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Effective Instructional Design for Value Dominant Education in Malaysian Public Universities

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ABSTRACT

Education is an important medium to ensure sustainability of human civilization. Holistic education must contain three main objectives to be achieved; cognitive, psychomotor and affective domains which involve knowledge transfer, skill enhancement and value or attitude inculcation. Our national education today regardless in primary, secondary or tertiary level seems to be more on producing graduates with knowledge and skill, but not much on value as major. This doesn't mean that value-education should be dominant in educational curriculum but it could be dominant within specific value dominant courses. Ethics or moral courses are among value-dominant courses that must prioritize value or attitude effects as main objectives. This needs different and specific instructional design (ID) in which value become major objectives in learning outcomes, activities, evaluation and etc. The study selected environmental ethics course as a case study. The study has recognized unique instructional activities for three different groups in UiTM A, UiTM B and UPSI (n=108). ID also includes learning objectives, learning object and content itself, other than instructional activities. All these have been identified using document review and interviews. The effects of environmental attitude (EA) have been measured using New Environmental Paradigm (NEP) which is endorsed by UNESCO and Behaviour-based Environmental Attitude Test by F. J. Kaiser (2007) at the end of the semester to

identify the effects of environmental paradigm and attitude. In this study, the result of EA would be correlated with the different unique objectives, contents and activities to recognize the best ID for producing value effects, which is the environmental attitude. This led to few main findings as the best practices: religious elements, practical contents and environmental-related activities which have affected much on student's paradigm and attitude towards environment.

Keywords: *Instructional Design, Value-Dominant Education, Higher Learning*

Introduction

Teaching and learning contain holistic objectives including cognitive, psychomotor and affective domains. Ethics studies must accomplish the affective objectives as major domains. Usually we found many researchers revise and extend development of cognitive-based and psychomotor-based instructional matters, teaching methodology and etc but very rare on affective-based. Current trend of tertiary education in Malaysia gives less attention to affective-dominant courses, compared to cognitive and psychomotor dominant courses (Mohd Nor Mamat et al., 2005). This supposed to be well aligned to support the agenda of human capital development as been inspired by the Prime Minister and our national philosophy of education (Kementerian Pengajian Tinggi Malaysia, 2006).

This research is designed to identify effectiveness on current practices of designing learning activities for environmental ethics course as a value-dominant course among students in higher learning institutions in Malaysia to enhance achievement of affective objectives. Such courses, considered as value-dominant courses are supposed to focus more on affective domain rather than cognitive and psychomotor. Among the research objectives are:

- To identify the current application of learning activities in environmental ethics at tertiary level in Malaysia.
- To compare effectiveness of various learning activities and relationship to affective objectives.
- To recommend the best conceptual instructional design for such courses at tertiary level in Malaysia.
- To develop the effective instructional design for ethics courses; to ensure the objectives of affective domains could be achieved.
- To identify effectiveness of current practices in learning activities towards development of environmental attitude

Literature Review

Introduction to Instructional Design

Instructional design becomes a part of educational theories and practices, and it is a special study on how educational process is being designed. In many times, instructional design is synonimized to instructional technology which is not true. Instructional design should be defined in broader meaning while instructional technology would be part of instructional design. Instructional design is usually discussed together with learning styles; which are behaviorism, cognitivism and constructivism. In this case, the study is much concentrated on attitude development as learning effects of value dominant courses; therefore behaviorism theory is most related.

Instructional Design is the systematic development of instructional specifications using learning and instructional theory to ensure the quality of instruction. It is the entire process of analysis of learning needs and goals and the development of a delivery system to meet those needs. It includes development of instructional materials and activities; and tryout and evaluation of all instruction and learner activities.

Instructional Design is that branch of knowledge concerned with research and theory about instructional strategies and the process for developing and implementing those strategies.

Instructional design is the science of creating detailed specifications for the development, implementation, evaluation, and maintenance of situations that facilitate the learning of both large and small units of subject matter at all levels of complexity.

Instructional design can start at any point in the design process. Often a glimmer of an idea is developed to give the core of an instruction situation. By the time the entire process is done the designer looks back and checks to see that all parts of the "science" have been taken into account. Then the entire process is written up as if it occurred in a systematic fashion.

