# A Study on Sustainability Consciousness among Student Teachers

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# Abstract

Education plays a central role in sustainable development. In the education system, teachers play a key role in integrating the concepts of sustainable development into their classrooms, thus, developing sustainable citizens. This paper explores sustainability consciousness of student teachers through descriptive survey method. The purpose of the study was to understand the sustainability consciousness of student teachers with respect to different dimensions (environment, social and economic) and constructs (knowingness, attitude and behaviour) of sustainability, and also to understand the differential effect of major subjects of study and gender on sustainability consciousness. The findings of the study reveal that majority of the student teachers have only 'average level' of sustainability consciousness and there are differences in the level of consciousness with respect to the various dimensions. This has major implications for the teacher education programmes as the teachers have a major role to play for developing sustainability consciousness among the students for a better tomorrow and also to align with the Sustainable Development Goal 4. The paper concludes with suggestive ways of developing sustainability consciousness among the students through various curricular and non-curricular means.

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#### INTRODUCTION

The world is facing various global challenges such as climatic changes, air pollution, deforestation, green house effect, depletion in non-renewable resources and loss of bio-diversity. Education has a major role to play to protect the mother earth. It is in this context, we all talk about the sustainable development. The idea of sustainable development was defined bv Brundtland Commission in 1987 as 'development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.' Over the years the concept of sustainable development has evolved as an inclusive concept including the economical, social and environmental growing aspects. The concerns like industrial revolution, poverty, depletion of resources, environmental degradation, population growth and spread of diseases has led to the discussions of human responsibility to leave the environment intact for future generations. giving them the opportunity for wealth and growth. These concerns have led to the emphasis on the idea sustainable development of in all the sectors of the society. То facilitate the implementation of Sustainable Development (SD) activities throughout the educational system the UN had declared the years 2005-2014 to be the Decade of Education for Sustainable Development (DESD) (UNESCO,

2006). The core idea of DESD is to include SD in to all the levels of education systems throughout the world by context specific implantation strategies.

All the UN Member States agreed to the 2030 Agenda for Sustainable Development in 2015, which offers a shared road map for peace and prosperity for people, and the planet both now and in the future. There 17 Sustainable Development are Goals (SDGs) and set targets, which are an urgent call for action by all member countries. People around the world believe that the key towards achieving these goals is through public awareness, education and training. In the Agenda 21 (UNCED, 1998), the United Nations (UN) stated that education plays a central role in any sustainable development for our future. Education, which is essential to achieve all of these goals, has its own dedicated goal, SDG 4, which aims to "ensure inclusive and equitable quality education and promote opportunities lifelong learning for all". National Education Policy (NEP) 2020 has also been formulated based on the principles of SDG4 and is an aspirational and futuristic document to achieve the targets of SDG4. The policy document focuses on multidisciplinary education that can help students develop the skills they need to address complex problems related to sustainable development.

The approaches to facilitate implementing and dealing with SD

in the educational systems in often called Education for Sustainable Development (ESD). The education for sustainable development was a parallel concept that had emerged after the concept of sustainable development endorsed was in UN General Assembly in 1987. ESD integrates kev sustainable development issues like disaster risk reduction, climate change, poverty reduction, biodiversity, and sustainable consumption into the teaching and learning process at all the levels of education. It includes employing participatory teaching and learning methods that motivate, and empower learners to change their behaviour and actto wards sustainable development. ESD fosters the development of competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way. (UNESCO, 2012)

Among the different fields of study Science education is an area which pre-dominantly focuses on resolving the issues of sustainable development. Science education strives to develop scientifically literate people who comprehend science content, can draw conclusions from scientific problems, and can evaluate scientific cases. Science education is continuously evolving from the time it was coined based on the needs of society, influence of the policies, and political and economical needs. The focus of science education in the twenty-first century has been set, as to help students make

critical judgments about science, increase and their engagement to work for a more socially just, equitable and sustainable world. Sustainability problems are complex multi-dimensional and thev require understanding in terms of environment, economy, and society. Teachers are the key agents to implement and integrate the concepts of sustainable development into the education system.

