GREEN ICT FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

Environmentally responsible and eco-friendly Information and communication technology (ICT) can tackle environmental issues emerged by its increased manufacturing, production, distribution, and use. The significant role of Green ICT, the practice of using ICT resources effectively is about considering the positive and negative impact of ICT to attain environmental sustainability. Sustainable development aimed at safeguarding present and future demands the need for adopting Green ICT strategies and policies that transform the technological and behavioural aspect of ICT resources. The present study is a survey conducted by the investigator to identify the participant's awareness regarding ICT, the negative impact of ICT and the mitigation of the challenges of ICT using Green ICT. It also aimed to identify the Green ICT strategies adopted by the participants while using ICT resources. The participants for the study consist of '25' D. El. Ed (Diploma in Elementary Education) student teachers from St Mary's TTI, Pattom. The study revealed that the participants are less aware of the challenges of ICT and the green ICT strategies to overcome the challenges.

INTRODUCTION

Information and communication technology (ICT) has emerged as one of the important driving force in the development of all strata of society. ICT products including laptop, desktop, mobile phones, i-pad, tables etc., are rapidly growing in its design, manufacturing, implementation and distribution are consuming a greater amount of energy releasing solid toxic waste and negatively effects on human and social health. This is even aggravated by the user's unethical digital management, for instance, the user's extravagant possession of ICT gadgets, its unsafe disposal, untimely switching off ICT gadgets after use, improper plugging off of fully charged gadgets etc. This stresses the importance of being conscious of the challenges of ICT resources to environment and sustainability.

Sustainable development aimed at safeguarding present and future demands the need for adopting Green ICT strategies and policies that transform the technological and behavioural aspect of ICT resources. Green ICT is a strategy that can be implemented across the entire lifecycle of ICT products, from design and development, to use, and to disposal of ICT equipment. Amongst the many strategies of Green ICT, the strategy for the practice of using ICT resources effectively should be considered by the individual to attain sustainable development. This practice considers the negative and positive impact of ICT over environment. The present study is a survey conducted to investigate the participant's attitude towards ICT gadgets and the Green ICT strategies adopted by them while using and ICT gadget. It also studies the participant's awareness of the negative impact of ICT.

OBJECTIVES OF THE STUDY

➢ To study the attitude of the participants towards ICT gadgets
➢ To find out whether they adopt any Green ICT strategies while using ICT gadgets
➢ To identify the participants awareness regarding the negative impact of ICT to environment

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METHODOLOGY

The current paper is a survey conducted by the investigator to identify the the participant's attitude towards ICT gadgets and the Green ICT strategies adopted by them while using and ICT gadgets. The participants for the study consist of '25' D. El. Ed (Diploma in Elementary Education) student teachers from St Mary's TTI, Pattom. To gather the data of the study, the investigator has developed a questionnaire. The questionnaire which consisted of fifteen questions is sub categorized into three on the basis of following aspects; attitudes towards ICT gadgets, behaviour while using ICT gadgets and awareness regarding the negative impact of the ICT gadgets. The collected data were analyzed using the percentage analysis. The investigator has sought the permission of the faculties in the institution to conduct the survey. Before conducting the survey the investigator makes the participants aware of the key terms included in the questionnaire.

RESULT AND ANALYSIS

The investigator analysed the responses obtained from the survey and calculated the percentage of response to questions under each category. Based on the student's responses under each category, the investigator sub categorizes the responses into two; positive responses and negative responses. The investigator finds out the percentage of positive and negative responses to each question. In this manner, she analysis each category and represent it using table.

