Contextualization and Localization: Acceptability of the Developed Activity Sheets in Science 5 Integrating Climate Change Adaptation

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Abstract:
The research aimed to assess the level of acceptability of the developed activity sheets in Science 5 integrating climate change adaptation of grade 5 science teachers in the District of Pililla school year 2016-2017. In this research, participants were able to recognize and understand the importance of environmental education in improving basic education and integrating them in lessons through localization and contextualization. The researcher conducted the study to develop a material to use by Science teachers in Grade 5. It served also as a self-learning resource for students. The respondents of the study were the thirteen Grade 5 teachers teaching Science 5 in the District of Pililla. Respondents were selected purposively and identified by the researcher. A descriptive method of research was utilized in the research. The main instrument was a checklist which include items on the objectives, content, tasks, contextualization and localization of the developed activity sheets. The researcher developed a 2-week lesson in Science 5 for 4th Quarter based on the curriculum guide with integration of climate change adaptation. The findings revealed that majority of respondents are female, 31 years old and above, 10 years above in teaching science and have units in master's degree. With regards to the level of acceptability, the study revealed developed activity sheets in science 5 is very much acceptable. In view of the findings, lessons in science 5 must be contextualized and localized to improve to make the curriculum responds, conforms, reflects, and be flexible to the needs of the learners, especially the 21st century learners who need to be holistically and skillfully developed. As revealed by the findings, it is more acceptable to localized and contextualized the learning materials for pupils. Policy formation and re-organization of the lessons and competencies in Science must be reviewed and re-evaluated. Lessons in science must also be integrated with climate change adaptation since nowadays, people are experiencing change in climate due to global warming and other factors. Through developed activity sheets, researcher strongly supports environmental education and believes this to serve as a way to instill environmental literacy to students.

Keywords: Climate Change Adaptation, Contextualization, Localization, Activity Sheets

Introduction

Standards in Science Education today provide expectations for the development of scientific, inquiry, critically and environmental steward 21st century learners. Science Education generally concentrates on the teaching of science facts and concepts. It includes work in the science content, pedagogy, processes and strategies. To apply these concepts and facts, Science being taught in the classroom should include experimentation, inquiry-based and real-life experiences of awareness of changes in the environment or climate change. The climate is one of the Earth’s life support system. Nowadays, as the earth grows older, number of people increase and continue to demand or need for water, food, land, transport and energy. Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth’s mean surface temperature global warming or. In fact, the activities are not only completely interconnected with but now also interact with, the complex system living on Earth. One of the solutions is public awareness or informing the people by including Environmental Education in teaching science to schools in early grades.
In line with the Republic Act 9152 or “An Act to Promote Environmental Awareness Through Environmental Education” also known as the “National Environmental Awareness and Education Act of 2008”, the Department of Education together with other relevant agencies, shall integrate environmental education in its school curricula at all levels, whether public or private, including in barangay daycare, preschool, non-formal, technical vocational, professional level, indigenous learning and out-of-school youth courses or programs. Environmental education shall encompass environmental concepts and principles, environmental laws, the state of international and local environment, local environmental best practices, the threats of environmental degradation and its impact on human well-being, the responsibility of the citizenry to the environment and the value of conservation, protection and rehabilitation of natural resources and the environment in the context of sustainable development.

Recognizing the importance of environmental education in improving basic education and integrating them in lessons would realize these laws. Education sector should take steps to strengthen environmental education in dealing with climate change. Developing and producing teaching materials should be encouraged to teachers since they are the ones who interact and know the needs of learners. Teachers have to intensify lessons regarding environment in all science subjects as well as in classroom discussions, drills and activities that lead in promoting environmental awareness by enhancing environmental education and pursuing activities in schools that nurture the environment and seek to match lectures in the classroom with concrete school-based activities that will preserve and protect the environment.

On the other hand, another underlying issue and concern of teachers teaching in the 5th Grade is lack of teaching guides and learning materials.

