

**AWARENESS OF AND RESPONSIVENESS TO
ENVIRONMENTAL ISSUES
Views From Secondary School Students
in Trinidad and Tobago**

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In a study in Trinidad and Tobago involving 176 secondary school students aged 15-17 years, it was found that 90% of the group had a good working knowledge about environmental issues. More students from rural schools were found to be personally aware of specific environmental issues in their communities, while more urban students indicated that they had done something tangible about one or more environmental issues. The students were surveyed by way of a 2-sectioned attitudinal-based opinionnaire, which gauged general knowledge and awareness in the first section and students' responsiveness in the second section. The results showed the while both urban and rural students were highly aware of environmental issues, rural students were slightly more responsive to these issues. A small percentage of students in this work were found to have a weak knowledge base about environmental issues, were generally indifferent to environmental issues within their communities, and had never been involved in any initiative on environmental matters.

Introduction

At the global level, environmental awareness of students is a major focus of many physical, biological, and earth sciences programmes, as well as all geography and environmental education programmes. The United Nations World Commission on Environment and Development (WCED) (1987) advocated that targeting young persons and getting them to think critically about environmental issues is a priority, while at the 5th World Economic and Environmental Conference (Zaleznik, 2012) it was suggested that the development of environmentally sensitive attitudes among students is important for the development of positive environmental behaviours in later life. There is, at present, active debate on the various activities, experiences, and understandings that influence the development of these attitudes. The print and electronic media continue to do an excellent job of sensitizing the global community about current environmental threats and environmental disasters around the world. So that while students are exposed to environmental issues in the

formal classroom setting they are also bombarded with information about the environment via television, newspapers, and other ICT devices (Giannoulis, 2010). Schools and other educational institutions, particularly at the secondary level, are making conscious efforts to infuse environment sensitization initiatives into their curriculum; either formally, by insisting that students do projects and/or write reports about environmental issues; or informally, by encouraging students to interact with the environment through participation in field trips, hiking, and camping exercises, as well as getting involved in community environmental advocacy groups. (Stevenson, 2007).

Environmental awareness has only recently found its way to the frontlines for consideration by planners and policymakers in Trinidad and Tobago. Against the background of this new insight, the science curriculum at every level of the primary and secondary school system in Trinidad and Tobago has an element of environmental education built into the relevant science syllabus documents. The earlier inadvertent neglect of environmental matters in Trinidad and Tobago is linked to the historical industrialized nature of the country's economy, which over the years continued with only little consideration for the environment. The current decline in the country's non-renewable resources is now forcing planners to seriously consider economic diversification, and one of the major considerations in the country's current economic diversification thrust is environmental conservation and environmental preservation.

In light of this shift, conscious efforts are being made to trigger environmental awareness among the population by targeting the education system of the country. Teachers are being encouraged more and more to raise environmental issues in their classroom, and to engage students in learning activities that will impress in their minds the importance of conserving and preserving the environment (Maharaj-Sharma, 2010). The challenge, however, remains to ensure that even after students develop a respect for the environment that it translates into environmentally sensitive behaviours in their everyday lives. To that end, some of the daily newspapers carry an environment feature on a weekly basis (e.g., *Trinidad and Tobago Newsday*), and schools are encouraged to get copies of the newspapers so that students can have easy access to information. Some media houses have made special efforts to ensure that print media are delivered to schools (urban and rural) that have made a request for this delivery service. In addition, all media houses have been open, fair, articulate, and factual in their reporting of environmental issues when they arise, either locally or internationally, so that there is ample opportunity for the population to be well informed. Recently, too, with the institutionalization of the government's laptop initiative for all secondary

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school students (Trinidad and Tobago. Ministry of Education, 2010), all students have access to laptops and/or mobile devices. With this increased accessibility, more and more students across the country have begun to avail themselves of several environmental applications that they access easily on their laptops and/or mobile electronic devices. “One Small Act,” for example, is an application created by NBCUniversal that informs students about what they can do to “green” their lives, and the impact it can have on their lives and on the environment. The app allows users to set goals, track their progress, and share changes they have made and actions they have taken on behalf of the environment.

