and research, and update this to address social needs;
- Educational institutions including: Primary schools, High School, and Universities;
- Scientists and Graduate School;
- Students in Health Sciences and Technology Professions, Basic Sciences, Social Sciences, Engineering, Economics, Management and other non-science majors;
- Government officials and Ministers;
- Media and journalists;
- Legal profession, Economists and administrators.

6. Curriculum development

Some general features need to be considered, although every culture needs to develop their own curriculum appropriate to their values and culture. Participants are ready to assist in the delivery of these goals.

Dedicated time for a bioethics curriculum needs to be integrated and administered.

Curriculum development workshops for in service and pre-service teachers, and for all levels of education, primary secondary and tertiary, need to be organised, in the context of values education.

Development of integrated curricula across all levels of education that develop critical thinking skills and critical analysis.

Cross curriculum cooperation between different academic disciplines, and development of a transdisciplinary curriculum.

Ongoing assessment of curriculum and continuing modification thereof.

7. Teaching materials

We call for all teaching materials to be made openly available for free download on the Internet. Production and sharing of free on-line teaching materials for bioethics education in different languages with a variety of cases from different cultures. Collection of multiple materials in multiple languages. Sharing of materials requires adequate dissemination plans.

Researchers and educators to work together across cultures to compile and produce materials which can be used at a variety of levels, including both school and college classes to teach about bioethics. We call for an extension to existing compilations of materials, such as Macer, D.R.J., ed., A Cross-Cultural Introduction to Bioethics (2006).

Development and improvement of the teaching resources, such as Videos and DVDs. A repository of case reports by countries/regions needs to be established.

Introducing different cultural and religious practices in response to bioethical dilemmas.

Establishment of Bioethics Teaching and Learning Resource Centres.

8. Teaching methods

Providing different types of teaching methods and models for different target groups such as lectures, seminars, workshops, drama, narrative, role plays, case presentations and analysis, essay composition, small group discussion, on-line discussion forums, newsletters, public discussions, media commentary and critiques, all have important roles in accomplishing the above goals.

Generating sustainable ethics teaching and promotion programmes is a method in itself, required by education planners.

9. Evaluation

Developing evaluation methods for the effectiveness of bioethics education is urgently required in many dimensions such as: knowledge, skills and personal values.

There is a need for continued research into appropriate assessment methods for the curriculum, as well as research into appropriate assessment methods for student learning outcomes and research on appropriate assessment of practices including student, professional and public attitudes towards bioethical issues.

Evaluation should be authentic, comparative and ongoing to give a better estimate of the way bioethics is received in each group.

10. Human capacity building

It is important to raise the awareness within the science community of the importance of the "ethics of science". This can be achieved through various measures, including compulsory ethics education events, such as workshops, conferences, refresher courses and support from parent organizations and agencies such as UNESCO.

11. Networking

We will work towards the expansion of the International Bioethics Education Network initiated in 2004, and also see the creation of networks linking research into policy as a cornerstone of efforts in all levels, from local to regional. Important points include:

- The need to establish and support network partners for the development of bioethics education. These partners can include many existing associations and could also lead to the development of new forums,

networks and associations where appropriate;

- The networks should develop research to have an influence at the policy level;
- There is a need to expand the existing regional networks for bioethics education, and improve methods, delivery and assessment for bioethics education;
- The network of teachers needs to be developed inside each country and between different countries;
- Networks can support teacher education (pre-service and in-service);
- Find more partner schools and universities to enhance capacity of effective bioethics education;
- Networks (including NGO's) can raise community awareness about bioethics;
- Gather more cross-cultural data to measure the effectiveness of bioethics education;
- Networks can provide workshops for Institutional Review Board (IRB) members;
- Through the networks, scientists will be informed about conferences to enable dialogue between scientists and bioethicists.

12. Recommendations

In addition to the above conclusions, we also address particular recommendations to the following groups.

Recommendations to researchers:

- To be involved in promoting bioethics education and to develop methods to document this (such as check lists);
- Continuous exploration of emerging ethical issues in science and technology (e.g., neuroscience, enhancement, biotechnology, nanotechnology, etc);
- Inclusive of cultural sensitivities in research;
- Bottom-up approach in research;
- Embrace hard-to-reach groups in research;
- To be fair in publicising research;
- To write papers to explain the needs given the situation in each country to various target audiences who need to understand the subject more in order to support methods for bioethics education. These groups include policy makers, media and university faculties, for example;
- Take own initiatives to develop activities mentioned above (do not wait for the government or others to act);
- Involve the media;
- Research how to communicate and how to make consensus between philosophers/ethicists and scientists;
- Network with others to encourage sustainable activities.

Recommendations to teachers:

- Action started from teachers themselves has been essential for development of the field, and will continue to be important for evolution of the subject;
- Not to discuss just "Ethics or "Science", but to integrate (ethics through science);
- Avoid personalization in teaching ethics (personal agendas/values), rather empower students to make their own decisions;
- Construct a classroom atmosphere conducive to bioethics education.

Recommendations to universities:

- To establish bioethics departments and centres;
- To establish bioethics teaching and learning resources centres;
- To give adequate resources to support the activity of the centres;

- To establish and to provide sustainable support-courses for bioethics education in teacher capacity building.

Recommendations to governments:

- Governments should support these efforts by giving more priority to bioethics education;
- To have greater interdepartmental dialogue between different ministries and departments;
- To embark upon capacity building for government members (bureaucrats and politicians);
- To allocate time in the curriculum;
- Allocate funding mechanisms to achieve these goals over a long term period;
- Train media, teachers and other groups;
- Establish and fund independent bodies (e.g. bioethics committees) that can engage with the community on bioethics;
- Seek contributions to better understand science's potential contributions cannot be randomly set in stone but require adaptive cooperation, intelligence, flexibility and a well developed sense of ethics.

Recommendations to UNESCO:

- In-service teacher education;
- Training of media, teachers and other groups;
- Newsletter to exchange the information;
- Develop curriculum in bioethics;
- Develop and share materials and case studies;
- Assist in networking and establishing documentation centres;
- Continuing to facilitate opportunities for cross-cultural dialogue, networking, research activities and sharing;
- Continue to advocate teaching of ethics for science and medical students;
- Lobby for the importance of this at the governmental level (national commissions and intergovernmental organizations);
- Strengthen the international bioethics education network, and assist in the development of associations.



