EVALUATION ON THE ENVIRONMENTAL AWARENESS THROUGH ENVIRONMENTAL EDUCATION AMONG PUBLIC HIGH SCHOOLS IN SOUTH CENTRAL MINDANAO

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Abstract

In the present global situation people cannot deny the urgency of the major environmental problems affecting the world today such as climate change and biodiversity loss which are threatening humanity’s existence on this planet. There is a pressing need to promote environmental literacy through environmental education among its citizens in order for them to mitigate and to become resilient to these threats. This would develop behavior and practices towards environmental conservation and protection since environmental literacy will enhance comprehension and skills in devising interventions in the consequence of this situation in their lives (Hollweg et al. 2011).

In the Philippines, despite of the efforts of the National Government to promote environmental awareness and education through the implementation of Republic Act 9512 series of 2008, the country is still lagging behind to other nations regarding on its Environmental Performance Index in 2015. Thus, the Philippines ranked 114th among 178 countries based on its performance to address high-priority environmental issues, i.e., the protection of human health from environmental hazards, and ecosystems protection (Hsu et al. 2015).

Many parts in Mindanao need proper care and environmental protection especially in a huge portion of forest, waterfalls, and beaches which are considered natural resources that provides sanctuary and food to the people. The reported abuses of these resources are seen in media reports wherein people do not develop value of resource conservation and environmental care. Garbage are thrown everywhere despite of signage posted. This is an alarming phenomenon that should be addressed to help sustain not only resources but most of all protect the environment where people lived (Revita, 2017).

The evaluation of the implementation and outcome of the education is significant in determining the loopholes in goal achievement. The study may be a good source of strategies and interventions in the delivery of environmental education. The researcher is inspired to conduct this study to be able to apply the recommendations of the study in the instructional delivery of environment education in day to day activities with the students.

KEYWORDS: Educational administration, environmental awareness, and environmental education, descriptive-predictive, regression analysis, Philippines
1. INTRODUCTION

The study was anchored in RA 9512, a law that promotes environmental awareness through environmental education that mandated the Department of Education (DepEd), the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA), in coordination with in Department of Environment and Natural Resources National, the Department of Science and Technology (DOST) and other line agencies to integrate environmental education in the school curriculum at all levels.

This law can be applied in the study in a way where environmental education can provide environmental literacy to the students who will become responsible individual in preserving and protecting environment as they are growing up.

Additionally, the study was supported by the Unified Neutral Theory of Biodiversity by Stephen Hubbell (2001) that explains about the diversity and relative abundance of species in ecological communities and their interactions with one another. The central goal of community ecology is to understand the forces that maintain species diversity. This theory asserts that species live together in a community only when they differ from one another in resource uses. Thus, proper resource management and conservation actions can preserve the diversity of the ecology resulting to biodiversity conservation which is significant in environmental preservation and protection.

This theory is applicable in the study since biodiversity conservation is the main goal of all environmental protection actions such as the integration environmental program and activities in schools which contributes to the responsible usage of resources and preservation of species in the community. These are the fundamental ways in biodiversity conservation in a way that it promotes better environment to live in and serve as the source of food for the species for their survival.

In summary, the main goal of environmental education is to succeed in making individuals and communities understand the complex nature of the natural and the built environments. Furthermore, it hopes to develop the knowledge, values, attitudes, and practical skills to participate in a responsible and effective way in anticipating and solving social problems, and in the management of the quality of the environment to the people through integration in education. The understanding of the biodiversity theory as it promotes conservation of species and resources existing in a community were intensified if environmental education is provided in the people in the community. Therefore, through environmental education in the students, the practice of environmental preservation and protection is attained.

The diagram in Figure 1 showed the relationship of the implementation of Environmental Education and level of achievements among the schools.

The first box showed the implementation of the scope of environmental education among the schools in terms of: integration of environmental education in school curriculum, environmental education activities, interagency and multifactoral effort as well as capacity building.

The second box showed the level of school achievements of Environmental Education in terms of; protected and advanced the right of the people to a balance and healthy ecology in accord with the rhythm and harmony of nature, recognized the vital role of the youth in environment and nation building, and promoted national awareness on the natural resource in economic growth, environmental conservation and balance towards sustained national development.

The two boxes were connected by an arrow showing the relationship of the implementation of environment education and attainment of its goals.
2. MATERIALS AND METHODS

The study utilized the descriptive-correlation method in determining the influence of environmental awareness to the achievement of environmental awareness through education.

Kothari (2015) described quantitative research as the process by which a researcher decides what to study, answers specific questions, collects data from respondents, analyzes the data using statistics, and conducts inquiry in an unbiased and objective manner. Quantitative research establishes relationships between measured variables and seeks to explain causes for these relationships. The quantitative aspect on this study included the determination of the level of Environmental Awareness through Environmental Education and the level of Attainment of public high schools in Environmental Awareness. The study used both the purposive and random sampling techniques since the researcher selected only individuals with experience in the implementation of Environmental Awareness through Environmental Education as the main inclusion criteria for selection of the principals, while random sampling was used in determining the selected teachers.

