

Teachers' Beliefs and Perceptions of Integration and Elicitation of Human Values in Water Education in Some Southeast Asian Countries

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ABSTRACT

Asian countries and other nations are developing new strategies for improving water quality. This paper proposes a model, Human Values Integrated Instructional model, that has the potential to make significant changes to existing conflicts over water, environmental degradation, and social inequity. This model is used for education in human values in mainstream school subjects, and human values based water, sanitation and hygiene education (HVWSHE) including environmental education, in parts of Southeast Asia. This paper presents teachers' beliefs regarding the integration and the elicitation of human values in water, sanitation, and hygiene education in some Southeast Asian countries in 2009. A mixed method was used to investigate teachers' beliefs through questionnaire administration and indepth interviews. Teachers surveyed were from Indonesia, Thailand and Lao PDR, while teachers interviewed were from Thailand and Indonesia. Data analysis includes descriptive and qualitative analysis for the questionnaire and qualitative coding procedures for the interviews. The results reveal that the teachers believed that the selected principles of integrating and eliciting human values in the lessons could have a positive impact on students' ethical attitudes and behaviours, but only if teachers use student-centred methods in their teaching approaches and they incorporate both affective and cognitive domains in their teaching. Teachers from one of the samples need more support and teacher modelling to have a better conceptual understanding of HVWSHE.

Keywords: Human values education, teachers'beliefs, human- values- based water, sanitation and hygiene education

INTRODUCTION

This study explored teachers' beliefs and perceptions about a specific underlying principle of the Human Values Integrated Instructional Model (HVIIM), which aims to integrate and elicit human values about water usage in mainstream school lessons. The teaching and learning process of HVWSHE is based on the HVIIM model (UNHABITAT, 2006) used for water education in parts of Southeast Asia.

The HVIIM was developed by Jumsai (2003), Director of the Society for Preservation of Water, a human values educationist who implemented education in human values (EHV) in the Sathya Sai School in Thailand in 1992. Education in human values originated from India with the work of Sathya Saibaba, an educationist and the current Chancellor of the Sri Sathya Sai University in Andhra Pradesh, India (Sri Sathya Sai World Foundation, 2007). Education in human values is also supported by policies in

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education departments in a number of countries, including India, Thailand, and specific parts of the United Kingdom (Taplin et al., 2005). Sathya Saibaba conceptualised the five human values: love, truth, peace, non-violence, and right conduct (Sri Sathya Sai World Foundation, 2007), which were later integrated into the formal curriculum in selected Indian schools. In recent years, a particular focus of education in human values has been on reminding people about important human values associated with water usage.

It has become an urgent issue in Southeast Asia to bring water education to the mainstream education because of issues related to water. According to the report three billion people in the developing world are unable to gain access to adequate sanitation systems (Gleick, 2000). As a result, fourteen to thirty thousand people, both elderly and young children, die from diseases caused by polluted water (Gleick, 2000).

According to the report of the Regional Consultations on Values-based Water Education for the Asia and Pacific, the poor from urban sectors pay a heavy price to have access to safe water (United Nations Human Settlements Programme, 2003). In addition, it was reported

that water and sanitation are both a public health and an environmental issue.

The United Nations Human Settlements Programme (UNHABITAT) adopted the HVIIM in order to raise awareness in students and reinforce good character, morality, and ethics to promote more equitable and better use of water and sanitation. UNHABITAT considers human values to be an “essential element of our human nature and positive qualities that are shared among people throughout the world” (UNHABITAT, 2006, p. 16).

The HVIIM used a concept known as integrated learning concept. This concept was developed by Jumsai (1997). The details provided hereafter are aspects of Jumsai’s model. The integrated learning concept (see Fig. 1) recognises three different aspects of the mind: namely the conscious mind, the subconscious mind and the super-conscious mind. The mind of the learner is engaged in a constant dynamic interaction with the conscious and subconscious mind and the environment. According to Jumsai, when human values are integrated into the learning process the learner will be inspired and his or her awareness increases. A detailed review of the integrated learning concept is provided in

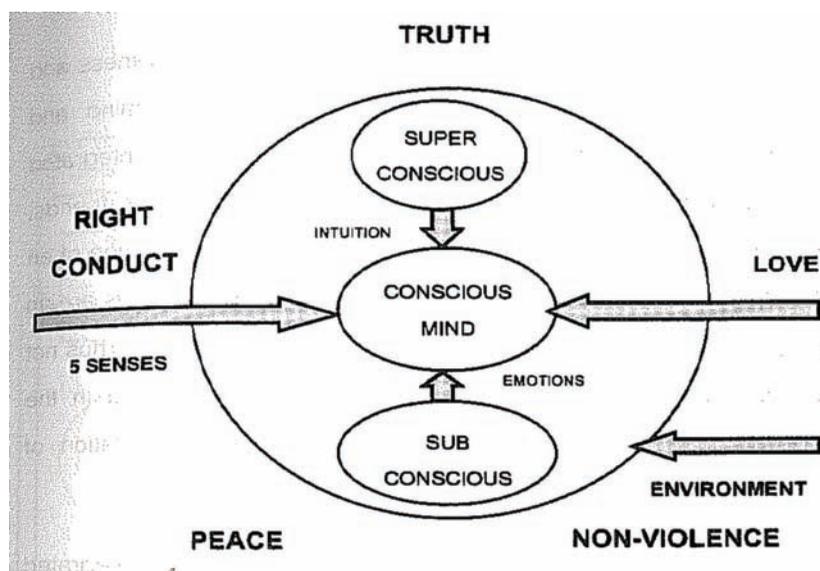


Fig. 1: The human values integrated learning concept (Jumsai, 2003, p.55)

Jumsai (2003). *Fig. 1* shows the learning process and how awareness takes place in the learner.

Jumsai (2003) stated that when we work at the subconscious level, our actions depend on the information installed there because of our memory of past actions and the emotions are attached to them. When we receive stimuli from the conscious mind through the five senses, the stimuli have to be interpreted meaningfully. When learners process information as they learn they have to be able to apply positive values to action. In order to do this, the information stored in their memory has to be positive. Thus the subconscious mind, according to Jumsai, has to store positive information. When human values integration is applied, the conscious mind becomes aware and understands the stimuli received. Awareness increases and this understanding is stored in the subconscious mind. Human values thus become a part of the memory stored along with information received from the learning process. The conscious mind will be able to interpret the stimuli with a more positive attitude if the information in the subconscious mind has positive values.

