THE ANALYSIS OF HIGH SCHOOL STUDENTS' AND SCUBA DIVERS' AWARENESS ON THE OCEAN ENVIRONMENT AND THE PLANS TO ENHANCE THE PUBLIC AWARENESS

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DO STUDENTS KNOW?

- Global Warming
- Climate Change
- Greenhouse Gas Emission
- Desertification

Ocean Desertification?

MARINE ENVIRONMENT

- Global warming and climate change not only influence the land, but also the marine environment.
- 71% of the Earth's surface is composed of water
- The underestimated importance
- Barren grounds, also known as whitening or "ocean desertification"

THE AWARENESS OF YOUNG PEOPLE

- Lack of chance to encounter the issue on marine environment
- Shallow level of education
- Lack of interest

Low level of knowledge and awareness

THE SURVEY

- Investigate the awareness and knowledge on the ocean environmental issues of high school students in urban area of Korea
- A foundation of what young people can do to protect the ocean environment
- To figure out the most effective way of raising awareness

THE SURVEY

Section	Category	Number
The awareness on the climate change and the marine environment	General understanding of the climate change	1~4 (5-point Likert agreement scale)
	Awareness on marine environment	5~8 (5-point Likert agreement scale)
	Awareness on ocean desertification (barren grounds)	9~12 (5-point Likert agreement scale)
	Actions taken and willingness to take actions for the improvement of the marine environment	13~20 (5-point Likert agreement scale)
Media and the	Usage	Yes or No
frequency of usage	Frequency	Everyday, 3 times a week, once a month
General information	Age, gender, oceanic, environment education programs	

THE SURVEY - HIGH SCHOOL STUDENTS

Category	Questionnaire	M	SD
General	Awareness on climate change	4.40	0.76
	Awareness on global warming	4.48	0.70
understanding of the climate	Awareness on land desertification	4.09	0.99
change	Sentiment index on climate change	3.97	0.94
	Total	4.24	0.85
Awareness on marine environment	Awareness that 70% of earth's surface is water	4.44	0.72
	Awareness that oceans produce 50% of oxygen of the atmosphere	2.98	1.15
	Awareness that climate change raises sea level	4.48	0.68
	Awareness that climate change changes marine ecosystem	4.22	0.82
	Total	4.03	0.84

THE SURVEY - HIGH SCHOOL STUDENTS

Category	Questionnaire	M	SD
	Awareness that there is a phenomenon called ocean desertification as a result of climate change		1.21
Awareness on ocean desertification	Awareness on building sea jungle to prevent barren grounds		1.20
	Awareness on the term "barren grounds"	1.92	1.03
	Awareness on enforcement of ocean tree planting day	1.81	1.03
	Total	2.19	1.12

THE SURVEY - HIGH SCHOOL STUDENTS

Category	Questionnaire	M	SD
	Level of participation in environment education of activities so far	3.03	1.16
	Level of willingness to participate in environment education or activities	3.58	1.00
Actions taken and	Level of participation in ocean environment education or activities	2.28	1.17
willingness to take actions	Level of willingness to participate in ocean environment education or activities in the future	3.51	0.97
for the improvement	Level of experience in beach clean-up	2.91	1.24
of the marine environment	Level of willingness to participate in beach clean-up in the future	3.47	0.98
	Level of experience in undersea clean-up	2.04	1.17
	Level of willingness to participate in undersea clean- up in the future	3.24	1.09
	Total	3.01	1.10

THE SURVEY - SCUBA DIVERS

Category	Questionnaire		SD
	Awareness on climate change	4.54	0.58
General	Awareness on global warming	4.62	0.53
understanding of the climate	Awareness on land desertification	4.27	0.95
change	Sentiment index on climate change	4.21	0.85
change	Total	4.41	0.53
Awareness on marine environment	Awareness that 70% of earth's surface is water	4.71	0.50
	Awareness that oceans produce 50% of oxygen of the atmosphere	2.90	1.27
	Awareness that climate change raises sea level	4.63	0.56
	Awareness that climate change changes aquatic ecosystem	4.52	0.67
	Total	4.19	0.49

