Learning Ecology and Student Well-being: Towards an Integrated Approach of School as a Learning Organisation

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CERTIFICATE

This is to certify that the thesis titled **Learning Ecology and Student Well-being: Towards an Integrated Approach of School as a Learning Organisation** submitted by **V. Mounika Prashanthi** ID No: **2018PHXF0019P** for award of Ph.D. of the Institute embodies original work done by her under my supervision.

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NOW is the only reality. All else is either memory or imagination" - OSHO"

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"The deeper the relization of a man, the more he influences the whole universe by his subtle spiritual vibrations, and the less he himself is affected by the phenomenal flux " - Swami Sri Yukteswar Giri

- **Mounika Prashanthi Vavilala**

SUMMARY

Education can transform individuals, communities, and society by ensuring equitable development and inclusive societies with better employment opportunities and quality of life. To create a sustainable future for society, the educational paradigms and efforts should be directed towards strengthening the four pillars of education: learning to know, learning to do, learning to live together, and learning to be. There is a need to understand the factors which empower schools and students with the necessary 21st-century sustainable learning capabilities. Schools as learning organisation involve creating innovative, collaborative environments, empowering the people to build competencies, and achieving educational goals and student outcomes. Integrating well-being in the education system can help in developing the personality, non-cognitive outcomes, and strengths such as resilience, positive emotions, engagement, and social skills of students to flourish in life.

Education at the secondary level envisions addressing the needs of students in fostering skills to deal with the transition, holistic development, and skills to lead a better life and become responsible citizens. There exists a dearth of empirical studies examining the determinants of school as a learning organisation integrating school level, teacher and student attributes. Numerous studies have explored the attributes of teachers, schools and students in isolation, but lack a multi-stakeholder, systemic perspective to understand the concept comprehensively. Developing the learning environment is essential to ensure professional development, teacher satisfaction, student outcomes, and school effectiveness. Learning ecology involves interdependence between learner dispositions, building teacher capacities through professional development, ensuring sufficient resources, infrastructure, technologies and creating a positive learning

environment conducive for effective teaching and learning activities. The current study conceptualized learning ecology as an amalgamation of school ambience, learning culture and collegiality, teacher professional development, school vision, leadership, and technological integration.

Student well-being is identified as an outcome of school effectiveness, school engagement and quality education which inherently embodies the cognitive, affective, and social aspects. Affective outcomes involve student emotions, feelings, and attitudes towards learning and school. Physical and psychological changes experienced by adolescents influence their motivation and values towards education and leading a quality life. Numerous studies emphasized the reciprocal relationship between well-being, student learning outcomes, and school effectiveness. To transform schools into a learning organisation, it is important to establish a synergistic relationship between the school learning environment and the positive psychological states of students through a learner-centric approach.

This study explores learning ecology and student well-being within the embedded framework of school learning organization at the secondary education level to ensure the quality of education and effective school functioning. To address the objectives of the study, an in-depth investigation using a mixed-method approach has been used. The mixed method approach uses both quantitative and qualitative data to identify the underlying factors related to learning ecology, student well-being and transforming schools as a learning organisation.

The attributes of learning ecology and student well-being were identified based on the literature review to develop the questionnaires and further, the psychometric properties of the scales were established using factor analysis - exploratory factor analysis and confirmatory factor analysis. The study examined the differences and interactions based

on the socio-economic and demographic characteristics in learning ecology and student well-being between two districts of Rajasthan - Jhunjhunu and Jalore. These two districts were identified for the study based on literacy rates. While Jhunjhunu has a literacy rate that falls in the top three best performing districts in Rajasthan, Jalore falls in the bottom three performing districts in Rajasthan.

Significant differences were found across all the dimensions of learning ecology. Teachers from the Jhunjhunu district scored high on school ambience as compared to teachers from the Jalore district. The results also showed significant differences in learning culture & collegiality, school vision, teacher professional development, leadership, and technology integration. Together the demographic characteristics, of teachers contributed significant proportion of variance towards learning ecology of teachers from the Jalore district. Where, gender was identified to be a significant predictor of learning ecology. The study revealed significant differences in cognitive well-being, social well-being, physical well-being, material well-being, and overall student well-being. Students from the Jhunjhunu district reported higher levels of cognitive well-being, and overall well-being as compared to students from the Jalore district. Students from the Jalore district expressed higher levels of social well-being and material well-being. The study also revealed positive relationship between the dimensions of learning ecology and student well-being.

The findings of the study are discussed in detail with the help of existing literature and theoretical perspectives. The study has identified several factors associated with the learning ecology, student well-being and school as a learning organisation. The study provides several insights for policy level changes, and designing interventions at the district level to address the challenges and improve the overall quality of education. The findings of the study would enable a comprehensive understanding of education

as a learning system, promoting inclusivity and engagement of multiple stakeholders, increasing school effectiveness in achieving educational goals and enhancing policy practices towards quality education.