According to Jumsai, when the conscious mind is raised through awareness, the learner is in touch with the super-conscious mind. Intuition then takes place, which is above the normal thought processes. For this to happen, the mind has to be calm. The intuitive faculty however, is not discussed in this study for practical purposes.

Education in human values is important for the affective domain because when human values are integrated and elicited during the teaching and learning process students are reinforced with positive values which provide meaningful learning experiences. The elicitation helps in clarifying values regarding issues under discussion. Students' understanding of the environment around them becomes more positive and this helps transform their attitudes so that they can develop ethical attitudes and translate them into ethical behaviours. The result of this is that the conscious mind becomes able to not react emotionally, but rather to respond to the stimuli without agitation or confusion. The conscious mind is able to distinguish what

is right from wrong because it is able to pick up the stimuli from the subconscious mind and to realise that the response from the subconscious mind could be right or wrong depending on the past information stored in it. This practice of discrimination helps in calming the conscious mind (Jumsai, 2003).

TEACHER'S ROLE IN THE TRANSFORMATION PROCESS

The teacher helps in the transfer of the learning process. The main aim of the human values integrated instruction is to help inspire the learner so that he or she transforms. The teacher has to be a role model where he or she emulates the five values in his/her own actions. The teachers' countenance and his or her speech must coincide with the meta-message, according to Jumsai (2003). According to Jumsai, the teacher has to have a unity of word, thought and action which helps inspire the learner to have an inner transformation. The student has to be calm so that he or she gains the maximum benefit. The components of the model are provided below.

Human Values Integrated Instructional Model for Education in Human Values and Human Values Based Water, Sanitation and Hygiene Education

Jumsai (2003) developed the Human Values Integrated Instructional Model as in *Fig. 2* which adopted the integrated learning concept model as a major component. The model incorporates the five human values, the integrated learning concept, teaching principles and teaching processes using interactive methods/pedagogies. This model has been used for education in human values in the Sathya Sai School in Thailand since 2003 and was implemented for HVWSHE education officially in 2007 for water education. The HVIIM conceptualised by Jumsai integrated three important components. They are: the Integrated Learning Concept, the principles and the processes. The principles are: cooperative learning, integration and elicitation of human values and role modelling. The

teaching processes are provided in Fig. 2. This study focuses on teachers' beliefs regarding the principle of Educare, which means to elicit and to integrate human values during teaching and

learning sessions. Sathya Sai contends that the term education has its origin in the Latin word 'educare', which means 'to elicit'.

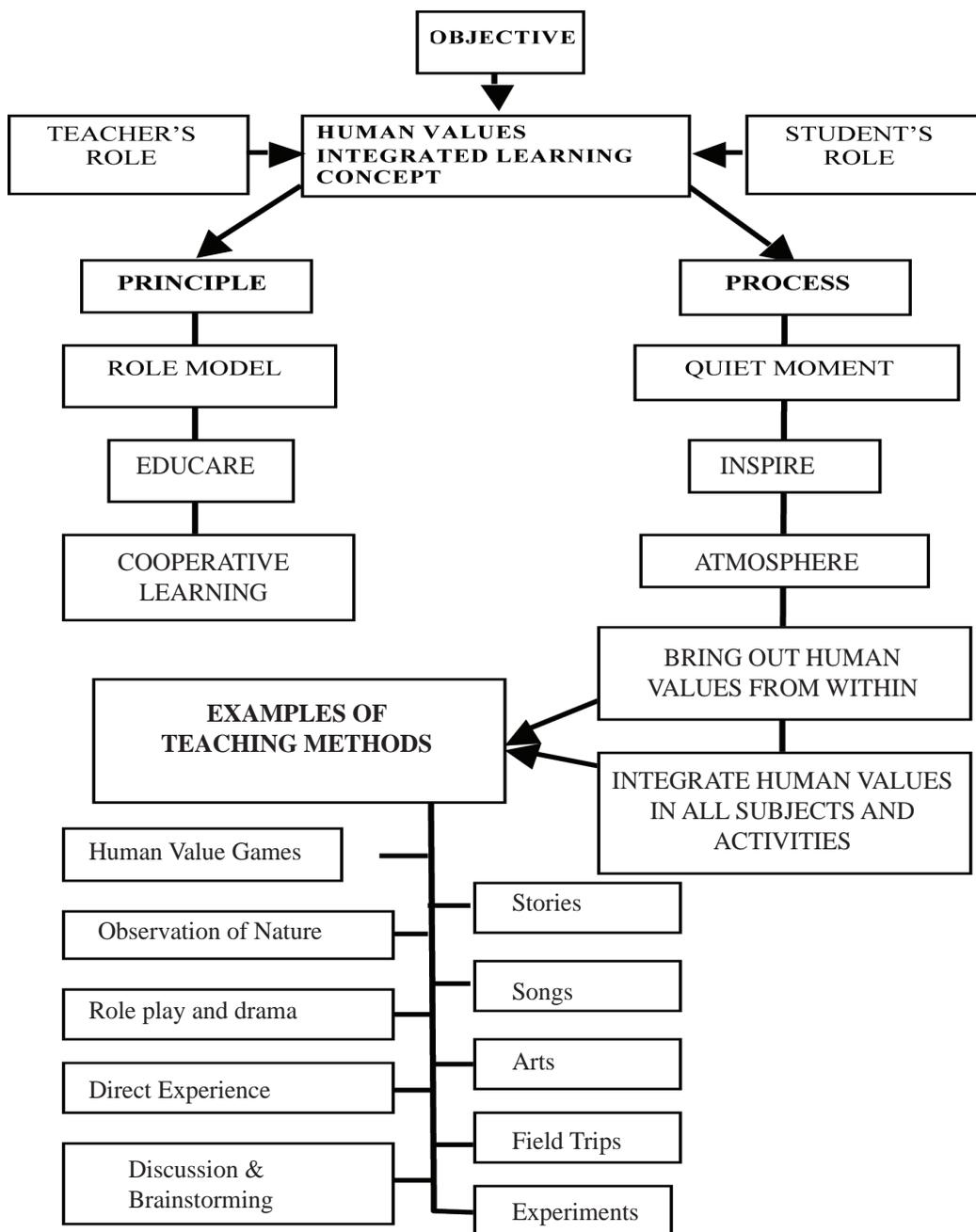


Fig. 2: Human values integrated instructional model (Jumsai, 2003; Chulalongkorn University, 2003)

Educare and Teaching Pedagogies for HVWSHE

The main aim of human values integration into regular subjects as well as water education both for formal and non-formal sectors is to help students be aware of ethical conduct, norms and moral procedures for the social process. The aim of the teaching pedagogies (silent sitting, prayers, music, story telling, and music) is to develop ethical behaviours and attitudes. Rogers (1980, pp. 271-273) reflected that the foundation for values has to be discovered from within, instead of, from the material world.