#### **Review of Related Literature**

In the recent years the term sustainable development has evolved as broad concept considering the different dimensions like environmental, social and economic, cultural aspects and ESD is practiced at different levels of education by integrating the concepts of sustainable development into the curriculum. To study the outcomes of ESD in terms of different dimensions (environmental, social and economic) and domains (knowledge, behaviour, attitude) the researchers have coined the term sustainability consciousness. The researchers Gerick et al., (2018) have constructed a questionnaire to study sustainability consciousness.

Daniel Olsson and Niklas Gericke (2017) have conducted a study to find the effect of gender on students' sustainability consciousness; a nationwide Swedish study, and found that there is a gender gap in sustainability consciousness in favour of female students. The gender gap also increases throughout the age span and is amplified in ESD oriented schools. The study was conducted on a sample of 2,413 Swedish students aged 12–19 studying in the Grades VI, IX and XII.

Qudsia Kalsoom, Afifa Khanam, Uzma Quraishi (2017) have conducted study sustainability to find а consciousness (SC) of pre-service teachers in Pakistan and have found that the SC of pre-service teachers was found to be lower than the SC of Swedish upper secondary students. They have also found that higher percentage of teachers with average level of consciousness is in the sustainability knowingness category and lowest in the sustainability behaviour.

Anyolo et al., (2018) had conducted a study on implementing education sustainable development for in namibia; school teachers perceptions practices and teaching among Namibian school teachers (n=9)regarding perceptions of ESD and the teachers teaching practices using a qualitative-explorative study design. The data were gathered through two semi-structured interviews and lesson observations. The findings have revealed that senior secondary school teachers perceive ESD in acquisition terms of knowledge about the environment. The study has also revealed that teachers have positive notion towards the inclusion of ESD into the senior secondary school curriculum. They have also suggested that ESD should be either implemented as an independent subject in the curriculum or integrated

with other existing subjects as a multi-disciplinary subject.

Naikoo Ajaz А (2018)has conducted a study of awareness knowledge, and attitude of secondary school teachers towards environmental education and sustainable development. The sample consisted of 600 high school teachers and the independent variables like gender, locality, type of management, teaching experience, subjects taught, marital status and income of the teachers were taken into consideration. The study revealed that the High school teachers possess the necessary levels of awareness, and attitude towards environmental education and sustainable development.

Karaarslan Baykal, (2019) has studied the opinions of Middle school pre-service mathematics teachers' related to mathematics education for sustainability. The findings of the study revealed that most of the pre-service mathematics teachers. except one of them, were aware of the concept of sustainability. However, most of them defined sustainability in terms of its environmental dimension and are unable to define the other dimensions of sustainability. Additionally, they stated that raising people's knowledge of the environment is the goal of education for sustainability.

Padmaja (2022) has conducted a study on sustainability consciousness among secondary school students in Hyderabad and Medak districts

of Telangana, where the researcher adopted descriptive has survev method focusing on sustainability consciousness of students, parents, and teachers with respect to water, energy, waste management, health, gender equality and peace. The results have showed that most of the students were found to be with high sustainability consciousness in social (82 per cent) and environment (83 per cent) aspects, however, nearly half the students were vet to attain the required or desired consciousness in economic aspects (50 per cent).

Durdana Ovasis (2023) have conducted the study on students' sustainability consciousness and whether the locus of control play a role in the student's sustainability consciousness. The studv was conducted for a sample of 205 students studying in the higher education institutes of Central India. The findings of the study revealed that sustainability knowledge is greater than sustainability attitude and behaviours, and it is also found that the locus of control has positive effect on sustainability knowledge and attitude but has no significant effect on the sustainability behaviour.