According to Kothari (2015), purposive sampling is a non-probability sampling technique which selects only the respondents depending on the capacity to answer the research questions. This was used in selecting the principals.

In computing the sample size for the teachers the researcher identified total number of respondents using an estimate of 10% of a true proportion with 95% confidence (Lwanga, 1995).

The study used a researcher-made survey instrument in the data gathering of the study. The instrument was composed of two (2) parts. The first part was composed of statements about the implementation of environmental awareness through environment education. The second part was composed of statements about the achievements of the public high schools in environmental awareness through environmental education. The instrument used a four point Likert’s scale in part 1; 4- highly aware, 3- aware, 2- less aware and 1- least aware and for part II; 4- fully achieved, 3- achieved, 2- partially achieved and 1-least achieved, respectively as basis for selection of the answers of the respondents.

The author of the research implemented different activities during data gathering systematically. The first activity conducted by the researcher was to obtain permission from the dean of the graduate College to conduct the study. It was followed by obtaining permission from the Department of Education and the different principals of the schools.

After the permission was approved by the dean of the graduate college, the Department of Education and the school heads of the selected schools, the researcher personally conducted the data gathering in the different public high schools. Proper ethical considerations and research protocols were observed during the data gathering. Informed consent and brief orientation was done. Documentation was done with permission from the respondents.

The last activity conducted was the collection and analysis of the data gathered which was done with the help of the statistician and research adviser.

The data gathered were analyzed using mean for the implementation and achievements of Environmental Education. The Multiple Regressions full model was used in determining the best predictors among the implementation practices of the schools in the delivery of Environmental Education that had contributed in the attainment of its goals.
3. RESULTS AND DISCUSSION

Level of Environmental Awareness Through Environmental Education in Public High Schools in South Central Mindanao in terms of Integration of Environmental Education, Environmental Education Activities, Interagency and Multifactoral Effort and Capacity Building

The level of environmental awareness through environmental education was explored in four domains such as: integration of environmental education in school curriculum at all levels, environmental education activities, interagency and multi-factoral effort, and capacity building. The data gathered from the respondents were presented in the succeeding tables.

Integration of Environmental Education in School Curriculum at All Levels

Table 1 presents the mean rating on the level of environmental awareness through environmental education in terms of integration of environmental education in school curriculum at all levels. As shown in table 1, data gathered revealed item 6- Instills values on conservation, protection and rehabilitation of natural resources was rated with the highest mean of 3.33, which was described as “aware.”

This finding confirms that the respondents were aware about environmental education on integration of environmental education in school curriculum at all levels. School heads show good example in adherence to standards and protocols of the organization with a mean of 3.33 or aware. This finding signifies compliance of the school with the mandate of instilling values that are makakahikasan to their students as part of educational education activities. The schools compliance on the integration in the curriculum of environmental education as a means for environmental awareness through lectures by the teacher educators on their own practice in terms of teaching the teachers of environmental concepts and principles and the laws that protects environment. This helps instill values of environment care to the students (Sletto, 2010).

Moreover, it can be seen in the table the respondents claimed they were aware with the mean scores of 2.90- integrates organic farming as best practices, 2.79- Discussions on the status of national and international environment conditions and design interventions about threats in environment degradations, 2.73- Facilitates student’s research on climate change, 2.67- conducts forum on environmental concepts and principles, respectively. The results shows that adopting an interdisciplinary and holistic approach in preservation, protection and rehabilitation of natural resources, which should be approached as a whole and not by subject, and it refers to the ‘coexistence’ of human and natural systems. Environmental education also perceives the environment as a multilateral concept with social, political, economic and moral aspects, recognizing the resource and energy scarcity problem. Additionally, environmental education is in favor of learning through participation and experiences from practical and first-hand activities, giving importance to active responsibility. Finally, it stresses the environmental problem in the three time areas (past, present and future) locally and globally; and by all these, it tries to rise and develop individuals and community’s environmental sensitivity, awareness, understanding, critical thinking and problem-solving skills (United Nations, 2015).
The lowest rating given was on statement 10 “Organizes a symposium that addresses biodiversity preservation” that got a mean of 2.57 or aware. The result signifies there are symposiums conducted by the school that provided information about environmental awareness and protection.

As mandated by the Department of Education the Youth Environment in Schools (YES) students were provided learning opportunities on how to prevent and eliminate threats to environment through several activities like symposium and forum. This increases knowledge of students about environment care.

In general, the level of awareness of the respondents through Environmental Education on integration of environmental education in school curriculum at all levels got an overall mean of 2.91 or aware. This result signifies that the students were aware and were provided sufficient information about environmental preservation which provided knowledge and skills on how to take care of environment.

This is in conformity with the report of Gadotti (2016) that education effort should encourage changes in behavior in order to create a more sustainable future in terms of the care of the environment, economic viability and fair society for present and future generations. Therefore, integration on education for environment from preschool to university is one fundamental means to change behavior and connection with the planet that can be enforced during the early years of life.