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Abbreviations

AIES	-	All India Education Survey
BEP	-	Bihar Education Project
CABE	-	Central Advisory Board of Education
CSS	-	Common School System
DPEP	-	District Primary Education Programme
LES	-	Learning Ecology Scale
LJP	-	Lok Jambish Project
LO	-	Learning Organisation
NEP	-	National Education Policy
OBB	-	Operation Black Board
PoA	-	Program of Action
RMSA	-	Rashtriya Madhyamik Shiksha Abhiyan
RTE	-	Right to Education
SDG	-	Sustainable Development Goals
SEL	-	Social Emotional Learning
SKP	-	Shiksha Karmi Project
SLO	-	School Learning Organisation
SSA	-	Sarva Shiksha Abhiyan
SWB	-	Student Well-being

Chapter 1

INTRODUCTION

Education has recently witnessed enormous changes, inviting new deliberations in teaching-learning domains. With the changes in the new world order, cultures have also come up with changes in organisational structures with many challenges. Thus, it becomes vital to address the fundamental aspects of education where the teacher holds an array of roles embodied by specific ideologies and students are expected to perform in versatility. These issues are therefore essential to provide an all-inclusive understanding of the learning ecology of teachers and the well-being of students at the school level. Thus, the quality of educational institutions has become an important concern towards knowledge productive and generates discourse on quality parameters at all levels.

Secondary education plays an indispensable role and poses a very crucial influence on the student community, as it is the transition phase for the socio-emotional development of a student. The purpose of secondary education is to endorse the overall development towards becoming a good citizen. The current changes in education cannot be dealt with in isolation; therefore, there is a need to develop an ecological framework, integrating teachers and students towards better learning, development and quality of life.

Over a period of time, the importance of education has created multiple opportunities for the enhancement of quality. Quality enhancement is a thoughtful process immersed within the framework of the learning organisation. The growing scrutiny of a learning organisation is a multidimensional concern involving teachers, students, and other multiple stakeholders in society. As the UN Sustainable Development Goal focuses on education by SDG Goal 4 (Quality Education), education is considered one of the most

crucial pillars of life where it helps with not just understanding the lessons of life but also helps with 'transforming societies.' Sustainable development could only be achieved by continual investment in human capital, and education gives allows grooming students as human capital. Considering this, the quality of education becomes a significant concern for social inclusion that affects the nation's economy at the macro level. Thus, education becomes imperative for developing students' knowledge, skills, attitudes, and values to enable them to pursue a successful career, become better citizens and have a quality of life. Education facilitates students to set clear goals, develop multiple perspectives, unlock hidden potential, and strengths and identify multiple solutions to problems.

There is a need to prepare students with the essential skills and competencies for employability and quality of life, considering the rapid change in the current need and demand of the market and technological advancement. Traditional schooling approaches, such as traditional teaching and learning procedures, have proven ineffective in equipping students with the necessary cognitive ability to thrive in today's highly dynamic environment (Yusof, Roddin, & Awang, 2015). It becomes challenging to enable long-lasting change without considering the behaviours and beliefs of the stakeholders (Fullan, 2015).

Since the schools are the formal institutions of student learning, the demand arises for transforming the existing education system by creating a positive school learning environment, developing teacher capabilities and providing resources and technology for effective teaching and learning. Schleicher (2015) noted that the system embraces a novel learning ambience for effective learning processes. Schools encourage a proficient learning culture with learning opportunities, inculcate a growth mindset, transformational leadership capacity building, and improve student outcomes. To ensure student learning and the professional development of teachers, the schools need to upgrade themselves

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with the changing external environment constantly.

As schools have emerged as the most important pillar of learning, this puts emphasis on creating an environment that enriches the individuals' learning. This physical environment and infrastructure that helps enhance individuals' learning is explained by highlighting the concept of 'Learning Ecology.' Learning ecology demands the presence of physical infrastructure along with social interaction that leads toward creating an environment or learning within the organisation. Here, taking learning in reference, the metaphor for ecology highlights the relationship between an individual and their respective environment (Barron, 2006; Marquet et al., 2014).

Schools are spaces considered to be learning organisations for students. The concept of schools as learning organisations emerged as an important concept in the late 1980s and the work of Senge (1990), played an important role in gaining popularity for the concept. The concept of schools as learning organisations revolves around the sustainable environment in any organisation, which allows the vital stakeholders like teachers to be at the center of the innovation and development of schools as learning organisations where appropriate utilization and allocation of infrastructure is a prerequisite. The theoretical foundation of the concept which was used in the study by OECD defines schools as learning organisations as one that have the capacity to change and adapt according to the benefit of members of its organisation which will lead them to learn (Kools & Stoll, 2016).

