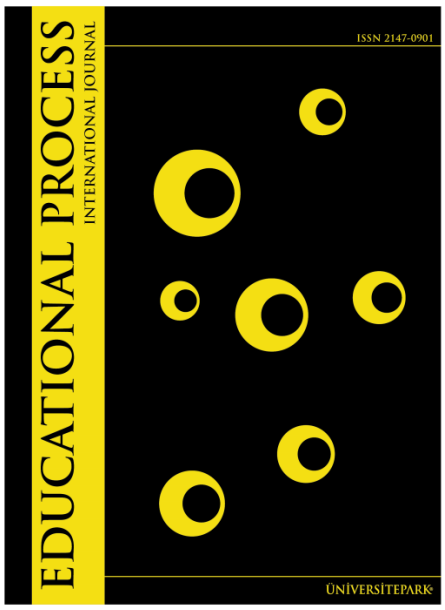

Educational Process: International Journal

ISSN 2147– 0901 (Print) Journal homepage: www.edupij.com

EDUCATIONAL PROCESS: INTERNATIONAL JOURNAL
EDUPIJ / VOLUME 5 / ISSUE 4 / WINTER / 2016

Knowledge and Awareness: Linear Regression

Monika Raghuvanshi

To cite this article: Raghuvanshi, M. (2016). Knowledge and Awareness: Linear Regression. *Educational Process: International Journal, 5*(4), 279-292.

To link to this article: http://dx.doi.org/10.22521/edupij.2016.54.2

Monika Raghuvanshi, Pacific University, India. (e-mail: monikaraghuvanshi07@gmail.com)

EDUPIJ / VOLUME 5 / ISSUE 4 / 2016 / pp. 279–292.

Knowledge and Awareness: Linear Regression

MONIKA RAGHUVANSHI

Abstract

Knowledge and awareness are factors guiding development of an individual. These may seem simple and practicable, but in reality a proper combination of these is a complex task. Economically driven state of development in younger generations is an impediment to the correct manner of development. As youths are at the learning phase, they can be molded to follow a correct lifestyle. Awareness and knowledge are important components of any formal or informal environmental education. The purpose of this study is to evaluate the relationship of these components among students of secondary/ senior secondary schools who have undergone a formal study of environment in their curricula. A suitable instrument is developed in order to measure the elements of Awareness and Knowledge among the participants of the study. Data was collected from various secondary and senior secondary school students in the age group 14 to 20 years using cluster sampling technique from the city of Bikaner, India. Linear regression analysis was performed using IBM SPSS 23 statistical tool. There exists a weak relation between knowledge and awareness about environmental issues, caused due to routine practices mishandling; hence one component can be complemented by other for improvement in both. Knowledge and awareness are crucial factors and can provide huge opportunities in any field. Resource utilization for economic solutions may pave the way for eco-friendly products and practices. If green practices are inculcated at the learning phase, they may become normal routine. This will also help in repletion of the environment.

Keywords: knowledge, awareness, youths, environment, routine.

DOI: 10.22521/edupij.2016.54.2

EDUPIJ / ISSN 2147– 0901 © 2016

edupij.com

Introduction

Knowledge is deeply rooted and nourished by awareness. Knowledge and awareness are factors guiding development of an individual. These may seem simple and practicable, but in reality, a proper combination of these is a complex task. These components can be delivered via bookish pattern; however, practical outcomes are difficult to gain as these are driven by complex factors. An isolated classroom system cannot surely gain the role of these components in real life. A drawback is environment-based education that is imparted rather than a problem-solving approach. Hence, the status of these is important in order to address the gap between bookish knowledge and real life implications. Quality of mind seeks a connection between knowledge and awareness as a means to sustainable development.

A developed socio-cultural system follows a set pattern which gives bookish knowledge, yet drags one away from the practical utility of education. Knowledge of students is restricted to course curriculum with limited practical application. It is a developmental anomaly which affects development goals at the basic level. This leads towards financial and material concerns, away from conscious taking of moral and ethical actions for a better life and environment. Economically driven state of development in young generations is an impediment to the correct manner of development. As the youth are in their learning phase, they can be molded to follow a correct lifestyle; hence, youths should be monitored to practically apply bookish environmental knowledge and awareness in the right direction.

Awareness and knowledge are important components of any formal or informal environmental education. The purpose of this study is to evaluate relationship of these components among the students of secondary/ senior secondary schools who have undergone a formal study of environment in their curricula. A suitable instrument is developed to measure the elements of Awareness and Knowledge among the study's participants.

