DOI(Journal): 10.31703/gssr
DOI(Volume): 10.31703/gssr.2025(X)
DOI(Issue): 10.31703/gssr.2025(X.II)

p-ISSN: 2520-0348

e-ISSN: 2616-793X

www.gssrjournal.com
Global Social Sciences Review
exploring humanity

GSSR

GLOBAL SOCIAL SCIENCES REVIEW

HEC-RECOGNIZED CATEGORY-Y

Volum X, ISSUE II SPRING (JUNE-2025)

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Double-blind Peer-review Journal
www.gssrjournal.com

Humanity Publications(HumaPub)
www.humapub.com
Doi: https://dx.doi.org/10.31703

Article Title

A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools

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Keywords: Sustainability, leadership, Practices, System Thinking, Emphatic Collaboration, Anticipatory, Strategic Action, Integrated Problem Solving

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Pages: 104-112
DOI:10.31703/gssr.2025(X-II).08
DOI link: https://dx.doi.org/10.31703/gssr.2025(X-II).08
Article link: http://www.gssrjournal.com/article/A-b-c
Full-text Link: https://gssrjournal.com/fulltext/
Pdf link: https://www.gssrjournal.com/jadmin/Auther/31rvIolA2.pdf

Global Social Sciences Review

p-ISSN: 2520-0348 **e-ISSN:** 2616-793x
DOI(journal):10.31703/gssr
Volume: X (2025)
DOI (volume):10.31703/gssr.2025(X)
Issue: II Spring (June 2025)
DOI(Issue):10.31703/gssr.2024(X-I)

Home Page
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Volume: IX (2024)
https://www.gssrjournal.com/Current-issue

Issue: II-Spring (June-2025)
https://www.gssrjournal.com/Current-issues/10/2/2025

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Doi: https://dx.doi.org/10.31703

Citing this Article

08	A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools		
Authors	Bibi Kausar Perveen Jamila Begum	DOI	10.31703/gssr.2025(X-II).08
		Pages	104-112
		Year	2025
		Volume	X
		Issue	II

Referencing & Citing Styles	
APA	Perveen, B. K., & Begum, J. (2025). A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools. *Global Social Sciences Review*, *X*(II), 104-112. https://doi.org/10.31703/gssr.2025(X-II).08
CHICAGO	Perveen, Bibi Kausar, and Jamila Begum. 2025. "A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools." *Global Social Sciences Review* X (II):104-112. doi: 10.31703/gssr.2025(X-II).08.
HARVARD	PERVEEN, B. K. & BEGUM, J. 2025. A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools. *Global Social Sciences Review,* X, 104-112.
MHRA	Perveen, Bibi Kausar, and Jamila Begum. 2025. 'A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools', *Global Social Sciences Review*, X: 104-12.
MLA	Perveen, Bibi Kausar, and Jamila Begum. "A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools." *Global Social Sciences Review* X.II (2025): 104-12. Print.
OXFORD	Perveen, Bibi Kausar and Begum, Jamila (2025), 'A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools', *Global Social Sciences Review,* X (II), 104-12.
TURABIAN	Perveen, Bibi Kausar and Jamila Begum. "A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools." *Global Social Sciences Review* X, no. II (2025): 104-12. https://dx.doi.org/10.31703/gssr.2025(X-II).08.

e-ISSN:2616-793x Volume: X (2025) Issue: II-Spring (June-2025) p-ISSN:2520-0348

Global Social Sciences Review
www.gssrjournal.com
DOI:http://dx.doi.org/10.31703/gssr

Pages: 104-112 URL: https://doi.org/10.31703/gssr.2025(X-II).08 Doi: 10.31703/gssr.2024(X-II).08

Title

A Comparative Analysis of Sustainability Leadership Practices of Principals at Higher Secondary Schools

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Contents

Abstract

The aim of this research study was a comparison between sustainability leadership practices of principals at HSS level. The research objectives of this research study were a) to investigate sustainability leadership practices of principals at Higher Secondary school level b) to compare the sustainability leadership practices of principals at Public and Private sector c) To analyze the gender based sustainability leadership practices of principals. Population of this research study was all the principals, all teachers of their schools in Punjab Province. Data were collected from 200 teachers. A self -developed questionnaire was utilized for data collection. Data analysis was done through mean, standard deviation and t. test. Research findings indicate that sustainability leadership practices of principals significantly enhance effective teaching and pedagogical skills of teachers in organizations and generate pleasant and friendly environment for holistic development of learners and all other teaching learning activities.