**Environmental Education Activities**

Table 2 presents the data gathered on the mean rating on the level of environmental awareness through environmental education activities.

The result of the analyses showed item 3- Implements the Gulayan sa Paaralan was rated with the highest mean of 3.63, which was interpreted “aware” by the respondents. This finding confirms that the respondents were aware about the Gulayan sa Paaralan program of the Department of Education.

School heads show good example in adherence to standards and protocols of the organization with a mean of 3.63 or highly aware. This finding signifies compliance of the school with the thrust of the Department of Education to improve and increase vegetable production and consumption by teaching the learners the methods of sustainable production of food by organic agriculture as well as to establish school gardens to serve as main source of food to sustain supplementary feeding (DepEd Order 93,s. 2011).

The next item that received high mean was number 4 - Advocates use and recycle of plastic and other reusable materials in the student with a mean score of 3.43, which was interpreted as “aware”.

The next item that received high mean was number 2. This item states as practices on waste segregation and recycling of plastic. This finding depicts that the respondents were aware of Republic Act 9003 about solid waste management. The Department of Education enjoins aggressively in incorporating ecological waste management in the school systems at all levels, emphasizing on the involvement of school administrators, teaching and non-teaching staff, students, community and other stakeholders. Furthermore, school heads aware and practiced waste management principles such as minimization, especially resource conservation and recovery, segregation at source reduction recycling, re-use and composting, in order to promote environmental awareness and action among students (DepEd Order 5,s. 2014).

The next item that received high mean was number 4- Advocates use and recycle of plastic and other reusable materials in the student with a mean score of 3.43, which was interpreted as “aware”.
The results showed that the schools integrated in the curricula the waste management concepts pursuant to the Republic Act 9512 entitled “An Act to Promote Environmental Education and other related purposes”. Moreover, the results also showed that the school heads conducted activities like prohibition of littering and burning of wastes; institutionalized waste minimization measures and promote avoidance of single-use disposal products and packaging materials such as plastic bags, straws, spoons, forks and disposable laminated paper cups and plates; encouraged students to bring trash-free “baon” to school; established aerobic and anaerobic processing biodegradable wastes; used recyclable materials (plastic, bottles and etc.) as seed beds in the nursery or garden; and school canteen used reusable food containers and avoided selling processed foods wrapped in non-recyclable packaging like candies, cookies, biscuits and others.

Next item that received high mean was number 9- establishes school botanical garden which was interpreted as aware with a mean score of 3.23. This finding reveals that the schools conducted, participated and practiced the establishment of botanical garden as one of the vehicle for change in promoting the sustainable development on environmental awareness and education. It further depicts that the administrators, teachers, students, parents and other stakeholders encouraged, initiated and integrated the environmental awareness in their school curriculum to establish, promote and strengthen the eco-friendly schools. In this endeavor, education or the school itself promotes and injects awareness of sustainable development issues, enhance knowledge, influence values and attitudes and encourage responsive behavior and learn that leads to action.

It was followed by items 1 and 6 with relative interpretation as aware with the relative mean scores of 3.14-conducts and attends in tree planting activities and 3.04- implements school urban gardening, respectively. The results shows that the school heads led significantly in the implementation of the National Greening Program of the Department of Energy and Natural Resources in coordination with the Department of Agriculture. Moreover, reforestation is one of the key elements to prevent the massive accumulation of carbon dioxide in the atmosphere that causes global warming. Trees are the best indicators that the place and community are free from pollution. Tress uses carbon dioxide in making their own food in the process known as photosynthesis.

Next item with higher mean was item number 10- Celebrates environment awareness month with the mean of 2.90. The results depicts that the schools conducted, participated and celebrated the National Environmental Month in compliance with the goal of Republic Act 9512. This endeavor promotes environmental awareness that the students and other individuals will understand the fragility of our environment and the importance of its protection. Promoting environmental awareness is an easy way to become an environmental steward and participate in creating a brighter future for the next generation.

Next item with higher mean was item number 8-Practices composting and vermin-culture with the mean score of 2.81 which was interpreted aware. This result shows that farmers nowadays use the organic way of farming. They used organic fertilizer to enhance their yields. The vermin-compost enhance the level of plant-available nutrients like the nitrogen, phosphorus and potassium; increase the level of beneficial microorganisms; improve the ability to stimulate plant growth; ability to suppress diseases and ability to repel pests because of the secreted enzyme known as chitinase which breakdown the chitin in the exoskeleton of the insects (Munroe, 2016).
Item number 9- Joins in Adopt a Forest Program got a mean score of 2.68, which was interpreted as “aware”. The result depicts that joining the adopt a forest program enhances the awareness of the students and communities and other stakeholders the importance of the forest in our lives. This action would cultivate in the mind and heart of every individual that forest has a major role in the environment. Forest serves as sanctuary or habitat to organisms and provide food to other organism thus, interaction leads to the balance in nature.