Lack of preparedness of the department procuring Grade 5 Learner’s Materials (LM) and Teacher’s Modules (TG) deprive or limit the students and teachers in the access to quality education. The Department of Education must plan adequate procurement and delivery timelines when it comes to learning and teaching materials.

The researcher conducted the study to develop a material to use by Science teachers in Grade 5 in the District of Pililla especially for beginning teachers. It served as a tool, guide, reference and supplementary material for teachers if found to be accepted, since there are no available materials yet. It could also be a self-learning resource for students.

It could use as a recommending material for the development of learning modules for teachers and students and be used as guide of other action plans for researchers. It could also have helped the department to plan policy formulation for curriculum development by adapting or integrating climate change awareness to subjects and lessons. The researcher also strongly supports environmental education and believes this to serve as a way to instill environmental literacy to students. Climate change awareness should be a part of the science curriculum because student knowledge of environmental concepts establishes a foundation for their future understandings and actions as citizens of the country.

Methodology

A descriptive method of research was utilized in the research to assess the level of acceptability of the developed activity sheets in fourth quarter science 5 integrating climate change adaptation of grade 5 science teachers in the District of Pililla school year 2016-2017.

A descriptive method research (Shields & Rangarjan, 2013) is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. Rather it addresses the “what” question (what are the characteristics of the population or situation being studied?)
Participants (Jackson, 2009) answer questions administered through interviews or questionnaires. After participants answer the questions, researchers describe the responses given.

In descriptive research, the study focuses on the present condition. In this study the researcher used descriptive method research, because the researchers intended to gather relatively data from a number of cases. Another reason is that a questionnaire – checklist is useful in collecting specific data from the teachers and focusing attention on the most important things to be reported.

The researcher developed a 2-week lesson in Science 5 for 4th Quarter based on the curriculum guide with the integration climate change adaptation.

Developed lesson was checked, improved, critiqued and validated by the specialists in field of Science Teaching identified by the researcher. The researcher sought for a series of improvement and validation of the material. After revision, final hard copies of developed lesson will be given to the Science teachers of grade 5 and was checked to use for their teaching.

In data gathering, a questionnaire-checklist as an instrument to assess the level of acceptability was developed and conceptualized by the researcher. It was composed of (2o) two parts. The first part determined the personal profile of Grade 5 Science Teachers and second composed the level of the acceptability of the developed material. In the second part, using Likert Scale the respondent answers the questionnaire. Questionnaire-checklist was checked and validated. For the validity of the instrument, it undergone modification through consultation by a panel of specialist in the field of Science instruction and development of learning materials identified by the researcher. After validating the checklist, it was given to the respondents to rate the acceptability of the developed lesson.Questionnaire- checklists were retrieved. The data that were obtain from the questionnaires were summarized, tabulated, presented, analyzed, and interpreted. Possible trends were established which was served as the basis for conclusions and recommendations

**Data Analysis**

The following tools were utilized for the purpose of treating the data:

What is the profile of the teachers in terms of age, gender, no. of years in teaching Science 5, highest educational attainment, number of subjects/loads? ---percentage and rank were used.

What is the level of acceptability of the developed lesson in fourth quarter science 5 integrating climate change adaptation of grade 5 science teachers in the District of Pililla school year 2016-2017 in terms of objectives, content, strategies and tasks when grouped according to personal profile? -- weighted mean and rank was used.
Results

Table 1: Composite Table of Level of Acceptability of the Developed Activity Sheets in Fourth Quarter Science 5 Integrating Climate Change Adaptation