Instructional design involves processes planning in order to make learning instruction more effective and efficient to achieve learning outcomes through assessment. This could be easier understood by understanding nine principles of instructional design by Robert J. Gagne as below:
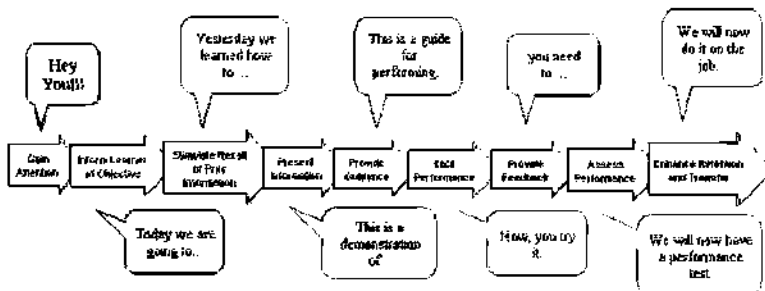
Based on these explanations, instructional design could be concluded as a comprehensive process of learning. It starts with pre-phase which is to gain attention of learners, instructional phase where to inform learners of the objectives up to provide feedbacks on student's performance and post phase, which is to assess performance and enhance retention and transfer. With that, the study on effective instructional design must consider from setting objectives, contents design and delivery, and up to evaluation of learning outcomes. It occurs not only in teaching process in class, but also teaching the course or program as the whole.

Education is basic instrument for human capital development (modal insan). Holistic education must accomplish three educational objectives; knowledge enhancement, skill development and value inculcation. These objectives are parallel with Islamic concept of education through manifestation of tarbiyyah (educating), ta'lim (teaching), ta'dib (value education), irsyad (facilitation) and tabligh (knowledge transforming). Education nowadays needs to be transformed as it focuses very much on examination-oriented. This would affect instructional design and evaluation methods of such courses that could be considered as value dominant courses like Islamic education, moral education, ethics education and so on in the mainstream of educational system. A re-defined conceptual educational taxonomy is suggested to be practiced; contains of sub knowledge-dominant, skill-dominant or value-dominant in holistic way without denying integrated roles within the course itself. A conceptual principle in designing instruction and evaluation of value-dominant education has been reformed (Fattawi Mokhtar, 2006). Islamic education, for example must refer to specific design of instruction including evaluation methods to ensure their effectiveness of value-inculcation.

Bloom's taxonomy lists up three main domains of education; cognitive, psychomotor and affective which stresses on knowledge, skill and attitude as objectives (Blooms et al., 1954). The affective domain has received less attention, and is less intuitive than the cognitive. This concerns much on values, or more precisely perhaps with perception of value issues, and ranges from mere awareness or receiving up to valuing and characterizing (Bloom et al., 1964).

According to professional teaching, every course has its own orientation, instructions and methods to be used. Instead of having three major domains of education to be achieved, it should be refined to three types of domain's orientation. It should be understood that all educational courses have those three major domains in one; but some of the courses must be cognitive dominant i.e. history, geography, management theory and etc while others must be psychomotor domain i.e. engineering, vocational and etc and some must be affective dominant courses i.e. moral, ethics and so on. This is not denying the existence of other domains in every course, but not as major domains to be set as main course's outcomes. This will lead to differentiation of teaching methods, learning activities or evaluation (Blooms et al., 1954, Fattawi Mokhtar, 2006).

Alternative paradigm of value based instruction among adult learners in higher education has been highlighted with few aspects to be taken into consideration (Fattawi Mokhtar, 2005), as below: Objectives: It is important to make it clear that there are two modes of value-based courses; as per defined in national integrated curriculum, all courses must include values in their learning outcomes, where affective domain is part and partial in every course. Another mode is all courses in which values are major outcomes or affective domain as dominant objective such as moral education, ethics courses or general self-development. Generally, such courses are the best platforms to inculcate the understanding of life with universal and general values of life for all people; and it is the real education to spread good values and behavior for all mankind. In this case, new paradigm of teaching and learning in Malaysian higher education is in parallel where learning outcomes have been more focused rather than teaching objectives as in previous. Outcome-based education (OBE) has been the main strategy in Malaysian higher learning institutions. These value dominant courses such as moral or ethics courses must be dominated or driven by affective objectives as major domain; means to cater all aspects of value including moral reasoning, moral feeling and moral behavior. It should not stress on merely transferring knowledge about values but transferring values as main objectives of learning. This will affect types of activities in teaching and learning, approaches and evaluation as the whole. It is believed that according to Bloom's original theory, there are three main elements in every educational practice. This could be understood further that there are in specific, courses which are knowledge-dominant, skill-dominant and value-dominant to be considered in developing educational objectives.

Activities: According to the main objective domain; affective, activities must be arranged in structured manner towards achieving the objective of receiving, responding, valuing, organizing or characterizing. Some techniques which have been used in secondary level like story telling, acting, visit, singing, debates, simulation, interviews or etc. should be taken into consideration for consequence level at tertiary education. Every technique has its own objective, steps to do, strengths and weaknesses.

In Japan, practice of value based activities is compulsory through out every level of education from pre school, primary, secondary and up to higher education level. In Malaysia we have faced many problems on attitude development for the reasons; limited time for effective activities, conventional methods and non creative approaches, focus on cognitive objective and less supports from surrounding parties.