Against this background, therefore, it is reasonable to assume that students in Trinidad and Tobago ought to be knowledgeable about and aware of environmental issues. Access to information is relatively easy, and formal curriculum instruction facilitates knowledge acquisition and encourages students to have an opinion on environmental issues and to become responsive to them. What is uncertain, however, is the extent to which the available information is making an impact on students and, therefore, what degree of awareness about environmental issues actually exists among the students. Even if students are knowledgeable and aware, it is unclear how involved, responsive, and proactive they are about environmental issues. These two uncertainties are what motivated this current work.

The aim of this work therefore is to reveal what levels of environmental awareness exist among secondary school students in Trinidad and Tobago and, further, to report on students’ responsiveness in the face of environmental issues. The following research questions guided the approach adopted in this work:

1. *How aware of environmental issues are secondary school students in Trinidad and Tobago?*
2. *How responsive to environmental issues are secondary school students in Trinidad and Tobago?*

This work comes at a time when the global community is struggling to manage a number of environmental issues ranging from excessive snowfall and flooding to raging bush fires and chemical spills. Experts have indicated clearly that these are all linked in some way to the consequences of less than responsible actions and environmentally unfriendly behaviours of human beings. There is the speculation that man has not been sensitized enough about the severe implications their everyday activities and daily habits have on the environment, and there is a strong suggestion that it is necessary for us all to think carefully about

how we view the environment and about what we are prepared to do to preserve it for future generations.

Literature Review

The theory of reasoned action (TRA) and the theory of planned behavior (TBP), as articulated by Ajzen and Fishbein (1980) and Armitage and Conner (1999) respectively, were used as a framework in understanding, explaining, and interpreting students' responses and their inferred behaviours. The theories are based on the following two assumptions: 1) that individual behavioural intentions are directly associated with their levels of knowledge, awareness, and willingness to act in response to a cause or an event (Ajzen & Fishbein, 1980); and 2) an individual's determination is influenced by personal attitude, social support, and perceived behavioural norms (Armitage & Conner, 1999). In light of these assumptions, these theories allow for the examination of the behaviour of humans in the context of their levels of knowledge and awareness, and therefore makes them suitable for the exploration of students' awareness and responsiveness to environmental issues addressed in this work.

Today the global community is plagued by various environmental nuances, and many researchers are convinced that these are as a result of irresponsible environmental behaviour, which is influenced by the extent to which environmental concerns matter to people (Meinhold & Malkus, 2005). This recognition prompted experts in the field of environmental education to look closely at environmental education programmes to determine the extent to which such offerings are aimed at raising awareness, and to urge those who participate in the programmes to adopt steadfast positions on critical environmental issues (DiEnno & Hilton, 2005; Lee, 2008). Many of these studies are aimed at gauging how young people view the environment, and about revealing what everyday activities, practices, and habits they engage in and the impact of these on the environment (Plamberg & Kuru, 2000; Selvam & Abdul Nazar, 2011).

In a 1996 study conducted by Morris and Schagen, a survey of roughly 1,000 15-year-old students revealed that only 34% regarded environmental issues as a "very serious" issue. More recent works, however, by Abraham and Arjunan (2005) and Khan (2013), have found that there is a strong positive correlation between students' exposure to environmental education and their subsequent environmental behaviour. More specifically, Khan (2013) revealed that students with a strong environmental education background had a significantly higher positive environmental attitude, and that their willingness to pursue environmental causes was overtly obvious.

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The results of a nonequivalent control group design used by Hsu (2010) to investigate the effects of an environmental education course on students' responsible environmental behaviour showed that the course significantly promoted students' responsible behaviour, their perceived knowledge of environmental issues, their intention to act on behalf of the environment, and their perceived knowledge of and skills in using environmental action strategies. An instructive notion from that work is that public environmental education, environmental awareness, and personal proactive environmental responsibility are key factors in any attempt to maintain a proper environmental balance and to ensure sustainable development.

Maharaj-Sharma (2010) pointed out that this environmental drive is somewhat subdued in Trinidad and Tobago, but given the current global urgency to focus on environmental preservation in the larger context of sustainable development, Trinidad and Tobago is re-examining its role and responsibility toward that ultimate goal. As a result, and taking the lead from leaders in the promotion of sustainable development (Sterling, 2004), Trinidad and Tobago has begun to make incremental changes to its national vision and outlook on matters related to the environment (Trinidad and Tobago. Government & United Nations Development Programme, 2003). This position therefore makes the current work both timely and instructive.