The review of related literature showed that the majority of studies in the area of sustainable development are related to environmental aspects of sustainable development and there are very few studies conducted on the student teachers pertaining to the other aspects of sustainability (social and economic). So, this study was intended to highlight the holistic understanding of the concept sustainable development in the three categories, i.e., knowledge, attitude and behaviour and in all the three dimensions of sustainable development, i.e., environmental, social and economic so as to fill the existing research gap.

# NEED AND SIGNIFICANCE OF THE STUDY

Education for Sustainable (ESD) Development is presented as "a transformative and reflective process that seeks to integrate values and perceptions of sustainability into not only education systems but one's everyday personal and professional life" (UNESCO 2009). It empowers the students to take critical decisions for sustainable development by developing certain competencies like critical thinking, collaborative decision making, foreseeing the future problems, etc. The purpose of ESD indicates that only knowledge domain without considering the affective domain is not sufficient to achieve the goals of ESD (Olsson, 2014). Hence, it is important to study both the cognitive (knowledge) and affective domains (attitude and behaviours). Teachers are the key players in integrating the concepts of sustainable development into their classrooms thus developing sustainable citizens. Curriculum National Framework for School Education (NCFSE) 2023 by the Government of India also emphasises on the need for specific

130 Journal of Indian Education

competencies among teachers to inculcate the values and dispositions for sustainable development into the students. The review of related literature also shows that most of the teachers consider sustainable development is only linked with the aspects of environment, the other aspects of sustainable development are mostly unknown to the teachers. But, the researchers were interested to the study all the dimensions of sustainable development and also linking to all the domains such knowingness, attitude as and behaviours. Thus, the researchers have chosen the sustainability consciousness questionnaire prepared by Gericke et al., (2018) for the study. There were very few researches conducted on the sustainability consciousness of pre-service teachers so this study is an attempt by the researchers to study the sustainability consciousness of pre-service teacher.

# **O**BJECTIVES OF THE **S**TUDY

The following were the specific objectives of the study:

- 1. To study the level of sustainability consciousness of student teachers.
- 2. To compare the levels of sustainability consciousness of student teachers with respect to their gender and major subjects of study.

### **H**ypotheses

The following null hypotheses were formulated for the study:

- 1. There is no significant difference in the mean scores of sustainability consciousness of student teachers differing in their gender.
- 2. There is no significant difference in the mean scores of sustainability consciousness of student teachers differing in their major subjects of study.

### Methodology

### The Method

The current study has used a descriptive survey method to study the sustainability consciousness of the student teachers.

#### **POPULATION AND SAMPLE**

The population for the study is the student teachers of four-year six-year integrated teacher and education programmes offered by the Regional Institute of Education, Mysuru. The sample selected for the study was confined to the first-year student teachers who are admitted in 2023-24 batch. Among the total 230 first-year student teachers of M.Sc.B.Ed. B.Sc.B.Ed, B.A.B.Ed. 90 student teachers were randomly selected following simple random procedure. Out of the total sample 76.7 per cent student teachers belongs to the science group and 23.3 per cent student teachers belongs to arts group.

### **Tool Used**

To study the level of sustainability consciousness of student-teachers,

investigators have used а standardised tool-Sustainability Consciousness Ouestionnaire (SCO) constructed bv Gericke, Pauw, Berglund, and Olsson (2018). The questionnaire consists of four sections, Section 1 consists of items to gather general information of the respondents, Section 2 consists of 19 items that are intended to study the sustainability knowingness, Section 3 consists of 14 items that are intended to study the sustainability attitude, and Section 4 consists of 17 items that are intended to study the sustainability behaviour. Further, the tool consists of items related to environment, social and economic dimensions of sustainability spread across the three sections. For the positive statements the responses are quantified by giving 1 for strongly disagree to 5 for strongly agree. The intermediate responses disagree, no opinion and agree are given 2, 3, 4 scores respectively. For the negative statements the responses strongly disagree, disagree, no opinion, agree, strongly agree are quantified by giving 5, 4, 3, 2, 1 respectively. The Sustainability Consciousness Questionnaire was administered online by using Google Forms.