Discussion

Discussion and discourse at the conferences account for a significant part of the meetings. They are often wide-ranging and equally thought-provoking. Excerpts from some of the discussions are, thus, provided in the following pages. They are identified by the titles of the presentations after when they occurred.

Lindsey Conner (New Zealand) -The Importance of Knowledge Development in Bioethics Education

Abhik Gupta (India): In fact your study reminds me of another study, where it seems that making young people environmentally aware - simply giving them information - doesn't make them environmentally literate. Do you think a similar situation applies here? For example, we may have ethically aware people who have a lot of information, but they're not really ethically literate.

Lindsey Conner (New Zealand): Yes, in fact in this case I would say that they did not even have enough information. So you're right, yes. Having the information and being aware and then using that information is a totally different dimension. So on the one hand you may know, but use and action is that extra dimension that I think was mentioned earlier this morning, too.

Jothi Rajan (India): Thank you for the nice presentation and your good work on bioethics teaching for high school students. Regarding the bioethics education for high school students, I will just ask you two questions: the curriculum on bioethics for teaching high school students: should it be formal or informal? Secondly, should the assessment be exam oriented or not exam-oriented?

Lindsey Conner (New Zealand): I will talk about the New Zealand case, because we have had a formal exam oriented education for bioethics in New Zealand since 1994, and it was mandated as part of the senior biology curriculums since 1994. We've had 11 years of high stakes assessment linked to the teaching of bioethics, and that's important because without it, I don't think we would have moved as far forward as we have done. In their final year high school exam, the essay that the students had to write was worth 20 per cent of that exam. That is high stakes when you think in terms of the amount of content and how we assess it, just the skills in essay writing alone. But apart from that, yes it is pretty high stakes. I think it should be like this myself, because of the link with what is assessed tending to be what is valued. So until you've got into your assessment, and until it has that high stakes status, it doesn't happen, except by advocates or people who are very committed. This is the national curriculum, all teachers need to be addressing these issues as it is worth such high marks.

A. Nalini (India): Ethics Education in Medical Curriculum: an Interns Perspective

Aamir Jafarey (Pakistan): This just goes to show the similarities between the issues that you face with your interns and residents in India and the ones we face in Pakistan. I did a similar study a couple of years ago which was published in the *Journal of American Bioethics* and almost identical issues were identified by residents. The residents are just at the level above interns who had just finished their internship. The issues like communication that you mentioned and the fee structure that you mentioned and others that you mentioned were included. Unfortunately we are not educating our residents, our interns, our students in ethics except for the informal education that is going on by mentoring, but that is ineffective and unstructured, which is why we are trying to formulate some kind of educational programme. I was just wondering whether you plan to see whether your educational strategies are having an effect on the ethical behaviour of your interns and whether you plan to have a follow up study and see in a year or two whether that has had an effect?

A. Nalini (India): We have not yet started the formal curriculum as such. So that would be the first step before we can think about doing analysis.

Jayapaul Azariah (India): Is there any way of abolishing the medical school entry fees, because in India they pay 150,000 or 200,000 rupees, which if they put it in the bank, they will get more than they earn as a doctor.

A. Nalini (India): That is true, but in some ways, some of these medical school entry fee institutions are doing good work, because there are so many younger people who want to become doctors and our government medical colleges are not able to accommodate all of them. So in that aspect, these institutions are doing good work or putting an opportunity, but of course I do agree that commercialization of medical education is to be avoided.

Aamir Jafarey (Pakistan): Can you explain the medical school entry (capitation) fee for us?

A. Nalini (India): Those are the private sector institutions that you pay a huge amount to get into.

Subrata Chattopadhyay (Nepal): Just a quick comment on the capitation fee. I recently joined a capitation fee college so outside that college in India I can probably comment on that. When the management has the power to choose 80 per cent of the total intake, and believe me, there are seven days of interviews, all the carts of the mini-stores and the politicians and the social elites are there, and there is a kind of examination. In the last ten years it has really been moved in the wrong direction I thought, in my opinion.

A. Nalini (India): I would just like to make one comment. Is it the point of the medical profession? Who is having these capitation fee institutions? Not all doctors are running the institutions. It is the common people that are more so than doctors and as you said, ministers and everybody are coming, so like the remark earlier today: there is moral malaise, not only in the medical profession, it is everywhere.

Juraporn Pongwecharak (Thailand): Progress Report: Development of case study materials

John Buckeridge (Australia): I have a question about case study three, and whether we need copyright permission? Obviously the answers you were giving show there were great concerns about informed consent, but was there any concern about the fact that the obvious thing to do would be to advise the patient about abnormal genes. Was that any concern at all?

Juraporn Pongwecharak (Thailand): Thank you for your point, actually the point you made was an extra point that we did not consider. Actually in the case, if you look into the details in the copy which will be distributed later, actually, the investigator has asked permission for the extra blood collected, for the AIDS examination as well. In order to match with the DNA they stole from the cervical sample cell, they did not ask her for blood collection, and no safeguard measure beyond the result. I mean, no one would ever think about informing the patients about when the result comes out and what should be done next.

John Buckeridge (Australia): Did they not inform the patients about the abnormalities?

Juraporn Pongwecharak (Thailand): They haven't thought of that so far. May I emphasize this is also based on the real situation. It doesn't mean that the case is totally a real one; I made it up, but also based it on the condition of the real situation.

Dena Hsin-Chen (Taiwan): It is very important to teach ethics though case study material. My question is that the subject you teach is for graduate students. It means that it should be combined with the ability of research critique. That we can talk about the case, but for the undergraduate students do you think it is possible to have case material to teach what is the way to examine?

Juraporn Pongwecharak (Thailand): Yes, and I absolutely agree with our teaching all levels from the school, including high school, undergraduate studies and graduate study. But in the school I haven't thought about the distribution of the case to teach undergraduate students yet. In doing that, I will have to ask permission from the course organizer for extra time or an extra hour to incorporate such a topic into the curriculum. So at the moment, it is only included in graduate study and only a three hour discussion which I think is too little.

