Environmental Awareness and Prospective Teachers: From Intensions to Actions

Abstract

Conceptually environmental education means environmental training which aimed at developing specific skills, in relation to specific tasks which are often job-related. People need to understand why they are required to like recycle or protect environment; otherwise it is unlikely that they will be committed to carrying out these actions. For this reason, actions and behaviour overlap with attitude and theoretical educational processes, and environmental consciousness and commitment are important outcomes of environmental training, along with practical know-how. Research shows that consumers often make inferences about a product based on its characteristics and the benefits the consumer desires from that product. If consumers are environmentally-conscious but do not make the choice to purchase these types of products, what is holding them back from making that purchase? Research has shown that an attempt can be made to change habits by prompting an individual to actively think more about the actions they are taking rather than just repeating their usual habits. Behaviour of any person in daily life at academic institution or work place and home is a reflection of his or her internal awareness of that person about knowledge and participatory practices. What environmental issues have planted in one’s mind will portray in his (her) behaviour. Need, consequences and control motivate respondents to respond reciprocally. The present scenario is crying for public awareness and participation for bringing about a behavioural change and finally restricting further damage to the environment. This study found mean score of 3.99, 4.05 and 4.30 with respect to intentions, directions and actions of prospective teachers towards environmental issues. This study tried to assess the prospective teachers’ viewpoint regarding their intentions for better actions towards environment and issues. It is the intention which tries to build a directional approach. A well-built directional approach decides the actions.

Keywords

Environmental Awareness Scale, Prospective Teachers, Responsible, Attitude, Development, Information, Knowledge, Pollution, Behaviour, Education, Global Warming, Intentions, Actions

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1. Introduction

In the ensuing period a number of environmental changes had taken place. Some older concepts, compositions and percentages had fallen away and new ones have been started. Purity had lost somewhere and contamination and pollution has deteriorated the environment. It has become necessary to update the strategy to conserve nature, environment and ecosystem. There is a need to support education about environment which enhances the understanding and appreciation of the environment and the opportunities that it creates while promoting an ethic of collective responsibility of the environment amongst all people. Society and educational institutions should empower its communities through social development and education while entrenching a shared environmental accountability and responsibility.

Conceptually environmental education means environmental training which aimed at developing specific skills, in relation to specific tasks which are often job-related. Trainees should also be informed the understandings and reasons behind any task they were asked to perform. People need to understand why they are required to like recycle or protect environment; otherwise it is unlikely that they will be committed to carrying out these actions. For this reason, actions and behaviour overlap with attitude and theoretical educational processes, and environmental consciousness and commitment are important outcomes of environmental training, along with practical know-how. Education about environment has life-long relevance to people from all walks of life and an integral part of the sustainable socio-economic development that is required to achieve equality and a better quality of life for all. Environmental awareness steps should be visible in actions. It is not only the bio-physical environments and heritage resources but social, cultural, economic and political aspects should also be given due importance while planning about environmental protection and conservation.

This vision implies that both students and people should develop the ability to identify environmental problems, analyze their causes, and contribute to environmental management processes.

2. Action Gap

Research shows that consumers often make inferences about a product based on its characteristics and the benefits the consumer desires from that product (Luchs et al. 2010). Bonini and Oppenheim (2008) mentioned that 87 percent of consumers are concerned about the environmental impacts of the products they buy; however, only 33 percent of those same consumers indicated they are ready to or have made green product purchases. Research has found that many consumers feel the cognitive effort related to researching environmentally friendly products is too great and that they prioritize other product characteristics above being green (Young et al. 2010). Barr and Gilg (2006) found that individuals who are committed or mainstream environmentalists generally place a higher importance on environmental issues. Chung and Leung (2007) found 98 percent of respondents agreed or strongly agreed that individuals have a responsibility to help protect the environment. EcoAmerica (2006) found 86 percent of Americans concerned about environmental issues. If consumers are environmentally-conscious but do not make the choice to purchase these types of products, what is holding them back from making that purchase? Kennedy et al. (2009) mentioned a study done in 2004 that 72 percent of individuals reported a gap between their consideration of the environmental impact of their behaviors and actually carrying out a more sustainable or environmentally friendly behavior. Energy conservation research in the mid-1980s found that even people who are knowledgeable about an environmental issue and the steps needed to
address it often do not take action to change their behavior (Pelletier et al. 1998). Blake (1999) identified several factors as possible explanations for this gap, including individuality, responsibility, and practicality. Kollmus and Agyeman (2002) analyzed a variety of personality characteristics, including motivation, environmental knowledge, values and attitudes, and emotional involvement, in an attempt to determine their influence in the adoption of environmental behaviors. Prior research examining specific experiences and influences as indicators of environmental action found that the influence of family members can be important in determining an individual’s attitudes toward environmental issues (Chawla, 1999). Freestone and McGoldrick (2008) found that as consumers travel through the stages of change, their attitudes toward purchasing a product focus more on the benefits and less on any negative outcomes associated with making that purchase. This ultimately results in an overall shift in focus to the positive benefits as a consumer decides to purchase a product.