Q.No.		Categories					
		Attitude		Green ICT Strategies		Awareness	
		Positive	Negative	Positive	Negative	Positive	Negative
1	Response	19	6	10	15	9	16
	%	76	24	40	60	36	64
2	Response	25	0	14	11	8	17
	%	100	0	44	56	32	68
3	Response	6	19	10	15	12	13
	%	24	76	40	60	48	52
4	Response	17	8	11	14	6	19
	%	68	32	44	56	24	76
5	Response	16	9	12	13	11	14
	%	64	36	48	52	44	56
	Mean (%)	66.4	33.6	43.2	56.8	36.8	63.2

Table 1: positive and negative responses under each category.
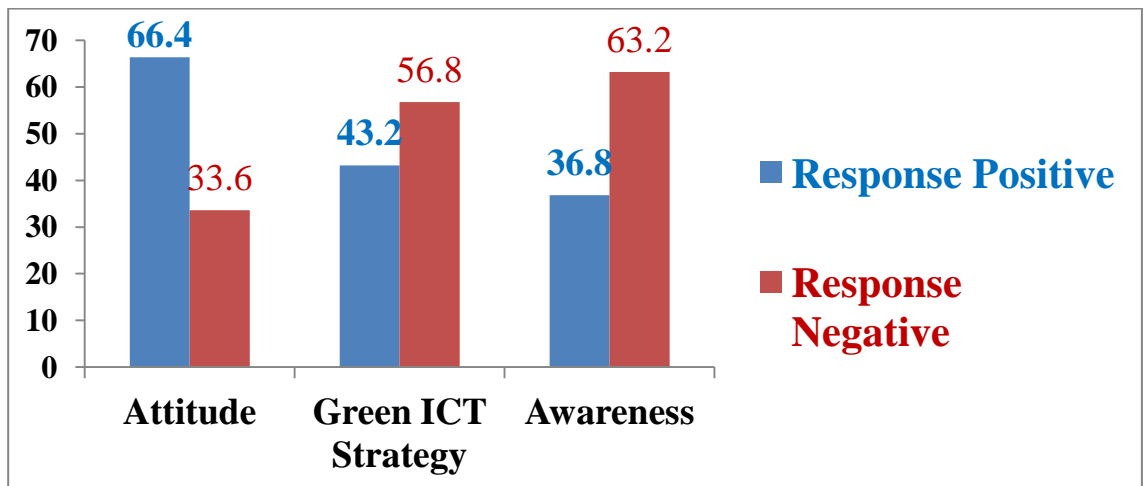
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Fig 1.Positive and negative responses of student teachers to the studied three categories.

From the data analysed, it is evident that the majority of the student teachers have a positive attitude towards the ICT gadgets. Among the 25 student teachers evaluated, around 66% of them possess a positive attitude towards ICT gadgets and only 34% have a negative attitude towards the same. This shows that the student teachers are regular users of ICT products, they have many ICT products as their own, and they use the gadgets not only for communication and academic purposes but also for recreational activities. The response shows that majority of them use the gadgets for more than five hours a day. Even though they have positive attitudes towards ICT gadgets, the student teachers do not adopt any Green ICT strategies while using their ICT products. This is evident from their responses under category 2. The data reveals that 53% of the student teachers not adopt any Green ICT strategies while using their ICT gadgets. The responses from the category 2 questionnaire reveal that they might not plug off their Gadgets when it gets fully charged, they never switched off their gadgets after use. This shows that due to their improper user behaviour knowingly or unknowingly they are adding on to the negative impact of ICT over environment. Analysis of the responses from category 3 reveals that 63 % of the student teachers are not aware on the negative impact of ICT gadgets to environment. Majority of them are unaware on the toxic metals, heat, green house gases released from the gadgets. From the above analysis it can be concluded that the student teachers failure in adopting the strategies of green ICT is due to their unawareness regarding the negative impact of these gadgets. Thus the investigator proved his hypothesis

CONCLUSION

The present study intended to understand the need of awareness of Green ICT for sustainable development clearly reveals the importance of generating awareness regarding the practice of using ICT gadgets in an environmentally responsible way for sustainable development. The present study reveals that the improper strategies adopted by the student teachers while using the ICT gadgets is mainly due to their unawareness regarding the negative impact of ICT gadgets to environment and their by harming their own environment. To an extent, awareness of Green ICT enables them to modify their user behaviour. ICT is central to all aspects of our life, but amidst all its encompassing benefits we should be conscious about the challenges of ICT resources to the environment and sustainable development.

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