CASE STUDY

EFFECTS OF MULTIMEDIA ON KNOWLEDGE, UNDERSTANDING, SKILLS, PRACTICE AND CONFIDENCE IN ENVIRONMENTAL SUSTAINABILITY: A NON-EQUIVALENT PRE-TEST-POST-TEST, QUASI EXPERIMENTAL DESIGN

By

ANANTA KUMAR JENA * SATARUPA BHATTACHARJEE ** PIMILY LANGTHASA ***

** Department of Education, Assam University, Silchar, India.*
Research Assistant, Department of Education, Assam University, Silchar, India.

ABSTRACT

The study aimed to evaluate the outcomes of the local community members, secondary school students, and the university students participated in the multimedia programme with reference to knowledge, understanding, skills, practice, and confidence in environmental sustainability. About two hundred students participated in this multimedia programme. The present study was a Non-equivalent Pretest-posttest Quasi Experimental Design used both qualitative and quantitative techniques to analyze the data, and draw the conclusion for its broad generalization. Audio, Video and audio-video on environment and environmental sustainability was developed and played in the teaching of environmental sustainability. Before programme and after programme, all the feedbacks and achievement test score were analyzed and interpreted by using t test, ANOVA and Scheff multiple comparison techniques. It was resulted that local community members, secondary school students, and the university students performed better after the participation in the Multimedia in Environmental Awareness programme. So, there existed a significant effect of multimedia programme on the awareness of environmental sustainability.

Keywords: Environmental Sustainability, Knowledge, Multimedia, Skills, Practice, Understanding.

INTRODUCTION

Multimedia

Multimedia are referred to as a combination of all the audio, video, audio-video, still images, text materials, animation video and other interactive content forms are used purposefully in multidisciplinary education simulates learners' knowledge acquisition more efficient. Multimedia also provides quality teaching learning process and it allows students in designing, analyzing, interpreting, organizing and representing the information easily by providing valuable learning opportunities (Ballard & Belsky, 2010). It broadcasts information recorded or live information or images using digital or analog media technology. Most probably, Educational activities are using multimedia for the students for solving problems, understanding concepts, and constructing of new knowledge (Jena, 2011). Different National and International organizations are developing animation films on the environment because these films are well accepted by the people of the world. However, after watching these pictures or films people forget the mother earth to keep clean green or maintaining sustainability. Frequently, expert persons are providing their valuable lectures with ornamental languages and showing different, self-developed film and work activities regarding the environmental sustainability (Dijkstra, & Goedhart, 2012). Out of different approaches to teach environmental sustainability, multimedia has significant role because nowadays many people are providing these to the world of communities by uploading video (Ruiz-Mallen et al., 2009; Saluja,2008). Similarly, film, 2D, and 3D animation shows, monograph, leaflets, advertisements and recorded speech are now available offline and online (Shepardson et al., 2011). That is why, multimedia has certain roles to promote environmental sustainability. Using multimedia in the teaching, learning process is a recent approach when

teacher uses an audio and visual assisted media directly to draw positive attention, to realize and understand the concepts (Jena, 2012). The basic natural issues, for example, an unnatural weather change, ozone exhaustion, deforestation, sporadic sea streams, and low carbon sink, ecological dangers, soil disintegration, contamination and its influences and corrosive downpour pictured through liveliness, YouTube, blaze pictures, films and other related moving picture media are available in the directory (Wixon & Balser, 2012). Truth be told, interactive media are showing the instruments straightforwardly advance mindfulness among the individuals and sharpen to secure information (e.g. Cacikova et al., 2010; Kapoor, 2011; Malik and Agarwal, 2012). Contrast to these, literature found that mobile learning and radio applications were better than video of the environmental sustainability (Reza and Hassan, 2010 & Uzunboylu et al., 2009).