In term of approaches, it is highly recommended to all lecturers to be more creative in teaching and inculcating values onto students. This would reach the objective of affective learning outcomes which involve attitudes, motivation and values. Activities in this domain are different from cognitive or psychomotor

domains, because it needs observation on reflects, student's beliefs and assessment of worth in students (Smith and Ragan, 1999).

Approaches and Tools: In the context of educational taxonomy by Bloom as example, such major affective classes must be practiced within small groups to achieve the affective goals (values education). In the current situation, it may seem impossible to achieve the affective goals within classes' sizes of 50 students and above. In the other words, the failure of education today is not merely because of the ineffectiveness of religious, moral, value or ethics education but more on methodology and application. According to the taxonomy philosophy, again the government or university's management should give longer contact hours with small numbers of students to meet with the affective goals.

From a number of studies, there are six guidelines for effective design of attitude instruction (Simonson and Maushak, 2001). These are: make the instruction realistic, relevant, and technically stimulating present new information, present persuasive messages in a credible manner, elicit purposeful emotional involvement, involve the learner in planning, production or delivery of the message and provide post-instruction discussion or critique opportunities.

On the other hand, in order to focus on the behavioral aspect of attitude learning, there are three important key instructional approaches (Smith and Ragan, 1999): demonstration of the desired behavior by a respected role model, practice of the desired behavior, often through role playing and reinforcement of the desired behavior.

When designing instruction for attitude change, three approaches emerge from the theoretical literature: providing a persuasive message; modeling and reinforcing appropriate behavior; and inducing dissonance between the cognitive, affective and behavioral components of the attitude. These approaches are ideally used in tandem (Bednar & Levie, 1993).

For that, teaching value based courses should not be merely in classes but must be prolonged out of the classes to be observed and assessed. On the other hand, teaching such courses will be more effective with 'teaching through model' concept instead of transferring knowledge. This means that teachers or lecturers must apply in themselves as models to be practiced or followed. It may be supported with other co-curricular activities to enhance inculcation process better and faster. The philosophy of co-curricular activities must not be separated or isolated from academic objectives, especially for affective domain. These activities may be utilized as part of tools in teaching and assessing students as additional tools.

Assessment and Evaluation: Today's practice may seem to have misconception in evaluating attitude or value as in the affective domain. These include poor definition of the construct (attitude) in question, poor measurement practices, including the failure to document development of the measurement instrument and tacking on an attitude variable after data collection has occurred

rather than considering attitudes at the onset of the research (Simonson & Maushak, 2001). In contrast, attitude research has been popular in the social sciences, particularly in social psychology since the 1920s and continues to remain central to the discipline (Eagly & Chaiken, 1993).

Because attitudes cannot be directly observed, they are inferred from behavior, usually in the form of verbal responses or observable actions (Bednar & Levie, 1993). Most of the existing measurement instruments for assessing attitudes and attitude change employ quantitative survey scales with the assumption that different respondents will interpret items in a similar manner (Zimbardo & Leippe, 1991). Research has shown that even rigorously tested measures of attitude such as the Quick Discrimination Index (QDI) may only be valid measures for members of a specific group (Burkard et al., 2002).

In this case, types of evaluation should be different from mere examination as today's practice, it should consider main objectives of affective domain, in which should contain of suggested activities above to asses students' performance with using specific terms. This would fulfill the requirement of outcome based education (OBE) as being promoted by the ministry of higher education.

In Malaysia, such value-dominant courses were introduced as a compulsory course in higher education since early 1980's through religious and moral courses. It has been practiced by all universities in various context and mode status. In 1989, integration initiative has been done by the government to incorporate values in all courses by implementation of KBSR (Integrated Curriculum for Primary School) and KBSM (Integrated Curriculum for Secondary School) where every subject must include discussion on good values element in teaching and learning. This is for the purpose of to inculcate sense of responsibilities into all teachers to develop values and affective domain in education; not merely on religious or moral courses (Wan Zahid, 1993). For a several years it has been implemented in all secondary schools, the result seems not good as it is aspired. Even religious (Islamic) based courses or moral courses which are usually considered as value-outcome courses did not work well to achieve the national aspiration of value objectives in education. At tertiary education, very few universities continue with extended curriculum of such integrated concept while students would concentrate on their specialization. Religious, moral or ethics courses are offered but still isolated and being considered as non commercial as sciences, technology or management based courses. The concept of cross-curriculum has not been yet happened where those courses are being offered as independent courses, optional or elective. This would be solved by understanding applying new dimensions of sub-major educational domains which are defined into cognitive-dominant, skill-dominant and affective-dominant (Fattawi Mokhtar, 2006).