The data was collected during the month of September 2023 and were scored and organised into Excel Sheets for data analysis. SPSS package was used to statistically analyse the data. The data was analysed using descriptive statistics, frequency tables and t-test for testing the hypotheses.

#### **RESULTS AND DISCUSSION**

#### Level of Sustainability Consciousness among Student Teachers

To study the level of sustainability consciousness among the student teachers the mean and standard deviation of the scores obtained were

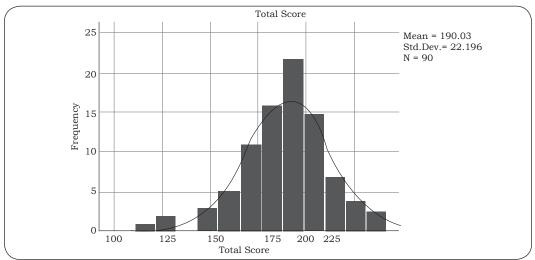


Fig. 1: Distribution of sustainability consciousness scores

calculated, and the mean value of sustainability consciousness among the student teachers is found to be 190.03. The maximum score obtained is 235.00, the minimum score obtained is 116.00 and the possible range of score is 50–250. The obtained standard deviation score is 22.196, skewness value is -0.763 and kurtosis value is 1.630. The obtained mean value is in the average category. The distribution of scores is shown in the figure below.

As the sustainability consciousness scores are normally distributed, levels of the 90 scores are found using mean (M) and Standard Deviation (SD). The scores are categorised into three levels, i.e., low level, average level, and high level using the formulas Mean + S.D and Mean - S.D. The scores below 167.834 (190.03-22.196) fall under low level of sustainability consciousness, the scores above 212.226 (190.03+22.196) fall under high level of sustainability consciousness, and the scores between 167.834 and 212.226 fall under average level of sustainability consciousness. Further, the frequency of student teachers falling in each level of sustainability consciousness is calculated and is represented in the Table 1.

From Table 1, it can be inferred that, 11.1 per cent student teachers come under the low level, 74.5 per cent of student teachers fall under the category of average level and 14.4 per cent of student teachers have high level sustainability consciousness. The analysis reveals that majority of the student teachers (74.5 per cent) fall into the category of average level of sustainability consciousness.

## Category-wise Level of Sustainability Consciousness

To study the category-wise level of sustainability consciousness such as sustainability knowingness, sustainability attitude, and sustainability behaviours among the student teachers, mean and standard deviation of the scores obtained in each category were calculated. For sustainability knowingness mean value found to be 72.02 and standard deviation is 9.72. Thus, the scores below 62.3 (72.02-9.72) fall under low level, the scores above 81.74 (72.02+9.72) fall under high level and the scores between 62.3 and 81.74 fall under average level. Thus, the obtained mean score on sustainability knowingness revealed that the student teachers have average level of sustainability knowingness.

Table 1Levels of Sustainability Consciousness among Student Teachers

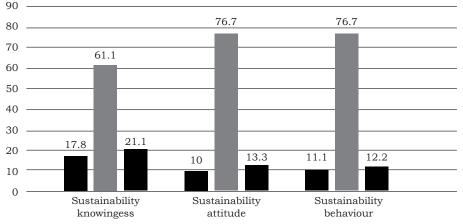
Levels	Low level (<167.834)	Average level (167.834–212.226)	High level (>212.226)	
Frequency of student teachers	10	67	13	
Percentage of student teachers	11.1	74.5	14.4	

For sustainability attitude mean is found to be 55.64 and standard deviation is 8.46. Thus, scores below 47.18 (55.64–8.46) fall under low level, the scores above 64.1 (55.64+8.46) fall under high level, and the scores between 47.18 and 64.1 fall under average level. Thus, the obtained mean score on sustainability attitude reveals that the student teachers have average level of sustainability attitude.