National and International Importance of Multimedia

Multimedia is recently an audio and visual assisted media that directly created positive attention among the people to realize and understand the concepts. Here, environmental issues like global warming, deforestation, irregular ocean currents, low sink of carbon dioxide, ozone depletion, acid rain are those which multimedia can visualize among the people through animation, YouTube, flash pictures, movies and other related moving picture media (Goncalves et al., 2012). For the creation of environmental awareness, different environmentalists are addressing to the people of the world through media especially print media nowadays is not effective in front of multimedia (James et al., 2010). Internet, television and Radio are the alternate media for motivating the people to manage environment, protect the nature, maintain and manage waste keeping local community clean and green (Yuki & Midor, 2009). All India Radio in 2012 organized a workshop and broadcasted programme for the common people to aware on the environment and health of the people. Different organizations (e.g. Environmental education, awareness and training, 2014; Film Festival, New Delhi,2014; National Children's Film Festival, New Delhi, 2014; Sustainable Earth film festival, Delhi, 2014 & Zee media, Karnataka International Children's Film Festival, 2014) have arranged film festivals for environmental sustainability. Every year UNICEF environmental wing observes World Environment Day and advised people to raise their voice to save the nature, natural resources and ultimately to save the Earth. Recently, UNEP developed different animation movie "Carbon capture and storage", "Share the road", "Greening the blue", "Health care", " Green carbon", "Water saving", "Life guard" and other animation movies like "Climate change", "Ecosystem and management", "Water", "Forest", "Education for energy" etc. which were uploaded to UNO website for the awareness of the people towards environment and sustainability. World Bank group is providing global environmental faculty program to aware faculties of different college and universities to think and to apply their creativity to develop different teaching methodology for environmental awareness. That is why they are trained through both virtual and real classroom training. In the virtual mode, Skype is mostly used to take knowledge from different experts in environment. That is why, multimedia has significant role in the environmental sustainability.

Significance of the Study

Ecological training is currently a testing undertaking before universal instruction at diverse levels. Environment and ecology and its training are not the new issues (Lindemann-Matthies & Knecht, 2011). A few conventions have been produced and appropriately, the destinations were encircled to attain to natural maintainability. Several protocols have been developed and accordingly the objectives were framed to achieve environmental sustainability. The researchers are trying to apply the findings of the research at the grass root level. Using multimedia in environmental education is the application of modern technology towards environmental sustainability (Singh, 2011). Recent paper is completely based on practical work in the real field to realize its daily life values towards environment and sustainability (McNaughton, 2012). Using multimedia in teaching to the pre-service teachers and secondary school students promote the learners to apply the knowledge in their day-to-day life situation and learn how to manage the

environmental issues to be an eco-friendly citizen (Matthew et al., 2010). Multimedia assisted environmental education benefits to manage environmental issues like global warming, climate change, ozone depletion, acid rain etc, because trees are the ultimate living matter which absorb carbon dioxide and save from these issues. Environmental practices need application of physical and engineering practices. Physical practices need the active participation of the people to protect the nature and the locality. In the recent project, students, community members, professors, and teachers actively participated in the Community Sanitation program (Taylor, 2010). Similarly, multimedia was used in different situation at different place to aware the community people especially animation pictures were developed to show the people, students of different levels for the awareness of the environmental sustainability using of multimedia as an independent variables which is feasible to apply, organize to see its impact and significance on the dependant variable environmental sustainability (Teksoz et al. 2012). Multimedia has certain practicability to apply in the society as the instructional model through animation film, audio-visual information for the awareness of environmental sustainability (Tsevreni, 2011).

Objectives

- To study the feedback of multimedia programme on the environmental sustainability.
- To study the effects of multimedia programme on the knowledge, understanding, skills, practice, and confidence in environmental sustainability.

Research Questions

- Does the present status of environmental education is satisfactory?
- Whether the traditional approaches used in teaching environmental education is effective among the learners?
- If not, then what should be the appropriate approach towards environment education and its sustainability?
- Can multimedia be the most effective tool for promoting environmental sustainability? If yes, then how?