While understanding the concept of learning organisation and learning ecology of schools, puts great emphasis on attaining the crucial information related to a students' psychological, social, and physical domain to sustain a positive environment within the organisation. Student well-being can be further explored by understanding individual concepts of physical well-being, psychological well-being, social well-being

and cognitive well-being (OECD, 2017). These concepts together establish that the psychological attainment of students to learn in an organisation depends on the positive environment within the organisation. Various policies stress on extracurricular activities that might help generate a positive environment for students, which would further support them to enhance their learning.

1.1 Background of the Study

As education is conducted to be the fundamental right of every child, and so the government has to inevitably ensure access and quality education for all. Quality of education involves ensuring accessibility and availability of resources and educational infrastructure for teaching, innovative teaching practices, pedagogy, and ensuring student outcomes (Grisay & Mahlck, 1991). Quality of education involves learning environments that are safe with adequate resources; learners with good health, nutrition, and family support; relevant content which helps in the acquisition of basic skills and knowledge; process with trained teachers, effective classroom management and student-centric teaching approaches and achieving educational goals and outcomes (UNICEF, 2000). The world conference on *Education for All* focused on the quality of education for all by ensuring universal access, emphasis on the learning needs of students, improving student outcomes, equity and learning environments and strengthening the partnerships at the national, state and local levels.

The Dakar Framework for Action on Education for All (EFA) (2000) led to the formulation of Education Millennium Development Goals (goal 2 and goal 3) to achieve Universal Primary Education, aimed to *'ensure completion of primary schooling by boys and girls equally by the year 2015'* (UNESCO, 2000). In order to achieve this goal,

measures such as the net enrolment ratio in primary school, the proportion of students entering class 1 and finishing class 5, and the literacy rate of 15-24 year olds were employed. Education helps in increasing knowledge, skills, employment opportunities and lay a foundation for the development of boys and girls from different socio-economic backgrounds (Mohanty & Dash, 2018). Sachs (2012) mentioned that the MDG goals successfully increased the gross enrolment ratio targets, improved literacy rates, quality of teaching and learning and reduced the gender disparities in education enrolment.

Quality of education encompasses the effective application of all forms of knowledge by individuals to build a better future and career opportunities. A few essential concerns that need to be addressed are whether students in each class achieve the competencies to move to the next class? What is the level of learning of students? The attributes of school as an education system need to be identified to facilitate a better learning environment for students to build the necessary competencies of students.

"Quality education helps build individuals' knowledge, skills, and capabilities and develops the creative, social and emotional capabilities of learners. It fosters broad cognitive, social, emotional capabilities facilitating personal development, enhancing critical and higher-order thinking, problem solving, self-discipline, and can support active citizenship, leadership and more through non-discriminatory and inclusive approach" (UNESCO, 2015).

Education for sustainable development (ESD) the central integral component of the 2030 sustainable development goals, aims to achieve better student living standards (Leicht, Heiss, & Byun, 2018). Education for sustainable development helps enhance the cognitive, emotional and physical attributes through holistic responsive education, creating better learning experiences instead of rote learning (Arbuthnott, 2009). The role of education is to facilitate value based education, develop generic competencies, and

skill development by promoting an interdisciplinary approach to knowledge, concepts, and application which enables students to be better citizens (Barrett, 2011). The new millennium goals focus on education for sustainable development is to address the quality of education, increase access, relevance, equity, and inclusivity for social transformation and create sustainable societies (Rieckmann, 2017; Wals & Kieft, 2010). Individuals need to be empowered to make conscious decisions and collective action to preserve biodiversity and the survival of humanity. To create a sustainable future, there is a need to transform the educational processes, structures, and practices to build competencies and improve learning outcomes for developing an educational ecosystem within the people-environment context. Education within the framework of sustainable development can facilitate social transformation, equitable and resilient societies with inclusion and better employment opportunities. To achieve this, the education system needs to adopt sustainable development policies, curriculum, pedagogy, and school culture.

1.2   Secondary Education: Status and Challenges

Secondary education acts as an active link to develop generic competencies, knowledge, and skills in a students' life. This phase is marked by many physical and emotional transformations. Education at this phase should address the needs of the students in fostering skills to deal with the transition, holistic development and skills to lead a better life. Thus, secondary education helps facilitate holistic development, and unfolding students' full potential.

The tenth and eleventh-year plan from 2002-2012 focused on improving elementary education. During this period, one of the significant advancements of the eleventh-year plan was the Sarva Siksha Abhiyan (SSA) (2002), intending to achieve universal

elementary education. The goals of SSA include ensuring that all students complete elementary schooling by the year 2010; reducing gender and social gaps in enrollment, and providing quality education for all. With the Sarva Sikhsha Abhiyan, the enrollment rates of students increased significantly. With the achievement of universal elementary education (GoI, 2014), there is a need for universal access and opportunity of secondary education for all. Article 45 of the Constitution of India focuses on investing in education on achieving sustainable development. The success of universal primary education, as well as the expanding number of pupils in elementary school, has prompted for a shift in focus towards universal secondary education. Quality education at the secondary level would focus on developing the human capital, facilitate physical, psychological, emotional and social functionings and capabilities enabling better engagement and learning (Pia, 2015).

