ROLES OF HUMAN RESOURCE DEVELOPMENT IN ENVIRONMENT CONSERVATION ATTITUDE DEVELOPMENT: A PRELIMINARY STUDY OF THAI SCUBA DIVERS

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Abstract

SCUBA diving community in Thailand has been growing rapidly in the past years. This recreational activity pushes people into a closer relationship with the environment. Additionally, environmental conservation has become an issue in focus of SCUBA diving community. To protect the underwater and marine environment, human resource development concept and process could be helpful. To be SCUBA divers, ones must go through a formal training to ensure proper knowledge, skills and attitude. As a result, Environmental conservation attitude is expected to be developed for all student divers.

Purpose This study aimed to study the relations of teaching and content relating to environmental conservation and teaching methods environmental conservation in Thai SCUBA divers' attitude. With the trust in role of attitude in guiding ones' behavioral intention. One with positive attitude about environmental conservation would act with care to the environment during diving and in their everyday life

Methods A quantitative study was conducted with 150 Thai SCUBA divers certified by different agencies. Data were collected using an online survey, circulating through online diving community. Data were analyzed using descriptive statistics, multiple regression analysis and one-way ANOVA.

Results The results revealed the positive relationship between content of the training and teaching approach and the Thai dives environment conservation attitude which could together explain the variability of Thai divers' overall environmental conservation attitude by 21.2 percent ($p < .01$).

Conclusion The results of this study not only inform the SCUBA diving community about how to develop an attitude of SCUBA divers, but also benefits human resource development field, especially the process of learning and development in recreation and tourism context.

Keywords: SCUBA Divers/ Environmental Conservation Attitude/ Human Resource Development/ Thailand

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Introduction

Human resource development (HRD) has been studied and expanded to wider boundary than business and organization context. Benefits yielded from HRD process could expand to communities and nations (McLean & McLean, 2001). Considering this definition of HRD, the environmental conservation attitude could be a topic of HRD interest, especially when sustainability is a concern. Sustainability is one of the major aims of nations, including Thailand. One of the well-known concepts for sustainability is the triple bottom line concept of Elkington (1997), which includes benefits and protection of the society and people, business performance, and environment in company's focus. Considering wellness of an environment as a part of sustainable development and considering wellness of community and nation as a part of HRD's outcomes, this study aims to benefit HRD field in Thailand by informing about factors that can lead to environmental conservation attitude of a certain group of people.

This study took SCUBA diving community as a context, because of its' rapid growth in Thailand. According to the Professional Association of Diving Instructors or PADI (2017a), new PADI diver certifications have increased by 22 per cent for those with Thai home address in 2017. This has been the fastest growing PADI certification in the world (PADI, 2017a). This is only from one among numbers of certification agencies. The training of this growing numbers of SCUBA divers could be guided by HRD approaches to form a sustainable community. As SCUBA diving was found to affect the wellness of underwater environment (Hawkins, Roberts, Van'T Hof, De Meyer, Tratalos & Aldam, 1999; Medio, Ormond & Pearson, 1997; Tratalos & Austin, 2001), it is important for this business to consider environmental sustainability. There have been news and incidents in Thailand, as well as in other diving destinations around the world, about the actions of unconcern about the environment. This study could be a possible way of communication and guideline for trainers and people influencing the SCUBA diving community to act on a protecting of the environment through the concept of HRD. This is not only an act for local sustainable development in Thailand, but also global community as a whole. According to the United Nations' sustainable development goals, life below water is one of the major concerns (United Nations, n.d.).

Objectives

This study aimed to inform both HRD and diving industry by providing suggestions on how environmental conservation attitude could be developed. Even SCUBA diving is a recreational activity, ones need a formal training and performance evaluation to gain diving certification. It shares that same development

concept as HRD in knowledge and expertise development (McLean & McLean, 2001). Together, this study holds the following objectives.

1. To uncover the influencing relationship of teaching approach and the content of teaching on the development environmental conservation attitude.

2. To inform the SCUBA diving industry regarding instructor development approach to be able to properly develop SCUBA divers.

3. To inform the recreation and tourism industry about the potential contribution of HRD.

Research hypothesis

Teaching approach and the content about environmental conservation in SCUBA diving would influence environmental conservation attitude of Thai SCUBA divers.

Methods

Sample group

This study was done with 150 Thai SCUBA divers certified by different agencies. Data were collected using an online survey, circulating through online diving community.