Maude Phipps (Malaysia): Bioethics Education in Tertiary Settings: the UM Experience

Abhik Gupta (India): It's really very nice to see that you have adopted ELSI concepts in the medical curriculum. What I would like to know is whether you have adopted similar courses, say for example, in biotechnology or biological sciences, too.

Maude Phipps (Malaysia): Yes, the lecturers in the faculties of science, which is where the bachelor of biology and bachelor of biotechnology are taught, have incorporated courses on professional ethics, morals in science and technology, and also contemporary bioethics.

Karuna Rameshkumar (India): Are the courses that you are referring to in biomedical sciences undergraduate or postgraduate?

Maude Phipps (Malaysia): This is an undergraduate course, a formal course, which is compulsory for graduation.

Karuna Rameshkumar (India): The contents of the course looks a little advanced for an undergraduate. We teach the basics of research ethics at the undergraduate level like integrity and intellectual property rights. I think it would be very difficult for an undergraduate to understand.

Maude Phipps (Malaysia): Thank you for your comments, we will take that into consideration. At the moment it is more exposure, we are really grappling at strings to try and include a lot of things. So perhaps we might not be testing them on these issues, in fact, when we do our tests, we test them on very general issues. But just the exposure, we are giving them the exposure that these things are around and one needs to address it. We also have informal post graduates who are invited to attend. So although it's not mandatory, we invite them. We invite all of our post graduate students to attend, and hopefully within the next few years it will be made mandatory for them to do so.

Karuna Rameshkumar (India): What is the role of the ethics committee in teaching? Does it have a role?

Maude Phipps (Malaysia): The medical ethics committee reviews research proposals rather than teaching curricula.

Noritoshi Tanida (Japan): Ethical Views of first-year medical and nursing students in a joint bioethics course

Wang Yanguang (China): I wonder if the joint bioethics course for medical and nursing students is the first attempt of this sort in Japan?

Noritoshi Tanida (Japan): Not actually, there may have been some sorts of comparisons in the past in Japan. But there we have observed such kinds of differences, for instance, between medical and nursing students where it is part of my expectation to see such a result.

Mihaela Serbulea (Romania): I wonder why you used ethical dilemmas from an American background. There are particular ethical dilemmas referring to Japanese society. Probably the students would be more sensitive to those?

Noritoshi Tanida (Japan): You mean total truth telling for cancer patients for example. Well yes, but you see we know the consequences of the cases in the United States for the person in the hospice or on death row. Since we know the results we used the example for this question.

Aamir Jafarey (Pakistan): Bioethics Education in Pakistan: Challenges and Prospects

Jothi Rajan (India): I wish to comment that we appreciated your weekly emails regarding the happenings and also the conferences.

Aamir Jafarey (Pakistan): Glad that you are on our list serve. We have a very enthusiastic secretary and now, because I have the emails of all of you, you will all be on it.

Anoja Fernando (Sri Lanka): Bioethics teaching in Sri Lanka, the current status

A. Nalini (India): I am just curious to know if you have any training programme for the faculty who teaches medical ethics?

Anoja Fernando (Sri Lanka): Yes. We have several workshops, each faculty conducts workshops throughout the year, and we also have external experts who come every year. Also, we do have a continuing programme of medical teaching for medical teachers.

Jayapaul Azariah (India): I would like to know whether the students write an examination in ethics, and if that mark is included in the final grade?

Anoja Fernando (Sri Lanka): Well, in the different faculties it is different, as I said. For example, in my own faculty, I always include one or two ethics issues. However, they do not actually have to write one whole essay. It can be part of an essay, or a structured essay question. It is counted for the evaluation, controlled in marks. Maybe it is not in all faculties, but in my own faculty it is.

Anoja Fernando (Sri Lanka): There has been terrorist activity in the north and the east, so it has been very difficult to fill the university post in both areas as well as government hospital posts because doctors don't like to go and work there.

Mary Rani (India): So most of these schools are located in the capital?

Anoja Fernando (Sri Lanka): Yes, three out of the six medical faculties are in Colombo.

Daphne Furtado and Karuna Rameshkumar (India): Ethics in Paramedical Studies—Mapping a New Agenda

Samantha Pang (China): I have been watching Korean TV dramas, and two dramas were very good in teaching nursing or healthcare ethics. One is "I Dow", it is about a medical doctor, and another one which is more about nurses.

Subrata Chattopadhyay (India): Personally I am very happy for your programme. Whenever I go I prefer your medical college. What I was wondering was giving the scenario of moral dilemmas, as you mentioned, have you thought of conducting a study of how the students of medical or paramedical courses are actually practicing ethics in their professional lives after they get out of the college in the sense that the market, the money, the capitation fee, taking bribes, taking commission from the CAT scans and the MRIs, which is so prevalent in our part of the world. So, teaching ethics is one component. Getting good marks in the question is another component. We are very happy that we are teaching, but in reality, what is happening? Have you thought about conducting that kind of study which will give us the feedback later on?

Karuna Rameshkumar (India): We have been doing these types of lectures for the last forty years. But after the first twenty years we talked about evaluating the systems, like whether it had been applied. So what we did was to introduce courses at the internship level and one at the PG level. Our PG level is they go for two years to rural work and then they come back. So whether they still apply the ethics and what they learned at the undergraduate levels, we will then evaluate. But beyond that, after that we don't do monitoring, because after that they don't come back to us, we don't have the opportunity to interact. Only at these two levels we are able to evaluate them after their course.

Daphne Furtado (India): Actually from the paramedical courses we don't have anybody who has left college yet. It just started so we can't really evaluate it, but it's a very good thing to keep in mind.

M. Selvanayagam (India): Just two days back I saw a documentary from the BBC. An activist in Ethiopia, a lady, was up against a spurious supply of drugs and the documentary traced the origin of drugs to India and then to Bombay. I think some medical doctors must be involved in the preparation of drugs. Do you think it is possible to ban the illegal medical practices? Do you think it is 100 per cent possible

for doctors to be ethically virtuous?

Daphne Furtado (India): I don't think so. Actually, nothing is possible like that; you've just got to try, and when I look at the situation I feel so depressed sometimes, but then I see this factor: you know that there is the possibility of changing an individual and an individual can change the world. At lease you can make an inroad into the situation, even if you can't do anything about it, you realize that we are not preparing them for the real world, we are preparing them for some kind of ethical world, but you cannot help it.