This kind of practice in our tertiary education has led to decadency of moral and ethics among our graduates, even though they have achieved

excellent level of academic performance. It became worse when religions, moral or ethics courses are also taught and focused on cognitive methods and objectives. Lately, the ministry of higher education has promoted outcome based education (OBE) or learning outcomes in all academic programs at the tertiary level. For that Prof Dr Hassan Langgulung defines objectives of education as "(teachers should) always look into perfectness of mankind. They are always guided with the belief that there is something so-called as human nature to be completed; it is responsibility of teaches…" Again, Prof Dr Hassan Langgulung used the lack of affective methods as the main reason to the morale decadency nowadays (Hassan Langgulung, 1996). On the other hand, it should be learning effects or attitude as the result of value-based courses.

The ex-chairman of the national muftis' council, Dato' Dr Ismail Ibrahim concludes that "among responsibilities of a teacher are to build human soul and attitude, to instill knowledge into the students…those are great responsibilities which are burdened to those who are called educators" (Ismail Ibrahim, 2001). The value effects of learning certain courses should be good moral understanding, high ethical values and good behavior. Moral understanding, values instillation and attitude development must be learning outcomes especially for religious, moral and ethics courses. It should be stressed out by lecturers as educators to be major part of outcomes.

In Malaysia, the main vision of education is to produce a society with high personality, according to nation needs (Wan Mohd Zahid Mohd Nordin; 1983). This should enhance our efforts to produce aspired Hadhari society with high understanding and practice of good moral and ethics. According to religious (Islamic) teaching philosophy, education should contain the manifestation of tarbiyyah (educating), ta'lim (teaching), ta'dib (developing), irsyad (facilitating) and tabligh (instilling knowledge). It could not be merely informative interaction, but must be educative within the right objectives and right methods (Al Ghazali, 1937). For that reason, the importance of value studies has led to the compulsion of moral and ethics courses to be offered in all public and private higher learning institutions (National Education Policy [Chapter 36: Item 127.1]; Mohd Nor Mamat, 2005).

From a short interview with national education experts, Prof Dr Sidek Baba mentioned that national education system should give priority to the affective domain in education within effective methods, creative instructional design and reliable to the pattern of students learning styles (Mohd Nor Mamat, 2005).

In this research, ethics course has been taken into consideration as the subjects of the study. In specific, the study will focus on environmental ethics course as to represent other professional ethics courses like business ethics, teaching ethics, legal ethics, and medical ethics and so on. This is based on a very important reason; environmental ethics should not be for merely environmental professionals, but for all. Environmental ethics should be

belonged to all mankind. It is quite different with other ethics courses which are purposely for business people, teachers, lawyers, doctors and so on.

Students who have completed the environmental ethics course have been the respondent to identify learning effects which is environmental attitude according to different methods of teaching in all public universities in Malaysia.

Purposely, environmental ethics course which is part of environmental education is designed to achieve the value objective while other subjects will be focused on knowledge and skill. This will ensure to achieve the aspiration of the UNESCO guidelines to compliment the objectives of knowledge, skill, awareness, attitudes and participation. These objectives are exactly in parallel with Bloom's taxonomy of affective domain which is to receive, behave and up to distinguish values as learning outcomes.

Environmental attitude crisis becomes more serious as UNESCO declared that 2005-2014 as 'the decade of education for sustainable development'. Environmental attitude must be measured best with affective component, factual knowledge and behavior intention component and to meet behavioral component. There are many higher learning institutions in Malaysia offer environmental ethics courses such as UiTM, UMS and UPSI while most other universities offer environmental ethics in chapter of certain course. Based on document review, most of ethics courses focus on cognitive assessment without much consideration on affective domain to produce students with positive attitude towards environment. There is lack of study about the affective impacts of the courses especially using a comprehensive instrument of environmental attitude. The research is part of the study in education for PhD level and it studies on environmental attitude assessment to be effectively used in order to assess the attitude changes among the students. It covers the study on the basic New Environmental Paradigm by Dunlap & Van Liere (which is accepted by UNESCO), Ecology Scale by Maloney & Ward, Environmental Concern Scale by Weigel & Weigel and Environmental Attitude by Kaiser. All these instruments will be modified and enhanced with local requirement and endorsed by prominent scholars in such expertise. The constructed instrument could be used as assessment in environmental education as well as effectiveness of environmental ethics teaching and learning.

Education is basic instrument for human capital development (modal insan). Holistic education must accomplish three educational objectives; knowledge enhancement, skill development and value inculcation. Education nowadays needs to be transformed as it focuses very much on examination-oriented. This would affect instructional design of certain courses that could be considered as value dominant courses like Islamic education, moral education, ethics education and so on in the mainstream of educational system. Ethics education such as environmental ethics course, for example must refer to specific design of instruction and assessment to ensure their effectiveness of value-inculcation.