Based on the answers of the respondents shown in table 2 the lowest rating given was on statement 7 “Joins in adopt a river and marine conservation” with a mean of 2.46 or “less aware”. This result denotes that there are activities conducted that includes doing actions to help make the rivers clean for this helps in environmental care.

Balawag (2016) highlighted during interview on the included in the environment friendly activities participated by schools such as clean up drives including adopt a river activities that increases awareness to students on how to care the environment.

Grow with Educare Centres (2017) pointed that schools must inculcate understanding to promote commitments and actions to their students how to care for nature and environment as important values.

Inter-Agency and Multifactoral Effort

Table 3 presents the level of environmental awareness through environmental education in terms of inter-agency and multifactorial effort.

Level of environmental awareness through environmental education in terms of inter-agency and multi-factoral effort is presented in the table 3. As shown in the table 3, item 10- Conducts Brigada Eskwela as part of clean up drive for preparing school environment was rated with the highest mean of 3.73, which was interpreted “highly aware” by the respondents. This result manifests the contribution of partnership of the school with stakeholders with an objective of strengthening and promoting schools capacities in environmental care to the student.

The Luistro (2017) highlighted on the school opening that one of the most helpful activity that improves the environmental conditions of the schools is the implementation of Brigada Eskwela that seeks help from stakeholders to prepare schools for students use. The participation of other partners in school environmental protection activities will develop insights for students to understand collaborative efforts to be helpful in protecting the environment.

The next item that received highest mean of 2.99, interpreted as “aware” is item 2. This item states that implements YES program with PTA support. This finding depicts that the respondents were aware of promoting harmonious relationship to other stakeholders especially to the parents. Involving parents in implementing the YES program in school will result to the greater impact in the advocacy campaign to promoting environmental awareness and environmental education. It is a two-way process where in we educating the parents at the same time we are also educating ourselves and our children as well.

The next item that received highest mean was number 7- Partnership with religious organizations promoting environment friendly activities such as clean up with a mean score of 2.86,
which was interpreted as aware. The results showed that the schools aware in promoting linkages even in the religious sector. Through this move, the school instills in the minds of the students the importance of good rapport so as the advocacy in environmental protection, conservation, preservation and rehabilitation will inculcate in them.

Next item that received higher mean was number 7-Links with NGO for tree planting activities was interpreted as aware with a mean score of 2.85. This finding reveals that the schools established linkages in the non-government organization just to implement and integrate the environmental awareness to the students. A great support from the NGO strengthens the capacity of the school in promoting environmental care and protection. Through planting trees, it cultivates in the mind of the students that trees have a major role in saving the planet earth in the harsh typhoons and floods that will prevent soil erosion and other environmental backlashes.

The next item that higher mean of 2.78 can be seen in the table 2 has an interpretation as aware. This item states the Partnership with LGU for material support in SWM.

Meanwhile, The City LGU in partnership with USAID had implemented Solid Waste management Programs for schools in Cotabato City. It involves training of teachers on strategies to be employed (Paradiang, 2017).

Next items with relative interpretation as aware were items; number 3-Partnership with DA in techno-agricultural updates and trainings for teachers and students with the mean of 2.75; number 1-Links with DENR for National Greening Program and item number 8-Collaborates with CDRRMO for planning in global warming mitigation strategies with the mean score of 2.74 and item number 9-Coordinates with private schools for environmental program with the mean score of 2.54, respectively.

Environmental education should inculcate awareness and understanding, as well as promote skills, commitments and actions among individuals and social groups for the protection and improvement of environmental quality for the benefit of present and future generations with help of NGO (Grow with Educare Centres, 2017).

Environmental Education has been adopted by a wide variety of agencies, networks and educational institutes. Some of these are national and others network across borders and continents. Some prominent ones are the National Association for Environmental Education in the U.K., North American Association for Environmental Education (NAAEE), the Environmental Literacy Council (Sierra Club) and the Green Schools Alliance (GSA 2013).

The respondents gave the lowest rating on statement 4 “links with DOST for climate change trainings” with a mean of 2.41 or “less aware”. This finding denotes that the schools have sought assistance from DOST on lectures about climate change which can increase awareness of students towards environment care.

The DOST (2015) reported that they have conducted lectures with different schools all over the country to promote environmental awareness as part of combating climate change. The DOST also provides equipment and support to schools in strengthening environmental education conservation program as an important action towards attaining sustainable interventions.
In summary the level of environmental awareness through inter-agency and multifactorial effort got an overall mean of 2.84 or aware. This result signifies students are aware that their school has many partners that support environmental protection program implementation integrated in the school activities.

According to DENR (2016), strengthening the established linkages to other agencies is also a vital part of the organization in order to achieve environment sustainability. This implies that the applications of what was learned in the schools are not limited to the school community itself. It means amplifying by extending sustainable practices as collaborative effort of the students, schools, outside communities, LGU’s and other related government and nongovernment agencies. These are helpful strategies in ensuring environmental conservation as accountability of not only education sector but all sectors in society.