The committee on Central Advisory Board of Education (CABE) mentioned that *"It is the right of every child to achieve their fullest potential and excellence"* (CABE, 2005). According to the National Knowledge Commission (2005), *"The time has come to create a new wave of institution building and excellence in education, research, and capacity building."* The National Education Policy (2019) provides insights into managing schools as a team for collaboration, institutional excellence and well-being of students by addressing their socio-emotional learning needs.

Moreover, with the growing number of students in the elementary level, the focus needs to be shifted toward universal secondary education in India. Quality education at the secondary level would focus on developing the human capital, facilitating physical, psychological, emotional and social functioning and capabilities to higher engagement and learning. This also helped reduce the number of children dropping out of schools at the age of 6-14 years (Tilak, 2015). The increase in enrollment rates improved students'

retention and transition rate from primary to secondary level. Rapid globalization and changing labour markets demand minimum education, language and technological knowledge and skills for better employment opportunities.

Secondary education acts as an active link in the educational hierarchy to develop generic competencies, knowledge, and skills in a student's life. Education at this phase should address the needs of the students in fostering skills to deal with the transition, holistic development and skills to lead a better life. Several economic studies and results of the National Family Health Survey (NFHS) (1998-1999) which looked at the transmission of education, reported that secondary education plays a crucial role in increasing intergenerational educational mobility, especially among females and disadvantaged groups and minority communities(Choudhary & Singh, 2017). It contributes to reducing income inequality, better socio-economic opportunities for people across different social groups, and healthcare perspectives and practices. Secondary education increased female schooling, and reduced child and maternal mortality rates (Drèze & Murthi, 2001).

The Kothari Commission (1964-1966) attributed rigidity within the education system and lack of dynamism and elasticity as reasons for the monotonous and poor quality of schooling. The commission emphasized on teacher professional development through in-service training programmes, workshops, seminars, and teaching materials. The commission also focused on mobilizing community resources to improve the quality of infrastructure and school buildings (Kothari, 1970). The National Policy on Education NPE (1986) also focused on enhancing the teacher competencies by improving the pre-service and in-service training programmes. It puts a new thrust on secondary education as an critical transition link between elementary and higher education. It is proposed to develop, improve, and expand secondary schooling facilities in rural areas of the country

in order to bridge the rural-urban divide (GoI, 1986).

"In order to achieve rapid development and technological progress in the country, Education can be seen as the single most important factor behind achieving that, thus creating a new social order based on values of freedom, social justice and equal opportunities" Radhakrishnan Commission (1948). Secondary education needs to develop students' capacity, and inculcate a scientific attitude and overall personality development (Secondary Education Commission, 1952).

Further, the Education Commission (1964-66) emphasized reconceptualising secondary education by enabling equality, social justice for quality of education. Secondary education requires a fresh look at this critical juncture in order to: i) maintain and accelerate the pace of growth of the Indian economy, ii) raises the minimum basic education of the population, iii) meet the challenge of globalisation, iv) addresses the poor transition rate from secondary to higher education, and v) address the increasing social demand for secondary education.

In this regard, the Central Advisory Body of Education (CABE) committee (2005) also mentioned the need for universalisation of secondary education and improving girl child education. It was started with an emphasis on the initiatives that could improve access to secondary schools and later emphasised on the universal secondary education by focusing on environment, building under the planning of secondary education and creating public attitudes towards the stakeholders of the teaching department. However, fundamental solutions regarding teacher status, school administration, public-private partnerships, and the types of administrative, economic, and governance reforms needed to meet the aim are required.

According to a report published by the National University of Educational Planning and Administration on *'India: Education for All—Towards Quality with Equity'* (2014),

India faces numerous challenges such as accessibility and availability of education, quality-related deficiencies, dropout rates, gender, regional and social disparities, poor learning outcomes of students and teacher shortage. The report emphasized the urgency to address the quality issues and improve students' overall learning.

The 12th Year Plan (2012-2017) emphasized the need for faster, sustainable, and more inclusive growth with broad objectives, including poverty reduction, enhancing regional equality, ensuring employment opportunities, and reduce gender gaps. The report emphasised the 'three Es' — Expansion, Equity, and Excellence in Education. The Twelfth Five-year plan on education (2012 -2017) focused on improving the quality of secondary education by addressing several aspects of school functioning, such as i) improving competencies of students in mathematics, science, and language; ii) life skills development for students; iii) ensuring availability of resources and physical infrastructure; iv) use of information and communication technology (ICT); v) school leadership and teacher management; vi) improving student outcomes and satisfaction levels of students and parents.