<table>
<thead>
<tr>
<th>Factors</th>
<th>Gender</th>
<th>Age</th>
<th>No. of Years Teaching Science</th>
<th>Highest Educational Attainment</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td></td>
<td></td>
<td>Wx 5 4 VMA 4.18 4 VMA 4.22 3 VMA 4.20 3 VMA 4.18 2 VMA 1.18 2 VMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td></td>
<td></td>
<td>Wx 4 VMA 4.21 3 VMA 4.15 4 VMA 4.17 4 VMA 4.20 3 VMA 1.20 3 VMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td></td>
<td></td>
<td>Wx 4 VMA 4.10 5 VMA 4.02 5 VMA 4.08 5 VMA 4.11 4 VMA 4.07 5 VMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contextualization</td>
<td></td>
<td></td>
<td>Wx 1 VMA 4.50 1 VMA 4.46 1 VMA 4.62 1 VMA 4.53 1 VMA 4.53 1 VMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Localization</td>
<td></td>
<td></td>
<td>Wx 2 VMA 4.35 2 VMA 4.30 2 VMA 4.37 2 VMA 4.45 2 VMA 4.37 2 VMA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend

- VMA- Very Much Accepted
- VA- Very Accepted
- A- Accepted
- NMA- Not Much Accepted
- NA- Not Accepted
- VI- Verbal Interpretation
- R-Rank
- Wx- Weighted Mean

The table presents the composite table of the level of acceptability of the developed activity sheets in fourth quarter science 5 integrating climate change adaptation of grade 5 science teachers in the District of Pililla school year 2016-2017.

The table revealed that in terms of sex, contextualization rank first with a a weighted mean of 4.50 with a verbal interpretation of very much accepted. In terms of age, contextualization rank first with a weighted mean of 4.46 with a verbal interpretation of very much accepted. In terms of no. of years in service, contextualization rank first with a weighted mean of 4.62 with a verbal interpretation of very much accepted. In terms of highest educational attainment, contextualization rank first with a weighted mean of 4.53 with a verbal interpretation of very much accepted. Overall, contextualization rank first with a general weighted mean of 4.53 with a verbal interpretation of very much accepted.

Conclusions

Anchored on the results of the study, it could be concluded that majority of respondents are female, 31 years old and above, 10 years above in teaching Science and have units in master’s degree. With regards to the level of acceptability, the study revealed that in terms of age, gender, number of years in teaching science 5, and highest
educational attainment, with respect to objectives, contents, tasks, contextualization and localization, developed activity sheets in science 5 is very much acceptable.

**Recommendations**

In view of the findings, and conclusions, obtained from the study, the researcher hereby presented the following recommendations.

Lesson in science 5 must be contextualized and localized to improved to make the curriculum responds, conforms, reflects, and be flexible to the needs of the learners, especially the 21st century learners who need to be holistically and skillfully developed. As revealed by the findings, it is more acceptable to localized and contextualized the learning materials for pupils.

Lessons in science 5 must re-organized since the country experiences weather disturbances and calamities like typhoons and “habagat” (southwest monsoon) during the first quarter of the school year. Lessons about effects of typhoon and precautionary measures are included in the fourth quarter which is the start of the summer season. Policy formation and re-organization of the lessons and competencies in Science must be reviewed and re-evaluated,

Lesson in science must integrate climate change adaptation since nowadays, people are experiencing change in climate due to global warming and other factors, it must be integrated to lessons not only in

Science for public awareness and reducing the risk of the effects of such calamities. A parallel study is recommended using other variable like other subject areas, format and usability.

**References**


Department of Education. (2016). *Amendment to DepEd Order 43, Series of 2015 Revised Guidelines for the Basic Education Research Fund* (No.4) Pasig City Philippines

Republic Act No. 10533 *An Act Enhancing the Philippine Basic Education System By Strengthening Its Curriculum and Increasing the Number of Years for Basic Education, Appropriating Funds Therefore and For Other Purposes.* Pasig City Philippines.

Republic Act 9152 *An Act to Promote Environmental Awareness Through Environmental Education “also known as the “National Environmental Awareness and Education Act of 2008”* Pasig City Philippines.


http://polisci.la.psu.edu/people/exp12 July17,2016

http://sgo.sagepub.com/content/5/4/2158244015614

611 July17,2016