Research methodology

Questionnaires were developed based on the content from PADI's (2015) guide to teaching and PADI's (2013) Open Water Diver Manual. There were 68 items in this questionnaire. The first eight multiple choice-items asked about divers' personal information and diving experiences. The second part of the questionnaire included 50 five-point rating scale items asking about divers' conservation attitude. These 50 items were developed according to PADI's Project AWARE. Project AWARE is a non-profit organization founded incorporated with PADI. Project AWARE has been taken the responsible for environmental conservation efforts around the world for over 25 years. Project Aware takes on many aspects of conservation actions, such as marine debris, fighting against shark and rays' extinction, and community development (Project AWARE, 2016, para. 1-3). Project AWARE published the Ten Tips for Divers to Protect the Ocean Planet as a media kit to promote conservation attitude of SCUBA divers. These ten tips are 1) to be good at buoyancy in diving 2) to be a role model for others 3) not to take any souvenir from the ocean, and not to leave any garbage in the ocean 4) to pay attention and effort in protecting underwater life 5) to take action about debris 6) to take seafood with responsibility 7) to be active and take action in conservation 8) to be an eco-friendly tourist, 9) to minimize our carbon footprint and 10) to donate and provide support to conservation efforts of others (Project AWARE, 2010). These ten tips were translated into 50 items in Thai language. Five items for each tip were developed out of the item's description and elaboration. Another ten items were developed from PADI's (2015)

guide to teaching and PADI's (2013) Open Water Diver Manual. There were five items asking about the absorption of environmental conservation related content. The areas of content covered in the questionnaire were 1) difference between underwater ecology and land ecology, 2) common understanding about underwater lives, 3) responsibilities of divers and consequences of irresponsible behaviors, 4) diving techniques that can reduce environmental destruction, and 5) preferable behaviors to protect and conserve underwater ecological system.

Another five questions asked about the teaching approach used in transferring environmental conservation attitude. Teaching approaches mentioned in the questionnaire were 1) being role models for student divers, 2) stressing the importance of proper diving technique and environmental conservation related objectives of skill practicing, 3) paying attention on skill practicing to ensure divers' proper skills to dive responsibly to the environment, 4) providing feedback for improvement, and 5) using examples or case studies to ensure student divers' understanding about environmental conservation issues.

Data analysis

1. To confirm the validity of the item, the index of item objective congruence (IOC) analysis was performed by PADI's open water SCUBA instructors to confirm the appropriateness of the items. The cut point was .75 according to Turner and Carlson's (2003) suggestion. Even all items passed this criterion, PADI's open water SCUBA instructors were invited to provide experts' opinions to improve these items.

2. Data were analyzed using descriptive statistics, and multiple regression analysis.

Results

Analyzing the demographic data, it was found that respondents with different level of certifications, number of dives, certification agencies, and level of participation in conservation activities did not hold different level of overall environmental conservation attitude. According to the results, it can be said that experiences of SCUBA divers, both in terms of years of experience and extensiveness of diving, did not relate to SCUBA divers' attitude toward environmental conservation. Moreover, it was found that divers certified by different certification agencies do not have different level of attitude toward environmental conservation.

Another part of the results involved SCUBA divers training program and SCUBA divers' environmental conservation attitude. Considering content of divers training program, the absorption of environmental conservation related content showed significant relationship with overall environmental conservation attitude of divers (r^2 = .405, $p < .01$), as shown in the table below.

Table 1 The relationship between content of SCUBA diving training program and environmental conservation attitude

		Environmental Conservation Attitude
Content of Divers Training Program	Pearson Correlation	.405**
	Sig. (2-tailed)	.000
	n	150

Another part of the results is about perceived teaching methods and SCUBA divers' environmental conservation attitude. As shown in the table below, the perceived teaching methods used to convey the content related to environmental conservation showed significant relationship with overall environmental conservation attitude of divers (r^2 = .398, p < .01).

Table 2 The relationship between teaching methods of SCUBA diving training program and environmental conservation attitude

		Environmental Conservation Attitude
Teaching Approach	Pearson Correlation	.398**
	Sig. (2-tailed)	.000
	N	150

The results of a stepwise multiple regression analysis, as shown in the table below, revealed that content of the training and teaching approach could together explain the variability of Thai divers' overall environmental conservation attitude by 21.2 percent (p < .01).