Recently, according to academic affairs authorities of public universities in Malaysia excluding Universiti of Malaya and National Universiti Malaysia, there are about 47 ethics subjects offered to the higher learning students (Mohd Nor, 2007). These include 5 environmental ethics courses offered in Universiti Teknologi MARA (2), Universiti Perguruan Sultan Idris, Universiti Putra Malaysia and Universiti Malaysia Sabah. All these courses have been offered in different ways, different approaches and different objectives even. The similar thing among them is lack of instrument to assess attitude or behavior effects. Most of the courses focus on conventional test and exam which are more or cognitive test, ranged between 65% (UPSI) -70% (UMS, UiTM) from overall evaluation.

In 1978, social scientists Dunlap and Van Liere published an article in The Journal of Environmental Education that summarized their efforts to measure a fairly new environmental mind-set they and other researchers believed was becoming a predominant influence. At the time, many social scientists believed that a "paradigmatic" shift was occurring. People were becoming disenchanted with the so-called "Dominant Social Paradigm," which emphasized human ability to control and manage the environment, limitless natural resources, private property rights, and unlimited industrial growth.

The New Environmental Paradigm, on the other hand emphasized environmental protection, limited industrial growth, and population control, among other issues. The two social scientists developed the New Environmental Paradigm scale to measure this mind-set. Since its development, the scale has been used in many other studies—both replicating as well as modifying the scale. Many of the studies conducted since then have questioned whether in fact a paradigmatic shift is occurring or has occurred. But most researchers agree that the scale developed by Dunlap and Van Liere is considered one valid measure of environmental attitude and comprises the 15-items listed below.

Later, there are some widely established instruments to measure environmental attitude which have been based to the NEP, among them are: Ecology Scale (Maloney & Ward, 1973), New Environmental Paradigm (Dunlap & Van Liere, 1978), Environmental Concern Scale (Weigel & Weigel, 1978), Children's Environmental Attitude & Knowledge Scale (Leeming et al., 1995), Environmental Attitude & Ecological Behavior (Kaiser, 1999) and Behavior-Based Environmental Attitude (Kaiser, 2007).

In summary, all these instruments were developed to measure attitude in their best way. They were measuring affective components; factual knowledge and behavior intention components (Smythe & Brook, 1980; Kaiser, 1999) and to meet behavioral components (Weigel, 1978). The NEP was introduced as a basic guideline to measure environmental paradigm (Dunlap & Van Liere, 1978) and widely used by Weigel (1978), Leeming (1995), Kaiser (1999, 2007) and others. In this case, the holistic dimension of environmental attitude should be measured with enhancement of religious aspect as internal and eternal

motivational tools for attitude development. Since the NEP is certified by UNESCO, it has been used as the instrument for measuring understanding and environmental awareness while the best behavior test for environmental attitude is Behavior-based Environmental Attitude by Florian J. Kaiser (Kaiser, 2007). In this study, these two instruments have been replicated as they were found as the best to measure the attitude affects towards environment among the students of environmental ethics course in the public universities.

Methodology

The research will be specifically concentrating on learning activities which have being implemented in selected universities. A comparative table has been prepared to identify the correlation between certain activities with learning effects, in specific behaviour or attitude towards environment.

Each university has been identified in order to review the course syllabuses which mainly contain environmental ethics as major. The researchers have visited the universities to identify the instructional activities used by the lecturers and students. This research also studied the correlation between certain activities with attitude effects among the students who have completed the course in order to find the best instructional activities for achieving attitude development as affective objective.

The questionnaire has been distributed to all respondents during their last class in the semester of June-December 2008 and they have been given a short briefing about the instrument and the objectives of the study. They have been allocated sufficient time to complete the test which comprises a set of three questionnaire; about the demographic items, knowledge on New Environmental Paradigm (NEP) and Behaviour-based Environmental Attitude test.

All respondents have completed the questionnaire and collected immediately after the session. Analysis has been done to identify the level of NEP knowledge, behaviour towards environment as well as demographic items as supporting factors towards attitude development.

While at the same time, the interview has been done to identify the instructional activities used by the lecturers namely Siti Norida Abdul Kadir (UiTM) Malaysia, Hadibah Idris (UiTM) Malaysia and Assoc Prof Dr Stefan Bucher (UPSI) Malaysia with some officials and coordinators from those universities.

The research has considered all registered students in UiTM and UPSI who takes Environmental Ethics (IPK661), Environmental Ethics (LAR655) and Environmental Ethics (LMK3033) as their subjects within the session of June 2008 – December 2008 to be respondents of the study. From the survey done, all respondents are 108; UiTM A = n7, UiTM B = n29 and UPSI = n72. Among them,

30.6% are male students and the rest are female students. Majority of them are about 21-30 years old which is 97.2% out of the total.