![Diagram of Intentional Behavior and Action](image)

**Figure-1: Determinants of Automated Healthy Behaviour**

Barr and Gilg (2006) showed that environmental behaviors might be best examined together in the context of everyday practices as opposed to being considered distinct and separate behaviors. Research has shown that an attempt can be made to change habits by prompting an individual to actively think more about the actions they are taking rather than just repeating their usual habits (Hobson 2003).

### 3. Research Questions

The current research is the pioneer study and will contribute a significant role to identify the prospective teachers’ intentions leading towards environmental protection and conservation. The depth of this study will help to investigate the following research questions:

1. Intentions can lead towards directions that can bring positive and constructive actions.
2. Strong and effective intentions build directional actions which converts into long lasting and effective behaviour.
3. Conversion of intentions to actions should be a straight or horizontal line for better environment.
4. Review Of Literature

A review of literature is expected to contribute towards a clearer understanding of the nature and meaning of the problem that has been identified. Chemical substances provide important functionality in a wide range of products and environment play a vital role in living a prosperous and healthy life. However, the availability of toxic chemicals in the environment and surroundings is a mounting concern for public health and the environment. Ignorance about environmental issues may result in apathy, little change in personal behavior, and reliance on government action (Bulkeley 2000). Awareness and knowledge about global warming, plays crucial role if people are to adopt pro-environmental or conservation behavior (Frick et al. 2004; Kaiser and Fuhrer 2003). If an issue is localized, people are more likely to perceive their action or non-action as having a more significant impact (Macnaghten and Jacobs 1997; Burgess et al. 1998). Better education leads to better information, which in turn has been associated with higher levels of environmental awareness (Arcury 1990). Research has assumed that there is a relationship between knowledge, attitudes, behavioral intentions, and actual behaviors (Darner 2009; Hines et al. 1987; Hungerford and Volk 1990; Ramsey and Rickson 1976). Although it is difficult to directly observe and relate actual behavioural changes to a particular intervention (Holmes 2003), behavioural intention can be measured using willingness-to-pay (Mitchell and Carson 1989), and used as a proxy or indicator of conservation success. It is often assumed that effective education will automatically lead to environmentally responsible behaviour (Dobson, 2007). Kirk (1963) stressed that the environment was not a static backdrop but a dynamic one that takes shape and acquires meaning by human perceptions. If we do not conserve and protect environment, we will destroy ourselves and our society (Huckle 1991). At present, everyone knows and acknowledges environmental problems but comparatively few people truly understand and are aware of an importance of the environment. Education for the environment is intended to enhance values, ethics, problem-solving skills, and action (Spork 1992). Research indicates that people from poorer nations like India are less willing to support environmental protection although more willing to pay for it (Gelissen 2007). India, although richly endowed with renewable energy sources has no commercial solar thermal power plant in operation, perhaps due to the capital-intensive nature of solar technology (Beerbaum and Weinerbe 2000; Suganthi and Williams 2000). The problem of waste management is causing a great concern to our environment (Hazra and Goel 2009). In India, generally common bins are provided for collection of decomposable and non-decomposable waste (Das et al. 2014). World educators and environmental specialists have repeatedly pointed out that a solution to environmental crises will require an environmental awareness which should be deeply rooted in the education system at all levels of school education (Khan 2013).

The persons having more extensive and longer years of education are assumed to have extensive knowledge about the environment. But more education might be not a significant factor which increases pro-environmental behavior. Cultural values and societal norms can motivate people to manifest environmentally responsible behaviour for the sustainability of the healthy society (Oreg and Gerro 2006). The fact that motivation plays an important role in developing responsible behaviour towards environment in human beings is well substantiated with the research orientation (Kollmuss and Agyeman, 2002). Empowerment has significant place in environmental education to train the people about the environmental problems (Hungerford and Volk 1990). Values are found more contributive in shaping behavior and these are determined through society, family, neighbours and peer groups (Rahi 2015).
5 Research Design – Questionnaire And Sample

The questionnaire was designed specifically for this study, keeping in mind the fact that environmental degradation is not a prominent environmental issue for people in India, as compared to developed countries. Use of terminology such as recycling bins, insulated homes, hybrid cars, and energy efficient homes was avoided based on the assumption that people in a developing country like India are not yet familiar with such environmentally friendly practices and products. The text of a questionnaire is in many ways similar to the source code of a program. It is the result of a lengthy design process. It includes instructions, and should be well tested before it can be used. The questionnaire used in this study has been developed and validated by Rahi (2015). The questionnaire originally comprised fifty questions which were divided into six sections, comprising Orientation Questions, Multiple Choice Knowledge Questions, Multiple choice Understanding Questions, Individual Related Questions, Reliability Questions and Questions to assess Teaching Skills. In the case of this study, the researcher was particularly interested to gain an understanding of intentions of the prospective teachers change to actions in terms of raising awareness of environmental issues in the Haryana State.