Mina Bhardwaj (UK): You mentioned in your presentation that you also teach by using movies and my question is related to that, because most of the science fiction movies sometimes are exaggerated beyond what science at present can do. If you know the movie like "Gattaca", for example, it is a prime example of what human life can become, so what can you can see as a road, because it also adds to public anxiety. So you as an educator, what do you see coming out of teaching those kinds of movies?

Daphne Furtado (India): The problem is that we do not have enough movies in the Indian tradition. With regard to this there were two movies now - I don't like using the following ones like Patch Adams although they've got some sense. Many of the students cannot understand the language very well. We've got Hindu movies, two of them which we have just started to with our students. One of them is Munna Bhai MBBS. So this man is an actor who is well known for his ethical role in most films, and now he's acting as a medical student and he practices in a medical institution. The second one is Phir Melenge. "Phir Melenge" has to do with AIDS and an AIDS ethics programme. So I'm hoping, you know, if we can do something more like this, along our own lines, rather than importing things like "Patch Adams" or the other ones which come from Scotland. When I look at them I find that it doesn't make much sense in the Indian setting. So that is my appeal. If we could work together, I find so many from the Asian region here, if we can work together to advance some movies with themes that would be of validity to our own students it would be a great help.

Jurapon Pongwecharak (Thailand): Can I just add on the comment about the films because I mentioned in my presentation I use a film, and the name of the film I use is, actually it is a Hollywood film, "Extreme Measures." I can say that it is so extreme and I agree with you that sometimes it is not possible in the real situations, but what I find is interesting is really about the argument each actor makes against or for each other. I think this is the interesting point. Because the students describe to me that when they listened to this actor make an argument, they agree and when they turn to listen to the other actor, they think it is also true as well. So I think this is the way the argument of what was meant. We will know that the movie is quite sometimes extreme at the other end. But I think some of you might have seen "Extreme Measures" starring Hugh Grant and Gene Hackman. I think it is an interesting film, it is so extreme. They use homeless people as a means to an end, they are used for doing something in medical research, and they do it secretly as well. So that may be extreme but as I mentioned the argument for or against some point was very interesting and we can learn from that.

Dena Hsin-Chen Hsin (Taiwan): To accomplish the Life Education Mission through Having Bioethics Courses in Medical Universities

Noritoshi Tanida (Japan): I have just one question. I saw in the introduction that you have many problems with adolescents. It's the same in Japan; we have a lot of problems with our school children and adolescents: suicide, violence and so forth. We set out to improve the kind of education, like spiritual and life and death. The Japanese forgot to use life and education rather than life education, is there any meaning for life education and not life and death education, like the Japanese?

Dena Hsin-Chen Hsin (Taiwan): Yes we also have life and death education in medical schools. But I was in charge of the class before I went to the Ph.D. programme. Now there is a very professional course with topics about hospice and end of life issues. This kind of thing is for their profession. But for life education, it is hard to let them be a healthy person, an individual with a healthy spirit and healthy life who is able to help their patient in the future, and to lessen the suicide problem. Regarding the issue of suicide I think really it's too late to have this course in the university level, because in the middle school or high school we have faced that problem already. But the faculty's always the problem in the high

school so we don't know how to solve the problem.

Peggy Fairbun-Dunlop (Samoa): Is there an increase of suicide and increasing incidents in your country, and secondly, is it mainly males, females, youth or otherwise?

Dena Hsin-Chen Hsin (Taiwan): Yes it is greatly increasing. Really, it is amazing, it's the number one accident as the cause of death in Taiwan. Also for suicide, the age is going down and it's really worrisome. Since I lived in Japan, I know they have the same problem, too.

Peggy Fairbun-Dunlop (Samoa): Is there a gender bias?

Dena Hsin-Chen Hsin (Taiwan): It's not so different.

Subrata Chattopadhyay (Nepal): Regarding suicide and violence, there have been studies which have show that Asian Americans, compared to Americans, have lower incidents of violence and suicide because of their family values and all these factors. I was wondering if you have considered about their religious belief or spiritual inclination as a factor contributing to or maybe associated with, you know, the risk of violence or suicide?

Dena Hsin-Chen Hsin (Taiwan): In Taiwanese society, religion is not very important. We have some value systems like Confucianism and Buddhism and Taoism. For the young people it is not so. But some young people have new religions, but usually it's not so popular. So it is not easy to let them solve the problematic issues through religion.

Camille: I feel very strongly about the question of suicide, I know it's not, perhaps, too much into the topic of this meeting. But as there are so many people here, engaged in this kind of professional work, my experience with this is threefold. Number one: young people today are bored. When I hear the world boredom, I think that is a red light because it means a loss of interest in life, inability to concentrate. I'm thinking, I mean maybe computers have something to do with it. Maybe the inability to focus attention which it is not a disease, its being treated like a disease, which is quite wrong. One needs to try and help young people to experience what it is like to actually do something, finish it, and feel good about themselves. That's number one. Number two is that young people have a very vivid imagination, and when you hear someone talking about asking students what they would do if they only have one week to live, I'm sorry, I don't think this is a good idea. When you get mature enough to deal with dying patients, you have to have quite a lot of insight, how to help them to be peaceful. Thirdly, with this parent pressure, and this whole idea of doing well at school and if you're no good, and I think it's what needs to get back to basics and I think that about vocational education and people using their skills and not just paper degrees and there are no prospects in life. Lastly, for all educators here, education is not just about getting a degree and working in what you're going to have a degree in. It's a much wider thing and I think bioethics can go a long way towards helping us to remember that, thank you. If you are going to counsel these young people I think you need to learn how to detect early warning signs, and this is something which is very, very absent and training most counsellors don't really appreciate. You have to learn to listen. Once you learn to listen I think you can help these kids.

Dena Hsin-Chen Hsin (Taiwan): I totally agree with you and I think that it is very important when you know something about life then you will appreciate and value your own life.

Heiko Ulrich Zude (Germany): Biomedical Ethics Education in Post-Communist Eastern Germany

Aamir Jafarey (Pakistan): I may be completely wrong in this, but is there a similarity in the views of euthanasia between former East Germany and those prevailing today in the Netherlands. Although ideologically they are completely different countries but their views on euthanasia seem to be somewhat similar, and if so, why is that?