For sustainability behaviour mean is found to be 62.37 and standard deviation is 9.14. Thus, the scores below 53.23 (62.37-9.14) fall under low level, the scores above 71.51 (62.37+9.14) fall under high level, and the scores between 53.23 and 71.51 fall under average level. Thus, the obtained mean score on sustainability behaviour reveals that the student teachers have average level of sustainability behaviour. Further, the frequency of student teachers falling in each level is calculated for all the three categories (sustainability knowingness, sustainability attitude and sustainability behaviour), and is represented in the Table 2.

Table 2					
Level of Sustainability Knowingness, Sustainability Attitude and					
Sustainability Behaviour					

Construct	Percentage of students in low level	Percentage of students in average level	Percentage of students in high level	
Sustainability knowingness	17.8	61.1	21.1	
Sustainability attitude	10	76.7	13.3	
Sustainability behaviour	11.1	76.7	12.2	



■ Number of students in low level ■Number of students in average level ■Number of students in high level Fig. 2: Level of sustainability knowingness, sustainability attitude and sustainability behaviour

#### 134 Journal of Indian Education

From Table 2 and Fig. 2, it can be inferred that 21.1 per cent of student teachers fall in the category of high level in the sustainability knowingness which is associated with factual knowledge. However, majority of the student teachers, i.e., 61.1 per cent of the student teachers, comes under the average level and 17.8 per cent of the student teachers fall in low level in the sustainability knowingness. Thus, this reflects majority of student teachers have better understanding of the fundamentals of sustainable development.

From Table 2 and Fig. 2, it can be inferred that 13.3 per cent of student teachers fall in the category of high level in the sustainability attitude which is associated with positive feeling or emotions towards sustainable development. However, majority of the student teachers, i.e., 76.7 per cent of the student teachers come under the average level and 10.0 per cent of the teachers fall in low level in the sustainability attitude. Thus, this shows most of the student teachers have positive attitude towards the sustainable development.

From Table 2 and Fig. 2, it can be inferred that 12.2 per cent of student teachers fall in the category of high level in the sustainability behaviour. However, majority of the student teachers, i.e., 76.7 per cent of the student teachers come under the average level and 11.1 per cent of the teachers fall in low level in the sustainability behaviour. Thus, this reflects most of the student teachers have belief in sustainable practices.

Thus, the analysis of the data reveals that majority of the student teachers fall in average level in all the three categories such as sustainability knowingness, sustainability attitude and sustainability behaviour. The findings of the study are contrary to the study conducted by Kalsoom et al., (2017) in Pakistan which reported percentage of teachers falling under average level in the sustainability knowingness categoryis higher and lowest in the sustainability behaviour.

### Dimension-wise Level of Sustainability Consciousness

To study the dimension-wise level of consciousness such as environment. social and economic among the student teachers, the mean and standard deviation of the scores obtained in each category are calculated, it is revealed thatfor environment dimension of sustainability consciousness mean is found to be 65.71 and standard deviation is 7.97. Thus, the scores below 57.74 (65.71-7.97) fall under low level, the scores above 73.68 (65.71+7.97) fall under high level, and the scores between 57.74 and 73.68 fall under average level. Thus, the obtained mean score in environment dimension reveals that the student teachers have average level of consciousness in environment. dimension.

For the social dimension of consciousness, mean is found to be 76.90 and standard deviation is

9.91. Thus, the scores below 66.99 (76.90–9.91) fall under low level, the scores above 86.81 (76.90+9.91) fall under high level, and the scores between 66.99 and 86.81 fall under average level. Thus, the obtained mean score in social dimension reveals that the student teachers have average level of consciousness in social dimension.