**Level of Achievements on Environmental Awareness Through Environmental Education in terms of Protected and Advanced the Right of the People to a Balance and Healthy Ecology in Accord with the Rhythm and Harmony of Nature, Recognized the Vital Role of Youth in Environment and Nation Building, and Promoted National Awareness on the Role of Natural Resource in Economic Growth, Environmental Conservation and Ecological Balance Towards Sustained National Development**

Level of Achievements of the Public High Schools on Environmental Awareness Through Environmental Education was explored in three domains namely: protected and advanced the right of the people to a balance and healthy ecology in accord with the rhythm and harmony of nature, recognized the vital role of youth in environment and nation building, and promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development

**Protected and Advanced the Right of the People to a Balance and Healthy Ecology in Accord with the Rhythm and Harmony of Nature**

Table 5 presents the mean rating on the level of achievement of environmental awareness through environment education in terms of protected and advanced the right of the people to a balance and healthy ecology in accord with the rhythm and harmony of nature Specifically, the level of achievement of environmental awareness through environmental education in terms of protected and advanced the right of the people to a balance and healthy ecology in an accord with rhythm with harmony in nature has ten (10) items that was described.

Item 9- Implements the no smoking policy in the campus received the highest mean score of 3.51 among the ten items, which was described as fully achieved. This result depicts that the schools fully implemented the no smoking policy in the campus. The school heads, teachers, students and other stakeholders strongly believed that smoking is one of the most dangerous widespread phenomena that threaten lives of the huge number of people worldwide. Moreover, students smoke because of their curiosity, they believe that it could relieve their stress and they try to imitate adult smokers because they want to show that they are adult, too. Thus, schools banned smoking in the campus to protect the students from cigarette dependents that can cause illnesses and preserve and conserve the environment, too.

It was followed by closely by item 10 with a mean of 3.27 and interpreted as “aware”. This item states as implements the national greening program in the campus. This finding depicts that the respondents were aware of their responsibilities in caring the environment. According to Cabigting
(2015), the implementation of the schools of National Greening Program provides good examples to young generation to know the importance of tree planting that pave the way in caring, protecting, preserving and conserving the environment. It gives the students the insights that reforestation is a one of protecting the lives of the people in the planet earth.

On the other hand, with a mean of 3.06 can be seen in the table 5 has an interpretation as “achieved”. This item states as supports the policy against the illegal logging. The result shows that the school achieves the advocacy against illegal logging. According to Republic Act No. 9175 known as “Chainsaw Act of 2002” it is the policy of the State, consistent with the Constitution, to conserve, develop and protect the forest resources under sustainable management. Toward this end, the state shall pursue an aggressive forest protection program geared towards eliminating illegal logging and other forms of forest destruction which are being facilitated with the used of chainsaws.

Next item that got a mean score of 3.03, which was interpreted as achieved. The item states as integrates the solid waste management policy in the school and community. This result connotes that schools instills knowledge to students and community through the integration of policy on solid waste management.

Item 3 followed with a mean score of 2.99 that describes supports the preservation of parks and forest areas which were interpreted as achieved. The result shows that the school heads support the preservation of parks and forests that initiates the significant impact to the students, teachers and other stakeholders. Parks and forest give the vital role in the organisms in a balance and healthy ecology.

Item 6 -Adopts the organic farming strategies received the mean score of 2.96 which was interpreted as achieved. This finding suggests that the students were aware in adopting the organic farming strategies. These strategies help in maintaining the environmental health by reducing the level of pollution. It reduces human and animal health hazards by reducing the level of residues in the product. It helps in keeping agricultural production at a higher level and makes it sustainable.

Item 7 -Initiates the engagement of IPs in Environmental Education programs received the mean score of 2.79 which was interpreted as achieved. This finding suggests that the schools collaborates with indigenous people and require their effective participation in decision-making, planning and implementation and consent to ensure that such initiatives are in line with their rights, cultures, visions and priorities. Thus, promoting relationship with the indigenous people promotes and achieve the sustainable development in an holistic and integrated manner especially in the environmental care and protection. The indigenous people are the first line protector of their territorial domains which has high significance in the care of their environment.

Finally, the lowest results based on the achievements was on statement 4 “Advocates the policy against mining” with a mean of 2.75 or achieved. The result describes that school included on their lectures about the effects of mining in environment.

Albino and Berry (2013) support that a nation that invests in its younger citizens show wisdom and forethought and can therefore be assured of a promising future. Therefore, information about the negative impact of mining activities can help advocates the students and community to protect and conserve the environment. The youth are the future generation that can help in sustaining environment preservation in the coming years.
The overall mean of the level of achievement of the objective of environmental awareness through environment education was 3.05 described as “achieved.” This result manifest schools adherence to National mandate to ensure environment education is strengthened and implemented in the schools to develop students and future generations towards caring individual in the environment.

Zampas (2013), cited “Environmental Sustainability as a means on how people can be convinced to reduce the environmental impact of their lifestyle in order to maintain environmental sustainability and to guide them on their actions.