Heiko Ulrich Zude (Germany): In fact they are quite similar, but only in the fact. The motivation to vote for euthanasia on demand is totally different. I think in the Netherlands, you have a very strong liberal culture and therefore the value of autonomy and self determination is arranged higher than in Eastern

Germany. I think the difference is, in Eastern Germany you have no religious culture anymore. We have towns with only three percent Christians, or religious people. We have 97 per cent atheism. In some towns, not overall in Eastern Germany, and therefore there is a lack, I guess, to care for the value of life if it is not anymore a function in society. But I think the main difference is in the liberal culture, the liberal tradition and motivation. In fact, it is very similar.

Irina Pollard (Australia): Might there be another explanation perhaps? I find it hard to believe that in a very short period of time, that the East and West have changed through social conditioning. In the East perhaps there aren't any of the opportunities of having contraception for example, as there are available in the west. The autonomy, the wish to be making your own decisions is there equally strongly, except there isn't the back up of the businesses, of providing contraception. Providing education at the school level saying that reproduction is a privilege and not a right and with that privilege go to have informed pregnancies, those sort of attitudes, rather than a more complicated social conditioning in 20, 30, 40 years?

Heiko Ulrich Zude (Germany): So you think 50 years is not enough time to change.

Irina Pollard (Australia): I don't think so, no.

Heiko Ulrich Zude (Germany): Today you have in Eastern Germany the same standards as Western Germany.

Irina Pollard (Australia): So contraceptives are equally available on both sides?

Heiko Ulrich Zude (Germany):Yes, of course.

Irina Pollard (Australia): And education about contraception? And being open and speaking about it?

Heiko Ulrich Zude (Germany): It's all the same. You have few differences, institutional, organizational and the universities are even more modern than in Western Germany today, because everything was built new. And if you go there in Eastern Germany you see especially in the main towns, you have very new towns and every building is just built up ten years ago.

Irina Pollard (Australia): In which case, if society can be fundamentally changed in a very short period of time, maybe there is hope for including, say, other environmental things, so maybe we are much more flexible than it seems.

Jeong-Ro Young (South Korea): If my understanding is correct, I understand that in Germany there is a very strong intellectual tradition of the ontological viewpoint in bioethics. You have already given us the information that the former East German societies are in the process of being built anew over the past decade. However, I really wonder why the medical ethics syllabus has been modelled after the British model instead of the ontologically based German model? Is there any difference? I wonder who has been in charge of organizing the syllabus and the medical ethics course.

Heiko Ulrich Zude (Germany): Those people were mainly physicians and I often think in Germany everything is good that comes from the West. That means the USA and the United Kingdom, and therefore, people say why not look there if you have to create a new one? You can copy it, and most differences or ethics, between Kant and John Stuart Mill, for example, that doesn't appeal to those physicians who create the syllabus. I am not a physician, I am a philosopher and I studied theology, I know it. I am very critical about this because the point you mentioned is not reflected in this book, and not in the syllabus. That's a problem I think, because the concept of autonomy is totally different if you come from the tradition and the culture of the USA, you have Bentham and John Stuart Mill and utilitarianism or if you come from Europe and you have Immanuel Kant with his concept, but it is not reflected.

Samantha Pang (Hong Kong): I need to thank you for your analysis of the East and West German situation, because I have been doing a study in Hong Kong and also mainland China and actually I make very similar observations regarding attitudes between euthanasia and abortion. Actually your analysis threw light to me about how to make sense of why there are differences and now I will be thinking of

these issues in a wider sense.

Heiko Ulrich Zude (Germany): I have learned from the Chinese medical ethics draft to get this interpretation, so look in there and you'll see where the problems are located.

Wang Yanguang (China): I just know from your talk that they started courses in 2002 to teach ethics for medical practice, and for medical ethics to begin to absorb into medical education and also to the medical teaching. What I want to know is what happened before 2000?

Heiko Ulrich Zude (Germany): Nothing about real ethics. What happened was pure paternalism, I guess, because the physician knows best, and the structure of the education in medicine is very hierarchical. You've got the C4 professor and then you've got C3 professor and then you've got the overall physician and the normal physician and then you've got the students of medicine. What he above tells is the truth, and the impact to install ethics in the medical curriculum did not come from the physicians themselves. It was an impact that came from society and from theologians and from philosophers.

Senthil Kumaran (India): Teaching moral values for high school students- Indian context

Chanreoun Pa (Cambodia): Thank you very much for an interesting presentation on the way of teaching students about the moral values. But in the meantime, according to my observation, I think the teenagers, at least in the present time, are sensitive, at least in terms of getting influenced from consumerism and the mass media that you mentioned. So my question is, what are the approaches that you have conducted in providing fulfilling the students' needs in order to see the value of moral values education?

Senthil Kumaran (India): I think we can introduce some fair websites.

Jothi Rajan (India): Thanks for a nice question. Actually, there is team evaluation, as far as my college is concerned. Team members are provided with a certain curricula or syllabus that should be taught or should be practiced and we also go through the various cinemas which are in the town as well as the different websites which are in vogue. Accordingly, we just advise them and also we give them some opportunity whenever possible, to access the Internet because ours is a rural institution located in a rural setup and Internet access is a bit remote to us.

Mary Rani (India): In India we also have this media education. In the schools we teach them, as a part of curriculum, we talk to students about sex education especially and also media education. We view a film and them we lead them into a discussion - what are the scenes to be taken and what is not realistic. The students prefer this type of media education. Also we have this "enviro-club," where we inculcate this environmental awareness to the students, so these are the two important practices in India.

M. Selvanayagam (India): Environmental Education and Eco-Ethics- Current Trends in Education

Jasdev Rai (UK): One of the remarkable things about village life in India traditionally was there was recycling of everything. I have been to India and I have met people in the cities who have never been to villages. This is in Punjab. I am just wondering whether you take student trips to see the rural situation.

M. Selvananayagami (India): We don't take the students to the villages; we take them to a neighbourhood where we are allowed several day trips. We show the students how to separate the solid waste or recyclable or biodegradable/non- biodegradable waste and also the students improvising and all these things are done without villages. We are a reach-out programme.