Methodology

Participants

A group of 176 secondary school students, all in their 5th year of secondary schooling, participated in this work. Their ages ranged between 15 and 17 and the group consisted of 92 girls and 84 boys. The group was a mixed one, in terms of ethnicity, geographical origin, academic ability, and social standing. The students were randomly selected from 8 purposively selected schools across Trinidad and Tobago (4 urban schools and 4 rural schools). In the Trinidad and Tobago context, an urban school is defined as a school within a 12 km radius of any major city, borough, or town; and a rural school is defined as a school that is located outside a 12 km radius from any major city, borough, or town (Maharaj-Sharma, 2007).¹

Twenty-two students each from the eight schools were selected by the class teachers and invited to participate in the research. To reduce sampling bias in the selection of the participants, the hat-and-draw method was used to select the students from each class to ensure that each student in each class had an equal chance of being selected to participate, and that

each selection was purely by chance. Parental permission was subsequently sought for the students' participation, and once this was obtained, the nature of the research and their role in the process were explained to the students. The group therefore contained 88 students from a rural setting and 88 students from an urban setting.

The Instrument

The initial opinionnaire was prepared using the rigorous iterative procedure for item development as described by Agrawal (2005) and Brandon (1998). Statements that prompted emotive responses were developed along the lines of the item development checklist prescribed by Brandon (1998). The opinionnaire consisted of two sections. The first section (Section A) was designed using the Likert-type model (Oppenheim, 1986) and comprised 15 statements about environmental awareness, which sought to elicit from students the extent to which they agreed or disagreed with each statement. The first 10 statements focused on general environmental issues linked to knowledge about and awareness of environmental matters, and about the impact of behaviours and practices on the environment. The latter five statements in this section (Section A) were personal, and sought to prompt students to reflect on their own beliefs and practices in relation to the environment.

In Section B of the opinionnaire, 8 responsive behaviours were presented (each as a statement of action) and students were asked to respond *yes* or *no* to indicate which of the actions they had taken on behalf of environmental issues in their community. The opinionnaire was reviewed by a language specialist (a colleague of the researcher) to correct for ambiguities in the statements. Feedback received was used to rephrase several of the statements in Section A of the opinionnaire. Once the final version of the opinionnaire was ready, it was piloted with a group of 30 secondary school students with demographics similar to those of the participants in this work. Results from the pilot indicated that students had no difficulties interpreting the statements presented on the opinionnaire. They provided responses to all statements on the opinionnaire.

Research Design

This study proceeded via a quantitative exploratory approach. An explorative approach was selected because the current work is concerned primarily with discovery and attempting to gain insights, with the researcher being the explorer. Stebbins (2001) describes this as social inquiry of the kind in which a perspective, a claim, a supposition, or a dilemma is presented in

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order to prompt the articulation or the emergence of “a state of mind” or “a special personal orientation.”

Data Analysis

Section A of the opinionnaire, which consisted of 15 questions rated on a Likert-type scale, was quantified to reflect students’ responses in respect of their degree of agreement or disagreement with the statements presented. Each statement had an assigned score ranging from 1 to 5, with 1 representing strongest disagreement and 5 representing strongest agreement with the statement, so that the closer the mean was to 5 for a particular statement, the higher was students’ agreement with the statement. Some questions were worded in negative form so that the score was reversed for analysis. This was done to prevent students from developing a stereotyped response set where a pattern developed, such as agreeing (or disagreeing) with all the statements (Babbie, 1998). Section B comprised 8 action statements for which *yes* or *no* responses were analysed. Descriptive statistical procedures were used to analyse the data obtained from Section A, while inferential statistical methods were used to analyse data from Section B. Rich descriptive text, which sought to reveal personal orientation and firm personal views as described by Stebbins’ (2001) deep social inquiry, was used to critically describe the findings generated from the quantitative explorations. This approach reinforced and qualitatively substantiated the quantitative findings. The data were analysed in three strands:

1. Strand 1 – Environmental issues linked to knowledge about environmental matters and about the impact of behaviours and practices on the environment
2. Strand 2 – Students’ reflection on their own beliefs and practices in relation to the environment
3. Strand 3 – Actions students have taken on behalf of environmental issues in their community

Results

This work revealed that between the urban and rural populations there were only two areas in which students’ views were statistically significantly different:

1. The belief that plants and animals have as much right as humans to exist – rural students scored a collective higher mean than their urban counterparts

2. The belief that environmental education is as important as any other curriculum in school – again rural students scored a collective higher mean than urban students

In all other areas, however, while the views of urban and rural students varied, the variation was not statistically significant. The sections that follow detail the views of urban and rural students in each of the three strands indicated above.