As per previous studies, even if school programs are meant for students, they influence knowledge, awareness, and attitude in adults such as teachers and parents, and within the wider community due to intergenerational influence. If a child is taught about "going green" knowledge and awareness are considered crucial factors, followed by socio-demographic factors as major influences.

Aminrad, Zakariya, Hadi, and Sakari (2013) conducted a study in order to identify the relationship between environmental awareness, knowledge and attitude among secondary school students. The survey was conducted on 16-year olds in Kajang city, Selangor, Malaysia. An instrument of 48 questions was employed to investigate the relationship between awareness, knowledge and attitude. The results of Pearson Correlation showed a significant but weak relationship between awareness and knowledge on environmental issues.

Salı, Körükçü, and Akyol (2015) aimed to elicit the environmental knowledge and environmental awareness of preschool teachers. The Environmental Knowledge and Environmental Awareness Questionnaire were used Erten (2008) in Turkey with partial amendments. The relational survey model was implemented in the research. In analyzing the data, Pearson Correlation calculations, parametric (t-test, ANOVA), and non-parametric tests (Kruskal Wallis, Mann-Whitney U Test) were used to assess whether or not variables showed normal distribution. As a result of the research, while a weak relation was observed

between the Attitudes towards Environment and Environment-Friendly Behaviors (r=.40) and between Attitudes towards Environment and Environmental Knowledge (r=.47) of preschool teachers; a very weak relationship was found between Environment-Friendly Behaviors and Environmental Knowledge (r=.25).

Methodology

A survey was sent to international students at a Rocky Mountain university. Twenty-nine students who identified themselves as Asian completed the survey. Of the respondents, 14 (48%) were male and 15 (52%) were female.

Geographical area: City of Bikaner, Rajasthan, India.

Target population: Data has been collected from various secondary and senior secondary school students in the age group 14 to 20 years for two reasons: first, they studied the environment within their course curriculum and second, they are sufficiently mature enough to understand the questions and answer them properly.

Data: Primary data is collected though a structured questionnaire. Secondary data is collected from research papers of published journals.

Sampling: Cluster sampling technique.

Statistical tool: IBM SPSS 23.

Statistical techniques: Linear Regression Analysis.

Multiple regression analysis analyzes how changes in predictor or independent variables relate to changes in dependent or response variable.

R-squared is also known as coefficient of determination. R squared is the percentage of response variable variation that is explained by linear model.

R-squared= Explained variation/ Total variation

Sometimes low R-squared is predicted especially in the case of human behavior. With low R-square value, one can also draw important conclusions with the help of statistical predictors. R-square only tells about strength between model and response variables.

The adjusted R-square is:-

A modified version of R-square to adjust with number of predictors.

It increases if a predictor improves the model more than expected by chance.

It decreases if a predictor improves the model less than expected by chance.

It is always lower than R-square.

It can be negative.

Standard error of the estimate represents the average distance that the observed values fall from the regression line. Conveniently, it tells how wrong the regression model is on average using the units of the response variable. Smaller values are better because it indicates that the observations are closer to the fitted line.

Objective: To test the relationship between knowledge and awareness.

Hypothesis

H_0: There is no relationship between knowledge about environment and awareness

H_1: There is a significant relationship between the two.

Table 1. Model Summary 1

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.054a	.003	.001	1.0002
a. Predictors: (Constant), Seen a LED bulb				

R-square value of 0.003 shows small variation in the response variable. As adjusted R-square decreased means a predictor improves the model less than expected by chance. A standard error of estimate 1.0002 shows the distance of observations from the regression line.

Table 2. Anova[a] results of Model 1

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.556	1	1.556	1.555	.213b
	Residual	539.220	539	1.000		
	Total	540.776	540			
a. Dependent Variable: Using LED lights reduce electricity consumption						
b. Predictors: (Constant), Seen a LED bulb						

As F-value is more than the significance level, this suggests null hypothesis is accepted, indicating no relation.

Table 3. Coefficients[a] of Model 1

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
1	(Constant)	1.127	.126		8.967	.000
	Seen a LED bulb	-.138	.111	-.054	-1.247	.213
a. Dependent Variable: Using LED lights reduce electricity consumption						

P-value is high, suggesting that changes in the predictor are not associated with changes in the response variable. Hence, there exists no relationship between knowledge and awareness variables.

