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E-Waste Awareness Among Student Teachers

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ABSTRACT

The main aim of the study was to find out the significant difference between e-waste awareness among student teachers. Survey method was adopted for this study. The sample consists of 50 student teachers in Thoothukudi district. Simple random sampling technique was used. E-Waste Awareness Scale for student teachers was developed by the investigator was used to collect the data. The statistical technique used was mean, standard deviation 't' and F test. The findings of the study were: i) there is significant difference between male and female student teachers in their e-waste awareness. ii) There is no significant difference between rural and urban area student teachers in their e-waste awareness and iii) There was no significant difference among Tamil, English, History, Maths, Physical Science, Biological Science and Computer Science student teachers in their e-waste awareness. The educational implications and suggestions for further study are also given as per the findings of the study.

Keywords: E-Waste awareness, Student teachers.

Introduction

India is a developing country, from the last decades increase in population and change of lifestyle, the demand of using electronic products is increased. The e-waste products contain materials that are hazardous to the human beings, depending on their condition and density. The hazardous content of these materials pose a threat to human health and environment. In India electronic waste is producing in a huge quantity, since it has emerged as an it giant and due to modernization of lifestyle. Fridge, cell phones, discarded computers, mobiles and batteries etc, if not disposed properly, can leach lead and other substances to soil and underground water. It is an emerging problem as well as a business opportunity of increasing significance, given the volumes of e-waste being generated and the content of both toxic and valuable materials in them. The fraction including iron, copper, aluminum, gold and other metals in e-waste is over 60%, while plastic account for about 30% and the hazardous pollutants comprise only about 2.70%. This article highlights the importance of e-waste awareness and management of e-waste.

Need for the Study

Society is growing not only in population but also in technology. Technology place is an important role in growth of nation. And so and so lot of electronic gadgets have been discovered and invented by humans for the purpose of easy living. Nowadays more than the population, the quantity of electronic gadgets has been increased. And the humankind is in hyper-tension mode of handling electronic waste or e-waste. So proper awareness should be need for the student teachers to improve their E-Waste management.

Consumption trends also change along with rapidly advancing technology and new types of waste materials emerge. One of these new types of wastes is electrical or electronic wastes. These electronic wastes include several metals such as copper, aluminum and gold and they also release poisonous metals such as lead, cadmium and mercury when they are reassembled, dismantled, burned or processed chemically for recycling or reuse (Keya and Turban 2005). While the electronic appliances /items sector grows throughout the world and in Turkey, the ratio of electronic wastes in garbage is increasing as well. Electronic wastes in developed countries constitute an average of 1% of all solid waste and this ratio is expected to grow

two fold in the next 5 years. An increase of annual 5% to 8% is observed in electronic waste market in the world. So the investigator has taken up this present study for investigation.

Operational Definitions of the Key Terms

E-Waste

“Electronic waste” or “e- waste” consists of obsolete electronic devices. Electronic waste is informally known as e-waste for the electronic products nearing the end of their useful life. Fridge, cell phones, discarded computers, mobiles and batteries etc, if not disposed properly, can leach lead and other substances to soil and underground water. In this study create e-waste awareness among student teachers.

Awareness

Awareness is the state or ability to perceive, to feel, or to be conscious of events, objects or sensory patterns. In this study the investigator measures the level of awareness of e-waste among student teachers.

Student Teachers

Student teachers refer to the persons undergoing pre-service teacher training course given for attaining the designation of high school and higher secondary school teachers. The training provides the prospective teachers with experiences for development towards good teaching. B.Ed., is a skill process, undergoing training in teaching skills at the college of education.

Objectives of the Study

1. To find out the significant difference between male and female student teachers in their e-waste awareness.
2. To find out the significant difference between rural and urban area student teachers in their e-waste awareness.
3. To find out the significant difference among Tamil, English, History, Maths, Physical Science, Biological Science and Computer Science student teachers in their e-waste awareness.

Null Hypotheses of the Study

1. The level of e-waste awareness among student teachers is moderate.
2. There is no significant difference between male and female student teachers in their e-waste awareness.
3. There is no significant difference between rural and urban area student teachers in their e-waste awareness.
4. There is no significant difference among Tamil, English, History, Maths, Physical Science, Biological Science and Computer Science student teachers in their e-waste awareness.