Strands 1 and 2

The results show that in respect of environmental issues linked to knowledge about environmental matters, and about the impact of behaviours and practices on the environment, students were very much aware of issues that affect the environment and about behaviours and practices that are detrimental to the environment. Many students from both localities held strong views about conserving/preserving the environment for future generations. Students were generally well aware of and highly responsive to environmental causes, with clear indications that they had either taken action or were prepared to take action on behalf of the environment.

Table I presents mean scores (\bar{x}), standard deviation, SD, and respective t-values for each school type.

Awareness of environmental issues

The data in Table 1 show that students from both localities had a high level of environmental awareness and a high level of favourable beliefs and practices in relation to the environment. The mean (\bar{x}) values were for all the students in each locality. Awareness linked to information presented through the print and electronic media was high among students, there being no statistical difference between the means for both populations. However, the mean noted for rural students reflected a higher degree of awareness among rural students. In both settings, however, the standard deviations were small (< 0.5), suggesting that all students in each locality had similar levels of awareness about environmental issues. In response to the right of humans to modify the environment to suit their needs, both urban and rural groups of students had means less than 2.00, with a difference between the means of both populations less than 0.1, suggesting that both groups did not agree that humans had that right. Urban students, however, had a slightly higher mean ($\bar{x} = 1.99$) than rural students ($\bar{x} = 1.91$) on this concern, though the difference was not statistically significant.

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Table 1. Students’ Awareness, Beliefs, and Practices in Relation to Environmental Issues

<i>Strand 1: Environmental issues linked to knowledge about environmental matters and about the impact of behaviours and practices on the environment</i>					
		School Context	Mean (x)	SD	t
1	I like watching television programs with an environmental message	Urban	4.60	0.4	1.12
		Rural	4.72	0.3	
2	I like reading books or magazines with environmental articles	Urban	4.50	0.2	1.16
		Rural	4.71	0.2	
3	Humans have the right to modify the environment to suit their needs	Urban	1.99	0.4	0.72
		Rural	1.91	0.5	
4	When humans interfere with nature it often produces disastrous consequences	Urban	4.02	0.3	0.09
		Rural	4.04	0.4	
5	Science and technology can overcome many environmental problems	Urban	3.04	0.4	0.54
		Rural	3.00	0.4	
6	Humans are severely abusing the environment	Urban	4.06	0.3	0.09
		Rural	4.08	0.2	
7	Plants and animals have as much right as humans to exist	Urban	4.24	0.4	2.82*
		Rural	4.90	0.3	
8	The balance of nature is very delicate and easily upset	Urban	4.03	0.3	0.62
		Rural	4.05	0.3	
9	Maintaining economic growth is more important than protecting the natural environment	Urban	4.08	0.6	1.19
		Rural	3.89	0.7	
10	If things continue on their present course, we will soon experience a major ecological catastrophe	Urban	4.01	0.4	0.62
		Rural	4.04	0.4	
<i>Strand 2: Students’ reflection on their own beliefs and practices in relation to the environment.</i>					
11	I am well informed about environmental issues in Trinidad	Urban	4.05	0.3	0.09
		Rural	4.06	0.2	
12	I pay little attention when environmental issues are being reported in the news media, including radios, TV, newspapers and social media	Urban	1.89	0.6	0.48
		Rural	1.91	0.3	

13	Environmental education is as important as any other curriculum in school	Urban	4.02	0.3	2.4*
		Rural	4.33	0.3	
14	There is a lot I, as an individual, can do to protect the environment in my community	Urban	4.65	0.2	0.72
		Rural	4.72	0.2	
15	I perceive myself as very concerned about environmental issues in my community	Urban	4.53	0.3	0.45
		Rural	4.55	0.2	

Note: *Significant at 0.05 significance level.