**Recognized the Vital Role of Youth in Environment and Nation Building**

Table 6 presents the mean rating on the level of achievement of environmental awareness through environmental education in terms of recognized the vital role of youth in environment and nation building. Specifically, the highest rating given on the level of achievement in the environmental awareness and environmental education in terms of recognized the vital role of the youth and nation building was the engagement of the students in community clean up drives with a mean of 3.27 described as “achieved”. This result shows that the schools participate the clean-up drive as a contribution of the students in the environmental care and protection. Accordingly, environmental sustainability helps prevent global warming and climate change. One example of environmental sustainability is simply through cleaning. Cleanliness in the environment contributes a lot in maintaining a clean and green surrounding. Cleaning is a simple but helpful way of improving a healthy environment. Furthermore, as a youth, you have to take care of the things that God gave you. This little ways will help a lot in improving a healthy environment. There is a saying that goes “Big things comes from small ones”. We must start in ourselves and encourage others to achieve change. We won’t have a society if we destroy the environment so to prevent destroying it, we must take actions to help it.

One of important aspect of developing the youth towards environment building is through instilling values of environmental care. How they think about sustainability is rooted in the education provided to them (Fisher & McAdams, 2015). It is believed that sustainability presents may be a dream of living well, and sees it as dynamic balance with others and the environment, a harmony among the differences. Also it explained that education on sustainability of environment building has to be supported by knowledge on the interconnection between individuals, their place in society and their nature as biological beings. Thus, activities like involvement of youth to clean up drives inculcate learning to them on how important their support and cooperation in the environmental care.

Moreover, as seen in the table 6 has a relative interpretation as achieved with the mean scores of 2.98-Provides youth representative in all YES O activities and world environmental day, 2.92- Provides trainings for youth on DRRM involvement, 2.64- Recognizes youth inventors of ecofriendly products, 2.62- Guides youth researchers on environment friendly studies and 2.59- organizes youth and climate change summit, respectively. The results show that the schools conducted different activities to integrate environmental awareness through environmental education. During the conduct of the activities the youth were empowered.

The importance of integrating varied activities such as writing articles and journals to motivate the youth through involving them in environment protection activities are important tools in moulding the new generation’s behaviour and actions towards conserving environment. The artistic strategies of the school can capture attention of the youth and can initiate higher support (Miasco, 2015).
In general, the level of achievement of environmental awareness through environmental education in terms of recognized the vital role of the youth got an overall mean of 2.87 described as “achieved.” This result showed that the schools were compliant in the mandate to involve youth in environmental care and protection as important actions geared towards nation building. This compliance was a good indicators that youths who were the product of the schools today has obtained literacy in environmental care that can be helpful in making sure conservation of the natural resources are care and used responsibly by the people.

**Promoted National Awareness on the Natural Resources Conservation and Economic Growth**

Table 7 displays mean rating level of achievement of public high schools of South Central Mindanao in the environmental awareness through environmental education in terms of promoted national awareness on the natural resources conservation and economic growth. Specifically, the item 3 with highest achievement based on the answers of the respondents showed advocacy on energy conservation to the students was interpreted as achieved with a mean score of 3.00. This denotes good accomplishment since one of the major problems of the world today which is related to environment degradation is the high energy consumption that depletes our resources.

Jose (2015), found out that school together with the teachers, the advocacy to the students must not only focus on learning and practicing the concepts and theories within the school community but also provide practicum and actual activities that will let the students realize how they can help the environment in preservation and care. The advocacy to the students about energy conservation will have impact in lessening demand for higher energy use. The collective action of the people in energy consumption is helpful in conserving natural resources in general.

The next item that followed got a mean score of 2.98 was Item 8—Conducts poster making contest on climate change which was interpreted as achieved. This finding inferred that the schools injected environmental awareness and education to students not only in lecture but also in other activities like poster making contest. Thus, environmental posters fill the gap to inspire action and change by taking the ideas and emotion put forth by photos and experiences (Lewis, 2015).

It was followed closely by item 9 that got a mean of 2.96 that described involvement of the PTA in environmental conservation projects was interpreted as achieved. This finding denotes that the schools promote harmonious relationship towards its stakeholders. The schools involve the parents in planning the projects for environmental conservation. Thus, parent-teacher partnership provides an avenue for greater and positive impact in the realization of the environmental conservation projects. It will also promotes and increase environmental awareness to their children.

Moreover, a mean of 2.72 was garnered by Item 6—Promotes and supported local ecotourism activities which was interpreted as achieved. This finding inferred that the schools contributed to the economic development of a society through promoting and supporting local ecotourism activities. The schools believed that ecotourism plays a great role towards socio-economic changes. There is an immediate impact on the host environment due to direct contact of visitors and indirect impact on the local economy and society.