The major objectives of the National Education Policy (2020) include i) strengthening the early childhood care education through learner-friendly environments and professionalisation of teachers; ii) improving the foundational literacy and numeracy skills by ensuring adequate resources, technological interventions and developing school libraries to build a culture of reading and communication among students; iii) universal access and retention of students; iv) professional development of teachers; v) inclusive school environments and vi) forming school complexes for proper governance, transparency and improving the learning outcomes. The policy provides insights into managing schools as a team through collaboration to achieve institutional goals and learning of students. The policy also provides guidelines for investment in quality and equity in education. The

National Education Policy (2020) highlights the vision of the Indian Education system, to identify every students' uniqueness and learning needs and thus create an equitable and just society. The policy proposes to revamp the educational structure and system suitable for the demand of 21st-century education, aligning the traditional values and culture (GoI, 2020).

Significant improvements have been observed in the gross enrolment ratio (GER) of students at the secondary level in the past two decades. The Gross Enrolment Ratio (GER) measures the total number of students enrolled in a particular level out of the total number of students in that age group. There are innumerable factors that account for demographic disparities, and various studies substantiate this. There exist diverse factors influencing the transition rate of students from elementary level to secondary level and identified non-linear patterns in transition rates (Ramanujan & Deshpande, 2018). Although the number of students enrolled in secondary school has increased, the transition rate of students from elementary to secondary level remains low. The transition rate refers to the percentage of students moving from one educational level to another (Jain & Prasad, 2018).

The initiatives such as 'Padhe India, Badhe India' and 'Beti Bachao, Beti Padhao' along with the introduction of the New Education Policy (2020) have centralized on the expansion of secondary education and improving the quality. The National Education Policy 2020 aims to achieve 100% enrollment of students across all levels by the year 2030 in order to achieve universal access and quality of education for all. The policy brought structural changes in the curriculum and pedagogy with a 5+3+3+4 design where the foundational stage includes preschool and primary school. The preparatory stage includes students from grade 3 to 5 and middle stage includes students from grade 6 to 8. The secondary stage includes four years— grades 9 and 10 in the first phase and grade 11

and 12 in the second phase. This stage focuses on multidisciplinary study, with a focus on increasing subject knowledge, critical thinking and focusing on life aspirations. These stages have been designed to improve the quality of teaching, optimising learning and develop strategies for effective learning. The policy also highlighted the downward trend in the enrolment rates from preschool to higher education levels among students from socio-economically disadvantaged groups.

An integrated education scheme was proposed to ensure quality and equitable education from pre-school to class 12 as *'Samagra Shiksha Abhiyan.'* The scheme includes i) Sarva Shiksha Abhiyan; ii) Rashtriya Madhyamik Shiksha Abhiyan and iii) Teacher Education based on the recommendations from NEP 2020. Some objectives of the scheme include enhancing the quality of education and students' learning outcomes, reducing gender nd social disparities, ensuring a safe, inclusive learning environment and improving the foundational language and numeracy skills. The scheme introduced several interventions with the flexibility to plan and prioritise different plans among different states. The scheme also included digital interventions such as providing ICT labs, smart classrooms and virtual classrooms.

Addressing the shortage of provision of secondary education in the rural areas, the current requirement of our 'equality demanding education system' is to include the maximum rural population stakeholders to participate in the elevation of the learning process so that the learning outcomes can be better and equally achieved. There is a need to expand and extend the outreach of quality education at secondary education, and poor quality of secondary education can act as a bottleneck for quality of education at the higher education level.

The changing market trends, and environmental challenges demand that schools equip students with the necessary 21st-century skills. Quality of education at the secondary

level was correlated with student outcomes, competencies, health outcomes and socio-economic outcomes (such as economic growth, employment, health, demographic transition, financial stability, and improved living standards). Research studies and policy frameworks have identified various measures for improving the quality of secondary education by improving school-level factors such as developing a safe learning environment, physical infrastructure, ICT usage, leadership, and individual factors such as improving the quality of teaching, student motivation and community development.

1.3   Learning Ecology

Most of the reforms today adhere to the dichotomy of addressing the innovative developments in teaching and learning domains from the human development perspective. The requirement for a positive school environment rests on institutional support for the development of the students across multidimensional pathways. So, learning ecology can be understood as an environment that facilitates the 'holistic learning approach' to education by addressing the distinctive strengths, needs, and interests as they engage in learning (Crosling, Nair, & Vaithilingam, 2015).

Improving the quality of schooling requires creating an ecosystem focused on the learning of teachers and students, enabling personalized experiences for students, quality interactions, and relationships between the stakeholders within the education system. Learning ecology involves the physical environment, student, teacher, community interactions, student life experiences, educational goals, teaching practices, process and organisational structures ensuring quality of education (Crosling et al., 2015).

The word *ecology* is used as a metaphor, which can be applied to many contexts involving human interactions. The human ecosystem highlights that the ecological

perspective views people in a state of constant learning and development through an interactive process in their physical, social, and virtual environment (Germain, 1981). It refers to the physical learning environment and educational institution and structure. Which are perceived as open, adaptive systems with dynamic and interdependent elements (Ching-Chiu, 2011). Barron (2006) defined learning ecology as *"the set of contexts which facilitate learning opportunities."* The contexts involve physical or virtual spaces that are found in the environment. This perspective involves learning as an embedded component, facilitating a learning culture and creating a learning opportunity for all.