Both groups of students agreed ($x > 4.00$) that when humans interfere with nature it often produces disastrous consequences. While they seemed undecided about the extent to which science and technology can overcome many environmental problems ($x = 3.04$ for urban students and $x = 3.00$ for rural students), they were in high agreement that in an overall sense humans were severely abusing the environment ($x = 4.06$ urban and $x = 4.08$ rural). When asked about how they felt about the right of plants and animals to exist as humans do, both groups agreed that plants and animals do in fact have an equal right, but rural students scored a statistically significant higher mean than their urban counterparts. This was the only statement in Strand 1 in which there was a significant disparity in the means between both groups of students ($x = 4.24$ urban; $x = 4.90$ rural; $t = 2.28$).

The delicate balance of nature and the ease with which this balance can be upset was a concern that both urban and rural students shared similar levels of agreement on, with the mean score in both localities differing by only 0.02. However, when asked about whether maintaining economic growth was more important than protecting the natural environment, urban students agreed with this statement to a high degree ($x = 4.08$) while the rural students seemed somewhat undecided on this issue ($x = 3.89$). The standard deviation in both cases was relatively high but of almost equal value, indicating that spread across the mean view was somewhat variable but that the degree of variability among students' views was similar in both localities. When asked about what they felt would happen if things continue on their present course, both groups of students were in high agreement that a major ecological catastrophe would result ($x = 4.01$ urban; $x = 4.04$ rural).

Students' beliefs and practices in relation to the environment

Data presented in Strand 2 of Table 1 show that when asked to reflect on their own beliefs and to articulate how they perceive themselves and their

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practices in relation to the environment, both urban and rural students felt that their dispositions were environmentally friendly. When asked specifically about how informed they were about environmental issues in Trinidad and Tobago, both groups of students agreed highly, and almost equally so, that they were well informed ($x = 4.05$ urban; $x = 4.06$ rural). Responses indicated further that the majority of students from both localities were highly attentive to environmental issues discussed in, and disseminated via, print, electronic media, and social media (a small SD of 0.3 was found for both groups). Despite this high level of attention to information students claimed to have, there was a notably significant difference between the means obtained when the students were asked to judge the importance of environmental education against other subjects in the school curriculum. While both groups of students agreed that environmental education is just as important as any other curriculum subject in the school curriculum, rural students scored a significantly higher mean than urban students ($x = 4.02$ urban; $x = 4.33$ rural); $t = 2.4$ for $p < 0.05$. This result indicates that more rural students agreed to a larger extent that environmental education was just as important as other school subjects.

When asked to engage in personal reflection and to comment about how much they can individually do to protect the environment in their communities, rural students again scored a higher (though not statistically significant) mean ($x = 4.72$) than urban students ($x = 4.65$), suggesting that more rural than urban students saw environmental protection as an effort in which they felt there were actions that they could personally take to protect the environment in which they live. Furthermore, when asked about the extent of concern about environmental issues they perceive themselves to possess, both urban and rural students perceived themselves as having a high level of concern about environmental issues in their communities ($x > 4.5$ and $SD < 0.4$ for students from both localities).

Strand 3 – Action Taken on Behalf of Environmental Issues

Data gathered and analysed along this strand sought to elicit from students what action/s they had taken on behalf of environmental issues. Students were asked to respond simply *yes* or *no* to each of the actions. Table 2 shows the percentage of students in each locality who indicated whether or not they had taken any of the actions identified.

Table 2. Students' Actions on Behalf of Environmental Issues

Strand 3: Action on behalf of environmental issues		Yes		No	
		<i>% Urban students</i>	<i>% Rural students</i>	<i>% Urban students</i>	<i>% Rural students</i>
1	Wrote a letter to the newspaper	66	58	34	42
2	Wrote a letter to an organization or a public official	69	40	31	60
3	Telephoned a public official about an environmental issue	46	22	54	88
4	Took part in a protest on an environmental issue	63	78	37	22
5	Complained to a company/person causing damage to the environment	52	50	48	50
6	Joined an environmental action group	54	52	46	48
7	Signed a petition for an environmental issue	65	45	35	55
8	Contributed money to an environmental cause	62	72	38	28