According to Prince (2017) strengthening ecotourism could be a tool for environmental conservation local empowerment poverty alleviation and so on. So, it requires well planning on the basic
regulations. Ecotourism has a positive impact on the economic impact on economic development as it provides more and high quality services. Ecotourism enjoys a significant superiority over general tourism with regard to tourist arrivals and economic, social and environmental benefits. It can be concluded that ecotourism development and protection of environment can be made possible with the careful planning and execution by the school heads, parents, and local government officials along with the cooperation of the public in tourism will continue to grow in other areas as profitable way of life.

Multiple Regression Between the Level of Environmental Awareness Through Environmental Education and the Level of Achievements of Environmental Awareness in terms of Protected and Advanced the right of the People to a Balanced and Healthy Ecology with an Accord with a Rhythm and Harmony in Nature

To determine the best predictor among the level of environmental awareness to the level of achievements in environmental awareness in terms of protected and advanced the right of the people to a balanced and healthy ecology with an accord with a rhythm and harmony in nature, the Multiple Regression analysis was used at .01 and .05 level of significance.

Stepwise regression analyses were conducted to examine the relationship between the levels of environmental awareness through environmental education with potential predictors such as environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels, and capacity building and the level of achievements of environmental awareness in terms of protected and advanced the right of the people in a balance and healthy ecology with an accord rhythm and harmony of nature.

Table 8 summarizes the descriptive statistics analysis results. As revealed in Table 8, environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels and capacity building as sub-variables of environmental awareness through environmental education in terms of protected and advanced the right of the people to a balance and healthy ecology accord with the rhythm and harmony in nature were influenced significantly on the goal achievement of the environmental awareness and environmental education.

The multiple regression model with all four predictors produced adjusted $R^2 = .528$, $F = 17.88$, $p = .000$. The multiple regression suggest that there exist a moderate correlation between level of environmental awareness and environmental education and level of environmental achievements in terms of protected and advanced right of the people to a balance and healthy ecology with accord rhythm and harmony in nature variables as its account for 52.80 percent of the total variance of the level of achievement in terms of protected and advanced right of the people to a balance and healthy ecology with accord rhythm and harmony in nature while the remaining 47.20 percent respectively are accounted by other factors different from what were considered in this study.

Further, as can be seen in Table 8, environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels and capacity building were significantly help in the achievement of environmental awareness through environmental education in terms of protected and advanced the right of people in a balance and healthy ecology with an accord rhythm and harmony in nature. The beta coefficients of three predictors like environmental education activities (.314), interagency and multifactoral effort (.193), and integrate environmental awareness in school curriculum at all levels (.177) respectively were significant at .01 probability level and the beta coefficient of capacity building (.136) was significant at .05 probability level.

The obtained $F$-ratio of 96.555 which was found significant at .000 alpha indicates that the environmental awareness through environmental education in terms of protected and advanced right of the people to a balance and healthy ecology with an accord rhythm and harmony in nature manifested by the schools that formed and influenced significantly by environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels and capacity building. This finding signifies that all predictors such environmental education activities, interagency and multifactoral effort, integrate environmental awareness and education in school curriculum at
all levels and capacity building emerge as best predictor in the environmental awareness and environmental education that contributed the attainment of the objective of protected and advanced the right of the people to a balance and healthy ecology in accord with the rhythm and harmony of nature.

**Recognized the Vital Role of Youth in Environment and Nation building**

To determine the best predictor among the level of environmental awareness through environmental education to the level of achievements in environmental awareness in terms of recognized the vital role of youth in environment and nation building, the Multiple Regression analysis, was used at .01 and .05 level of significance. Multiple Stepwise regression analyses were conducted to examine the relationship between the levels of environmental awareness through environmental education potential predictors such as environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels, and capacity building and the level of achievements of environmental awareness in terms of recognized the vital role of the youth in environment and nation building. Table 8 summarizes the descriptive statistics analysis results.

As revealed in Table 9, environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels and capacity building as sub-variables of environmental awareness through environmental education in terms of recognized the vital role of the youth in environment and nation building were influenced significantly on the goal achievement of the environmental awareness and environmental education.

The multiple regression model with all four predictors produced adjusted $R^2= .645$, $F=156.495$, $p=.000$. The multiple regression suggest that there exist a moderate correlation between level of environmental awareness and environmental education and level of environmental achievements in terms of recognized the vital role of the youth in environment and nation building variables as its account for 64.50 percent of the total variance of the level of achievement in terms of recognized the vital role of youth in environment and nation building while the remaining 35.50 percent respectively are accounted by other factors different from what were considered in this study.

**Promoted National Awareness on the Role of Natural Resource in Economic Growth, Environmental Conservation and Ecological Balance Towards Sustained National Development**

To determine the best predictor among the level of environmental awareness through environmental education and the level of attainment of promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development, the Multiple Regression analysis, was used at .01 and .05 level of significance.

Multiple Stepwise regression analyses were conducted to examine the relationship between the levels of environmental awareness through environmental education with potential predictors such as environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels, and capacity building and the level of achievements of environmental awareness in terms of promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development. Table 10 summarizes the descriptive statistics analysis results. through environmental education.