Integration and elicitation of positive values cannot be implemented unless students have contexts to discuss about. In Education in Human Values, the teaching pedagogies are important. Specific teaching pedagogies such as prayers, silent sitting, music, and story telling have been used in Sathya Sai Education in human values (Sri Sathya Sai World Foundation, 2007).

In Sathya Sai schools, in several parts of the world the above mentioned pedagogies are incorporated during the teaching and learning sessions to help in transformational learning. Story telling broadens students' imaginations as well as engages students in meaningful and personal learning. Prayer instils positive attitudes in students' minds, according to the authors, as students retain noble ideals in their minds. Music elevates students' minds and stimulates students (Sri Sathya Sai World Foundation, 2007).

Significance of the Teaching Pedagogies for the Educare Process

A review of present literature on values education emphasized that that effective teaching for values education depends on how teachers have to go beyond facts and knowledge, from information to transformation. Lovat and Clements (2008) emphasised on supportive interventional practices for values education. Lovat and Clement pointed out that quality teaching has to extend beyond factual teaching. They stated that effective teaching for values education includes facts and information for intellectual

competence, social skills, development of the affective domains, and self reflection (Lovat and Clement, 2008). Without teachers engaging with self-reflective practices, students may not be able to challenge their own values.

When teachers' teaching practises include pedagogies such as music they impact students' minds. According to Walker (2007), who reviewed the value of music in his book, stated that music education is valuable and essential. International research, according to Walker, reflects the notion that music education significantly impacts emotional, physical, social and cognitive growth of students. Added to the developmental benefits, Walker stated that music also support aesthetic learning outcomes and develops cultural heritage and values.

CONTEXT OF THE STUDY

The concept of human values was recently introduced in water education by the Society for Preservation of Water (S.P.W) in Thailand termed as human values based water, sanitation and hygiene education (HVWSHE) (UNHABITAT & SEAMEO, 2007). The Society for Preservation of Water (S.P.W) in Lamnarai, Thailand has been training teachers from several Southeast Asian countries since 2007.

RESEARCH FOCUS

The current study focuses on teachers' beliefs regarding water education on the teaching and learning processes in classrooms. Clark (2005) reviewed the Values Based Water Education (VBWE), component of the Managing Water for African Cities Programme, established in 1997 as part of the United Nations initiative in Africa. The report stated that despite intensive workshop training many teachers "had not fully internalised the VBWE philosophy and practice" and that "the process of internalising is more complex than may be readily understood by the newcomer" (Clark, 2005, pp. 37-38). He concluded that, as well as requiring more administrative and financial support, the project required pedagogic support and "continuous

academic guidance from groups and individuals such as those who have pioneered VBWE” (Clark, 2005, pp. 37-38).

These difficulties are not unique to HVWSHE when implemented in parts of Southeast Asia. As with the introduction of any new educational program, problems have been encountered with the implementation of HVWSHE. Some of the problems that were encountered during the early phases of implementing Education in Human Values (EHV) in Southeast Asian countries are explained below, and are relevant as the problems with implementing EHV were similar to those encountered implementing HVWSHE. It can be difficult, for example, for many teachers to develop a conceptual understanding of these processes, particularly when they are constrained by large class sizes, time constraints, pressure to cover the syllabus and pressure to achieve high results in examinations (Taplin et al., 2005). Taplin et al. (2005) recommended that the kind of understanding required needs to be developed over time and with structured support systems.

Teachers’ personal experiences integrating human values in education in a regular curriculum were found to have an impact on students as well as teachers as they implemented the pedagogies in a regular curriculum (Taplin et al., 2005). Integration of values, according to the researchers, was accompanied by teaching pedagogies such as music, story telling, silent sitting and prayers. Taplin et al. (2005) reported positive student feedback while integrating human values education and teachers’ own self transformation while teaching.

According to Taplin et al.’s report, teachers began to understand the differences between the new information and old interpretations of what integration of human values is. According to Taplin et al. the conceptual understanding was better when teachers were supported to develop their own understanding of the appropriate content and pedagogical content knowledge, and experienced evidence that it was having positive effects on their pupils’ behaviour and even academic results. Although these studies give some evidence of the integration of human values in the classroom teaching processes, there

is very limited evidence on teachers’ beliefs of the educare process in their classroom practices.

This study aims at exploring teachers’ beliefs regarding the ‘educare’ process where teachers integrate and elicit values during teaching and learning. Although Education in Human Values has now been successfully implemented in several parts of Southeast Asia (Sri Sathya Sai World Foundation, 2007) there are limited studies that have tested teachers’ beliefs in classroom teaching and learning contexts (Jumsai, 2003; Taplin et al., 2005). Other studies by Toh and associates have explored the implementation of Values Based Water Education (VBWE) practices in teaching science and geography (Toh et al., 2005) although the teaching principles and processes from the HVIIM, crucial for the valuing aspect of reflective learning, have not been investigated from the teachers’ perspective.

From a review of past literature related to HVWSHE the following constraints were noted during the workshops for HVWSHE:

- A lack of depth in teachers’ understanding of the HVWSHE approach (Clark, 2005).
- Teachers’ failure to see the need to accommodate the affective domain in the objectives of their lesson plans (UNHABITAT & SEAMEO, 2007)
- Lack of skills required to integrate human values for the affective domain (UNHABITAT & SEAMEO, 2007).

A study by Toh, Ng, Yeap and Isma (2007) revealed that values education when implemented in water education proved to be effective. The study by Toh et al. (2007) used a collaborative action research approach by teachers by integrating human values into the curricular content required for HVWSHE in both science and social curricula in Penang, Malaysia. The sample reported by Toh et al. consisted of 49 students from form two classes. The researchers included cooperative learning approaches included group poster presentations, summary of the discussions and a survey using the Water Attitude scale. Their research was focused on how values based curricula can be

delivered through cross - curricular teaching approaches and how to monitor student learning in values based curriculum. The study by Toh et al. included data collection from a Water Attitude Scale (WAS) triangulated with qualitative analysis of group poster presentations and discussions. The results of Toh et al.'s study showed significant post-treatment improvements in the students' attitudes to human values and water usage, for example one of the students stated they would like to participate in a water saving campaign (Toh et al., 2007).