Table 4. Model Summary 2

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
2	.166a	.027	.026	1.9308
a. Predictors: (Constant), Heard of power-saving ratings for domestic appliances				

R-square value of 0.027 shows a small variation in the response variable. As adjusted R-square decreased means a predictor improves the model less than expected by chance.

A standard error of estimate 1.93 shows the distance of observations from the regression line.

Table 5. Anova[a] Results of Model 2

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	56.799	1	56.799	15.236	.000b
	Residual	2009.419	539	3.728		
	Total	2066.218	540			
a. Dependent Variable: Using domestic appliances with power-saving ratings reduce electricity consumption						
b. Predictors: (Constant), Heard of power saving ratings for domestic appliances						

As F-value is more than the significance level, this suggests null hypothesis is accepted, indicating no relation.

Table 6. Coefficients[a] of Model 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
2	(Constant)	1.299	.109		11.925	.000
	Heard of power saving ratings for domestic appliances	.657	.168	.166	3.903	.000
a. Dependent Variable: Using domestic appliances with power saving ratings reduce electricity consumption						

P=0 indicates no effect of predictor on response variable. Hence no relation exists between the knowledge and awareness variable.

Table 7. Model Summary 3

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
3	.090a	.008	-.001	.4930
a. Predictors: (Constant), Using solar cookers saves gas, keeping the burner off when not in use saves gas, use of pressure cooker for cooking saves gas, keeping the flame low while cooking saves gas, timely replacing of old and worn out rubber tubing saves gas.				

R-square value of 0.008 shows small variation in the response variable. As adjusted R-square decreased means a predictor improves the model less than expected by chance. A standard error of estimate 0.5 shows the distance of observations from the regression line.

Table 8. Anova[a] Results of Model 3

Model		Sum of Squares	df	Mean Square	F	Sig.
3	Regression	1.059	5	.212	.871	.500b
	Residual	130.021	535	.243		
	Total	131.079	540			
a. Dependent Variable: LPG (cooking gas) is imported by our country.						
b. Predictors: (Constant), Using solar cookers saves gas, keeping the burner off when not						

in use saves gas, use of pressure cooker for cooking saves gas, keeping the flame low while cooking saves gas, timely replacing of old and worn out rubber tubing saves gas.

As F-value is more than the significance level, this suggests null hypothesis is accepted, indicating no relation.

Table 9. Coefficients[a] of Model 3

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
3	(Constant)	.401	.048		8.287	.000
	Keeping the burner off when not in use saves gas	-.007	.046	-.007	-.154	.878
	Timely replacing of old and worn out rubber tubing saves gas	.005	.043	.005	.108	.914
	Use of pressure cooker for cooking saves gas	.047	.043	.048	1.091	.276
	Keeping the flame low while cooking saves gas	.049	.045	.047	1.076	.282
	Using solar cookers at home saves gas	-.070	.044	-.070	-1.598	.111
a. Dependent Variable: LPG (cooking gas) is imported by our country.						

P-value of predictors are high suggests that changes in the predictor are not associated with changes in the response variable. Hence no relation exists between awareness and knowledge variables.

Table 10. Model Summary 4

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
4	.219a	.048	.039	.4889
a. Predictors: (Constant), Turning off the engine at red lights saves fuel, using public transport wherever possible saves fuel, not using a vehicle for small distances saves fuel, regular engine servicing saves fuel, car sharing for going to the office/ workplace saves fuel.				

R-square value of 0.048 shows small variation in the response variable. As adjusted R-square decreased means a predictor improves the model less than expected by chance. A standard error of estimate 0.48 shows the distance of observations from the regression line.

Table 11. Anova[a] Results of Model 4

Model		Sum of Squares	df	Mean Square	F	Sig.
4	Regression	6.415	5	1.283	5.367	.000b
	Residual	127.899	535	.239		
	Total	134.314	540			
a. Dependent Variable: Do you know the price of diesel/petrol in Bikaner?						
b. Predictors: (Constant), Turning off the engine at red lights saves fuel, using public transport wherever possible saves fuel, not using a vehicle for small distances saves fuel, regular engine servicing save fuel, car sharing for going to the office/ workplace saves fuel.						

As F-value is more than the significance level, this suggests null hypothesis is accepted, indicating no relation.