Out of fifty questions spread over in six sections, this study selected twelve questions and grouped these in three traits or groups which include Intentions, Directions and Actions of Prospective Teachers. The sample in the present study involved a total of 400 prospective teachers selecting 20 students each from 20 colleges of education located at different places of Haryana State. The prospective teachers i.e. B.Ed. students were randomly chosen. Every individual had an equal chance of being selected but only a limited number was required. Once the data has been prepared, the next step is to actually analyze it. The categorizing, ordering, manipulating and summarizing of data to obtain answers to research questions is termed as Data Analysis. For the purpose of this study MS Excel was used to enter data and perform the statistical computations with ease. The percentage was converted to a score on a scale from 1 to 5 to smooth the progress and facilitate the study. To measure and rate the score, a reference scale (Rahi 2015) was considered (Table-1) as score of 0.0 to 1.00 indicates Bad Intentions, Direction & Actions; from 1.01 to 2.00 indicates Poor Intentions, Direction & Actions; from 2.01 to 3.00 indicates Below Average Intentions, Direction & Actions; from 3.01 to 4.00 indicates Average Intentions, Direction & Actions and from 4.01 to 5.00 indicates Good Intentions, Direction & Actions of Respondents.

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Score Range</th>
<th>Derived Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0 to 1.00</td>
<td>Bad Intentions, Direction &amp; Actions</td>
</tr>
<tr>
<td>2</td>
<td>1.01 to 2.00</td>
<td>Poor Intentions, Direction &amp; Actions</td>
</tr>
<tr>
<td>3</td>
<td>2.01 to 3.00</td>
<td>Below Average Intentions, Direction &amp; Actions</td>
</tr>
<tr>
<td>4</td>
<td>3.01 to 4.00</td>
<td>Average Intentions, Direction &amp; Actions</td>
</tr>
<tr>
<td>5</td>
<td>4.01 to 5.00</td>
<td>Good Intentions, Direction &amp; Actions</td>
</tr>
</tbody>
</table>

6. Analysis And Interpretation Of Data

Behaviour of any person in daily life at academic institution or work place and home is a reflection of his or her internal awareness of that person about knowledge and participatory practices. What environmental issues have planted in one’s mind will portray in his (her) behaviour. Need, consequences and control motivate respondents to respond reciprocally. Social norms and aspects catalyze the process to tackle environmental issues. So, it is not the personal perception but reference attitude which decides the resultant behaviour. As reference behaviour cannot be a sole
decision but is decided by influencing groups or situations or scenarios like community, society, etc. This influencing attitude assists in determining or deciding one’s attitude which helps in establishing behaviours. If the surrounding environment or influencing factors are changed, one’s attitude and reference behaviour can be changed. If the surrounding environment or influencing factors are changed, attitude or behaviour can be changed. Processed and applied information can help one in environmental and behavioural maturity. Any questionnaire needs to be constructed considering these facts so that proper, better and accurate picture may come out. After collection of the data, the agree percentage of responses with respect to each question was tabulated. The agree percentage was converted to group percentage and group percentage have been scored on a scale of 1 to 5 to show the weight, merit and significance of the traits or behaviour.

Table-2: Percentage and Score of Agreement by Prospective Teachers indicating Intentions to Actions