Table 3 Summary of Regression Analysis for Variables Predicting Environmental Conservation Attitude of SCUBA Divers (n = 150)

	Unstandardized Coefficients		Standardized Coefficients	t	sig
	B	Std.Error	Beta		
Constant	133.590	11.365		11.755	.000
Content of divers training program	1.501	.474	2.71	3.163	.002
Teaching Methods	1.608	.537	.257	2.992	.003
R Square = .212					
Adjust R Square = .201					
Std. Error of the Estimate = 16.54436					

According to the above table, a significant regression equation was found with an R^2 of .212, as shown below.

Environmental conservation attitude = 133.59 + 1.50 (Content of divers training program) + 1.608 (Teaching methods)

Discussion

Despite the limitation of number of respondents, this study can be a preliminary study with an attempt to inform the field of HRD in terms of corporate social responsibility (CSR) effort, as well as employees training and development. There have been a number of organizations in Thailand that putting an effort to develop this attitude of employees through training and development and CSR activities, especially environmental conservation activities. This study provides preliminary suggestions on how these could be done. According to the results, teaching methods and content of a training program could predict trainee's environmental conservation attitude. Therefore, it is important to design such training to develop trainees' understanding about 1) ecology system, 2) lives in eco-system, 3) responsibilities of human and consequences of irresponsible behaviors, 4) life skills which could reduce environmental destruction, and 5) preferable behaviors to protect and conserve ecological system. Organizations may look over such content because it does not directly relate to conservation in organizational context. However, it could lead to certain set of attitudes which is needed.

Moreover, organizations can take on the results of this study in designing their CSR activities. Apart from the content of develop-

mental activities, this study suggests that leader(s) of such activities or trainer(s) should consider teaching technique influencing environmental conservation attitude of trainees, namely 1) being role models for trainees, 2) stressing the importance of proper skills and environmental conservation related objectives of skill practicing, 3) paying attention on skill practicing to ensure trainees' proper skills to act responsibly to the environment, 4) providing feedback for improvement, and 5) using examples or case studies to ensure trainees' understanding about environmental conservation issues. These results sound general. However, currently environmental conservation activities are not conducted base on the previously mentioned techniques. The element of fun and teambuilding tend to be more focused. There has been a gap between the suggested techniques and the current practices.

The results of this study are not in isolation. The positive relationship between the content about environmental conservation or knowledge and SCUBA divers' environmental conservation attitude aligns with the results of existing research. It was found by Aminrad, Zakariya, Hadi and Sakari (2013) that there was a positive but small correlation between knowledge and attitude in environmental education in Malaysia. Even the study was done with child learners, the environmental conservation issue was taken in the same level as adult learning. Another example is the research findings proposed by Dimopoulos, Paraskevopoulos, and Pantis (2009) that an education module designed to educate Greek school students about environment could raise students' attitude about conservation of nearly extinct species. This education module was proven to be usable for non-formal education as well, such as in the national park context.

The positive correlation between the environmental knowledge and the environmental attitude was also found in the context of ecotourism in China by Zheng, Xu, Kong, Deng and Lin (2017). They revealed the agreement about the importance of content in developing knowledge of learners, and its' contribution to certain attitude. Moreover, Campbell, Waliczek and Zajicek (1999) also confirmed that the knowledge had impact on attitude. They found that students with higher environmental knowledge scores had higher preferable environmental attitudes than those with lower scores (Campbell et al, 1999) Such similarity could ensure that providing knowledge and understanding about environmental conservation could lead to environmental conservation attitude.

The relationship between teaching methods of SCUBA diving training program and environmental conservation attitude confirms the concept of adult learning suggested by Knowles (1987) showing that to achieve learning, SCUBA divers as learners need to be instructed with immediate application and problem-centered

content. The five items about teaching approaches related to the adult learning concept in terms of providing feedback, giving examples and real-life situations, focusing on importance of each area of content, and so on. Knowles' (1987) founding theory of adult learning could well explain the phenomenon found in this study. Environmental conservation attitude could be developed under the approach of adult learning. Apart from the teaching approaches which are related to the adult learning concept, the role model approach was confirmed by Raden (2011) that it had impacted on students' perceptions and career choices. After all, it was suggested by Howe (2009) who reporting that it was important to have the educational policies in both global and local scales about conservation intervention, considering both formal and informal conservation education, due to its' effectiveness in developing conservation intention.