Michael A. Jothi Rajan (India): Value Education: A Treasure of a Nation

Zhen Grace Zheng (China): I am just going to make some comments. I loved this speech and thank you for your passion in saying that values can be learned in real life. As you said the love from the mother is the first thing a child wants and you also said we can fly freely like birds, and we can dance freely like ocean waves. It makes me think that maybe the practice of bioethics education should not be only confined to the expert level and we can invite some other participants.

Charn Mayot (Thailand): I agree with you that value education or even ethics education is not only what we said or what we thought, but it should be something like what we live. And you accommodate some social activities to the causes. I have that experience, do you ever come across the experience of some students who might come from a certain family background who feel very negative to this activity and they sometimes ask the questions: Why do they have to do it? They don't find any necessity to go out and see things different, and something that maybe they did not want to see. In this case, how do you deal with them and persuade them that at least it is a way in which they can experience and expand their world view. In some cases, it may be useful and it might change their attitude towards others.

Michael A. Jothi Rajan (India): This situation did not arise in my case because in my college all the students are coming from average and below average families. They are below the poverty line. Hence, we give more preference for the poor so that education is an option for the poor. When a student comes to the classroom, from his face we all know - we can predict whether they have eaten breakfast or not. Maybe if I come across this situation in the future, I will have to think how to answer it.

Ester Estrella M. Abito, Milarosa Librea and MaryAnn Chen Ng (Philippines): Bioethics Education Trials in the Philippines

Charn Mayot (Thailand): Can you share the experience of your conducting bioethics in high school. I have experience in conducting ethics classes at university and for students with diverse backgrounds. Normally we concentrate on how to reason and moral reasoning, but for example, in my country, moral education normally emphasizes the cultivation of the values that we think are desirable for our society. In your context, how do you blend these two concepts in your classes? Because it seems like the catholic community has some values that they want to implement into the ethics classes. Especially in this issue, there are so many points and actually there are different ideas even in communities of the scholars, even in the communities of the catholic scholars themselves.

MaryAnn Chen Ng (Philippines): That's a very good question. Actually, in this case it's a Jesuit school, and the biology teachers, although they are given a certain amount of academic freedom in the classroom, cannot veer very far from what the ideals of the school are, that is, Catholic. So in that sense, they have to reinterpret the chapters in the light of their identity, and I think that's a strong way of dealing with it from their part, so they are always in the, I would say, constant modification of certain things, in the sense that they cannot go very far away from who they are.

Samantha Pang (Hong Kong): I am very interested to know you have bioethics in biology classes. My question is, what is the way of knowing or the way of attaining knowledge in biology, and the way of getting into moral reasoning as bioethics seems to be quite different to me based on my experience. I have a nursing background and also study philosophy, so when I start my teaching I am given a class on teaching typical physiology. Then I give a class on teaching theories of knowledge and human nature and then when I go to two classes, I find that I have to shift my mind, otherwise I cannot go into the other discipline. This impacts the understanding of the students who understand that kind of knowledge. So my question actually is: why not take bioethics as a separate class and why integrate into the biology class?

MaryAnn Chen Ng (Philippines): Basically when we approached them they said that we choose to integrate it into the biology classes. So it's their choice to integrate it into biology, but what we do, for example, is we first get into the scientific technical stuff and then maybe, let's say in a one hour class period they would spend about 45 minutes teaching the science of the topic and then the last

15 minutes will be used for some bioethical applications. Then also they use it very much like when it comes to homework, so they have lots of essays and basically the students can write their opinions at home and just give it up at the end of the day. Actually, during the end of the first year they were also thinking, "let's expand to other areas," let's say religion or social science but as of now that has not been implemented completely. So in a way, it was very logistical, it is very easy to introduce in the context of the biology curriculum.

Jothi Rajan (India): I would like to tell one thing, that the Jesuits that are in the Catholic Church are quite advanced in the sense that I have found that they will accept bioethics as a separate curriculum in the whole college. Because now, they don't have any kind of inhibition, so is to say, now Jesuits have laws in the theology of liberation, so there is no problem involved whether to include bioethics as a component. So it will be included as a separate discipline and while the professor is there, he can also give his comments.

D.S. Sheriff (India): In a very highly competitive and crowded curriculum, particularly at the plus two levels, when the schools are only interested in getting the results, how do you find a space for teaching bioethics?

MaryAnn Chen Ng (Philippines): This connects to the issue of assessment and evaluation. The first question is: if you teach bioethics, are you supposed to give it as a question in exams and if you give it as a question in exams, then the entire paradigm becomes different? So the decision right now of the school is basically not to grade it. Because they don't want to say this is what the correct answer should be, or this is the incorrect answer. So in this sense there is no pressure because it is not graded. But there is a tendency though, to smile upon the train of thought which is in line with the school's philosophy, rather than those which are not really the same as what they think is ethical. But I don't know if you can actually totally ignore that factor.

Duang-Kamol Charptrasert (Thailand): Computer Self-Efficacy and student-centred Learning in a Thai Secondary School

Jeong-Ro Yoon (South Korea): Thank you very much for a thought provoking presentation. My question is very simple, could you specify the computer related skill to raise the computer self efficacy in addition to English you mentioned, if my understanding is correct?

Duang-Kamol Charptrasert (Thailand): I'm afraid that in this study, the computer-related skill was specified by me. I include only those variables that I thought might be related to self-efficacy. I think typing today may be related to self-efficacy. I also look at maths skills. I compare students whose major is in maths and science as opposed to those who are majoring in social sciences and humanities. There are differences among them; those who are maths and science majors process higher computer self-efficacy than the rest. So I have to think more about those skills. But I also include some other variables in the past, like some psychological related variable, but not the skills, per se. I look at typing and maths skills and the need for communication which involves the use of logic and also the language skills.

Lindsey Conner (New Zealand): I'd just like to make a comment too, around the use of the internet for investigating bioethics issues, because one of the things that becomes important is: how to you assess the bias, or how do you critically evaluate the information that you are getting from the internet. So I don't know, would you like to comment on that because it applies to all Internet use but it particularly applies to bioethics. How do we help students to understand that some information might be biased?

Duang-Kamol Charptrasert (Thailand): I am also doing work and research in media literacy as a whole, and that includes internet literacy as well. I don't know, I try to develop the students' critical ability, like when I teach a class, I always ask them questions. So my students don't like to talk in class because whoever started talking I will call them and ask questions. I think that developing critical ability is very important, like whenever I ask them about a new study that appears, or even when I tell them something, I always tell them that they don't have to believe me, or: "You don't have to think the way I am, this is just my opinion."