This research is dual mode research; qualitative and quantitative type. Primary data has been collected among the respondents while supporting secondary data has been referred to literature resources, previous researches and official documents from authorities. Qualitative data refers primary data which has been collected through interview and document analysis. Series of interviews have been done with lecturers in all involved universities while official documents have been collected from the university's authorities. Document review is purposely for investigating course profile; including objectives, method of teaching and assessment in which are considered as elements of instructional activities for the course. The data has been analysis in correlation to the result of student's attitude at the end of the semester.

Primary data analysis has been done using Rasch model and Statistical Package for Social Sciences (SPSS) to compliment each other. Rasch model has been used in testing reliability of the instrument and respondents which has shown a very highly reliable with 0.81 for respondents' reliability and 0.91 and 0.87 for instrument reliability.

The SPSS software has been used to analyze correlation between various activities and students' attitude towards environment after completing the course. The analysis also identified the supporting factors of barriers in attitude development using crosstab with the demographic items.

Results and Discussions

The study has involved 108 students as the respondents from three groups of two public universities which offers Environmental Ethics courses; namely Universiti Teknologi Mara (UiTM) and Universiti Perguruan Sultan Idris (UPSI). The details of respondent's distribution are as in the table below:

Institution	Participating Respondents	Actual Population
Universiti Teknologi MARA (A)	7 (87.5%)	8
Universiti Teknologi MARA (B)	29 (96.7%)	30
Universiti Perguruan Sultan Idris	72 (77.4%)	93

There are missing respondents who did not turn up for the assessment because they were absent from the class, at the end the semester. But the percentages of attendees are considerably strong enough. From the respondents who have returned the questionnaire, a filter has been done to get the full

comprehensive valid responses without any missing or confusing answers. For that, 71 respondents have been taken into analysis consideration. This means only 65.7% from all respondents have been analyzed.

In term of gender, the data has shown a very familiar pattern in the current campus population which is more female over male; about 25 or (35.2%) male and 46 or (69.4%) female students. In term of age distribution, 97.2% respondents are between 21-30 years old, while other categories are of 1.4% each between 15-20 years and 31-40 years. This study also took religion and originality into consideration. Majority of the respondents are Muslim while respondents who hail from village led other groups like town, small town and city. Religion aspect has been observed to identify whether it could be significant contributing factor towards attitude development, instead of merely learning activities. In term of this demographic factor, the major respondents are muslim (85.9%), following by Christian (9.9%) and Hindu (4.2%).

Mean of New Environmental Paradigm (NEP)

After analysis has been done, mean for NEP level among respondents of three groups shows difference. The group which is represented by students from Faculty of Applied Science (UiTM A) leads other groups with 3.31 mean, while students from Faculty of Architecture, Planning and Surveying (UiTM B) got 3.30 mean and students from Universiti Perguruan Sultan Idris (UPSI) got about 3.16 mean. Overall, this analysis shows that all students at these universities don't reach a good level of understanding New Environmental Paradigm. Learning contents for environmental ethics courses at Malaysian tertiary level currently doesn't suit to produce students with high understanding of global accepted environmental paradigm.

Mean of Environmental Attitude (EA)

While on the other hand, the data shows that students from UPSI got the highest mean, which is 3.30 mean while mean for UiTM B is 3.06 mean and UiTM A are 2.76 mean. In comparison, the following table shows that there is significant effect of high understanding of global environmental paradigm towards good attitude among the learners of the course.

Groups of Student	Mean NEP	Mean EA
UiTM A	3.31	2.76
UiTM B	3.30	3.06
UPSI	3.16	3.30

The above table shows that the respondent's group with high understanding of NEP is not applying good attitude towards environment, compared to the other groups who got less understanding of NEP. In contrary, the group with the lower understanding of NEP is applying better attitude towards environment. This means that there is no significant conclusion of those who knows better would have better attitude in daily practices.

This data also shows that learning content and activities in UiTM are more effective in giving higher understanding on NEP but less effective in developing attitude of students. On the other hand, the learning content and activities in UPSI like, Go Green in Office, Street and House and etc most probably lead more on practical exercises on conserving environment. It has been supported with video watching and recycling exercises done through out class. This finding is very important for making both to be compromised in order to achieve high level of understanding and practical attitude as well. Within six dimensions of environmental attitude, the responses have been analyzed in order to identify their correlation with the learning contents and unique activities among three above mentioned-groups. In general, the result of mean for every dimension could be extracted as below:

Dimensions	UiTM A	UiTM B	UPSI
Energy Conservation (EC)	3.61	3.47	3.36
Mobility and Transportation (MT)	2.78	2.73	3.44
Waste Avoidance (WA)	2.77	3.11	3.05
Recycling (R)	2.42	3.11	3.54
Consumerism (C)	2.75	2.91	3.19
Vicarious Behaviour Towards Conservation (VB)	2.43	2.97	3.39

The data clearly shows that in overall practical attitude, respondents from UPSI are more highly ethical towards environment unless in energy conservation and waste avoidance. However, it is not much different from other two groups.