For the economic dimension of consciousness, mean is found to be 47.42 and standard deviationis 7.29. Thus, the scores below 40.13

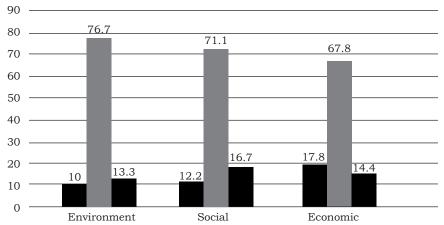
(47.42–7.29) fall under low level, the scores above 54.71 (47.42+7.29) fall under high level, and the scores between 40.13 and 54.71 fall under average level. Thus, the obtained mean score in economic dimension reveals that the student teachers have average level of consciousness in economic dimension. Further, the frequency of student teachers falling in each level is calculated for all the three dimensions (environmental, social and economical) and is represented in the Table 3.

 Table 3

 Dimension-wise Level of Environmental, Social, and Economical Dimension

 of Sustainability Consciousness

Dimension	Percentage of students in low level	Percentage of students in average level	Percentage of students in high level		
Environment	10	76.7	13.3		
Social	12.2	71.1	16.7		
Economic	17.8	67.8	14.4		



■Number of students in low level ■Number of students in average level ■Number of students in high level *Fig. 3: Level of environmental, social, and economical dimension of sustainability consciousness*  From Table 3 and Fig.3, it can be concluded that 13.3 per cent of student teachers fall in the category of high level in the environment dimension of sustainability consciousness. However, majority of the student teachers, i.e., 76.7 per cent of the student teachers fall under the average level and 10.0 per cent of the teachers fall in low level.

From Table 3 and Fig. 3, it can be inferred that 16.7 per cent of student teachers fall in the category of high level in the social dimension of sustainability consciousness. However, majority of the student teachers, i.e., 71.1 per cent of the student teachers fall under the average level and 12.2 per cent of the teachers fall in low level.

From Table 3 and Fig. 3, it can be inferred that 14.4 per cent of student teachers fall in the category of high level in the economic dimension of sustainability consciousness. However, majority of the student teachers, i.e., 67.8 per cent of the student teachers fall under the average level and 17.8 per cent of the teachers fall in low level.

Thus, the analysis of the data revealed that majority of the teachers fall in average level for all the three dimensions (environmental, social and economical) of the sustainability consciousness. The mean score in social dimension is greater to mean scores of environment and economic dimensions, these findings are in line with the findings of the study conducted by Olsson et al., (2016) in Sweden where they have reported that the students of Grades XII, IX and VI scored maximum on the social dimension. Though the mean scores in social dimension is highest, the percentage of student teachers falling in low level of consciousness is higher in economic dimension (17.8 per cent) followed by social dimension (12.2 per cent) when compared to environment dimension (10.0 per cent). The results obtained may be because of the exposure of student teachers towards various environment awareness programmes during the schooling or due to the influence of other sources like social media and print media.

# Gender-wise Sustainability Consciousness of Student Teachers

To compare sustainability consciousness of student teachers with respect to their gender a hypothesis was formulated that, there is no significant difference in the mean scores of sustainability consciousness of student teachers differing in their gender.

In order to verify the hypothesis, t-test was employed and the results are given in Table 4.

Sustainability Consciousness (Gender) independent samples t-test					
Sustainability Consciousness	Gender	Sample Size	Mean	SD	t-Value
	Female	72	189.46	21.610	0.489
	Male	18	192.33	24.940	

 Table 4

 Sustainability Consciousness (Gender) Independent samples t-test

\*Difference is not significant at 0.05 level

Calculated t-test value for the two groups, male and female is 0.489. While the tabulated t-value is 1.98 at 0.05 level of significance. The calculated t-value is smaller than the critical value (0.489<1.98), so the difference between the means of the two groups is not significant.