In the above mentioned cross curricular study, 24 male students were surveyed using the WAS (water attitude scale). The findings revealed that the students showed significant improvement (with 95% confidence interval of the difference) in item No.12: "I would like to participate in a water saving campaign" when it was compared to a pre (with mean score 3.17) and post test (with mean score 3.46). The researchers concluded that there was evidence of a general positive attitude change and awareness of water conservation and sustainable water ethic after the input of the HVWSHE curriculum. The quantitative analysis revealed that 4 out of 29 items from the Water Attitude Scale (WAS) showed significant difference from the administered pre and post tests in student responses.

To provide triangulation of the quantitative data, analyses were also done of student responses to different assessments. One comment (May 23rd, 2007) from the group 1 poster presentation by students is given below. Students were asked to fill in the answers for the statements below.

"Right conduct is"

".....sue the irresponsible people (If we want to enjoy sea scenery, stop polluting)".

".....Let's take care of our water... "

"Keep river clean;"

"Taking care not to throw rubbish into the river....."

"Build a barrier to trap the flow of rubbish in"

The above study implies that interdisciplinary approaches and the integration of human values are beneficial for developing human values in students. In addition, students' critical thinking skills are also enhanced. According to the study, teachers should be equipped with innovative teaching pedagogies because they found that HVWSHE was more effective when implemented in an intra-disciplinary mode (Toh et al., 2007).

However, there are problems that constrain teachers from implementing values education. Brooks and Brooks (1993) stated that teachers who use traditional methods may find it difficult to change their ways because of the differences in approaches compared to constructivist teaching. Application of constructivist approaches were found to be problematic in some parts of Southeast Asia (Teo, 2008; Chen, 2008) because of the constraints of using wrong teaching approaches. With constructivist approaches, teachers and students require discussion and time to reflect and this is found to be impractical as many Southeast Asian teachers believe that their first priority is to convey a pre-set amount of knowledge within the lesson timeframe.

The success of HVWSHE from the above studies depends on teaching approaches and the teaching pedagogies teachers use for the integration and elicitation of human values. In Toh et al. (2007)'s study of HVWSHE, the methods they used for water education was collaborative as well as cross-curricular. In Taplin et al.'s (2005) study, the integration of human values as well as teacher support was seen as crucial to the success of implementation of education in human values in the curriculum. A review of teachers' beliefs has shown that beliefs have an impact on how teachers teach in classrooms, and their understanding has an impact on reform implementation.

Teachers' Beliefs

As seen in many studies, the personal experiences that teachers face in classrooms have an impact on teachers' beliefs because according to Fang (1996), personal experiences have an impact on shaping teachers' beliefs. The section below elaborates on teachers' beliefs and its impact on classroom teaching.

Understanding teachers' beliefs are important during their teaching practices. Abelson (1979) noted that belief systems are not simply structured, and they are not easily understood. According to Abelson, belief studies on affective processes and personal experiences will help understand belief systems better. According to Nespor (1987), investigating teachers' beliefs can help teachers to be more self-reflective and aware of their own beliefs, although problems with beliefs, such as how they came into being, or how they are supported and how people change their beliefs, are unknown. Pajares (1992) stated that beliefs cannot be changed easily and they are complex. Pajares thus highlighted the importance for educational research of studying belief systems. He suggested that it is necessary to explore both personal beliefs and the context of educational beliefs to explain the nature of beliefs. Fang (1996) reviewed studies of teacher beliefs of the previous fifteen years and advocated the use of narrative studies of teachers' "construction and reconstruction of their practical knowledge" to help school reform, since their thoughts about their personal experiences may shape their beliefs (Fang, 1996, p. 59).

Teachers' beliefs can have an impact on the success of education in human values. If teachers do not adopt the right practices they impact the implementation either due to no in depth knowledge or practices. Teaching about human values relates to the affective domain (UNHABITAT & SEAMEO, 2007), it is necessary here to explore more about the theory of teaching for this domain. The teaching level of transmission of facts involves analysis of facts and ideas but if the valuing level is not included then students' moments of gaining

personal meaning is lost. According to Punsalan, it is at the valuing level where students make resolutions which make 'personal meaning meaning' understood at the conceptual level (cited in UNHABITAT & SEAMEO, 2007, p. 31).

RESEARCH OBJECTIVE

The aim of the study is to explore teachers' beliefs regarding their experiences with the teaching principle from the Human Values Integrated Instructional Model. The objective of the present study was to explore teachers' beliefs and perceptions about the principles of integrating and eliciting human values for water, sanitation and hygiene education. This study used a mixed method through a questionnaire followed by interviews. The research question for both the survey and the interview is: What are teachers' beliefs and perceptions about the principle of educare, that is the integration and elicitation of human values from the HVIIM model for HVWSHE?

This question explores teachers' beliefs regarding educare in the classroom. The process of educare includes both integration and elicitation of human values during teaching and learning from the lessons. The research question focuses on teachers' classroom experiences.

RESEARCH DESIGN

The study used a mixed design (Tashakkori and Teddlie, 2003) which consisted of both survey and interview. This type of design is exploratory and confirmatory because it confirms or eliminates certain findings from the surveys and interviews. In addition, the mixed design helps to explore the weaknesses and strengths through both quantitative and qualitative studies.