Correlation between Learning Content & Activities vs. Attitude

Data has been collected through interview with lecturers to get comprehensive information about the instructional activities, used in teaching and learning environmental ethics course rather than depend on merely document review. This interview might be cross-check data with the document analysis which has been done before the survey.

First of all, the study has been done to identify the course's objectives or learning outcomes for the course. The study found that course's objectives are basically designed for values outcome or attitude as the end-result. In general,

terms which are used in designing learning objectives are acceptable for affective domain. In short, the course's objectives are clearly designed to achieve such receiving, responding, valuing, organizing and characterizing through some terms like to exercise, to appreciate or to go green. These need very specific activities to achieve or produce such outcomes, rather than usual and conventional activities in class like lecture and tutorial.

Based on document review, some activities have been identified as instructions in teaching and learning environmental ethics course in UiTM and UPSI, as shown in the table:

University	Course Name/ Code	Instructional Activities
UiTM (A)	Environmental Ethics/ IPK661	Lecture, tutorial, seminar and nature camp
UITM (B)	Environmental Ethics/ LAR655	-NOT MENTIONED-
UPSI	Environmental Ethics/ LMK3033	Lecture, discussion, brain storming, group assignment, presentation, documentary watching and problem solving activities.

According to interview with the lecturers of those subjects, the respondents from UiTM (A) have never attended any nature camp in that semester due to time constraint. The activities are more in class; through lecture, discussion, group presentation and doing paper assignment. According to Siti Norida, nature camp supposed to be done every mid of semester in order to familiarize students with nature, to exercise ethical interaction with nature and appreciate nature to be conserved. As a replacement, a simple visit to recycle centre has been arranged for student's involvement but not included into assessment. Originally, nature camp was considered as part of assessment for the subject.

According to Hadibah, UiTM (B) group used to have lectures, discussions, paper assignments and pro-environmental project using recycled materials. This project is evaluated as part of assessment based on high percentage of recycled material use. This can train and enforce students to appreciate environment as well as to conserve it.

In UPSI, environmental ethics course is taught using methods of lecture, discussions and documentary watching. The content of the course has also stressed on daily practices instead of merely theoretical. They used Green Living book by Trish Riley as the reference for ethical practices like dos and don'ts in daily life. This could be considered unique, compared to other universities. The documentary watching on environment, effects of human life towards disaster and harmonious life cycle could attract student's understanding more easily.

The similar contents among these three groups are about theories of ethics, environmentalism, religious thoughts on environment and environmental laws while lecture and discussion are two common instructional types used in teaching environmental ethics.

In summary, this study found two main unique elements for each group; namely unique content and activities used in teaching and learning environmental ethics course as below:

Respondent	Unique Content	Unique Activities
UiTM A	Tawhidic Guides to Interact with Environment including Metaphysical Entities	Visit to Recycle Centre
UiTM B	Assessment on Environmental Friendly Project Using Recycled Materials	Pro-Environmental Project Using Recycled Materials
UPSI	Go Living Green!	Documentary Watching

From these unique contents and learning activities, a correlation analysis has been done to identify the effects of such unique contents and activities onto student's attitude at the end of the semester. As the result at the end of learning the course, respondents from UiTM A has highest mean in understanding environmental paradigm but least mean in having pro-environmental attitude. This is in contrary with the UPSI group which has least mean in new environmental paradigm (NEP) but highest mean in practicing environmental attitude. While UiTM B group shows a consistent mean in understanding and attitude. It could be concluded that even the course's name is similar but it has its own unique value added content and activities which are different from each other. Hence, it may affect different outcomes among the students such as more knowledge, skills and attitude.

Another issue is on the global standard requirement of understanding environment; whether it could be accomplished by the current content of the course or not. The data from interview with the lecturers, they have never been exposed in New Environmental Paradigm (NEP) which has been as global paradigm by UNESCO and used as the standard tool to assess environmental paradigm or community thought on environment globally.

The relationship between unique course's content and unique activities with the effects on environmental knowledge and attitude could be clearly explained by the table below:

Unique Content	Mean NEP	Mean EA	Unique Activities
Tawhidic Guides to Interact with Environment including Metaphysical Entities	3.31	2.76	Visit to Recycle Centre
Assessment on Environmental Project Using Friendly Project Recycled Materials	3.30	3.06	Pro-Environmental Using Recycled Materials
Go Living Green!	3.16	3.30	Documentary Watching

Conclusions

Teaching and learning activities of environmental ethic courses in higher education Malaysia don't produce outcomes which are required by the UNESCO via New Environmental Paradigm (NEP). This could be scanned through low performance among all respondents from three groups of two different universities; the highest mean is 3.31 while the lowest mean is 3.16. This is not good enough to claim that our core environmental course is in parallel with the global requirement. Ironically, if the environmental ethics course which is considered as value-dominant course does not produce gogo attitude as major learning outcomes, then it could be concluded as hardly achieved through other non value-dominant courses.