Table 12. Coefficients[a] of Model 4

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
4	(Constant)	.467	.055		8.495	.000
	Not using a vehicle for small distances saves fuel	-.080	.051	-.067	-1.575	.116
	Using public transport wherever possible saves fuel	.166	.044	.166	3.813	.000
	Car sharing for going to the office/ workplace saves fuel	.053	.056	.043	.948	.344
	Regular engine servicing saves fuel	.071	.047	.066	1.488	.137
	Turning off the engine at red lights saves fuel	-.086	.046	-.080	-1.849	.065
a. Dependent Variable: Do you know the price of diesel/petrol in Bikaner						

P-value of predictors are either high or 0, suggesting that changes in the predictor are not associated with changes in the response variable. Hence, no relation exists between the awareness and knowledge variables. P-value of predictor “Turning off the engine at red lights saves fuel” is not very high. However, negative values of beta and unstandardized coefficients suggest a weak and negative relation between the dependent (awareness) variable and this predictor (knowledge) variable keeping other predictors constant.

Table 13. Model Summary 5

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
5	.121a	.015	.007	.3697
a. Predictors: (Constant), Discarded plastics cause soil degradation, discarded plastics litter the town, discarded plastics washed away into rivers and water bodies cause pollution, discarded plastics choke the drainage to cause flooding				

R-square value of 0.015 shows small variation in the response variable. As adjusted R-square decreased means a predictor improves the model less than expected by chance. A standard error of estimate 0.37 shows the distance of observations from the regression line.

Table 14. Anova[a] Results of Model 5

Model		Sum of Squares	df	Mean Square	F	Sig.
5	Regression	1.093	4	.273	1.999	.093b
	Residual	73.266	536	.137		
	Total	74.359	540			
a. Dependent Variable: Plastic bags do not decompose easily						
b. Predictors: (Constant), Discarded plastics cause soil degradation, discarded plastics litter the town, discarded plastics washed away into rivers and water bodies cause pollution, discarded plastics choke the drainage to cause flooding						

As F-value is more than the significance level, this suggests null hypothesis is accepted, indicating no relation.

Table 15. Coefficients[a] of Model 5

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
5	(Constant)	.764	.040		19.326	.000
	Discarded plastics litter the town	.025	.035	.031	.709	.479
	Discarded plastics choke the drainage to cause flooding	.086	.034	.113	2.544	.011
	Discarded plastics washed away into rivers and water bodies cause pollution	-.002	.033	-.002	-.050	.960
	Discarded plastics cause soil degradation	.004	.033	.005	.118	.906
a. Dependent Variable: Plastic bags do not decompose easily						

P-value of predictors that are high suggests that changes in the predictor are not associated with changes in the response variable. Hence, no relation exists between the awareness and knowledge variables. However, the p-value of predictor “discarded plastics choke the drainage to cause flooding” is less than 0.05, indicating rejection of the null hypothesis. In other words, a predictor that has a low p-value is likely to be a meaningful addition to the model as changes in the predictor's value relate to changes in the response variable. It also has a significant t-value. Regression beta coefficient for this predictor shows that for every 0.113 unit increase in the predictor variable, the dependent variable will increase by 0.086 units. Hence, a relation exists between the awareness and knowledge variables.

Table 16. Model Summary 6

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
6	.220a	.048	.041	.3186
a. Predictors: (Constant), Global warming may disturb the eco-system of earth endangering many species, global warming raises the temperature of earth causing heatwaves, global warming may disturb the weather cycle causing cyclones, heavy rains and floods, global warming causes melting of glaciers resulting in a rising sea level				

The r-square value of 0.048 shows a small variation in the response variable. An adjusted R-square decrease means a predictor improves the model less than expected by chance. A standard error of estimate 0.32 shows the distance of observations from the regression line.

Table 17. Anova[a] Results of Model 6

Model		Sum of Squares	df	Mean Square	F	Sig.
6	Regression	2.772	4	.693	6.826	.000b
	Residual	54.418	536	.102		
	Total	57.190	540			
a. Dependent Variable: Does global warming make any difference to us						
b. Predictors: (Constant), Global warming may disturb the eco-system of earth endangering many species, global warming raises the temperature of earth causing heatwaves, global warming may disturb the weather cycle causing cyclones, heavy rains and floods, global warming causes melting of glaciers resulting in a rising sea level						

As F-value is more than the significance level, this suggests null hypothesis is accepted, indicating no relation.