THE SURVEY - SCUBA DIVERS

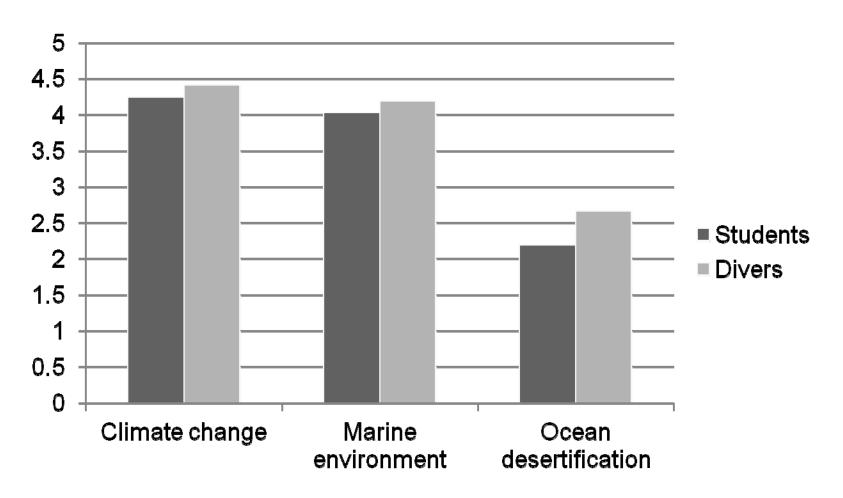
Category	Questionnaire	М	SD
UCEan	Awareness that there is a phenomenon called ocean desertification as a result of climate change		1.55
	Awareness on building sea jungle to prevent barren grounds	2.94	1.55
	Awareness on the term "barren grounds"	2.54	1.51
	Awareness on enforcement of ocean tree planting day	1.81	1.17
	Total	2.66	1.21

THE SURVEY - SCUBA DIVERS

Category	Questionnaire	M	SD
	Level of participation in environment education or activities so far	3.48	1.29
	Level of willingness to participate in environment education or activities	4.19	0.82
Actions taken	Level of participation in ocean environment education or activities	3.19	1.52
and willingness to take actions for	Level of willingness to participate in ocean environment education or activities in the future	4.12	0.90
the improvement	Level of experience in beach clean-up	3.85	1.43
of the marine environment	Level of willingness to participate in beach clean- up in the future	4.12	0.90
	Level of experience in undersea clean-up	3.25	1.69
	Level of willingness to participate in undersea clean-up in the future	4.15	0.94
	Total	3.79	0.90

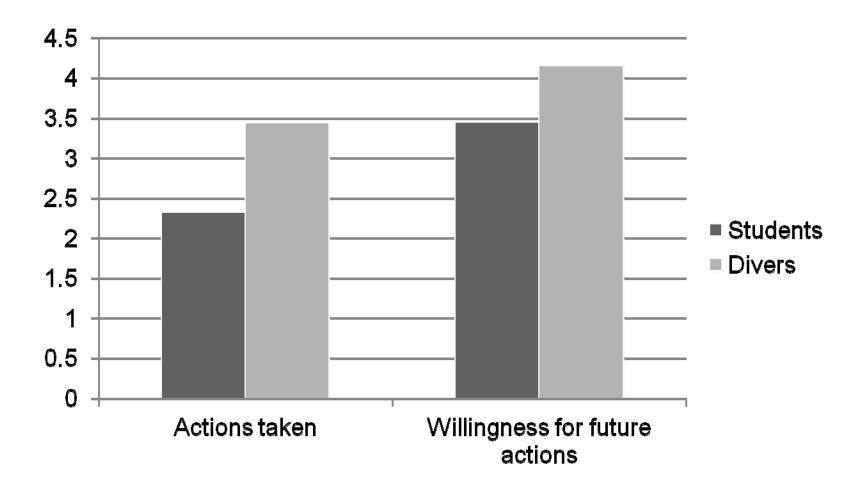
STUDENTS VS. DIVERS

Knowledge and Awareness



STUDENTS VS. DIVERS

Past and Future Actions



THE IMPACT OF ENVIRONMENTAL EDUCATION



- Students who previously had any sort of environmental education programs showed higher understanding in all categories
- Statistically significant → p <.05, p <.001