Keywords:

Sustainability, leadership, Practices, System Thinking, Emphatic Collaboration, Anticipatory, Strategic Action, Integrated Problem Solving

Introduction

Sustainability can be defined as the continuation of a process or situation for Decades. It is not the function or product for the present but for the future also. Profit-oriented objectives can be achieved when we aim to balance economic, social, and ecological issues as a whole. Munira et al. (2022) have explained that sustainability leadership is a type of leadership that accepts the responsibility of people, groups, and organizations. It also supports the efficient management of sustainability thoughts. Sustainability leadership gives value to force a new innovative capacity building for sustainability. Sustainability is a complex situation that might best be supported by the development of professional learning. When

teachers involve themselves in collective pedagogical developments, then the role of principals has great importance who encourage their mutualistic relationships through excellent management and leadership.

Shuti (2021) has expressed that it is our collective struggle in our society that we must tackle the world's most pressing challenges. Sustainability leadership is a phenomenon of the 21st century. It is a time of increasing change and accountability. More sustainable leadership lifestyles can be attained by working on the quality and quantity of different lifestyles of leaders. Hargreaves and Fink (2006) explained that sustainability is the first and last challenge of leadership. They have offered seven principles of leadership. According to their claims, sustainability is a meal, it cannot be a menu from which we can pick and choose. There is a framework of seven principles for sustainability leadership. Sustainability leaders consider his or her prime responsibility to focus on the holistic development of students e.g. intellectual, social, emotional, and character building. Sustainability leadership plans and prepares for long-term achievements. Sustainability leadership focuses on distributive leadership plans. The leader leads and followers carry the torch for improvement. Sustainability leaders are socially just personalities. They do not generate the issue of social justice by giving priority to a few persons. The Resourcefulness of sustainability leaders is a polite support for their followers. By providing intrinsic and extrinsic incentives to their best and highest pool, they can work as coach and mentors for their team. Sustainability leadership becomes an activist. They sustain and cultivate an environment of continuous improvement. This type of leadership gives a pattern of mutual influence. They emphasized that Sustainability leadership is not a quick-fix project. It is an ongoing, strategic, and deliberate action that focuses over a period of time.

Yanniris (2021) has explained that sustainability leadership is the name of giving value and force to new innovative performance. He has defined ten fundamentals of sustainable leadership. These are: Broad and extended system thinking, change orientation consciousness, social and environmental thoughtfulness, adaptability and incredibility, patience, and translational skills. Persuasiveness and communicating vision, mentoring, and development of people. Sustainability leadership has special care for their employees. They support and establish a strong emotional bond with their team. Self-awareness competency develops in one person and then spreads in the group. Given the key role of fundamentals of sustainability leadership, it is vital to evaluate UNESCO's role in sustainability leadership through ESD and the social environments of schools.

Problem Statement

This current study was designed to achieve a level of understanding of the sustainability leadership practices of school principals because the role of principals is pivotal in the progress of organizations. The aim of this study is the analysis of sustainability leadership practices of principals in the public and private sectors. The study would compare the differences among males and females.

Objectives

1. to investigate sustainability leadership practices among principals at the Higher Secondary school level
2. to compare the difference in sustainability leadership practices of principals in the Public and Private sector
3. to analyze the difference between gender-based sustainability leadership practices of principals

Study Significance

The current study is valuable as it will provide innovative leadership practices that are helpful in the 21st century for educational administrators, teachers, and policymakers. By utilizing these practices, administrators can enhance the leadership level of their teachers, and students and can provide a pleasant environment to organizations.