Table 18. Coefficients[a] of Model 6

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
6	(Constant)	.742	.031		23.664	.000
	Global warming raises the temperature of earth causing heatwaves	.075	.029	.109	2.545	.011
	Global warming causes melting of glaciers resulting in a rising sea level	.084	.028	.128	2.980	.003
	Global warming may disturb the weather cycle causing cyclone, heavy rains and floods	.044	.027	.069	1.630	.104
	Global warming may disturb the eco-system of earth endangering many species	.044	.028	.067	1.566	.118
a. Dependent Variable: Does global warming make any difference to us						

P-value of predictors “global warming may disturb the weather cycle causing cyclones, heavy rains and floods” and “Global warming may disturb the eco-system of earth endangering many species” are high, which suggests that changes in the predictor are not associated with changes in the response variable. P-value of predictor “Global warming raises the temperature of earth causing heatwaves” is less than 0.05, which indicates a rejection of the null hypothesis. In other words, a predictor that has a low p-value is likely to be a meaningful addition to the model, because changes in the predictor's value are related to changes in the response variable. It also has a significant t-value. Regression beta coefficient for this predictor shows that for every 0.109 unit increase in the predictor variable, the dependent variable will increase by 0.075 units. Hence, a relation exists between the awareness and knowledge variables, while keeping other predictors constant. P-value of predictor “Global warming causes melting of glaciers resulting in a rising sea level” is also less than 0.05, which indicates a rejection of the null hypothesis. It also has a significant t-value. Regression beta coefficient for this predictor shows that for every 0.128 unit increase in the predictor variable, the dependent variable will increase by 0.084 units. Hence, no relation exists between the awareness and knowledge variables, while keeping other predictors constant.

Table 19. Model Summary 7

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
7	.184a	.034	.025	.2837
a. Predictors: (Constant), Green products are easy to recycle or biodegradable, green products cause less pollution or damage to the environment, green products are produced by causing less damage to the environment, green products cause less harm to the organic health of the consumer/ user, green products consume less energy when in use				

R-square value of 0.034 shows small variation in the response variable. An adjusted R-square decrease means a predictor improves the model less than expected by chance. A standard error of estimate 0.28 shows the distance of observations from the regression line.

Table 20. Anova[a] Results of Model 7

Model		Sum of Squares	df	Mean Square	F	Sig.
7	Regression	1.516	5	.303	3.767	.002b
	Residual	43.046	535	.080		
	Total	44.562	540			
a. Dependent Variable: Heard about environment friendly or 'green' products						
b. Predictors: (Constant), Green products are easy to recycle or biodegradable, green products cause less pollution or damage to the environment, green products are produced by causing less damage to the environment, green products cause less harm to the organic health of the consumer/ user, green products consume less energy when in use						

As F-value is more than the significance level, this suggests null hypothesis is accepted, indicating no relation.

Table 21. Coefficients[a] of Model 7

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
7	(Constant)	.830	.026		32.522	.000
	Green products are produced by causing less damage to the environment	.052	.025	.091	2.117	.035
	Green products consume less energy when in use	.012	.025	.021	.472	.637
	Green products cause less pollution or damage to the environment	.069	.025	.120	2.784	.006

	Green products cause less harm to the organic health of the consumer/ user	-.018	.025	-.031	-.715	.475
	Green products are easy to recycle or biodegradable	.048	.025	.084	1.932	.054
a. Dependent Variable: Heard about environment friendly or 'green' products						

P-value of predictors "Green products consume less energy when in use" and "Green products cause less harm to the organic health of the consumer/ user" are high, suggesting that changes in the predictor are not associated with changes in the response variable.

P-value of predictor "Green products are produced by causing less damage to the environment" is less than 0.05, which indicates a rejection of the null hypothesis. In other words, a predictor that has a low p-value is likely to be a meaningful addition to the model, because changes in the predictor's value relate to changes in the response variable. It also has a positive t-value. Regression beta coefficient for this predictor shows that for every 0.091 unit increase in the predictor variable, the dependent variable will increase by 0.052 units. Hence, no relation exists between the awareness and knowledge variables, while keeping other predictors constant.

P-value of predictor "Green products cause less pollution or damage to the environment" is also less than 0.05, indicating a rejection of the null hypothesis. It also has a significant t-value. Regression beta coefficient for this predictor shows that for every 0.12 unit increase in the predictor variable, the dependent variable will increase by 0.069 units. Hence, no relation exists between the awareness and knowledge variable, while keeping other predictors constant.

P-value of predictor "Green products are easy to recycle or biodegradable" is nearly 0.05, which indicates a rejection of the null hypothesis. It also has a significant t-value. Regression beta coefficient for this predictor shows that for every 0.084 unit increase in the predictor variable, the dependent variable will increase by 0.048 units. Hence, a weak relation exists between the awareness and knowledge variables, while keeping other predictors constant.