With the exception of oral communication with public officials, the results show that for all other actions identified, the number of students who had engaged in action on behalf of the environment was greater than the number who did not. The results suggest further that more urban than rural students had engaged in formal means of communication such as letter writing, making telephone calls, and signing petitions to make their views on environmental issues known. More rural students used less formal methods such as engaging in protest action. Just over half of the students in both urban and rural localities indicated that they were part of an environmental action group, and a similar number, again in both localities, said that they had complained to a company or to a person responsible for causing damage to the environment. There was an 8% difference between urban and rural students who said that they had written letters to the newspapers to complain about or to highlight an environmental issue. What was interesting was that the percentage difference for both localities in respect of writing a letter to an organization/public official and telephoning a public official was much

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higher—greater than 20%—with urban students on the higher end of the percentage gap. In other words, urban students were more willing and likely to register a complaint or highlight an issue at official levels than their rural counterparts. In the case of signing a petition, there was a 20% gap between the numbers of urban and rural students who had engaged in this action, with the results again showing that more urban than rural students had done so.

When asked about monetary contribution to an environmental cause, 62% of urban students indicated that they had done this, but an even higher percentage of rural students—72%—had engaged in this action. A similar observation was made with respect to taking part in protest action, with a high percentage of rural students—78%—indicating that they had engaged in active protest action on behalf of the environment (only 62% of urban students had engaged in similar active protest). The observed trend in both instances—making monetary contributions and engaging in protest action—seems to suggest that rural students are prepared to champion environmental causes on both the passive (monetary contribution) and the active (protesting) fronts to a far greater extent than their urban counterparts. The data did not suggest that urban students are unwilling to agitate on behalf of the environment, but they seem to suggest that on these two actions, more rural than urban students had acted.

Discussion

This work attempts to illustrate, on a small scale, the levels of awareness of and responsiveness to environmental issues among secondary school students in Trinidad and Tobago from two different localities—urban and rural. The findings reflected elements of Armitage & Conner's theory of planned behavior (1999), to the extent that the views expressed by the students indicated that demonstrated behaviours and actions taken on behalf of the environment were deliberate, having been triggered by an event or an occurrence in their environment. In fact, most students are not only aware of environmentally unfriendly occurrences in their communities but have also themselves adopted a number of environmental views that they suggest have guided their actions, behaviours, and practices in their interactions with the environment. Plamberg and Kuru (2000) found a similar relationship between students' views on the environment and their everyday behaviours for a similar range of awareness indicators. However, the relationship between these two—views and behaviours—revealed in this work, is slightly more pronounced. In other words, students in Trinidad and Tobago displayed

slightly higher levels of environmental awareness and consequential behaviour than students in Colorado and Utah.

Noteworthy at this point is the revelation that from among the group of students who participated in this work (both localities), opinionnaire responses indicated that only a small number of students had not been involved in any initiative on environmental matters. In fact, only about 7% of urban students and 4% of rural students responded to indicate that they had seemingly indifferent positions on environmental issues.

It was obvious that students' willingness to act on behalf of the environment, in both localities, was linked to their levels of knowledge and awareness as described by the theory of reasoned action (Ajzen & Fishbein, 1980). So much so, that the data showed that in relation to students' awareness, beliefs, and practices, both groups of students had comparable views in all but one instance. When asked to articulate views on the right of plants and animals to exist there was a significant difference between the overall views expressed by students from both localities. Urban students were not as convinced as rural students that plants and animals have as much right as humans to exist. Similar findings were noted in Maharaj-Sharma (2010), which was also conducted in the Trinidad and Tobago context, where students did not demonstrate high levels of emotion towards the right of plants and animals to co-exist with humans.

This work also revealed that when students were prompted to reflect their own beliefs and practices in relation to the environment, both urban and rural students agreed to a similar extent that they had a personal stake in keeping up to date with environmental issues in their communities, and in taking active responsibility for preserving the environment. Their beliefs significantly differed, however, when asked about the importance of environmental education in schools. Rural students believed that it was equally important as any other curriculum subject in the school system but urban students did not share this belief to a comparable extent. This is an interesting finding and one that warrants further investigation, particularly in the geographically small Trinidad and Tobago context, where students from across the country—urban and rural—are all exposed to the same environmental issues when they arise. The qualitative question to be answered in subsequent work is why rural students see environmental education as equally important as other subjects but urban students do not.