Methodology

The researcher adopted the survey method to study the E-Waste awareness among student teachers.

Population and Sample

The population for the present study consisted of the student teachers in Thoothukudi district. 50 student teachers were taken for this investigation. The investigator collected the data from colleges of education in Thoothukudi district. They were selected randomly from each college.

Tool use for the Study

The investigator has used self made tool. E-Waste Awareness Scale for Student Teachers (E-WAS) (2018).

Statistical Techniques Applied

The statistical applications mean, Standard deviation, ‘t’ and F test was applied for the study.

Delimitations of the study

- The study is conducted in colleges of education only.
- The area chosen for conducting the study was only at Thoothukudi district.

Data Analysis and Findings of the Study

Null Hypothesis 1

Table 1
Level of E-Waste awareness among student teachers

Variable	Total Sample	Low		Moderate		High	
		No.	%	No.	%	No.	%
E-Waste awareness	50	16	32	22	44	12	24

(Low = Below 40; Moderate = Between 40-60; High = Above 60 from the 'T' Scores)

32%, 44% and 24% among student teachers have low, moderate and high level of E-Waste awareness respectively.

Null Hypothesis 2

Table 2
Difference between Male and Female Student teachers in their E-Waste awareness

Dimensions	Male (N = 14)		Female (N = 36)		Calculated 't' value	Remarks
	Mean	S.D.	Mean	S.D.		
E-waste awareness	73.53	5.320	61.58	5.102	2.169	S

Table value for df 48 is 1.96 at 0.05 level of significance.

It is inferred from the above table that there is significant difference between male and female student teachers in their e-waste awareness. Male student teachers have better mean value than female student teachers.

Null Hypothesis 3

Table 3
Difference between Rural and Urban area Student teachers in their E-Waste awareness

Variable	Rural (N = 21)		Urban (N = 29)		Calculated 't' value	Remarks
	Mean	S.D.	Mean	S.D.		
E-Waste awareness	163.45	5.130	183.69	6.584	2.533	S

Table value for df 48 is 1.96 at 0.05 level of significance.

It is inferred from the above table that there is significant difference between rural and urban area student teachers in their e-waste awareness. Urban area student teachers have better mean value than rural area student teachers.

Null Hypothesis 4

Table 4
Difference among Tamil, English, History, Maths, Physical Science, Biological Science and Computer Science Student teachers in their E-Waste awareness

Variable	Source	Sum of squares	Degrees of freedom	Mean square variance	Calculated 'F' value	Remarks
E-Waste awareness	Between	59.976	6	29.988	1.383	NS
	Within	3188.217	43	21.689		

[For (6, 43) degrees of freedom at 5 % level of significance, the table value 'F' is 2.25]

It is inferred from the above table that there is no significant difference among Tamil, English, History, Maths, Physical Science, Biological Science and Computer Science Student teachers in their E-Waste awareness.

Educational Implications

1. The level of e-waste awareness of student teachers is average.
2. Opportunity for participation in extra-curricular and co-curricular activities like quiz, drama etc., may be given to widen their E-Waste awareness.
3. Female students should increase their e-waste awareness.
4. The student teachers can adopt understanding level and reflective level of teaching rather than the knowledge level of teaching.
5. Rural area student teachers also should be more aware about e-waste.
6. Students can be encouraged to actively participate in workshop, conferences to develop their E-Waste awareness.
7. Students can be recommended mini projects to improve their e-waste awareness.
8. Awareness programmes on E-Waste awareness and its characteristics can be organized.

Suggestions for Further Research

The following are the suggestions for further research studies.

1. A similar study may be undertaken for college students, school students and polytechnic students.
2. This study can be extended to school and college teachers.
3. The sample is taken from Thoothukudi district only. It can be extended to other districts.
4. E-Waste management may be undertaken for further study.
5. Some more dimensions were included in E-Waste awareness and can be taken into account for further investigation.

Conclusion

A number of important implications for learning and teaching and those ideas are considered within the context of E-Waste awareness which impact on the environmental awareness that student teachers might employ during learning. Although much of the research on E-Waste awareness has been conducted with children, the literature on adult education is cited to prove evidence. In today's materialistic and highly competitive world, man seems to be losing their identity and direction. Fast growing technological changes have put a lot of pressure on them that blinds their vision for other alternatives of growth and survival.

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