D.S. Sheriff (India): Do you tell your students the scientific information that is found on the Internet is sometimes misleading?

Duang-Kamol Charptrasert (Thailand): No, I don't say that, but I encourage them to evaluate all information. I mean they don't have to use this information. I teach them the skills about how scientific knowledge comes about, what people do in coming up with scientific knowledge. They can use their knowledge about their research methodology to evaluate information. They can question. I always tell them you don't have to believe everyone, you can use your knowledge of research methodology to judge and to evaluate incoming information. You don't have to believe them because they are foreigners or they are Thais, or because they are university professors. I mean they have to evaluate information themselves. I teach them the tools too.

Liping Wang (China): This Year's Flowers are Redder than Last Year- a Brief Introduction of the Bioethics Project in the High School Affiliated to Beijing Normal University in the Past Two Years

Irene Taafaki (Marshall Islands): I'll preface this question with a comment: I am originally from the West, and I'm here in the East, and I live in the South, so perhaps we can meet at some level. Now it's a very unfortunate though in this day and age that we can't meet. I'm interested because you had the first reference I've heard in all of the discourse so far, on parents. The role of parents in ethical education has not come up yet, and I wonder how the responses are with the parents? You say that they take it home and talk to their parents, whether their parents actually bring issues up. Because I would think this is very much at the heart of preparing the minds and the hearts of students to the debates that you're fostering in the classroom that really look excellent.

Liping Wang (China): Family education is a very important part of lifelong development of teenagers.

Jianzhi Li (China): To Treasure your Life, Refuse Drugs

Samantha Pang (Hong Kong): I think this will be very useful and thoughtful for the students to handle the drug situation. My concern is more about the correct conception of drugs. Heroine and morphine actually are used quite liberally in the imperative care setting as a kind of pain killer. I attended the Asian-Pacific hospice conference which was held in Seoul in May 2004 and there is a survey coming out that in the Asian region the use of morphine for controlling of pain is much less because of the conception that this is an evil drug and so it cannot be used. Even for the general public they think that this is an "evil" drug. At the same time, the pain that is being suffered by these people is considerable. So there is a concern about how to correct the view of looking at morphine and heroine as pain killers. So I'm just wondering, this is really a very good programme to teach the students about the correct conception of drug abuse but at the same time I do hope that there is some positive ways of introducing that the drug is therapeutic under good medical guidance for the treatment of diseases, particularly for people who are already at the end of the life stage.

Jianzhi Li (China): Let's not make a mistake between drugs and medicine. Many drugs have a medical function, however, once they are abused, or similarly, if they are not used for medical treatment, they will be drugs. Meanwhile, the characteristics of drugs are that they are addictive and illegal.

Irene Taafaki (Marshall Islands): So I agree with the previous comment. There is a big difference between drug use and drug abuse, and I think the grim reaper approach isn't going to stop people from experimenting. Perhaps there should be a moderation in educating people as to what the drugs do. Only approximately 10 per cent of the population has a predisposition to addiction. So most people do not become addicted. I'm reminded of a publication where burns victims, 10,000 people, were given morphine in hospital against pain. Medically, all of these people were addicted, but there were only 16 people who abused drugs afterwards because everyone always thought it was just part of the curing procedure.

Jianzhi Li (China): I know some case about how to realize the pain of the patient, but the patient has an

addiction. I don't know whether or not there are a lot of related cases in China. It's a problem that we all should consider.

Heiko Zude (Germany): I am very sceptical about your presentation, because what you tell the students or the scholars is do this and don't do that. So my question is: do you really think that ethics means to tell people what they should do and what they should not do? Is this your concept of ethics?

Jianzhi Li (China): I think that should be necessary. I think it does make sense that we do apply the bioethical issues into our school. Here I would like to give you a practical example. Many students say that drug abusers deserve to die. After taking the training they learn that drug abusers, when they are addicted, they are a kind of psychopath from a medical perspective. They are not able to control their behaviour, thus we should consider whether the drug abusers should be punished when they are addicted. Therefore, this article makes students think more scientifically. There are many similar articles. These articles are meant to provide a possible solution for them. However, this discussion and introspection for those matters help us think of our behaviour to be a choice later.

Yuan Yu (China): Organ Transplant and Organ Donation

Aamir Jafarey (Pakistan): Thank you very much for a good presentation on a very important topic. What I wanted to understand is the views expressed by your participants in the study and your own views about the issue of organ transplant tourism that is taking place in the developing world. Especially, people from the developed world are going over to developing countries - such as China, Pakistan and India - but people from developed countries go to developing countries to procure organs, kidneys primarily from poor patients, from sellers and then go back home. What are your views and what are the views of the participants in the study?

Zhen Grace Zheng (China, translated): We think this is not in accordance with ethics and it is illegal to buy human organs privately, and we are sure against these kinds of things in our class. Someone put in this mornings' presentation that sometimes there is no answer. The only answer that we could give students is to give them the opportunities to think, but for this question we hope for this question we do have an answer. The answer is that these things are illegal and we should try to set rules and regulations to prohibit these kinds of things.

Yanguang Wang (China): From your talk, your class is about citizen education, not about ethics. Because in your talk you tell students what is right and what is wrong, so maybe your teaching isn't this and maybe you have something else to talk to us. For example about drug use - the bioethics question should go deeper. Not only "leave out drugs." The proper question is another. For example, do you think the drug user who is an addicted patient sensing all this, can be told how to prevent HIV? How to treat such person who is addicted to drugs? In China now we have a programme, we give drug users who are addicted methadone. So it's not just about what is illegal, it's about another bioethical question that you should raise with students and allow them to think, and not tell them you should do this because life is good, it's just a low level.

Zhen Grace Zheng (China, translated): You say we are dealing at a pretty low level, because we are telling the students what to do and what not to do and bioethics should go deeper. We agree that bioethics should go deeper, and not to tell students what to do and what not to do. But this is what we are doing in our class and we are giving students some pictures, some visual materials and also we give them some reading materials, some examples from real life, then we give them alternatives to discuss. Our target audience is high school students, so bioethics is a kind of theory only that the students cannot learn. So we should provide them with some vivid illustrations, vivid examples, and then they will want to think and form their opinions fully in our class.