Literature Review

The origin of the word sustainability is the Latin word "Sustinere" which means to hold, maintain, and support. Sustainability is a long-term social goal for people to exist on earth. Basically, sustainability is a normative concept for an indefinite period of time. It is about bringing

functional processes and productivity to the future and continuing it in the future. Sustainability based on four pillars: these are Human beings, societal, economic, and environmental factors (Pietikäinen, 2020).

Brundiers et al. (2021) have explained that human sustainability focuses on maintaining and improving human capital in society. It aims to improve nutrition, health, and education in the society. Knowledge and skills systems are under the umbrella of human sustainability.

Brundiers et al. (2021) have expressed that social sustainability focuses on maintaining and improving social quality through honesty, collaborative attitudes, and just and fair relationships among people. Through social sustainability, we can improve equality, economy, and mutual sharing in our societies.

Brundiers et al. (2021) explained that economic sustainability focuses on enhancing living standards. Objectives of sustainable development focus on maintaining economic growth at all levels. It gives importance to both quality and quantity. Environmental sustainability focuses on improving human welfare. It protects natural resources e.g. land, air, water, and minerals. Environmental sustainability emphasizes achieving positive results that will not be harmful to the environment considering the short term as well as the long term.

The origin of leadership is the Old English word "Lithan" which literally means "to go" and "to guide". Leadership is an idea that is going somewhere together with others. In our surroundings, there are many natural forces that affect a ship's course e.g. wind, rain, storms, and currents. A similar case is with organizations especially schools in which forces both outside and inside an organization affect its direction and performance. When we need an inclusive and transformative environment in schools for students' learning and self-efficacy, it is necessary for us to adopt a distributed and transformative leadership style. This style transforms the organization's environment and individuals with long-term goals and standards. The dominant leadership style always engages minds and souls (Iqbal & Ahmad, 2021; Iqbal et al., 2020).

Leadership is a complex and subjective concept. It is not concrete in nature but a socially constructed concept and it resides in individuals and occurs when the leaders affect followers. Transformational leaders are always called ideal leaders but the problems can create and lead to difficulties when their few followers do not follow them. Many types of leadership models have been explained by many experts. The most up-to-date concept of leadership was supported by Spillane (2006) that was distributed leadership where activities were shared between

followers having authority (Avelar et al.,2022).

A sustainable leadership approach is a flexible managerial approach. It gives the best possible solutions for all challenges related to the environment, society, and economy worldwide. It acknowledges leadership as an influence process. It focuses on situations that motivate leaders to work with collaborative efforts to bring change and transformation. Sustainable leaders are deep-foresighted persons who welcome with open arms the trending complexity of the world, which makes them more acceptable. Sustainability leaders are those leaders who can see people, society, and the environment as integral parts of work. They can take bold steps for the betterment of the organization which will have a greater impact on upcoming generations. Guided by strong values and having all those qualities, sustainable leaders can prepare their organizations more successful and can enhance their growth (Norren & Beehner, 2021).

Sustainable leadership focuses on consistent learning through achievement and growth. They create permanent atmospheres of positive culture. They desire to learn for learning's sake, and implement changes that benefit all members of the school community. They are the actors who have more power than others to do work in society. In the current era, sustainable leadership has become a modern leadership approach. This type of leadership works with a flexible approach, focuses on interconnectedness, and cares about the impact on the surrounding environment, economy, and society. Sustainability leadership contributes to promoting an organization's performance and outcomes (Norren & Beehner, 2021).

Theoretical Framework

UNESCO explained sustainability leadership practices with eight competencies. These competencies are as follows:

1. System Thinking Competency
2. Anticipatory Competency
3. Normative Competency
4. Strategic Action Competency
5. Emphatic Collaboration Competency
6. Integration Problem-Solving Competency
7. Critical Thinking Competency
8. Self-Awareness Competency

Note. UNESCO Competencies Model,2017.Source:(www.unesco.org.)

These competencies are base for the instrument to collect the data.

Research Method:

Research Approach

This study was a quantitative research approach in nature. By method, the research was descriptive. Data was collected through a self-developed questionnaire. The research was conducted by using Comparative analysis. The demographic characteristics of participants regarding sector and gender were used in the comparative analysis.