Sampling

A heterogeneity purposive non-probability sampling was chosen for this study. Heterogeneity purposive non probability sampling includes all opinions or views of participants. The study does

Mixed Method

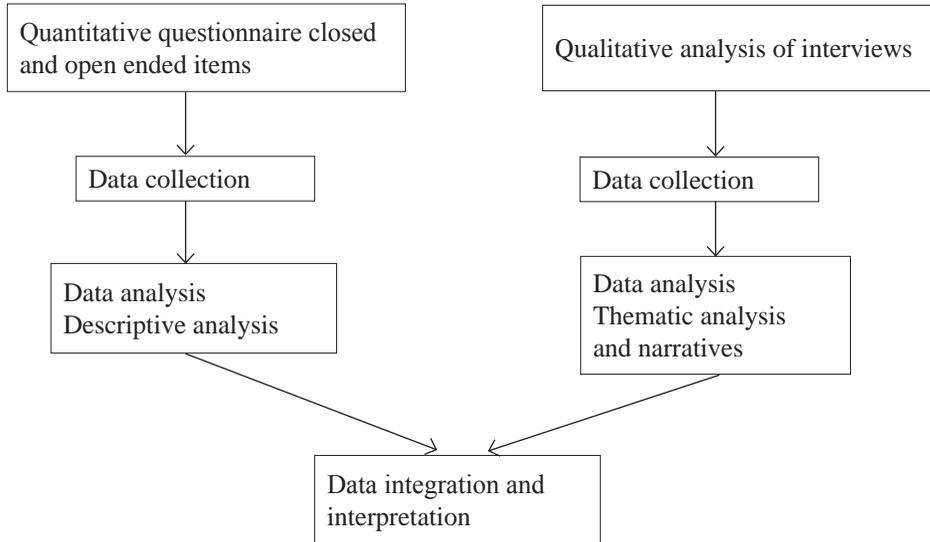


Fig. 3: Mixed method

not intent to represent views proportionately but in getting a broad spectrum of ideas. HVWSHE is implemented in countries which have different contexts and this study intends to look at all possibilities of different perspectives including ‘outlier’ or unusual ideas. This sampling is opposite to modal instance sampling.

Participating Countries and Response Rate for the Questionnaire

A total of 22 surveys were sent out. Sixteen surveys were received between 10 March 2009 and 18 April 2009. The response rate was 70%. The details of participating countries are provided in Table 1. For teacher demographics, please see Appendix 1.

The eight participants from Thailand comprised two males and six females. Their ages ranged from 24 to 64. The participants had implemented HVWSHE for a period of 6 to 9 months. Three participants were teacher trainers from Thailand who were also teachers. Of the six teachers from Indonesia, one was male and five were females. All of them were English

teachers and their ages ranged from 34 to 56 years. There was no teacher trainer in this group. Teachers from Indonesia had training sessions in HVWSHE for about six to ten days. The teachers from Lao PDR who participated in the survey were both male, aged 27 and 28. Both were English teachers, and both had training sessions for about one to two weeks.

Questionnaire

The questionnaire consisted of closed and open-ended questions which helped investigate teachers’ beliefs about the process of education for HVWSHE. A 5-point Likert questionnaire (where 5 represented “strongly agree” and 1 “strongly disagree”) was used to gather the teachers’ beliefs about the principles used in HVWSHE as well as the impact of HVWSHE on students’ attitudes and behaviours. The study used the Delphi method (Skulmoski, Hartman and Krahnert, 2007) to construct the survey questionnaire on teachers’ beliefs and perceptions using a panel of experts.

TABLE 1
Details of participating countries for the questionnaire

No	Countries	Number of participants	Number of surveys returned	% of response rate
1	Laos	2	2	100
2	Thailand	10	8	80%
3	Indonesia	10	6	60%
				Total return rate = 72%

Data Analysis

The questionnaire was tested using descriptive statistics (frequencies and percentages), while the open-ended items were analysed using Nvivo 8. All the open ended responses for the questions related to the principle of educare were combined together and the responses were categorised using Nvivo8.

Teachers' in-depth interview responses were analysed by using a strategy by Eddlie and Tashakkori (2009, p. 25) termed as "contextualising" strategy". Contextualising (holistic) strategies according to Teddlie and Tasshakori (2009) helps interpret the data obtained from narratives "in the context of a coherent whole "text" that includes interconnections among the narrative elements" (p.25).

RESULTS

The findings for teachers' beliefs of integration and elicitation of human values in their reaching and learning process are provided below. The first section presents findings for the mixed survey followed by the findings from the qualitative method.

Teachers generally agreed that the integration of human values is important. For Item 6: *'It is easy to integrate human values into all academic subjects,'* one participant disagreed strongly. Eight out of sixteen teachers gave neutral responses to Item 6, which indicated that some faced difficulty in integrating human values in some lessons. With regards to Item 10: *'Lesson plans must stress students' interconnectedness with the environment,'* most

teachers agreed that this is significant for human values water education. For Item 15: two of the sixteen teachers believed that they did not have enough time to integrate and elicit human values. Regarding Item 22: *'Integrating water-based cultural practices into HVWSHE increases students' respect for the environment,'* fifteen out of sixteen teachers agreed with the statement.

Qualitative Data

The major categories and subthemes from the analysis using Nvivo 8 helped to isolate rich and thick description to convey the findings. To help alleviate researcher bias, the categories from the open-ended items and from interviews were compared and contrasted by a peer reviewer. The inter-rater reliability was 80.5%. The rest of the items were then compared and contrasted and an agreement was made to remove them because of the lack of consensus.

From the open-ended items, six teachers stated that integrating human values in the subjects is very important because it helps students develop pro-environmental behaviours as well as contribute to society. Four of the teachers mentioned that integrating human values helps students improve their character and behaviours. Regarding teachers' confidence to integrate human values, most teachers felt that they have the confidence to integrate human values into their teaching. However, few faced constraints while implementing because of the lack of time and the academic stress they faced (see Appendix 3).

Sample for the Interviews

Participants from Thailand and Indonesia took part in the follow-up interview (see Appendix 2). Eight participants from Thailand and six participants from Indonesia were interviewed. Table 2 provides details of participating countries for the interview. To ensure validity, the sample also satisfied the criteria of purposive sampling strategy. Purposive type of sampling helps to produce in-depth information that can be obtained from individual respondents (Teddlie and Tasshakori, 2009).

To ensure validity, the sample also satisfied the criteria of a purposive sampling strategy. Purposive sampling helps to produce in depth information that can be obtained from individual respondents (Teddlie and Tasshakori, 2009). The section below presents the findings of teachers' beliefs from Thailand and Indonesia. Teachers from Thailand were referred to as T 1, 2, 3 etc while teachers from Indonesia were referred to as I 1, 2, 3 etc.

Teachers' Responses Regarding Integrating and Eliciting Human Values in Thailand

Teacher T4 stated:

We use themes...the main emphasis is for teachers to bring out the values and when we do training we always ask them what are the values they learn... so they can use the same kind of methodology...we use a lot...like biology combining with geography and social studies ...we teach children, not to teach, how to teach the world better,

how to teach specifically with water... this is really very important working with a group...has an advantage as teachers. I did a project with one class where they planned out a conservation plan for the school, and one of the things they came up with themselves is ...like leakages...in pipes...we combine mathematics and domestic science... with the older children, we got them to do statistics on how much water is needed, for instance to grow a pound of grain versus producing a pound of meat...producing meat requires about 10 times more water. We have to think about so many changes, even changes in diet...these kinds of things, if the children do it themselves, if they find out for themselves, it has so much more meaning than if the teacher just gave them the statistics...one of the things we try to do here is get the children to do research, get them to think for themselves and...it's a very different learning process. The problem with education today is that it is just a process of giving information...there's not much learning...what we want is teach children how to learn, how to find out.