Hypotheses

H1: There exists positive feedback of multimedia programme on environmental sustainability.

H2: There exists significant effect of multimedia programme on knowledge, understanding, skills, practice, and confidence in environmental sustainability.

Methodology

Design of the Study

The present study was a Non-equivalent Pre-test and post-test Quasi Experimental Design and it was a mixed research using both qualitative and quantitative techniques to analyzing the data to draw the conclusion for its broad generalization. This was an effort to organize a multimedia programme for the improvement of knowledge, understanding, skills, practice, and confidence in the environmental sustainability among the secondary school students and University students. Video on environment and environmental sustainability was developed and played in the teaching of environmental sustainability. Before programme and after programme feedback and achievement test score analyzed and assessed the effectiveness of multimedia on environmental sustainability. In fact, t test, ANOVA and Scheff multiple comparison techniques were used to analyze the data.

Population and Sample

Out of different localities of Silchar town, the researcher has undertaken Irongmara High School and the students of the Department of Education, Assam University, Silchar, India as the sample of the study. Here, 100 Irongmara High School students and local people were participated to attend the multimedia programme on environmental sustainability in the first phase and in the next phase, 100 university students were participated and saw the video programme.

Tool Used

Multimedia in Environmental Sustainability Programme Feedback cum Questionnaire (Part I):

To evaluate the effectiveness of multimedia on knowledge, understanding, skills, practice, and confidence on environmental sustainability among the secondary school students and university students, a Multimedia in Environmental Sustainability Programme

Feedback cum Questionnaire was developed. Multimedia in Environmental Sustainability Programme (part I) was a feedback where in an initial pool of approximately 20 dichotomous (yes/no) type items was structured followed by the general content domain. After a small initial tryout, some items were revised and some were deleted because of the presence of low point biserial correlation coefficient in relation to the total scores. The final version of the feedback was considered with ten dichotomous (i.e. yes/no) type items. The content validity ratio of part I of the questionnaire was .65 whereas the KR20 reliability was .74. (Table 1)

Multimedia in Environmental Sustainability Programme Feedback cum Questionnaire (Part II):

An initial pool of approximately 50 Likert type items was structured followed by the general domain. After a small initial tryout, some items were revised and some were deleted because of the presence of low point biserial correlation coefficient in relation to the total scores. The final version of Part II was a Likert type rating scale having 25 items having four point options (i.e. Poor, Fair, Good & Excellent) for each item. The same item was asked before and after programme to rate the feeling and perception of the participants by Poor, Fair, Good & Excellent type responds (Figure 1). This rating type scale rates the students' knowledge, understanding, skills, practice, and confidence before and after the multimedia programme on environmental sustainability.

Each respondent's each item was scored and calculated as (e.g. Poor=0, Fair=1/4, Good=1/2 & Excellent=1) to get the separate before programme and after programme total score, whereas in part II the content validity ratio of the questionnaire was.66 and the Cronbach's alpha reliability coefficient was .74 (Table 2).

Procedure of Data Collection

A Multimedia programme was organized in the Department of Education, Assam University, Silchar and Irongamra High School on 17th September 2014 at 1.30 p.m during the lunch break. There was a huge participation of P.G students. All the students of the department showed the video and expressed a significance of environmental sustainability and they highly appreciated the programme and also provided their valuable feedback. In fact, the learning outcome before and after the multimedia programme on environmental sustainability was assessed and rated the knowledge, understanding, skills, practice, and confidence of the students. Light refreshment was served. A forty minutes MP4 CD on environmental awareness cum sustainability was developed to show the students and local people. For that purpose, a large white screen, laptop, projector, and sound system were used to aware the people about the environmental issues. Students and local people showed, and discussed about the ways they can bring change in their life. They highly appreciated the programme and provided their valuable feedback. The learning outcome before and after the