As was found by Shiva Kumar and Patil (2007), this work also showed that students were generally passionate about the environment and were prepared to take action against environmentally unfriendly activities and practices. This work showed that urban students are more likely to engage in passive actions on behalf of the environment by making official complaints, either written or oral, and by signing petitions, but that they

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are not so likely to engage in active actions such as active protesting. Rural students, however, were generally equally likely to engage in both passive and active actions in favour of the environment, and were slightly more inclined than their urban colleagues to contribute money on behalf of an environmental cause. Overall, therefore, it would seem that rural students are defensive of the environment on more fronts than urban students, but this perception will need to be further investigated with larger groups of students from both localities. Even more than this perception, there is speculation that rural communities in the Trinidad and Tobago context are more emotionally connected to the environment than urban communities, perhaps because many rural communities depend on the environment for their livelihoods through farming and/or fishing. The higher means noted for rural students in respect of statements about defending and preserving the environment may be linked to this supposition. This, too, is an aspect of environmental awareness worthy of further investigation, particularly in the Trinidad and Tobago context.

Hsu (2010) pointed out that findings of small-scale studies on environmental attitudes, views, and perceptions can have a high degree of bias, as respondents are sampled at a snapshot period in time and therefore are likely to be influenced by what is happening in their immediate and extended environment at the time they are responding. If pressing environmental issues are in the forefront, responses might be skewed to higher levels of passion, concern, and care for the environment. While this concern was borne in mind during the implementation of this work, to the extent that the opinionnaires were administered during a time when no known major environmental issue was in the forefront, it was difficult to determine if and what environmental constraints each student may have been faced with in their respective communities. In that sense, therefore, the findings revealed herein may not necessarily be an exact representation of levels of awareness and responsiveness among students, but it does provided a critical starting point from which further work in this area can emerge.

Note

Secondary schools in Trinidad and Tobago are primarily of two types: government schools, which are fully funded by the government; or government-assisted schools (also called denominational schools), which are funded partly by the government and partly by denominational boards. In this work, the schools in each locality were (purposively) selected to reflect these two school types so that two government schools and two denominational schools were selected for each locality.

References

- Abraham, M., & Arjunan, N. K. (2005). Environmental interest of secondary school students in relation to their environmental attitude. *Perspective in Education, 21*(2), 100–110.
- Agrawal, A. (2005). Environmentalism: Community, intimate government, and the making of environmental subjects in Kumaon, India. *Current Anthropology, 46*(2), 161–190. doi:10.1086/427122
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Armitage, C. J., & Conner, M. (1999). Predictive validity of the theory of planned behavior. The role of questionnaire format and social desirability. *Journal of Community & Applied Social Psychology, 9*(4), 261–272.
- Babbie, E. R. (1998). *The practice of social research*. Belmont, CA: Wadsworth Publishing.
- Brandon, C. (1998, Fall). Cities and health. *Environmental Matters: World Bank Annual Review, 38–41*.
- DiEnno, C. M., & Hilton, S. C. (2005). High school students' knowledge, attitudes and levels of enjoyment of an environmental education unit on nonnative plants. *Journal of Environmental Education, 37*(1), 13–25. doi:10.3200/JOEE.37.1.13-26
- Giannoulis, C. (2010). Newspapers reporters' priorities and beliefs about environmental journalism: An application of Q-methodology. *Science Communication, 32*(4), 425–466. doi:10.1177/1075547010364927
- Hsu, S.-J. (2010). The effects of an environmental education program on responsible environmental behavior and associated environmental literacy variables in Taiwanese college students. *Journal of Environmental Education, 35*(2), 37–48. doi:10.3200/JOEE.35.2.37-48
- Khan, S. H. (2013). A study of attitude towards environmental awareness in relation to certain variables among senior secondary students. *Global Research Analysis, 2*(4): 42–44.
- Lee, E. B. (2008). Environmental attitudes and information sources among African American college students. *Journal of Environmental Education, 40*(1), 29–42. doi:10.3200/JOEE.40.1.29-42
- Maharaj-Sharma, R. (2007). Students' attitudes to science in urban and rural schools in Trinidad and Tobago. *Caribbean Curriculum, 14*, 31–47.
- Maharaj-Sharma, R. (2010). Young people's views on the importance of conserving the environment. *Caribbean Curriculum, 17*, 1–15.
- Meinhold, J. L., & Malkus, A. J. (2005). Adolescent environmental behavior. Can knowledge, attitudes and self-efficacy make a difference? *Environment and Behavior, 37*(4), 511–532. doi:10.1177/0013916504269665
- Morris, M., & Schagen, I. (1996). *Green attitudes or learned responses? Global environmental education*. Slough, UK: National Foundation for Educational Research.
- Oppenheim, A. N. (1986). *Questionnaire design and attitude measurement*. London, UK: Heinemann.