As the t-value is not significant at 0.05 level of significance; hence, the null hypothesis formulated is accepted. Therefore, we can conclude that there is no significant difference in the mean scores of sustainability consciousness of student teachers their gender. This differing in contradicts with the study conducted by Daniel Olsson and Niklas Gericke (2017) in Sweden where they have reported a gender gap among all the levels of school students

# Discipline-wise Sustainability Consciousness among Student Teachers

To compare sustainability consciousness of student teachers with respect to their discipline of study a hypothesis was formulated that, there is no significant difference in the mean scores of sustainability consciousness of student teachers differing in their major disciplines of study. In order to verify the hypothesis, t-test was employed and the results are given in Table 5.

Calculated t-test value for the two groups, Science and Arts is 0.444. While the tabulated t-value is 1.98 at 0.05 level of significance. The calculated t-value is smaller than the critical value (0.444<1.98), so the difference between the means of the two groups is not significant.

Table 5
Sustainability Consciousness of Students Varrying in their Discipline
Background

Sustainability Consciousness	Major Disciplines	Sample Size	Mean	SD	t-Value
	Science	69	190.61	21.518	0.444
	Arts	21	188.14	24.765	

\*Difference is not significant at 0.05 level

138 Journal of Indian Education

As the t-value is not significant at 0.05 level of significance; hence the null hypothesis is accepted. Therefore, we can conclude that there is no significant difference in the mean scores of sustainability consciousness of student teachers differing with respect to their major discipline of study.

### MAJOR FINDINGS

The following major findings are arrived at after the interpretation of the data:

- Majority of the student teachers (74.5 per cent) have an average level of sustainability consciousness.
- Most of the student teachers have an average level of consciousness in all the three categories sustainability knowingness (61.1 per cent), sustainability attitude (76.7 per cent) and sustainability behaviour (76.7 per cent)).
- The majority of the student teachers have an average level of consciousnessin all the three dimensions (environmental (76.7 per cent), social (71.1 per cent), and economical (67.8 per cent)) of the sustainability.
- The percentage of student teachers having low level of consciousness is higher in economic dimension (17.8 per cent) followed by social dimension (12.2 per cent) when compared to environment dimension (10.0 per cent).
- There is no significant difference in the sustainability consciousness

of student teachers with respect to their gender.

• There is no significant difference in the sustainability consciousness of student teachers with respect to their major discipline of study.

### IMPLICATIONS

Though the study is limited to student teachers of one institute, the findings of the study have certain implications. They are provided below:

- Sustainability consciousness of student teachers is important as the teachers are implementing of agencies education for sustainable development. The findings revealed that only about 14.4 per cent of student teachers have high level sustainability consciousness, thus, there is a need to re-orient the teacher education programmes towards the sustainable development and education for sustainable development.
- The percentage student of teachers with average level of consciousness is larger in environment dimension and less in economical dimension this holistic shows that understanding of the concept sustainable development of was not properly understood by the student teachers. The teacher education institutes may organise programmes to develop the holistic understanding of sustainable development among the student teachers.

#### RECOMMENDATIONS

- Teacher education programmes may be reoriented by including the concepts of sustainable development and education for sustainable development across all subjects so as to develop high level of consciousness among the student teachers.
- As a part of teacher education, curriculum education for sustainable development could be introduced as a pedagogic approach, and courses on sustainable development can be included as optional courses at all levels.
- The internship and the school-based experiences of the students may revolve around the concept of sustainable development and education for sustainable development bv utilising different approaches of teaching so as to develop high level of consciousness among the student teachers.

#### CONCLUSION

Education is believed as the key to achieve the goals of sustainable development, and thus, the teachers

student teachers and need to have higher level of sustainability consciousness achieve the to expected outcomes. Through the current study, it has been found that most of the student teachers fall into average level of consciousness but there is still a lot of scope for improvement on sustainability consciousness among the student teachers by various activities. It is also found the percentage of student teachers in average level is higher in environment dimension and the mean scores are high in social dimension, the percentage of students in low level is higher in economic dimension showing there are differences in consciousness with respect to the various dimensions the sustainable development. of Though studies have reported there is a gender gap in the consciousness among the students, the current study does not support it. The teacher education programmes may include sustainable development as a course of study, and the institutes can take up various other activities to develop the sustainability consciousness of student teachers for a better future of the country and earth.