No.	Statements	CVR	KR_{20} Reliability
1	Are you feeling better after participating in this Multimedia in Environmental Awareness Programme?	.50	.74
2	Do you feel this type of programme effective for the environmental sustainability?	.50	
3	Does the animated movie is effective over any traditional approach of environmental sustainability?	.50	
4	Do you feel, people like to see and hear this type of programme in T.V. and radio?	1	
5	Using Multimedia in Environmental Awareness for maintaining sustainability is an effort to save climate, and environment.	1	
6	Do you think, using Multimedia in Environmental sustainability is a programme, "Just to see and forget" the earth?	1	
7	Do you think, the role of multimedia in environmental sustainability is traditional and out dated?	.50	
8	Is this Multimedia using Environmental Sustainability Programme sufficient to reduce the pollution and global warming?	.50	
9	Do you want to protect your mother planet?	.50	
10	Do you want to save the earth from global warming?	.50	
	Average	.65	

Table 1. Multimedia in Environmental Sustainability Programme Feedback (Part I)

Item 1. Knowledge of environmental sustainability

Before Programme: Poor Fair Good Excellent

After Programme: Poor Fair Good Excellent

Figure 1. Example of an item of Multimedia in Environmental Sustainability Programme Questionnaire (part II)

No.	Item	CVR	Cronbach's Alfa
1.	Knowledge of environmental sustainability	.50	.74
2.	Significance of values & ethics of environmental Issues	.50	
3.	Understanding about the pollution, pollutants and the Meanings of Life	.50	
4.	Skill of reduce, reuse, & recycle the waste	1	
5.	Knowledge of how ocean absorbs carbon dioxide from the atmosphere	.50	
6.	Technique of increasing the reflectivity of sunlight from the Earth's surface	.50	
7.	Best Practice of solid waste management strategy	.50	
8.	Ways of suitable nuclear waste management policy	.50	
9.	Practicing to maximize the food security	.50	
10.	Forest conservation maintains environmental sustainability	.50	
11.	Major role for climate change mitigation	1	
12.	Knowledge of Food chain & Food web	1	
13.	Using Bio diesel for environmental sustainability	.50	
14.	Practice of sustainable transport	.50	
15.	Confidence on Hybrid vehicles & reduces the air pollution	.50	
16.	Skill of using insulation of buildings for energy efficiency to play a major role on climate change mitigation	.50 1	
17.	Plastic management technique	.50	
18.	Adaptation and Human settlements in rural and urban areas	.50	
19.	Hands-on Practice of sanitation	.50	
20.	Tree plantation and knowledge of social forestry	.50	
21.	Skill of marine and fresh water management	1	
22.	Knowledge of rain water harvesting	1	
23.	Effectiveness of windmill and environmental sustainability	1	
24.	Reducing the use of fossil fuel	.50	
25.	Practicing e-book, e-ticket, web reading, instead of printed material	.50	
	Average	.66	

Table 2. Multimedia in Environmental Sustainability Programme Questionnaire (outcome evaluation) (Part II)

multimedia programme on environmental sustainability was assessed and rated the knowledge, understanding, skills, practice, and confidence of the students and local people. The refreshment was provided to all the students, teachers, and community members. A closed ended Multimedia in Environmental Sustainability Programme Feedback cum Questionnaire was distributed among the students, teachers and community people of Irongmara to collect the feedback and achievement to assess the effectiveness of multimedia on environmental sustainability. On 16th September 2014 at 12.00 noon, a "multimedia in environmental sustainability programme" was organized in the Irongmara High School. Before that programme, a mobile vehicle with sound system (mike) was used to announce in the locality of the Assam University, Silchar to attend and cooperate the programme. All the students, teachers, and local people of the community actively participated in the programme. Earlier, the contents of the video was planned by the PI and supplied to the programmer (e.g. Om Computer, Silchar) to prepare the MP4 CD (video). The contents were:

- Significance of values & ethics of environmental Issues.
- Understanding about the pollution, pollutants, and the Meanings of Life.
- Skill of reduce, reuse, & recycle the waste.
- Knowledge of how ocean absorbs carbon dioxide from the atmosphere.
- Technique of increasing the reflectivity of sunlight from the Earth's surface.
- Best Practice of solid waste management strategy.
- Ways of suitable nuclear waste management policy.
- Practicing to maximize the food security.
- Forest conservation maintain environmental sustainability.
- Major role for climate change mitigation.
- Knowledge of Food chain & Food web .
- Using Bio diesel for environmental sustainability.
- Practice of sustainable transport.
- Confidence on Hybrid vehicles & reduction the air pollution.
- Skill of using insulation of buildings for energy efficiency to play a major role for climate change mitigation.

- Plastic management technique.
- Adaptation and Human settlements in rural and urban areas.
- Hands-on Practice of sanitation.
- Tree plantation and knowledge of social forestry.
- Skill of marine and fresh water management .
- Knowledge of rain water harvesting.
- Effectiveness of windmill and environmental sustainability .
- Reducing the use of fossil fuel.
- Practicing e-book, e-ticket, web reading, instead of printed material .

To evaluate the effectiveness of multimedia on the awareness of environmental sustainability among the community members and University students, a Multimedia in Environmental Sustainability Programme Feedback cum Questionnaire was developed. For the Multimedia in Environmental Sustainability Programme Feedback (part I) an initial pool of, approximately 20 dichotomous (yes/no) type items was structured following the general content domain as was presented in the scale.

Data Analysis and Results

H_1: There exists positive feedback of multimedia programme on environmental sustainability

A total of 200 students responded the feedback of multimedia program on environmental sustainability and resulted that 100 (50%) local community members/ secondary school students and 100 (50%) University Students felt well after participating in this Multimedia Environmental Awareness Programme (Table 3). Item no.2 (Do you feel this type of programme is effective for the environmental sustainability?), responded "yes" by 99 (49.5%) &100 (50%) of local community members/ secondary school students and University Students. However, all animated movie were not effective over any traditional approach of environmental sustainability responded by the participants, ranged from 100 (50%)-81(40.5%).100% participants responded that people liked to see and hear this type of programme in T.V. and radio and 100% participants responded using Multimedia in Environmental sustainability was a programme not "Just to see and forget" the earth. Nevertheless, 100% participants wanted to save the earth from global warming.

H_2: There exists significant effect of multimedia programme on the knowledge, understanding, skills, practice, and confidence in environmental sustainability.

Table 4 shows the descriptive analysis of outcomes of pre and post multimedia program on environmental sustainability among the Irongmara High School Students

	n	Test	Mean	Std. Error
Irongmara High School Students	100	Pre Programme Test	6.1725 ± 1.67675	.16767
		Post Programme Test	18.6975 ± 2.87674	.28767
Assam University Students	100	Pre Programme Test	4.3725 ± 1.20735	.12074
		Post Programme Test	24.7400 ± .96264	.09626

Table 4. Descriptive Analysis of the outcomes of Pre and Post Multimedia Program on Environmental Sustainability among the Irongmara High School Students and University students

Item No	Statements	Respond			
		Local Community members/Secondary school students		University Students	
		Yes	No	Yes	No
1	Are you feeling better after participating in this Multimedia in Environmental Awareness Programme?	100(50%)	0(0%)	100(50%)	0(0%)
2	Do you feel this type of programme effective for the environmental sustainability?	99(49.5%)	1(0.5%)	100(50%)	0(0%)
3	Does the animated movie is effective over any traditional approach of environmental sustainability?	19(9.5%)	81(40.5%)	100(50%)	0(0%)
4	Do you feel, people like to see and hear this type of programme in T.V. and radio?	100(50%)	0(0%)	100(50%)	0(0%)
5	Using Multimedia in Environmental Awareness for maintaining sustainability is an effort to save climate, and environment.	97(48.5%)	3(1.5%)	100(50%)	0(0%)
6	Do you think, using Multimedia in Environmental sustainability is a programme, "Just to see and forget" the earth?	94(47%)	6(3%)	0(0%)	100(50%)
7	Do you think, the role of multimedia in environmental sustainability is traditional and out dated?	17(8.5%)	83(41.5%)	0(0%)	100(50%)
8	Is this Multimedia using Environmental Sustainability Programme sufficient to reduce the pollution and global warming?	72(36%)	38(19%)	0(0%)	100(50%)
9	Do you want to protect your mother planet?	99(49.5%)	1(0.5%)	100(50%)	0(0%)
10	Do you want to save the earth from global warming?	100(50%)	0(0%)	100(50%)	0(0%)