Teacher T1 indicated that teachers shared their experiences as she related her colleague's experience during his teaching and learning session. She was motivated by students' feedback as she related her colleague's experiences through her belief statements. She stated that:

TABLE 2
Details of participating countries and respondents for the interviews

No	Countries	Number of participants	Number of participants for the interview	Percentage of response rate
1	Thailand	10	8	80
2	Indonesia	10	6	60
				70%

The biology teacher ...he tells about his class...but his group is about biodiesel...we use recycled oil from the kitchen ...it's a project in our school... after that we try to calculate its profit or loss...and we found there was only little profit...the budget is very high to buy material ...he asked the student "what did you learn from this project" and then he said, he expected responses like only "save the environment"... but the student said even if we have just small profit we should go on... carry on because it is good not just for our school to save, not for the environment...but for everything.

Teacher T3, a primary teacher from Thailand, explained her experience with Grade Two students in Thailand regarding integration and elicitation of human values. She explained how she used her teaching to instill good behaviors in students:

I use water education for Grade 2. We have activity...when we learn about litres or millilitres in mathematics you must try to change the behaviour for saving the water... and I use the institute museum and take them to walk and learn about the basics in that room. After that I ask them how do you feel or what knowledge have they gained from their learning... they talk about their activity or unity or sharing... about the idea how we can save water and after that we can save energy, not only water and we ask them about education in human values... "this group they say that we have unity, sharing", they are happy to learn and happy to have activity ...they tell me ...time is not enough for them.

Teacher T3 believed that cooperative learning involves the concepts of knowledge as well as using the teaching situation to help

students change their behaviors. She also emphasized the response she received from students and their interests in activities.

Teacher T5 talked about the importance of reinforcing good values in children. She was confident of the change in students and her belief statements revealed that she did not have difficulty with time. She stated that:

It's always nice to integrate values in the classroom that gives positive attitudes to children. If it's value oriented you always use good values in the subconscious mind, only good values go into children...sometimes yes, some children you can see change in them... even the parents come and say that ...Integrating values in water education ...yes it's not tough, it's just the way you manage the class ... I don't think it takes extra time to integrate values...I will say ninety per cent of students respond faster.

A few teachers found it quite difficult to integrate values for certain topics. A secondary school mathematics teacher, T13, stated the following:

Mathematics ...some contents are difficult to integrate, some contents are difficult to use human values...like statistics...

Another teacher, T6, a mathematics teacher, stated that when they use topics related to water from science or in mathematics, students are more interested. T6 also stated that listening to students is important because their feedback provides new ideas. She stated how she combined knowledge and facts in mathematics with real life situations regarding water issues:

When we use water from science and mathematical aspects the students are more interested in those topics...for example...in mathematical class when

I teach them logarithm, I can talk about logarithm and water.

Teachers' Responses Regarding Integrating and Eliciting Human Values in Indonesia

Teachers' responses regarding integrating human values in Indonesia are provided below. When asked about integrating values, one of the teachers, I2 mentioned that academic stress was an obstacle. She stated the following:

Not often, sometimes ...once a month ... because ...we don't get time to make a group because in Jakarta ...we should finish materials for the subject...so we don't have any time to make the game or anything ...sometimes I take our students to study in the park...

Actually when I'm teaching I didn't... it's difficult to say ... I teach fourth grade and twelfth grade...my work is to prepare them for the final exams... In my teaching method I didn't put the value of water in my teaching. But when I talk to them I told them about my experience in Thailand and I told them about the students in the Sathya Sai School and about the teachers and they were very interested. In my stories, they keep asking me about my experience in Thailand...

Teacher I3 responded on her classroom experiences:

Sometimes I have listening comprehension ...I tell them about how important water is. How without water we cannot be alive. Water is important. We may not waste water... because not all Indonesians have good water. Because there are some places where people need water...in Jakarta the green became real estate... like town...so...in my home town for the first time when I came in 1980 there are

still small rivers on the side of the road but now there is no water anymore... government has set a rule that we should have a green environment... our school has become a green school ..but now .we aim for a green school for Jakarta...now we must compete with the five districts in Jakarta ... south Jakarta...north Jakarta...central Jakarta...then east Jakarta and also environment should be clean... like place plastic or anything in the right place.

In Teacher I3's belief statements there was no evidence of values integration or elicitation among students. Teacher I3 used a didactic approach to teaching. Teacher I5 stressed the use of water. She responded as follows:

Usually in Indonesia, we use water for housing...and the students study about water sometimes they don't realize, you know, it is very important...it is very, very important to be efficient ...to be efficient...in using water in Indonesia... there are many uses...like for sports sometimes and for making plants, fish, for irrigation and for plan like electric power.

When she was probed on her experiences her response was as follows:

It is very useful for human...many benefits ...many profits for the human beings ...without water, human beings ...cant live...That's right...so I often told students about many uses of water ...in Jakarta, the people must feel the crisis of water now.

Teacher I8 from Indonesia stated the following:

I get from Thailand, is real...the value show up we can feel how it is...

really wonderful...it is like diamond... it is human character...about the development of human person...in integrating values...I didn't...when I get there...it's not theoretical...it is applicable... people use it...value and respect everything in our life...nature, human being and then situation in ... surrounding area

There were differences in the teachers' responses between Thailand and Indonesia. Teachers from Thailand related that they integrate human values in their lessons. Thai teachers' belief statements also revealed that they received responses from students. Teachers from Indonesia did not explain or relate to students' experiences. Indonesian teachers also complained of the stress regarding their work.

Teachers from Indonesia were motivated by the program and felt it was important for students. The responses from Indonesian teachers' open-ended items revealed that they understood the significance of implementing the integration and elicitation of human values. However, their belief statements did not complement the narratives.

Teachers from Thailand reported several instances of students' feedback. They generally agreed that integrating human values is important and they received help from their peers. There was evidence of peer discussion of classroom experiences and observation of students' behaviours. However, few teachers mentioned the problems they faced while integrating human values in certain subjects like mathematics, and a lack of time.