Population

The survey population for this study was drawn from the public sector and private sector Higher Secondary School teachers. The total population of the study was 980 teachers. These teachers were teaching in schools that were located in the District Attock.

Research Sample

The sample of the study was 200 teachers. One hundred teachers were from the public sector and one hundred teachers were from the private sector. They all were working under the supervision of the school's principals. A stratified random sampling technique was used.

Data Analysis

Details of Data Analysis

Table 1

Reliability of the Scale

Sr.No.	Variables	Cronbach's Alpha	No. of Items
1	System Thinking	.828	5
2	Anticipatory	.728	5

Data Collection Tool

A self-developed questionnaire was used to collect the responses from the participants. The questionnaire consisted of structured items. To cover a wide area of the survey, a questionnaire was distributed personally. Items were related to eight variables. The variables were under the heading of eight UNESCO Competencies for Sustainability Leadership, 2017. These competencies were: Systems thinking, Anticipatory, Normative, Strategic action, (Emphatic) collaboration, Critical thinking, Integrated Problem Solving, and Self-awareness. Eight variables were the subheadings of the item bank. This item bank was created for item selection by the respondents. Likert scale was suitable for respondents for asking perspective. All these were used under the headings of eight competencies set for sustainability leadership. The sustainability leadership practices consisted of a five-point Likert scale, a scale based on (1-5 from strongly disagree to strongly agree). Instrument. The following were the parts included in the questionnaire: title, demographic information, response rubrics, and body of the questionnaire.

Data Collection

The researcher collected data by personal visits to Higher Secondary Schools. The research instrument was distributed among the participants in the aforementioned public and private Higher Secondary Schools. The survey researcher experienced a high rate of return due to the focus on ethical limitations experienced by the researcher during the research, e.g. firstly, the researcher contacted principals and gained time and permission to visit their institution. So, the participants were mentally prepared to participate in the study.

Sr.No.	Variables	Cronbach's Alpha	No. of Items
3	Normative	.777	6
4	Strategic Action	.855	6
5	Emphatic Collaboration	.877	6
6	Critical Thinking	.857	6
7	Self-Awareness	.837	5
8	Integration Problem Solving	.888	6
	Total	.912	45

The Cronbach's Alpha Coefficient (.912) suggested very good internal consistency reliability for the scale employed in the study that consisted of 45 items. This reliability ensures that the survey instrument effectively captures the variables of the study.

Table 2

Distribution of Sample from Public and Private Sector n=100

Variables	M	SD	SE Mean
System Thinking	4.6840	.33896	.03390
	4.6900	.34038	.03404
Anticipatory	4.6000	.38560	.03856
	4.6480	.37186	.03719
Normative	4.7508	.29390	.02954
	4.7417	.31460	.03146
Strategic Action	4.7183	.33809	.03381
	4.7467	.32951	.03295
Emphatic Collaboration	4.7133	.34253	.03425
	4.7517	.33375	.03337
Critical Thinking	4.7020	.34289	.03429
	4.7300	.34157	.03416
Integration Problem Solving	4.7483	.35573	.03557
	4.7517	.32695	.03270
Self –Awareness	4.7020	.34289	.03429
	4.7300	.34157	.03416

Table 3

Description of difference between Sectors (Public & Private)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
System Thinking	EVA	.000	.991	-.12	198	.901	-.00600	.04804	-.10	.08873
	EVNA			-.12	197.997	.901	-.00600	.04804	-.10	.08873
Anticipatory	EVA	.069	.793	-.89	198	.371	-.04800	.05357	-.15	.05764
	EVNA			-.89	197.740	.371	-.04800	.05357	-.15	.05764