The multiple regression model with all four predictors produced adjusted $R^2= .665$, $F=228.787$, $p=.000$. The multiple regression suggest that there exist a moderate correlation between level of environmental awareness and environmental education and level of environmental achievements in terms of promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development.
sustained national development variables as its account for 66.5 percent of the total variance of the level of achievement in terms of promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development while the remaining 33.50 percent respectively are accounted by other factors different from what were considered in this study. The obtained F-ratio of 228.787 which was found significant at .000 alpha indicates that the environmental awareness through environmental education in terms of promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development manifested by the schools that influenced significantly by four predictors environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels and capacity building. This finding signifies that among the environmental awareness the capacity building has contributed in the attainment of the objective of promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development with beta coefficient of .404 with .000 significance probability level.

Multiple Regressions of the Overall Achievement of Environmental Awareness Through Environmental Education

To determine the best predictor among the environmental awareness through environmental education and the overall achievement of environmental awareness through environmental education, the Multiple Regression analysis, was used at .01 and .05 level of significance. Multiple Stepwise regression analyses were conducted to examine the relationship between the levels of environmental awareness through environmental education with potential predictors such as environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels, and capacity building and the level of achievements of environmental awareness in terms of protected and advanced the right of the people to a balance and healthy ecology with accord rhythm and harmony in nature, recognized the vital role of the youth in environment and nation building as well as promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development, respectively. Table 11 summarizes the overall achievements of environmental awareness and environmental education descriptive statistics analysis results. The multiple regression model of overall achievement of environmental awareness and environmental education with four predictors produced adjusted $R^2=.665$, $F=216.858$, $p=.000$.

The multiple regression suggest that there exist a moderate relationship between level of environmental awareness and environmental education and level of environmental achievements in terms of protected and advanced the right of the people to a balance and healthy ecology with accord rhythm and harmony in nature, recognized the vital role of the youth in environment and nation building as well as promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development variables as its account for 66.5 percent of the total variance of the level of achievement of environmental awareness while the remaining 33.50 percent respectively are accounted by other factors different from what were considered in this study. The obtained F-ratio of 216.858 which was found significant at .000 alpha indicates that the environmental awareness through environmental education in terms of protected and advanced the right of the people to a balance and healthy ecology with accord rhythm and harmony in nature, recognized the vital role of the youth in environment and nation building as well as promoted national awareness on the role of natural resource in economic growth, environmental conservation and ecological balance towards sustained national development were manifested by the schools influenced significantly by four predictors like environmental education activities, interagency and multifactoral effort, integrate environmental awareness in school curriculum at all levels and capacity building. Among the predictors the capacity building with beta coefficient of .321 at .01 level of
probability, significantly affects and influences the achievement of the environmental awareness and education.

4. MAJOR FINDINGS

The answers gathered were summarized grounded on the problems identified.

1. In general, the study on evaluation in environmental awareness through environmental education revealed the grand mean of 2.90 interpreted as aware.

   1.1 Specifically, in terms of integration of environmental education in school curriculum at all levels got the mean of 2.91 interpreted as aware, In terms of environmental education activities it got a mean rating of 3.08 interpreted as aware,

   1.2 In terms of interagency and multifactoral effort it received a mean score of 2.84 interpreted as aware,

   1.3 In terms of capacity building it got a mean rating of 2.80 interpreted as aware.

   1.4 The findings on the level of achievements of environmental awareness through environmental education got a grand mean score of 2.89 interpreted as achieved.

   1.5 In terms of protected and advanced the right of the people to a balance and healthy ecology in accord with the rhythm and harmony of nature got an overall mean of 3.05 (highest) described as achieved.

   1.6 In terms of recognized the vital role of the youth in environment and nation building got an overall mean of 2.87 described as achieved and finally

   1.7 In terms of promoted natural awareness on the natural resources conservation and economic growth 2.74 (lowest) described as achieved.

   1.8 The result of the multiple regression analysis determined between the level of environmental awareness and environmental education and level of achievements in environmental awareness in terms the integration of environmental education in school curriculum at all levels, environmental education activities, interagency and multifactoral effort and capacity building emerged as best predictors on all the environmental education areas. Thus, it means hypothesis was rejected.

5. CONCLUSION

The study concludes that the schools have implemented varied environmental education activities that had resulted to awareness on environmental care, protection and conservation to their students, teachers and people in the community. These activities are important in enriching knowledge and skills on environmental laws and activities that are helpful in preserving nature and environment. However, there are also aspects of the mandated environmental awareness and education program that are not effective in the implementation since factors like insufficient resources become the hindering factors in an effective implementation of program and activities. Yet, it would be augmented and improved through multifactorial or interagency linkages of the schools with different partners so that it would help in sustaining the needs. The high contribution in implementation of varied environmental education activities in attaining the goal of environmental literacy conforms the fact that if students actively participated in environmental awareness activities their knowledge, skills and attitude towards environmental care increase, since actual hands on the said activities will let them realized
how to do it and how important it is, thus develop values and right attitude towards environmental care.

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