The learning ecology of an individual involves a network of people, processes, context, and interactions that facilitate opportunities and resources for learning, development, and achievement. The attitude of learning is embedded within the network of an ecosystem. Each context would have a unique configuration in terms of purposes, activities, relationships, and interactions through which learning can be mediated. Bruce and Hogan (1998) used the learning ecology perspective of integrating technology for teacher professional development, developing technological skills, and technology adoption within the physical learning environment.

The studies on learning ecology highlighted the importance of a learning environment, providing physical and emotional safety, learning opportunities, and a sense of belongingness with the school and learning context. Some studies have considered these aspects as the enablers of forming learning networks, learning through collaboration, knowledge sharing and forming professional learning communities for skill development and adapting innovative pedagogical practices. Learning ecology involves the integration of perspectives of several stakeholders in the learning environment (Jennings & Greenberg, 2009). It includes not only the teaching and learning process, but also the outcomes.

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Studies suggest that the term learning culture is also related to learning ecology, it is associated with prevalent teaching and learning methods (Feixas & Zellweger, 2010). However, Jenert (2011) identifies many factors and social constructs that contribute towards student learning and developing a learning culture within an organisation. The dimensions include: personal dimension, which refers to intrinsic motivation for learning, perceived responsibility towards learning. Drawing from these definitions, learning ecology can be operationally understood as a perceived learning context, widely inclusive of the school environment, learning culture and professional development of teachers, leadership and using technology in the teaching and learning process. This comprehensive definition draws upon the idea of providing a measure of security and support that maximizes teacher potential, addressing the learning needs of students and ensure student learning outcomes.

1.4   Student Well-being

Well-being has been identified as a multidimensional concept, with diverse interrelated elements contributing towards a healthy and happy life. It is defined as the "individual's appraisals of their own life" (Diener & Emmons, 1984). Well-being is a reflection of an individuals' evaluation or judgment of their quality of life. Well-being and Quality of life (QOL) are interchangeably used, where QOL refers to the individual's subjective perceptions of the quality or goodness of various domains of their life. Well-being refers to the physical, psychological and social domains that are interrelated and distinctively positive. Subjective well-being refers to an individual's perception and assessments of his or her own life in terms of emotional or affective states, psychological functioning, and social functioning.

Subjective well-being is a cognitive component that involves life satisfaction and an affective component involving positive emotions and the absence of negative emotions such as loneliness, anger, and anxiety (Fredrickson & Joiner, 2002; Seligman et al., 2002). Numerous scholars have shaped the idea of well-being in psychological realms. Some of these prominent studies are shown through the incorporation of dimensions within psychological well-being. Psychological well-being according to Keyes and Ryff (1999) consists of six dimensions such as autonomy, self-acceptance, meaning in life, positive relationships, environmental mastery and personal growth. These dimensions reflect the relativity of the positive emotions of the individual. In this regard, the PERMA model proposed by Seligman (2011) reflects that well-being involves positive emotions which are subjective, dependent on one's thoughts and feelings; engagement, relationships, meaning and achievement. The Self- Determination Theory proposed by Ryan and Deci (2000) reflects on the identification of the three universal needs for facilitating personality development and social development to foster positive psychological states, physical functioning and well-being: *the needs for competency-mastery; relatedness and positive relationships, and autonomy"* (Su, Tay, & Diener, 2014). Derivatively, the elements of subjective well-being include emotional vitality or emotional well-being and positive functioning. It reflects a person's cognitive and emotional responses to a life situation, leading to satisfaction and happiness in life.

According to Ryff (1989) psychological well-being consists of self-acceptance (positive attitude towards self, feeling positive about oneself); Personal growth (having feelings about continued personal development, openness to new experiences, feeling knowledgeable and effective); Purpose in life (having goals, sense of direction), environmental mastery (feeling competent and ability to manage a complex situation, being in charge of oneself and their surroundings), autonomy (being independent, unique

in ones functioning, strong personal standards), and positive relations with others (trustful relationships with others, concerned about others welfare, showing empathy, affection, and intimacy). Emotional well-being consists of happiness and satisfaction with life, along with the balance of positive and negative affect. It consists of life satisfaction (involves a sense of contentment, peace), positive affect, and the absence of negative affect (Maddux, 2017).