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
Normative	EVA	1.936	.166	.21	197	.832	.00918	.04317	-.07	.09431
	EVNA			.21	196.342	.832	.00918	.04315	-.07	.09428
Strategic Action	EVA	.158	.691	-.60	198	.549	-.02833	.04721	-.12	.06477
	EVNA			-.60	197.869	.549	-.02833	.04721	-.12	.06477
Emphatic Collaboration	EVA	.430	.513	-.80	198	.424	-.03833	.04782	-.13	.05598
	EVNA			-.80	197.867	.424	-.03833	.04782	-.13	.05598
Critical Thinking	EVA	.020	.888	-.57	198	.564	-.02800	.04840	-.12	.06744
	EVNA			-.57	197.997	.564	-.02800	.04840	-.12	.06744
Integration Problem Solving	EVA	.036	.849	-.06	198	.945	-.00333	.04832	-.09	.09195
	EVNA			-.06	196.608	.945	-.00333	.04832	-.09	.09195
Self-Awareness	EVA	.020	.888	-.57	198	.564	-.02800	.04840	-.12	.06744
	EVNA			-.57	197.997	.564	-.02800	.04840	-.12	.06744

**EVA=Equal Variances Assumed*

***EVNA=Equal Variances Not Assumed*

An Independent sample t-test was used to examine the sustainability leadership practices of principals in the public and private sectors. Table 3 summarizes the results of the t-test for independent samples. The results in table 3 show that both public and private sectors' principals exhibit slight difference in system thinking competency (t (198) = -.12, p=.90). Table 3 shows no significant difference in anticipatory competency of principals in public and private sector (t (198) =-.89, p=.37). The normative competency of the principals of public and private sector shows slight significant difference (t (198) = .21, p= .83). Moreover, strategic action competency of the principals of public and private sector shows significant difference (t (198) = - .60, p= .54). The emphatic collaboration competency of the principals of public and private sector also shows significant difference (t (198) = - .80, p= .42). The critical thinking competency of the principals of public and private sector shows significant difference (t (198) = - .57, p= .56). The integration problem solving competency of the principals of public and private sector shows no significant difference (t (198) = - .06, p= .94). The results in table 3 shows that self-awareness competency of the principals of public and private sector has significant difference (t (198) = - .57, p= .56).

Table 4

Gender-Based Distribution of Sample Gender wise each=100

Variables	Mean	Std. Deviation	Std.Error Mean
System Thinking	4.6900	.34038	.03404
	4.6840	.33896	.03390
Anticipatory	4.6480	.37186	.03719
	4.6000	.38560	.03856
Normative	4.7417	.31460	.03146
	4.7508	.29390	.02954
Strategic Action	4.7467	.32951	.03295
	4.7183	.33809	.03381
Emphatic Collaboration	4.7517	.33375	.03337
	4.7133	.34253	.03425
Critical Thinking	4.7300	.34157	.03416

Variables	Mean	Std. Deviation	Std.Error Mean
	4.7020	.34289	.03429
Integration Problem Solving	4.7517	.32695	.03270
	4.7483	.35573	.03557
Self –Awareness	4.7300	.34157	.03416
	4.7020	.34289	.03429

Table 5

Gender-Based Description of Difference

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
System Thinking	EVA	.000	.991	.12	198	.901	.00600	.04804	-.08873	.10073
	EVNA			.12	197.997	.901	.00600	.04804	-.08873	.10073
Anticipatory	EVA	.069	.793	.89	198	.371	.04800	.05357	-.05764	.15364
	EVNA			.89	197.740	.371	.04800	.05357	-.05764	.15364
Normative	EVA	1.936	.166	-.21	197	.832	-.00918	.04317	-.09431	.07596
	EVNA			-.21	196.342	.832	-.00918	.04315	-.09428	.07593
Strategic Action	EVA	.158	.691	.60	198	.549	.02833	.04721	-.06477	.12143
	EVNA			.60	197.869	.549	.02833	.04721	-.06477	.12143
Emphatic Collaboration	EVA	.430	.513	.80	198	.424	.03833	.04782	-.05598	.13264
	EVNA			.80	197.867	.424	.03833	.04782	-.05598	.13264
Critical Thinking	EVA	.020	.888	.57	198	.564	.02800	.04840	-.06744	.12344
	EVNA			.57	197.997	.564	.02800	.04840	-.06744	.12344
Integration Problem Solving	EVA	.036	.849	.06	198	.945	.00333	.04832	-.09195	.09861
	EVNA			.06	196.608	.945	.00333	.04832	-.09195	.09862
Self –Awareness	EVA	.020	.888	.57	198	.564	.02800	.04840	-.06744	.12344
	EVNA			.57	197.997	.564	.02800	.04840	-.06744	.12344