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Observed Traits</th>
<th>Agree %</th>
<th>Score 5.00</th>
<th>Mean %</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Intentions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>By reading books, magazines, newspapers, etc. one can know the importance of health and environment.</td>
<td>85</td>
<td>4.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Do you agree that Environmental Science studied by you in graduation provides the full knowledge about environment?</td>
<td>57</td>
<td>2.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Do you think that people will care more about the environment after they are made aware of it?</td>
<td>86</td>
<td>4.30</td>
<td>79.8</td>
<td>3.99</td>
</tr>
<tr>
<td>4</td>
<td>It is not good to provide Plastic Carry Bags by shopkeepers or to burn Agriculture Remains by farmers?</td>
<td>75</td>
<td>3.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Do you think that new buildings/ plans should be designed to conserve water and energy?</td>
<td>96</td>
<td>4.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Directions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Drinking water tap is running without any use?</td>
<td>83</td>
<td>4.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>In marriage, functions and temples high volume loud speakers are used?</td>
<td>83</td>
<td>4.15</td>
<td>81.0</td>
<td>4.05</td>
</tr>
<tr>
<td>8</td>
<td>Uncooked and cooked food available in the market is contaminated?</td>
<td>77</td>
<td>3.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Actions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Are you agree to pay more for products whose production and packaging does less damage to the environment?</td>
<td>85</td>
<td>4.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Tissue paper, plastic bags etc should not be used for the sake of a better today and tomorrow?</td>
<td>80</td>
<td>4.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>If you went to a shop to buy a new fridge, you would find lots of different types in the shop. Which fridge would you buy? 1) Fridge suggested by shopkeeper; 2) Costly &amp; big fridge to impress people; 3) The cheapest fridge; 4) Eco Friendly Fridge with maximum energy savings; 5) Fridge with maximum discounts and free gifts</td>
<td>95</td>
<td>4.75</td>
<td>86.0</td>
<td>4.30</td>
</tr>
<tr>
<td>12</td>
<td>If you want to purchase some new and updated product, what will you do with the old product you have in your house? 1) Throw outside after broken into pieces; 2) leave it out with the dust bins; 3) Request recycling department to remove chemicals inside the machinery safely before it is disposed of; 4) Place in the store; 5) Don’t know</td>
<td>84</td>
<td>4.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Score is calculated on a Scale of 5 (1 - 5). (Reference Scale Table-1)

Mean score of 3.99 for intentions, mean score of 4.05 for directions and mean score of 4.30 of actions was obtained in this study.
Score of 3.99 indicates average intentions which leads to good direction at 4.05 (although just 5% above average), just good directional nature lasts to good actions at 4.30 and it may be concluded that intentions are the base for actions.

7. Discussion

With over a billion people and at least 17 major languages, with poverty and low literacy levels, with over ten lacs of educational institutions, with a rapidly increasing population, the development and environmental challenge is enormous. The present scenario is crying for public awareness and participation for bringing about a behavioural change and finally restricting further damage to the environment. This study found mean score of 3.99, 4.05 and 4.30 with respect to intentions, directions and actions of prospective teachers towards environmental issues.
Curve of conversion (Figure-3) explains the conversion of intentions to actions. Straight line or horizontal line can explain better conversion of intentions to actions. Wide angled curve indicates the process of conversion either slow or fast from intentions to direction and fast or slow from directions to actions. Slow route of intentions to direction may be due to societal factors, cultural inclinations or barriers.

Huge store of information is available in the form of printed books, e-books, newspapers, magazines and at internet. This all information is within the reach of every individual. However, the available information is scattered and needs to be classified according to required basis. How much information one needs and when is it to be applied and to whom, is a question to be answered yet. Who will lead this type of regularity? This is the question which can help the respondents to streamline their intentions. Environmental Maturity does not limit at the grasping of available information but the mood to acquire right and correct information and also the correct and accurate interpretation of that information lead towards environmental maturity. This study tried to assess the prospective teachers’ viewpoint regarding their intentions for better actions towards environment and issues. Results show that prospective teachers have better and stronger thinking about their ability to convert information to intentions about environment. It is the intention which tries to build a directional approach. A well-built directional approach decides the actions.

It is not only the industrial developments and vehicular activities are deteriorating the environment but agricultural activities are also not lagging behind in this context. Use of fertilizers and pesticides, over-exploitation of soil and water resources, waste-water and contaminants has polluted the environment badly. It has become the duty and responsibility of each and every one to work for pure and safe environment. Without an understanding of how to conserve natural resources and the persuasive need to do so, few people would be motivated to participate actively in the programs on environmental conservation, environmental education and awareness thus assume significant importance.

8. Conclusion

Mean score of 3.99 indicates average environmental intentions; mean score of 4.30 indicates little good actions, little less smart active thinking and it can be concluded that attitude or behaviour is not environmentally perfect or mature. Mankind is yet to have the knowledge of the total environment. Plants are the natural resources which provide oxygen, keep the environment clean and reduce air pollution. Plants are the heart of environment. Definitely, growing plants is not the only solution to justify environmental issues, it also needs to be intelligent regarding industry, agriculture, etc. but growing plants near us can help, in reducing impacts of environmental pollution. Developing the habit of good environment, devising proper disposals, awareness campaigns and environmentally responsible behaviour is a key to the success i.e. environmental literacy and maturity. Through the process of education, people can be sensitized about the environmental issues. Teachers act as catalyst in spreading education about the environment and crisis integrated with the teacher education curriculum but that is possible only if the teachers are aware of environmental problems themselves; they will be able to generate awareness among masses through students. By providing better and enhanced information and knowledge, pupil teachers will be able to find out a mechanism that will help in solving environmental problems. Man must be active and creative and learn in ways natural to him in order to grasp the understanding of natural phenomenon around him.
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