Table 3. Descriptive Analysis of the Feedback of Multimedia Program on Environmental Sustainability among the Irongmara High School and University Students

and University students. It results that Irongmara High School Students' post programme test mean (18.6975±2.87674) was higher than the pre programme test mean (6.1725 ±1.67675). Similarly, Assam University Students' post programme test mean (24.7400 ±.96264) was greater than the pre programme test mean (4.3725 ±1.20735). In both the cases, post programme test mean was better than the pre programme mean, and this was due to multimedia treatment effect.

When α=0.05, the small p value (<.000) indicates significant difference between the outcomes of pre and post multimedia program on environmental sustainability among the Irongmara High School Students. The t (99) = -60.896 was significant. Similarly, the mean difference between the outcomes of pre and post multimedia program, on environmental sustainability among the Assam University Students was significant. The t (99)=-129.225 was significant. Hence, the effort for environmental sustainability through multimedia program was significant (Table 5).

ANOVA results of the outcomes of pre and post multimedia program on environmental sustainability among the Irongmara High School Students and University students was significant. Like the total sample comparisons, the results favored the post intervention outcomes of the students (F (3, 396) = 2873.777, p < .05). Irongmara High School Students and University students' post programme outcome was significantly better than the pre programmes mean, and this was due to multimedia treatment effect

	Sum of Squares	Mean Square	df	F	Sig.
Between Groups	29035.504	9678.501	3	2873.777	.000
Within Groups	1333.676	3.368	396		
Total	30369.180		399		

Table 6. ANOVA of the outcomes of Pre and Post Multimedia Program on Environmental Sustainability among the Irongmara High School Students and University students

(Table 6).

Scheff Multiple Comparison between pre programme test and post programme test of Irongmara High School and Assam University results that in all the cases, post test means were significantly better than their respected pretest means. The mean difference (20.36750*p<.05) between post programme test and pre programme test of Assam University was significant (Table 7).

Figure 2 illustrates the pre test & post test score of histogram in the vertical line (the Y-axis), OY, and the horizontal line (the X-axis) OX represents the name of the institution respectively. Y-axis represents Irongmara High School Students' post programme test mean (18.6975) was higher than the pre programme test mean (6.1725). Similarly, Assam University Students' post programme test mean (24.7400) was greater than the pre programme test mean (4.3725). It results that in both the cases, post programme test mean was better than the pre programme mean, and this was due to multimedia treatment effect.

Findings

The study aimed to evaluate the effectiveness of multimedia on the awareness of environmental sustainability

	Test	Mean Difference	SD	SE mean	t	df	P
Irongmara High School Students	Pre programme Test- Post programme Test	-12.52500	2.05680	.20568	-60.896	99	.000
Assam University Students	Pre programme Test- Post programme Test	-20.36750	1.57612	.15761	-129.225	99	.000

Table 5. t test of the outcomes of Pre and Post Multimedia Program on Environmental Sustainability among the Irongmara High School and University Students