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- Plamberg, I. E., & Kuru, J. (2000). Outdoor activities as a basis for environmental responsibility. *Journal of Environmental Education*, 31(4), 32–36. doi:10.1080/00958960009598649
- Selvam, V., & Abdul Nazar, N. (2011). An analysis of environmental awareness and responsibilities among university students. *International Journal of Current Research*, 3(11), 202–205.
- Shiva Kumar, K., & Patil, M. S. (2007). Influence of environmental education on the environmental attitude of the post graduate students. *Edutracks – A Monthly Scanner of Trends in Education*, 6(8), 34–36.
- Stebbins, R. A. (2001). *Exploratory research in the social sciences*. London, UK: Sage.
- Sterling, S. (2004). Higher education, sustainability and the role of systemic learning. In P. B. Corcoran and A. E. J. Wals (Eds.), *Higher education and the challenge of sustainability: Problematics, promise and practice* (pp. 49–70). Dordrecht. The Netherlands: Kluwer Academic.
- Stevenson, R. B. (2007). Schooling and environmental education: Contradictions in purpose and practice. *Environmental Education Research*, 13(2), 139–153. doi:10.1080/13504620701295726
- Trinidad and Tobago. Government, & United Nations Development Programme. (2003). *Project title: TR1/03/003 – Assistance to the Ministry of Planning and Development in the Vision 2020 Planning Process*. Retrieved from http://www.undp.org.tt/governance/vision_2.pdf
- Trinidad and Tobago. Ministry of Education. (2010). *eConnect and Learn programme policy Version 4; draft*. Port of Spain, Trinidad: Author.
- World Commission on Environment and Development. (1987). *Our common future*. Retrieved from <http://www.un-documents.net/wced-ocf.html>.
- Zaleznik, D. (2012, November 20). Fifth annual World Economic and Environmental Conference concludes [Blog post]. Retrieved from <http://www.environmentalgovernance.org/event/2012/11/fifth-annual-world-economic-and-environmental-conference-concludes>

Appendix

Section A – Please indicate your degree of agreement or disagreement with the following statements about the environment and environmental issues by placing a tick in the appropriate box.

Section B – Please circle Yes or No to indicate which actions you have taken on behalf of environmental issues in your community.

Section A

		SA	D	U	A	SA
1	I like watching television programs with an environmental message					
2	I like reading books or magazines with environmental articles					
3	Humans have the right to modify the environment to suit their needs					
4	When humans interfere with nature it often produces disastrous consequences					
5	Science and technology can overcome many environmental problems					
6	Humans are severely abusing the environment					
7	Plants and animals have as much right as humans to exist					
8	The balance of nature is very delicate and easily upset					
9	Maintaining economic growth is more important than protecting the natural environment					
10	If things continue on their present course, we will soon experience a major ecological catastrophe					
11	I am well informed about environmental issues in Trinidad					
12	I pay little attention when environmental issues are being reported in the news media, including radios, TV, newspapers and social media					
13	Environmental education is as important as any other curriculum in school					
14	There is a lot I, as an individual, can do to protect the environment in my community					
15	I perceive myself as very concerned about environmental issues in my community					

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Section B			
16	Wrote a letter to the newspaper	Yes	No
17	Wrote a letter to an organization or a public official	Yes	No
18	Telephoned a public official about an environmental issue	Yes	No
19	Took part in a protest on an environmental issue	Yes	No
20	Complained to a company/person causing damage to the environment	Yes	No
21	Joined an environmental action group	Yes	No
22	Signed a petition for an environmental issue	Yes	No
23	Contributed money to an environmental cause	Yes	No