Results

A negative relation exist between the knowledge and awareness variables when there is a lack of knowledge about the general issues of daily life.

A positive relation exist in issues which are more on a global level, like global warming, green products, plastics etc., than those observed personally.

However, there is no relation for general issues.

Relation between knowledge and awareness depends on the topics. A positive relation exists between the two components in global issues; however, a negative relation exists when there is a lack of knowledge. Where general issues are seen and observed by students, there is no relation between knowledge and awareness.

Conclusion

A weak relation exists between knowledge and awareness about environmental issues caused due to the mishandling of routine practices. A similar result was obtained by Aminrad et al. (2013) and Salı et al. (2015). Hence, one component can be complemented by another for improvement to be seen in both. Knowledge and awareness are crucial factors and can provide huge opportunities in any field.

Daily routine mishandlings are the root cause of many environmental issues and as such, anomalies can be improved on an individual or collective scale. Knowledge and awareness are weakly related; hence, efforts in any field can carve a niche in the other component.

Implications

Knowledge and awareness components are related. As such, one can be targeted to take opportunity of the other. This can also help to develop complementary strategies.

Students can benefit from a structured program that imparts important information that is deemed necessary to prevent wastage and for optimum utilization of resources.

Resource utilization for economic solutions may pave the way for eco-friendly products and practices. If green practices are inculcated in the learning phase, it may become normal routine. This will also help in repletion of the environment.

Implementation of environmental education programs may be studied with a pre- and post-study approach in order to gain insights into the practical application of awareness and knowledge.

A risk assessment approach could determine the role of awareness and knowledge in environmental issues. Risk is generated as a result of ignorance and high prevalence of wastage.

References

Aminrad, Z., Zakariya, S., Hadi, A. S., & Sakari, M. (2013). Relationship Between Awareness, Knowledge and Attitudes Towards Environmental Education Among Secondary School Students in Malaysia. *World Applied Sciences Journal 22*(9)*,* 1326-1333.

Erten, S. (2008). Insights to ecocentric, anthropocentric and antipathetic attitudes towards environment in diverse cultures. *Eurasian Journal of Educational Research,* 33, 141-156.

Sali, G., Korukcu, O., & Akyol, A. K. (2015). Research on the Environmental Knowledge and Environmental Awareness of Preschool Teachers. *International Journal of Social Science & Education, 5(*3), 454-464.

Appendix

Questionnaire

Personal details
1. Student's Name: _____
2. School_____
3. Class_____ 4. Age_____
5. Gender: Male/ Female
6. Domicile: Rural / Urban

Awareness section

1	Have you seen a LED bulb?	Yes	No
2	Have you heard about power saving ratings for domestic appliances?	Yes	No
3	Is it true that LPG (cooking gas) is imported by our country?	Yes	No
4	Do you know the price of diesel/petrol in Bikaner?	Yes	No
5	Do plastic bags decompose easily?	Yes	No
6	Does global warming make any difference to us?	Yes	No
7	Have you heard about environmentally friendly or 'green' products?	Yes	No

Knowledge section

Multiple choice (tick any number of answers)

1. Domestic consumption of electricity may be reduced by: (a) Using LED lights (b) Using domestic appliances with power saving ratings (five star, three stars etc.)
2. Cooking gas can be saved by: (a) Keeping the burner off when not in use (b) Timely replacing old and worn out rubber tube (c) Use of pressure cooker for cooking (d) Keeping the flame low while cooking (e) Using solar cookers at home
3. Petrol/Diesel may be saved by: (a) Not using vehicle for small distances (b) Using public transport where ever possible (c) Car sharing for going to the office/ workplace (d) Regularly service the engine (e) Turning off the engine at red lights
4. What kind of problem do discarded plastic bags create for the environment? (a) Littering the town (b) Choking the drainage to cause flooding (c) Washed away into rivers and water bodies causing pollution (d) Soil degradation
5. What kind of problem may global warming cause us? (a) Raises the earth's temperature, causing heatwaves (b) Melting of glaciers resulting in a rising sea level (c) May disturb the weather cycle causing cyclones, heavy rains and floods (d) May disturb the earth's ecosystem, endangering many species
6. What is meant by green or environmentally friendly products? (a) They are produced by causing less damage to the environment (b) Consume less energy when in use (c) Cause less pollution or damage to the environment (d) Cause less harm to the organic health of the consumer/ user (e) Easy to recycle or biodegrade