THE IMPACT OF ENVIRONMENTAL EDUCATION

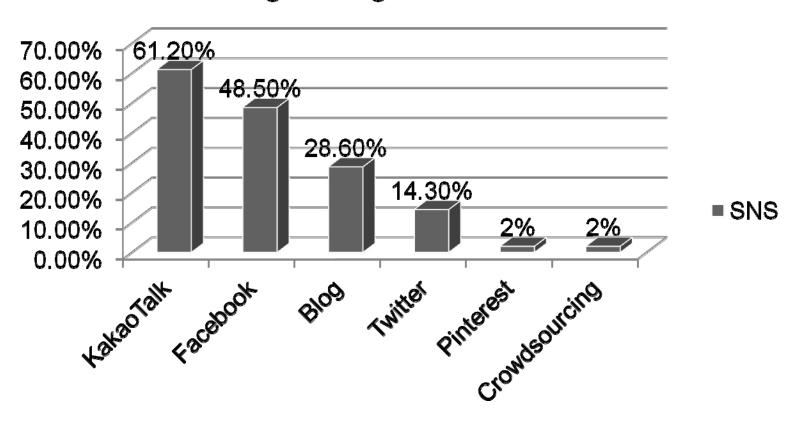
	Previous educ		
Category	Yes (n=35)	No (n=161)	t
	M(SD)	M(SD)	
General understanding of the climate change	4.44(0.72)	4.19(0.66)	2.005*
Awareness on marine environment	4.23(0.56)	3.99(0.60)	2.163*
Awareness on ocean desertification	3.51(0.85)	2.90(0.70)	4.453***
Actions taken and willingness to take actions for the improvement of the marine environment	3.51(0.85)	2.90(0.70)	4.453***

POSSIBLE SOLUTIONS

- The addition of information on marine environmental issues in textbooks
- More media coverage
- Governmental and non-governmental campaigns
- Legislations, policies

SOCIAL NETWORK SERVICES

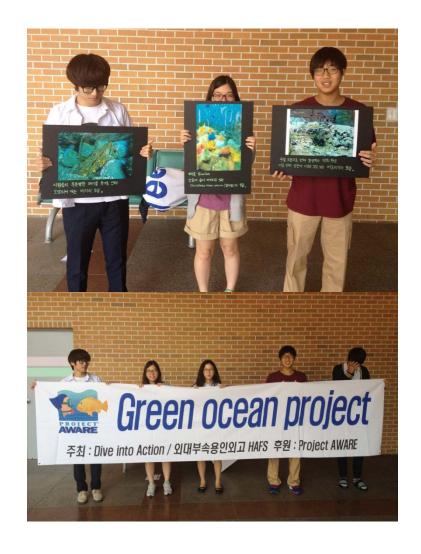
SNS Usage of High School Students





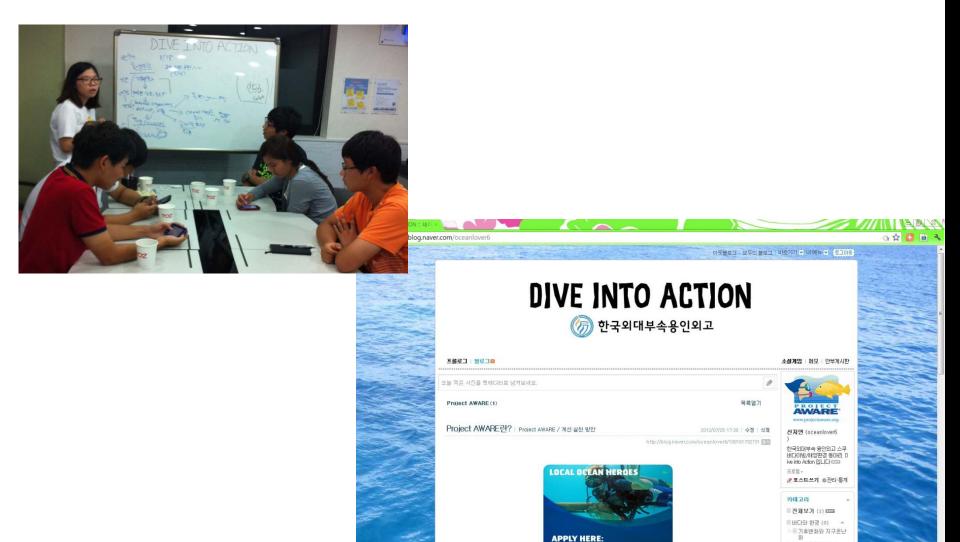
- Scuba diving
- Associated with Project AWARE
- Beach clean-up
- Ocean clean-up
- Campaigns to raise awareness on marine environment











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