#### REFERENCES

AHMAD NAIKOO, A. AND S. BEGUM. 2018. Knowledge of Secondary School Teachers towards Environmental Education and Sustainable Development: A Case Study of High School Teachers of District Kupwara of Jammu and Kashmir State, India. International Journal of Research in Social Sciences. 8(1). 875–888. https://www.academia. edu/35956173/\_Knowledge\_of\_Secondary\_School\_Teachers\_towards\_Environmental\_ Education\_and\_Sustainable\_Development\_A\_case\_study\_of\_High\_School\_teachers\_ of\_District\_Kupwara\_of

- ANYOLO, E., S. KÄRKKÄINEN AND T. KEINONEN. 2018. Implementing Education for Sustainable Development in Namibia: School Teachers' Perceptions and Teaching Practices. *Journal* of Teacher Education for Sustainability. 20(1). 64–81. https://doi.org/10.2478/jtes-2018-0004
- BAYKAL, I. I. AND G. K. SEMIZ. 2020. Middle School Pre-service Mathematics Teachers' Opinions Related to Mathematics Education for Sustainability. *Eurasian Journal of Educational Research.* 20(89). 111–136.
- BRUNDTLAND, G.H. 1987. Our Common Future: World Commission on Environment and Development. Oxford University Press, New York.
- BERGLUND, T., N. GERICKE AND S.C. RUNDGREN. 2014. The Implementation of Education for Sustainable Development in Sweden: Investigating the Sustainability Consciousness among Upper Secondary Students. *Research in Science and Technological Education*. 32(3). 318–339. https://doi.org/10.1080/02635143.2014.944493
- OVAIS, D. 2023. Students' Sustainability Consciousness with the Three Dimensions of Sustainability: Does the Locus of Control Play a Role? *Regional Sustainability*. 4(1). 13–27. https://doi.org/10.1016/j.regsus.2023.02.002
- GERICKE, N., J. B. PAUW, T. BERGLUND AND D. OLSSON. 2018. The Sustainability Consciousness Questionnaire: The Theoretical Development and Empirical Validation of An Evaluation Instrument for Stakeholders Working with Sustainable Development. Sustainable Development. 27(1). 35–49. https://doi.org/10.1002/sd.1859
- KALSOOM, Q., A. KHANAM AND U. QURAISHI, 2017. Sustainability Consciousness of Pre-service Teachers in Pakistan. International Journal of Sustainability in Higher Education.18(7). 1090–1107. https://doi.org/10.1108/ijshe-11-2016-0218
- NATIONAL EDUCATION POLICY. 2020. Ministry of Education, Government of India. https://www.education.gov.in/sites/upload\_files/mhrd/files/NEP\_Final\_English\_0.pdf
- NATIONAL CURRICULUM FRAMEWORK FOR SCHOOL EDUCATION. 2023. NCERT, Ministry of Education, Government of India. https://www.education.gov.in/sites/upload\_files/mhrd/files/ NCF-School-Education-Pre-Draft.pdf
- OLSSON, D. AND N. GERICKE. 2017. The Effect of Gender on Students' Sustainability Consciousness: A Nationwide Swedish Study. *The Journal of Environmental Education*. 48(5). 357–370. https://doi.org/10.1080/00958964.2017.1310083
- UNITED NATIONS. 1992. Results of the World Conference on Environment and Development: Agenda 21. UNCED United Nations Conference on Environment and Development, Rio de Janeiro. United Nations, New York.
- UNESCO. 2006. United Nations Decade of Education for Sustainable Development 2005–2014. International Implementation Scheme. UNESCO, Paris.
- UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION. 2012. Education for Sustainable Development: Building a Better, Fairer World for the 21st century. https:// unesdoc.unesco.org/ark:/48223/pf0000216673