Yanguang Wang (China): I think that students are teenagers, that high technology they should know from the mass media. So I am sensing something about the bioethical principles is easy to teach them, so if you lead the student step by step they can learn more.

Zhen Grace Zheng (China, translated): We do understand and we will think about that, but the basic principles of bioethics are very important. For example, beneficial and do no harm, and things like that.

Probably, the best way to learn is first of all you should accumulate something, and you should have some basic information and basic knowledge. If you accumulate enough knowledge, enough background information, with that we can start thinking. We will take your suggestion into consideration and do some change probably in our later courses. Thank you very much.

Jayapaul Azariah (India): Responses to Bioethics Education across Cultures- a survey to assess the bioethical need across THE social strata in Tamil Nadu, India

Lindsey Conner (New Zealand): Thank you very much for making a very pertinent point because you are right, because context and relevancy are so important when we're learning in bioethics and I think this brings us to something I was going to bring up in the text book meeting. But what it means is that for us to develop resources we need to think about the purpose of those resources and how they're going to be used. So my take on the resources is that they are there as a source bank and that teachers would be able to pick and choose which ones they may find useful for their students. But I'm also very aware that in some countries, it's important to have a text book you can use from page one to page 50, you know, and work through and I am not sure that that is the purpose of the resource that is being produced. So, we just need to keep in mind that different countries seek text resources for different purposes. Perhaps, the activities that we develop are not necessarily supposed to be delivered one after the other, or all of them or any one of them, but that we would have the chance to select which ones we might use. Another useful thing to think about it is having the resources available electronically so that you can modify them for your own purposes or make them more relevant to your own context. And that is the advantage of having an electronic resource, of course.

Jayapaul Azariah (India): In the Indian context, the moment it is said that this subject will not count for the final examination, they laugh in the class, they laugh at the examination.

D.S. Sheriff: I think the very idea of having a text book is to make people aware that there is a resource of information, you know, if they want to start a course. So that serves the purpose of the text book project. Number two, for example if you want the subject to be taken very seriously, and considered at the university level, first of all you have to create a group of teachers who are trained in bioethics. So this teaching has to first make the students aware that it is a subject. Then train those students to take up where the majors could be life sciences or the humanities, one of the ancillary subjects could be bioethics. Or you can have the reverse; you can have bioethics as the major subject. What I am saying is it's possible nowadays we have new universities, very different from established universities and it is very easy to introduce new subjects to be introduced in different universities, and in those universities if you could approach this, it could work quite well. I know it is very difficult because many of us learned people do not know what the bioethical principles are. Because first, I think, you have to make people aware, and I think this project will definitely make people aware of what the problems are, what the ethical principles are that one must relay from the laypeople to the teachers.

Jayapaul Azariah (India): The bind is that if you are comparing India and another country, any new development in other countries takes about 20 years to take root in India, except in terms of technology. In terms of technology we are ahead of other developed countries. But in other areas, not only are we talking about sustainable development that was developed in the 1980s, so it took so many years for us to see because of a supreme court order which made it mandatory on every student to study environmental ethics, environmental biology, and sustainable development. So I suggest to Darryl to use the UNESCO office and see that the Supreme Court gives an order that bioethics should be studied by every student.

Subrata Chattopadhyay (Nepal): An Earnest Appeal: We Need Spirituality in Medical Education

Samantha Pang (Hong Kong): I am wondering in an Indian perspective, how spirituality is contributing to medical ethics in the preparation of healthcare professionals. My question is actually while you were

Another thing about Chinese culture, for example, is very secular, pragmatic and actually at present, we are living with how we should define spirituality. We still cannot define it, because the majority of Hong Kong people do not have religion as such. It is only the minority who have Christian beliefs and some ancestor worship. So I have a question as to whether spirituality is related to medical ethics and if medical ethics can readily address the issues about preparing compassionate caring professionals. Maybe more specifically, the reality that you presented - is it a very Indian perspective or is it applied to other cultures as well? Because it seems so applicable to the Hong Kong scenario.

Subrata Chattopadhyay (Nepal): I believe it applies to everyone, the studies I have included are conducted in the USA, but there are studies in other parts of the world as well. I believe it applies to every culture and every religion, and the state. The particularities and the specifics need to be addressed in the specific given scenario. I cannot say what should be done in Hong Kong. You are in a better position to say how to incorporate the emotional and spiritual components of ethics. I am not just saying ethics; it is ethics, philosophy, history of medicine, all need to be incorporated at least to some extent. I was visiting an ethical meeting in Germany and they actually say that history and philosophy of medicine needs to be taught to the students. From 2004, they started competency classes for the medical students that ethics, history and the philosophy of medicine are taught together, so I guess it will differ from one setting to another setting.

D.S. Sheriff (India): Perspective on the Role of Sex Education in the Changing Cultural Scenario and Psyche of Indian Personae in the 21st century

Irina Pollard (Australia): Just a short comment about gayness - it's not really a matter of choice, it's a biological grouping, the same as transsexuals and heterosexuality and homosexuality, it's part of the continuum of human sexuality and it's based in biology.

D.S. Sheriff (India): But for a teenager it appears very much that many have not been exposed to this information. For example if they are asking you, they will not be able to decide whether it is biological, or if there is a genetic disposition to such behaviour.

Christophe Kwami Dikenou (Togo): The Teaching of the Ethics of Science and Technologies

Miyako Takagi (Japan): Could you make a comment on the relationship between international bioethics laws and medical experiments in Africa?

Christophe Kwami Dikenou (Togo): We can make experiments in Africa, but these experiments should be made in respect to international bioethics laws.

Noritoshi Tanida (Japan): I think your talk is very important particularly for pan-American bioethics initiatives. I think everyone knows as I have mentioned before that this dominance of North American bioethics caused lots of problems in health in African countries. I'd like to raise one example, a vaccine that was developed for children in African and Asian countries but because of that tiny side effect, that vaccine was withdrawn, and now a new vaccination is coming out. But during this time, roughly in five or six years, many children in Africa and Asia died because of this imperialism of North American bioethics, so I want to praise the initiative by you in Africa.



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