Teachers from Lao PDR were in agreement that integration and elicitation helped develop students' pro-environment behaviours. They stated that students know how to save water and protect the environment. One of the significant statements they made was that students have the ability to provide solutions because they have creative ideas and they come from different environments. Both participants did not take part in the interviews, and this is a limitation for this study.

Important Differences between Indonesian and Thai Groups

There were some differences between teachers' responses between Thailand and Indonesia and in their teaching approaches. The teachers from Thailand reported on students' responses, but they were positive that the integration of values works. The teachers from Indonesia did not explain or relate to students experiences. They complained of the stress regarding their work.

Teachers' from Indonesia have not taken this experiential approach in the classroom either because of their teaching approaches they use and /or because they had not implemented water education as a whole of school approach. Teachers from Indonesia responded that they face heavy workload and a lack of time. It was understood from teachers' beliefs that assessment procedures are more exam oriented. In Thailand education in human values is embedded in the curriculum through the integrated classes which teachers mentioned frequently.

If water education is to take an integrated approach then teaching approaches have to move from a rigid structured program to a more intra-disciplinary view. Teachers have to move from teacher -centred to meaningful student- centred learning. This has to include information as well as transformation. Integrating values in the classroom is a complex approach. According to Greeno (1997, p. 11), "Learning to learn through the activities of inquiry involving discourse that includes formulating and evaluating questions and problems, as well as solutions and conclusions, and proposing and criticizing explanations, arguments, and examples is crucial to meaningful participation in the activities of our society". Teachers from Thailand provided some evidence of implementation of these teaching processes regarding water issues using a problem based approach and values approach. Prawat (1992) highlighted the fact that changing from traditional approaches to a constructivist approach requires teachers to discuss and reflect and take into account their own conceptual change. These changes, according to Prawat, cannot occur unless there is a whole of school approach.

Regarding the integration and elicitation of human values in the curriculum, there was not much emphasis relating to water education from teachers' belief responses in Indonesia. There was no evidence of discussions or using an integrated approach or theme teaching in their schools.

According to teachers' belief responses, teachers from Thailand had used the integrated approach by combining both the cognitive and affective objectives when they conducted lessons. These approaches were missing from responses in the Indonesian group. Teaching approaches, according to the belief responses from Indonesia, also revealed that they were more teacher centred and this would cause an obstacle for values education.

Implications of Teacher-Centred Teaching Approaches and Learner-Centred Teaching Approaches

Teachers in Thailand have administrative support and this has helped curricular changes as well as implementation of the reform itself, facilitating student-centred learning. The curriculum has incorporated a flexible mode of teaching, i.e. theme teaching as well as an integrated approach, which enables teacher support as well as intra-disciplinary teaching. If HVWSHE has to be implemented using the principle of integration and elicitation in classrooms the teaching approaches have to change and teachers may need to use reflective practices in Indonesia.

DISCUSSION

The results of this study suggested some differences in teachers' understanding and beliefs about HVWSHE between the groups from Thailand and Indonesia. From the first phase, the analysis indicated that most of the teachers were positive about implementing values education. The qualitative analysis revealed that most teachers were motivated by the program. The teachers from Indonesia appeared to have low conceptual understanding of HVWSHE principles and processes although they were motivated by the program. Teachers'

belief responses from Indonesia regarding HVWSHE reflect that even if teachers were motivated and understood the underpinning philosophical ideas of HVWSHE, teachers may not be able to implement the reforms as they are intended. Teacher professional development in HVWSHE may then need to include several teaching experiences on how to integrate values through an integrated approach and interdisciplinary teaching approaches. Administrative support is also needed to support teachers through teacher modelling of effective teaching methods using knowledge and skills to integrate and elicit human values from lessons related to water education.

SIGNIFICANCE OF THE STUDY

This study contributed to understanding how teachers conceptualised and applied the principles of Educare and processes using the teaching pedagogies from the HVIIM in their classroom practices in some Southeast Asian countries. An overview of teachers' beliefs regarding their use of the teaching processes helped teacher educators to modify or adapt their practices in these regions. They can also be part of a larger model for both HVWSHE and environmental education throughout the parts of the world which have similar issues with water.

LIMITATIONS

The sample for this study was small and results cannot be generalised for schools in Southeast Asian countries. Furthermore, the interviews did not cover the aspect of integration and elicitation of human values in depth. Nevertheless, the study has made a useful contribution in understanding teachers' beliefs regarding their personal classroom practices in terms of water education and has implications for environmental education as a whole.

CONCLUSION

While teachers have agreed that water education and a human values approach to its implementation are important, teachers may

need support through classroom modelling to understand how student-centred approaches actually impact HVWSHE when compared to traditional approaches. This study has given some insights into teachers' beliefs about HVWSHE which can be incorporated into future professional development to further enhance the development of student learning as well as ethical behaviours and attitudes related to water education.

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APPENDIX 1
TEACHERS' BELIEFES AND PERCEPTION SURVEY

You are requested to indicate the extent of your agreement or disagreement.
Please write down clearly what you feel about implementing HVWSHE in your classroom.

Section A

Instructions: Use a blue/black pen or pencil and mark your response as shown

Please answer each question to the best of your ability

1. Gender Male Female

2. Age :

3. Country:

4. How many years have you been teaching?

5. What grade levels do you teach?

6. How long was your training period?

7. For how many months have you implemented HVWSHE?

8. In which subjects do you implement HVWSHE? Please fill in the number of hours per week you implement HVWSHE in each of the subjects you teach in the check box.

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9. Are you a trainer of teachers (TOT)/Teacher Educator?

(Trainer of teachers and teacher educator implies that you train teachers)

Yes:

No:

Teachers' Beliefs and Perceptions of Integration and Elicitation of Human Values

For each item below, please indicate the extent to which you Agree or Disagree with the statement, using the scale provided. Please use the space below each question to give reasons for your rating.

1. I believe that it is important to integrate Human values into my lesson plans.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

2. I have the confidence to integrate human values when teaching about the environment.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

3. I believe that teachers can draw positive values during interactions with students in HVWSHE.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

4. Human values are easy to integrate into all academic streams.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

5. It is possible to motivate students to practice human values for developing pro-environmental behaviours.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

6. Students are motivated to help one another when values such as unity, peace and love are drawn from lessons taught in classrooms.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

7. Lesson plans must stress students' interconnectedness with the environment.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

Teachers' Beliefs and Perceptions of Integration and Elicitation of Human Values

8. Facilitation of human values in classroom promotes self-control in students so that do not waste water.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

9. It is possible to draw out human values from students during the teaching sessions.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

10. Integrating water-based cultural practices into HVWSHE increases students' respect for the environment.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

Please explain the reasons for your rating

.....
.....