Teaching and learning of environmental ethics at tertiary level in Malaysia is well designed to achieve affective objectives or attitude as outcomes, as the study found all such courses have their own terms to represent affective objectives. However, these have not been stressed much in designing instructional activities. For every group, they have certain unique activities to inculcate and exercise environmental attitude like nature camp, recycle project or so on but none of those groups admitted that they went through all those activities because of time constraint, no evaluation to be considered and most their time are in class (lecturer and discussion). One of the respondent group, UiTM B has planned in the syllabus to have 30% assessment for recycle project but been replaced with paper-based assignment at last minute due to time constraint. UPSI has practised such exercise but no evaluation has been enforced. This clearly shows that lecture and discussion are still main activities even though they are suited most for knowledge-dominant courses.

Even we have found the different mean score in attitude performance among students from different places like village, small town, town and city, but it doesn't show big gap between them.

This means that the students may change their attitude or personality due to their understanding on what they have learnt in the school or university, not much affected by their demographic factors. Based on data analysis, it could be

concluded that most respondents from city for instance have better understanding but less practice, while the respondents from village or small town have less knowledge but good in practice. Gender and age analysis also shows similar patent. This must be reconciled using the course to enhance knowledge on environmental paradigm and environmental attitude.

Practical content is the best to be designed in teaching and learning values, moral or ethics. This conclusion is similar to a previous study on moral courses among International Education Centre (INTEC)'s students which suggested having less theoretical and more practical content in moral courses (Mohd Nor Mamat et al., 2005). The study found that UiTM A group has their unique contents which are related to tawhidic concept of interacting to environment up to metaphysical environment while all groups have included religious teaching in communicating well with environment. These have been taught within theoretical way and sometimes couldn't be connected to real life.

In summary, the study found that our current instructional practice could not yet be considered effective as the major learning outcome which is environmental attitude is still low. The outcomes of environmental ethics education also must be in parallel with the global standard or requirement as KPI; in this case NEP by UNESCO. The outcome also shows low performance.

There is another significant finding, where the study found that there are two unique factors in instructional design (in general) which are related to knowledge (paradigm) and behaviour effects. On the other hand, development of environmental attitude among students at tertiary level may be related with certain instructional activities, and not much dependent on their age, gender, origin or religion.

The curriculum design for environmental ethics course or such value-dominant courses should take a global and universal standard of performance to be the key performance index (KPI) to be achieved. As for environmental ethics, or environmental studies in general or environmental awareness courses must be benchmarked to the New Environmental Paradigm (NEP) as KPI. Later, performance of such courses may represent our global performance to be certified by the global authorities such as UNESCO or others.

Environmental-related activities must be designed as part of instructional activities to enhance the effectiveness of inculcating attitude to be characterized naturalized by the students. This has been proven by little recycle activities as learning activities in UPSI with injection of practical contents about attitude in daily life made the students more ethical and having better attitude in most of dimensions in environmental attitude.

Course content and teaching and learning activities should be well structured and designed, not only for the purpose of merely knowledge transfer or skill transfer but must be together and even more on attitude development especially in value-dominant courses. This because of the attitude change may be affected much on what they have learnt and not much dependent on their demographic factors solely. Education for such value dominant courses must

stress on hearts-on rather than minds-on or hands-on which are more relevant to knowledge-dominant and skill-dominant courses. In educational instruction, teaching and learning must go through identifying objectives, transferring and assessing the outcomes of the course. In this case, assessment of such value-dominant courses must be using proper instrument to identify attitude or behaviour effects after completing the course. It should not be paper exam-oriented as our current practice in Malaysia.

Practical content must be well designed for the students in order to ensure students to understand, value and characterize it as their daily culture. UPSI group has proven that learning through real dos and don'ts in daily life (based on Go Living Green! Content) and real problem-based discussion via documentary watching could make them aware and value good behaviours towards environment. Religious enforcement must be also included in order to ensure the students understand and believe on those teachings; this has been proven by UiTM A group who got highest mean in understanding environmental paradigm as they have been taught a comprehensive religious teaching with faith and belief.

As a conclusion, these recommendations should be given attention and would be best used in effective curriculum for value dominant courses in general and environmental ethics course in specific. This is to ensure the objectives of affective domains in education could be well achieved.

Acknowledgement

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