There is a plethora of literature that decomposes the factors of well-being and subjective well-being, such as one's perception of happiness or satisfaction with their life. The concept of students' well-being has been explored in various studies using different factors. Previous studies suggest that student's well-being is the result of interaction between other types of well-being: psychological well-being, physical well-being, social well-being and cognitive well-being (Borgonovi & Pál, 2016). Indicators such as self-confidence, evaluation of one's capabilities, self-image and academic concept of self were attributed to the sustainable well-being. Konu, Lintonen, and Autio (2002) emphasized on the perception of students and their satisfaction in the classroom as the important determinants of well-being. Further, they also presented eight indicators to assess pupil well-being: school-level well-being, social integration in the classroom, attitude toward homework, motivation for learning activities, classroom attentiveness, and academic self-concept.

The Student Well-being Model by Soutter, Gilmore, and O'Steen (2011); Soutter, O'Steen, and Gilmore (2012) conceptualize the concept of well-being as a multidimensional and complex phenomenon involving seven interdependent yet mutually reinforcing domains: having, being, relating, thinking, feeling, functioning, and striving. These are classified into three types: assets, appraisals, and actions. The asset category includes having access to resources, tools, and opportunities by exercising autonomy

and independence having meaningful relationships and the ability to transcend oneself. The appraisal category includes emotional and mental well-being, where the affective component facilitates socioemotional learning, cognitive appraisals, decision-making and being innovative, creative and attitude to learning. The actions' category includes functioning or actions of community engagement, participation, and becoming an engaged citizen by exercising values of excellence and a sustainable future.

Student Well-being is identified as an outcome of school effectiveness and quality education. Overall harmonious development of a student involves congruence between the cognitive, affective, social aspects. Affective outcomes involve student emotions, feelings, and attitudes towards learning and school. According to Engels, Aelterman, Petegem, and Schepens (2004), student well-being involves positive emotional states, achieving harmony between personal needs, and expectations of students towards school deliverables. Students are considered social actors driven by learning based on observations and experiences.

Physical and psychological changes experienced by adolescents influence their motivation and values towards education and leading a quality life. Satisfaction can contribute to positive school experiences, more significant achievement and academic success. Well-being is a multifaceted concept that includes an individuals' aspirations, subjective experiences and development of ones' capabilities (physical, psychological, emotional and social). The PISA 2018 framework on well-being measured well-being based on three dimensions: i) Self: how fit and healthy students perceive about themselves and their lives; ii) School environment: environmental conditions a student is exposed at the school and iii) Out-of-school environment: student's living environment and circumstances outside school (OECD, 2017).

Well-being has been defined at the individual level consisting of physical, social,

cognitive, psychological and economic domains (Pollard & Lee, 2003). It is a state of mind and emotions one experiences by participating in daily activities. Well-being in schools can be perceived as a dynamic and a contextual state of mind that is manifested in the student's self-efficacy to fulfil their needs, sustain and succeed to the demands of the school (Pietarinen, Soini, & Pyhalto, 2014). Kickbusch (2012) defined well-being as "realizing one's unique potential through physical, mental, emotional and spiritual development in relation to self, others, and the environment." A safe learning environment with the necessary physical infrastructure, resources for learning and programmes help enhance students' physical, cognitive and psychological well-being (Awartani, Whitman, & Gordon, 2008). Schools are required to encourage students to participate in physical activities and bring awareness to healthy eating behaviours and balanced diet.

Jos, Geert, Robert, and Claudia (2008) developed a quality of life related personal outcome scale. The measure used different components such as independence: personal development, self-determination; social participation: interpersonal relationships, social inclusion and rights; well-being: emotional, physical and material well-being. Here, emotional well-being is defined in this context as safety and security, positive experiences, contentment, self-concept, and a lack of stress. Physical well-being encompasses health, nutrition, recreation, and physical exertion. Physical well-being can be defined as the "ability to perform physical activities and carry out social roles without any physical limitations, pain, or health problems" (Capio, Sit, & Abernethy, 2014). Gordon and O'Toole (2015) referred to it as a dynamic and systemic state involving the self and the environment. Learning for well-being is regarded as an integrative framework to enhance individual and collective capacities for a sustainable livelihood and quality of life. Thus, well-being is the multidimensional construct that facilitates the learning process in order to produce better outcomes in the young learning population across the existing learning

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organisations.

1.5   School as a Learning Organisation

Schools as learning organisation is a concept that has been explored and understood multiple time by various scholars. Hamzah, Khoiry, Arshad, Tawil, and Ani (2011) argues that the management approach of 'Learning organisation' serves as an opportunity for the organisation to be more competitive, constantly adapt and enhance the learning capability of individuals. According to Senge (1990), the concept of learning organisation involves an organisation that has the adaptive capacity and generative ability to bring individual transformation and ensure productivity. The basic understanding of learning organisation involves proper use of the learning process while continuously focussing on transforming or developing the organisation. However, the efficacy of an organisation is influenced by the magnitude of commitment and skills related attributes of individual towards learning.