APPENDIX 2
SAMPLE IN-DEPTH INTERVIEW GUIDE

Name of Interviewer _____
Date _____
Name of Interviewee _____
Staff Position _____

“Good morning. I am _____ (introduce self).

This interview is being conducted to get your input about the teaching processes in your classroom with regards to human values-based water education which you have been, conducting/involved in. I am especially interested in your views with regards to the program”.

“If it is okay with you, I will be tape recording our conversation. The purpose of this is so that I can get all the details but at the same time be able to carry on an attentive conversation with you. I assure you that all your comments will remain confidential. I will be compiling a report, which will contain all staff comments without any reference to individuals. If you agree to this interview and the tape recording, please sign this consent form.”

“I’d like to start by having you briefly describe your responsibilities and involvement thus far with the HVWSHE “ (*Note to interviewer: You may need to probe to gather the information you need.*)

“I’m now going to ask you some questions that I would like you to answer to the best of your ability. If you do not know the answer, please say so.”

HVWSHE

Teaching processes; Integrating human values in the lesson plans c) Drawing out human values from the students.

Questions will be probed in detail on the above aspects as given below,

“What are your experiences during classroom teaching regarding integration of human values in your lessons?”

“Do you observe any changes with students with regards to their habits when they use water?”

“Can you elaborate more on that?”

“What other problems are you aware of?” (*Note to interviewer: You may need to probe to gather the information you need*) “What do you think about HVWSHE at this point?” (*Note to interviewer: You may need to probe to gather the information you need - e.g., “I’d like to know more about what your thinking is on that issue”*)

“Is there any other information about the impact of the program that you think would be useful for me to know?” (*Note to interviewer: If so, you may need to probe to gather the information you need*)

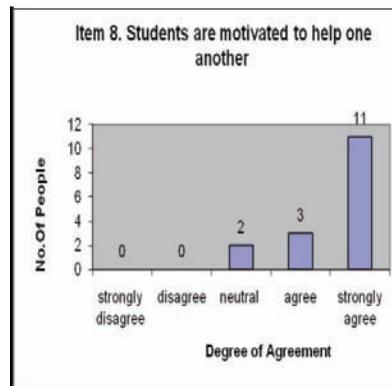
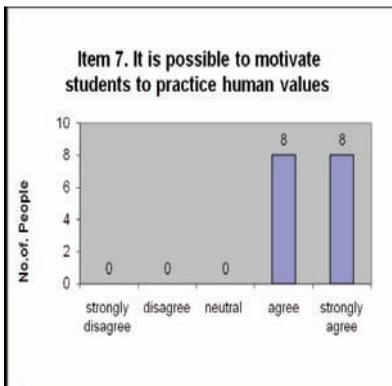
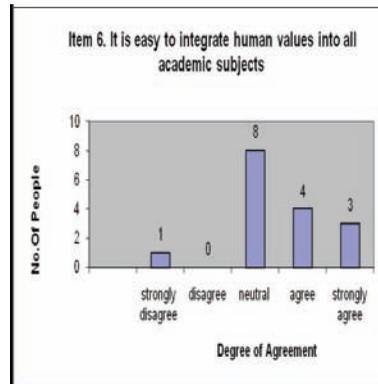
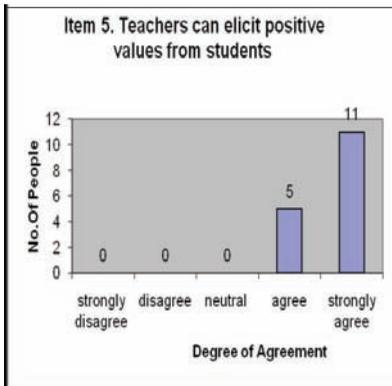
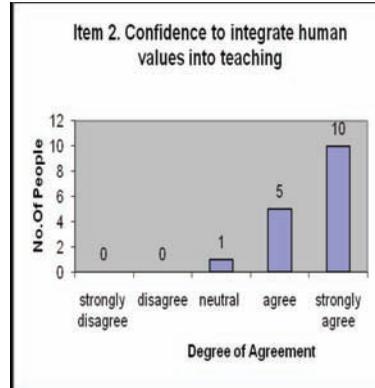
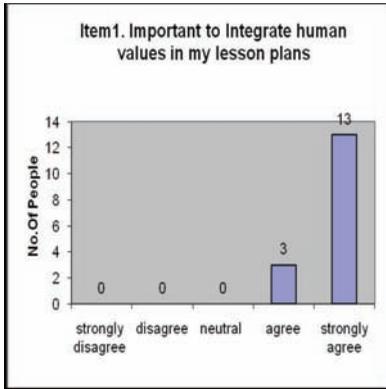
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APPENDIX 3
TEACHERS' BELIEFS REGARDING INTEGRATING AND ELICITATION OF HUMAN VALUES

Statements	strongly disagree	disagree	neutral	agree	strongly agree
Item 1: It is important to integrate human values in my lesson plans	0	0	0	3	13
Item 2: I have the confidence to integrate human values in my teaching about the environment	0	0	1	5	10
Item 5: I believe that teachers can elicit positive values from students using HVWSHE	0	0	0	5	11
Item 6: It is easy to integrate human values into all academic subjects	1	0	8	4	3
Item 7: It is possible to motivate students to practice human values by developing pro- environmental behaviours	0	0	0	8	8
Item 8: Students are motivated to help one another when values, such as unity, peace and love are integrated into the lessons	0	0	2	3	11
Item 10: Lesson plans must stress students' inter-connectedness with the environment	0	0	1	12	3
Item 12: Human values education promotes self control so that students do not waste water	0	0	1	11	4
Item 14: It is possible to elicit human values from students during class	0	0	1	7	8
Item 22: Integrating water based cultural practices into HVWSHE increases students' respect for the environment	0	0	1	10	5

APPENDIX 4
INTEGRATION AND ELICITATION OF HUMAN VALUES

The teachers' rate of agreement regarding the second principle, integration and elicitation of human values, is provided in the figures below.



Teachers' Beliefs and Perceptions of Integration and Elicitation of Human Values