(I) Types of test	(J) Types of test	Mean Difference (I-J)	Std. Error	Sig.
Irongmara High School pre programme test	Assam University pre programme test	1.80000*	.25953	.000
Irongmara High School pre programme test	Irongmara High School pre programme test	12.52500*	.25953	.000
Irongmara High School pre programme test	Assam University pre programme test	14.32500*	.25953	.000
Assam University pre programme test	Irongmara High School pre programme test	18.56750*	.25953	.000
Assam University pre programme test	Irongmara High School pre programme test	6.04250*	.25953	.000
Assam University pre programme test	Assam University pre programme test	20.36750*	.25953	.000

Table 7. Scheff Multiple Comparison of the outcomes of Multimedia Program on Environmental Sustainability among the Irongmara High School and University Students

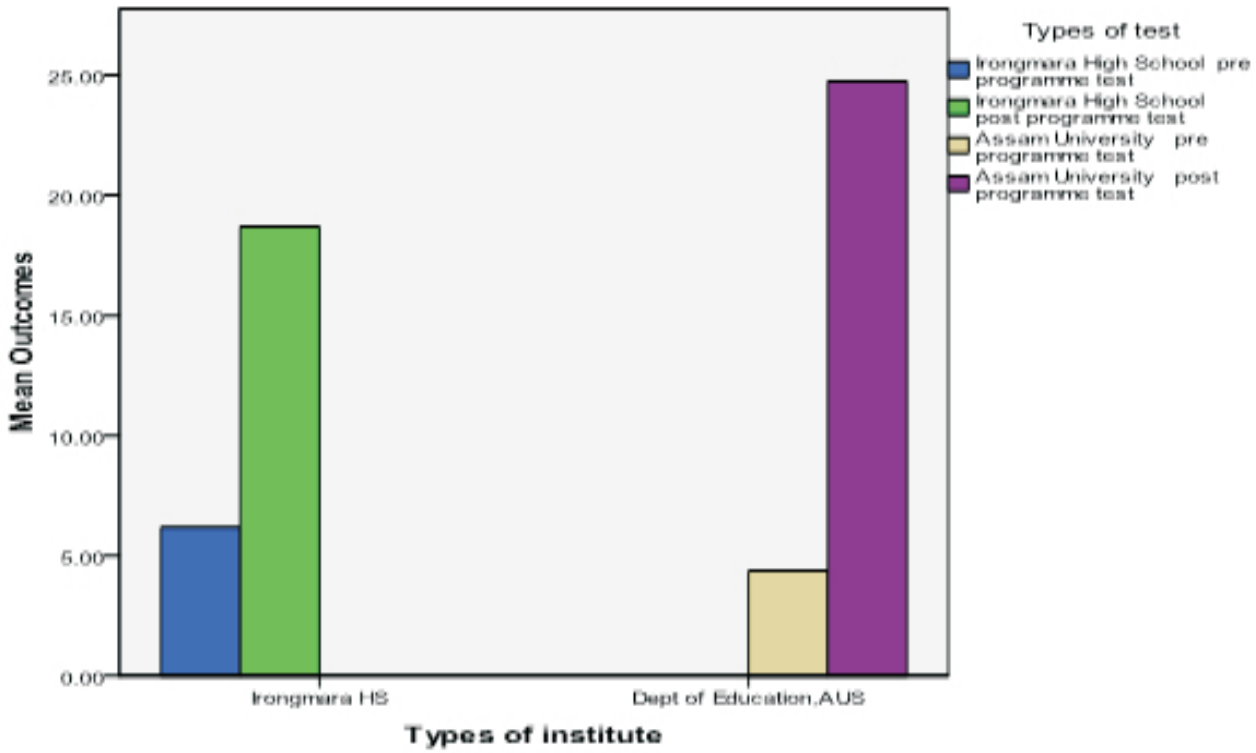

Figure 2. Pre-test and Post-test score of histogram in the vertical line

among the community members and university students. It was found from the feedback that 100% of the local people and secondary school students and university students felt better after participating in the Multimedia in Environmental Awareness Programme. The pre-test score of multimedia programme was lower than the post-test score and there existed significance difference between pre-test and post-test score of Irongmara High School Students and Assam University Students.