Table 5 summarizes the results of the gender-based independent sample t-test. The results in Table 5 show the sustainability leadership competencies level of males and females. The results in table 5 found that both male and female principals exhibit slight statistical significant difference in system thinking competency (t (198) = .12, p=.90). Table 5 found significant difference in anticipatory competency of male and female principals (t (198) = .89, p=.37). The results show the normative competency of the male and female principals slight significant statistical difference (t (198) = -.21, p= .83). Moreover, strategic action competency of the male and female principals shows no significant difference (t (198) =.60, p= .54). The results found that the emphatic collaboration competency of male and female also shows significant difference (t (198) = .80, p= .42). The critical thinking competency of the male and female principals shows no difference (t (198) = .57, p= .56). The results of the integration problem solving competency of the male and female principals found no statistical significant difference (t (198) = .06, p= .94). The results in table 5 shows that male and female principals have self-awareness competency with no significant difference (t (198) = .57, p= .56).

Discussion

Objective No.1 was about explaining the level of sustainability leadership practices of principals at the Higher Secondary school level. The data analysis revealed that the principals of public sector were at highest level in the practice of Normative Competency (Mean=4.75, Sd=.29). On the other hand, the principals of private sector were at highest level in the practice of Emphatic Collaboration (Mean=4.75, Sd=.33) and Integration Problem Solving (Mean=4.75, Sd=.32). Both sectors were at the lowest level in the practice of Anticipatory Competency, public (Mean=4.60, Sd=.38) private (Mean=4.69, Sd=.34). UNESCO has formulated leadership competencies that is a global comprehensive plan for leaders and followers (Rehman et al., 2019).

The second objective was to assess the difference in the practice of sustainability leadership competencies of principals at Higher Secondary schools in the public and private sectors. There was a significant statistical difference in the practice of sustainability leadership competencies in the public and private sectors. The data analysis revealed that sustainability leadership competencies are practiced at the highest level in the private sector except for the Normative Competency which is practiced at the highest level in the public sector. Individual differences have also been experienced in past studies (Norren & Beehner, 2021).

The third objective was to assess the difference in the practice of sustainability leadership practices of principals in the public and private sectors on gender-based. The data analysis revealed that the practices of female principals were found at the highest level in Normative Competency (Mean=4.75, Sd=.29). Whereas, in the practice of Emphatic Collaboration Competency, male principals were found at the highest level (Mean=4.75, Sd=.33). And in the Integration Problem Solving Competency (Mean=4.75, Sd=.32). Both male and female principals were found at the lowest level in the practice of System Thinking Competency, male (Mean=4.69, Sd=.34) female (Mean=4.68, Sd=.33). From the perspective of previous research, the importance of sustainability leadership practices has increased because these leadership practices influence people, groups, organizations and societies towards the attainment of sustainable future. Different leadership management styles were utilized in the public and private sector but sustainability leadership practices are the most comprehensive and popular plan that transforms the narrow image of organizations. Then the environment of organizations becomes pleasant for teaching learning activities and professional development of teachers (Rehman et al., 2019).

Conclusion

The study presents the overview of the research that the adaptability of sustainability leadership practices contributes towards the attainment of balance among economic, social, and environmental Sustainability which is the need of the present time and for the bright future of generations. Today is a time of despair and stress about the economy, environmental problems, and social dissatisfaction. All these problems can be resolved when we think of and practice innovative solutions to problems by sustainability leadership competencies introduced by UNESCO: 2017. All these competencies can be helpful for attaining the SDGs agenda of 2030 (Norren & Beehner, 2021).

Recommendations

1. Future studies may be conducted on sustainability leadership competencies: 2017 at the secondary level.
2. There is a need to conduct a comparative study on sustainability leadership practices at the secondary and elementary levels.
3. A similar study may be conducted in other districts of Punjab province.

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