The results of a stepwise multiple regression analysis agree with the research findings suggested by Martinez (2003) that the formal training provided for graduates could not change their attitude toward their abilities in job performing. This could result from the graduates' existing attitude. Tidsell and Wilson (2000) provided a support that the environmental education had positive impact on attitude to conservation of turtles. Burnett, Sills, Peterson, and DePerno (2015) proposed that a conservation education program could be considered effective in changing individuals' opinions. Moreover, active learning approach, which relates well to teaching methods studied here, was found in an experimental research done by Alexadar and Poyyamoli (2014) showing higher degree of air and water biodiversity conservation attitude than the traditional teaching method. This could be an evidence of effectiveness of active teaching and learning approach over traditional teaching and learning to facilitate environmental conservation attitude. The previously mentioned statements from existing research align with what was found in this study.

Conclusion and Implications for Practices

It was found by this preliminary study that roles of SCUBA diving instructors were important to the development of environmental conservation attitude of SCUBA divers. Environmental conservation related content and instructors' teaching technique, which are used for knowledge development, play a significant role in developing attitude toward environmental conservation of SCUBA divers. The results were confirmed and supported by many related researches. There was diversity in terms of research participants. Some were done with high school students. Some were done with adults. However, those research results can be applied and discussed here. Because SCUBA diving is a recreational activity that allow people of every generation to participate.

According to PADI's regulations, one can start taking SCUBA diving course from the age of eight (PADI, 2017b). For that, SCUBA diving community includes people from every age. For the importance of content and instructors' teaching technique in developing environmental conservation attitude of SCUBA divers, SCUBA diving instructors need to be able to cover such content in the SCUBA diving training and be able to perform such teaching technique properly to ensure that student divers are developed to be SCUBA divers with desirable attitude toward environmental conservation. Especially, when it was found in this study that experience in diving did not relate to SCUBA divers with desirable attitude toward environmental conservation, it is even more important to SCUBA diving instructors to play their roles as attitude developers. Because, at certain extent, this study reveals that such attitude will not be developed as SCUBA divers gain their experience in diving. They learn about this attitude from their very first explosion to this activity during the training. To ensure that SCUBA instructors can perform so, the training programs for instructors need to focus on this issue too. To become a SCUBA diving instructor, one must proceed through the instructor development course and undergo the formal examination. This process could consider stressing on the importance of conveying environmental conservation content with proper teaching techniques. This is to ensure that all SCUBA diving instructor can produce divers with desirable attitude toward environmental conservation.

Another suggestion to the diving community is that all certification agencies should consider the set of environmental conservation attitude in curriculum revision for all certification levels, from beginner to professional level. This study found that training was significantly important to SCUBA divers' attitude. Therefore, all agencies should aware of their important role in putting this agenda in their training curriculum. That is to ensure that divers, from whichever certification agency, would have environmental conservation attitude.

The results of this study could inform the practices of SCUBA diving training in today's market that the content incorporated in the knowledge development process, and the teaching approach used in transferring environmental conservation attitude to newly certified divers are functioning acceptably well. These results are the evidences that the SCUBA diving instructing system can develop divers' overall environmental conservation attitude. It should be stressed that responsibilities of SCUBA diving instructors are not just to train student divers to dive safely, but also to dive responsibly to the environment. The content related to environmental conservation is important in developing student divers' environmental conservation attitude. Also, teaching methods consisting of 1) being role models for student

divers, 2) stressing the importance of proper diving technique and environmental conservation related objectives of skill practicing, 3) paying attention on skill practicing to ensure divers' proper skills to dive responsibly to the environment, 4) providing feedback for improvement, and 5) using examples or case studies to ensure student divers' understanding about environmental conservation issues are crucial in developing student divers' environmental conservation attitude as well. The training system used to train SCUBA diving instructors should take on this suggestion in developing and revision of the instructor development course. Moreover, teaching materials, provided for SCUBA diving instructors to use in training student divers, need to be developed to be more extensive on environmental conservation agenda. This is not only to remind SCUBA diving instructors and student divers about their roles in environmental conservation, but also to assist instructors in their teaching process. As content is important, to have available teaching materials, instructors would be able to develop student divers' knowledge more efficiently.

Lastly, the SCUBA diving certificating agencies could consider to do more research about environmental conservation roles of the diving community. These data could be more beneficial if they were analyzed and interpreted. Research can inform the community and the agencies themselves about effectiveness and areas for improvement in environmental conservation actions.

HRD field could learn from this study that HRD process is functioning in learning and development in recreation and tourism context, as well as formal organization and business content. More research in cooperation with the field of recreation and tourism could be considered. This paper is a preliminary study; therefore, the limited numbers of respondents is recognized. Further research with larger number of respondents is being conducted to provide the stronger generalizable results.

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