Discussion

The recent study evaluates the effectiveness of multimedia on the awareness of environmental sustainability among the community members and University students. It results that 100% local community members and secondary school students and the university students responded that, they are feeling better after the participation in the Multimedia in Environmental Awareness programme. The study also resulted that both the Irongmara High School students and Assam University students achieved better in the post programme test and there existed no significance difference in the achievement of School and Universities Students. It is concluded that, multimedia is an effective afford to aware students for environmental sustainability Malik & Agarwal, 2012, supported the result. They found that the multimedia is the ultimate way and electronic media to aware people towards environmental sustainability. For that, IGNOU continuously provides environmental sensitizing programme in Prasar Bharati and distance learning through CD_s and DVD_s, Cacikowa et al., 2010 applied multimedia technology in pre-school and elementary school education and found that multimedia is an effective paradigm shift to provide knowledge and skill among the students. Similarly, Uzunboylu et al., 2009 used mobile in learning to increase environmental awareness and motivated 99% participants to understand the environment. In 2007-2008,a National Environmental Awareness campaign was organized for 9,938 organizations through telecast, is a national Doordarshan channel and different wild life film and as a whole different media were used to aware people towards environment and nature.

Educational Implication

The educational institutions and other public enterprises should organize workshop, conference, symposium to

develop multimedia related study materials regarding the environmental issues. The funding agencies should provide their fund for encouraging such programs and activities for environmental issues. Teachers, students, educationists, policy makers, curriculum framers, and other administrators should work at the grass root level to maintain sustainability in environment through multimedia. Starting from elementary level to higher secondary level environmental education should be included in their curriculum for the learner's long-term benefits. The Teachers should encourage the students to manage sustainability of the environment. Different innovative instructions should be followed by the teachers in the classroom at different levels. Different recent models of teaching, teachers should use in their environment education classes.

Conclusion

Before 2-3 decades, people used print media to know, aware and think for the society and the world. Regarding environment, many programs are organizing now by the National and International agencies for making the people aware towards environment and sustainability. In this connection, the role of multimedia is now significant which was recognized and experienced by different researchers. Regarding multimedia, using website for web reading, animation pictures, television program and different virtual programs like Skype, mobile conference, video conference and other satellite based programs are used by researchers to promote the awareness of the people towards environment and sustainability. In the recent project, the researcher has tried to show animation movie on environment and sustainability for creating awareness among the people. The results of the study found significant relationship in between animation approach and achievement of the people. That is why the researcher is advising to apply multimedia for making the people aware towards environmental sustainability.

Recommendations

The researcher has developed AOE Model and Quick action of environmental sustainability to teach the secondary schools and training colleges. However, other teaching models should be developed to teach environmental education for sustainability. A single animated movie and a mp3 CD was developed to aware people through multimedia programs but other long run movies, episodes should be developed, organize and broadcasted throughout the public broadcasting services. The world of producers, directors, actors, and scriptwriters should try to prepare normal creative or animated movies on environment and sustainability for the world.

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ABOUT THE AUTHORS

Dr. Ananta Kumar Jena is presently working as an Assistant Professor in the Department of Educational Sciences under the School of Education, Assam University, Silchar, India. He has completed M.Sc. (Botany) from North Orissa University, India, and M.Ed. with Ph.D. from Utkal University, India.

Satarupa Bhattacharjee is currently working as a Research Assistant for the ICSSR sponsored Major Research Project in the Department of Educational Sciences under the School of Education, Assam University, Silchar, India. She has completed M.Sc. and B.Ed. from Assam University, Silchar, India.

Pimily Langthasa is presently working as a Research Assistant for the ICSSR sponsored Major Research Project in the Department of Educational Sciences under the School of Education, Assam University, Silchar, India. She has completed M.Sc. and B.Ed. from Assam University, Silchar, India.