The learning organisation framework includes improving the capability of identifying and understanding systems, people within the organisation and creating opportunities for development and change. *"Learning organisation is defined as a place where vision, patience, and courage are practised at the individual and organisational level"* (Kofman & Senge, 1993). Burgoyne, Pedler, and Boydell (1994) define LO using a learning perspective, where the continuous learning process is facilitated to achieve the strategic goals at different levels. Which occur through the eight identified areas: i) learning approach to strategic goals, ii) participatory policymaking, iii) informing, iv) formative accounting and control, v) internal exchange, vi) reward flexibility, vii) enabling structures, viii) learning climate and self-development. Garvin (1993) defined

learning organisation by using the strategic perspective that focuses on the essential drivers required for building learning capability which ultimately requires the building of appropriate skills and competencies, effective organisational design for learning and alignment of the components required for learning. Senge (1990) suggests that facilitating a learning culture within an organisation necessitates the alignment of individuals' beliefs, values, and norms toward efficient strategies, processes, and practises with a 'learning to learn' attitude. Schools are intrinsically linked to the community, educational system, and society. A school cannot operate in isolation to accomplish the desired student learning results.

The 21st century necessitates schools to adopt innovative pedagogies, facilitate individual empowerment, and effective school leadership to improve the quality of education and increase student outcomes. Additionally, reinvented itself as a learning organisation (Dede, 2007; Fullan, 1993). The presence of teachers in the learning organisation along with transformational principals will eventually enable schools to undergo transformational leadership and help them to work on enhancing the learning process of their organisation. The two last decades have seen an increase in the interest in the concept of learning organisation and applying the principles of learning organisation to schools to improve the student outcomes and school effectiveness. There is a need to improve studnets' learning outcomes through innovative classroom practices, building the capabilities of teachers and making the system accountable. Research has confirmed the assumption that when schools operate as a learning organisation by creating learning opportunities for all, building a learning culture and collaboration there is improvement in the quality of education, an increase in job satisfaction, and commitment of teachers.

Increasing an organisation's learning capacity can help it become future-ready and sustainable. To accomplish the intended results and to provide systems that promote

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and capture learning, Watkins and Marsick (1993) proposed a design of a learning organisation that incorporates organisational learning, learning atmosphere, and learning structures have been proposed. People and organisational structures are integrated at the system level through ongoing learning, resource generation and management, and outcomes for organisational effectiveness (Örtenblad, 2002).

Silins and Mulford (2002) provides a holistic understanding about school as learning organisation, they defined the concept by concluding that SLOs provide space for effective teaching and learning process, a collaborative environment for efficient learning, and effective leadership as well as shared development goal for the organisation. There exists a plethora of literature that suggest schools to become a learning organisation in order to enhance their leadership development.

The model proposed by Kools and Stoll (2017) focuses on dimensions of SLO with collective endeavour on: shared vision; continuous learning process; team and collaborative learning; culture of innovation; exchanging knowledge and learning; larger learning environment; and growing learning leadership. This refined model by Kools and Stoll from their previous study highlights that leadership is also an essential concept of a learning organisation, and it plays an important role in transforming schools into a learning organisation. Kools and Stoll (2016) explain that these underlying characteristics or dimensions highlight the types that a school institution would aspire to be and the process that the institution has to undergo in order to transform itself into a learning organisation. It has been concluded that leadership has emerged as an important factor in terms of learning organisation. An efficient learning organisation can be achieved by having good leadership. Thus, the main purpose of creating a learning organisation, should be as to generate effective leadership within the institution.

1.6 Policy Context

Policies provide insights for developing organisational interventions, and frameworks to develop and restructure the learning ecology of schools to ensure individual well-being. The policy acknowledges the learning of students towards the improvement of secondary school education in the country. The policy frameworks advocate improving teaching quality in order to improve student performance and further improvisation of the education system. Considering this, few policy initiatives have been enumerated to understand the reforms, improving student, teacher, and an organisation's quality and efficiency.

The National Education Policy (2020) mentioned school complexes and a management committee comprised of community representatives, teachers, students, administrator, and parents. The committee collectively takes decisions about school administration, resource sharing, and other issues related to the school. These complexes ensure effective monitoring, innovation, resource sharing, governance, and leadership practice for school development. The school complexes aid in the empowerment of individuals, increasing efficiency and accountability of the educational system.

Peer learning networks for regular discussions, meetings, and knowledge sharing were also envisaged in the National Education Policy (2019). The policy proposed aligning the local academic and teacher support system with the block and cluster level resources centers to improve the professional development of teachers. By enhancing academic assistance and guaranteeing proper physical infrastructure and learning materials, the head teacher or school principal is held accountable for creating a learning culture inside the school.

The OECD (2013) initiative of Innovative Learning Environments (ILE) aims toward

positive educational reforms through innovative ways of enabling learning organisation. It uses innovative strategies to connect pedagogy with learning principles. It provides an opportunity for schools and the education system to collaborate and develop their social and professional capital.

School and education systems can become powerful and more effective by i) inculcating learning as a central medium of engagement, ii) facilitating learner's identity, iii) making learning as a social and collaborative process, iv) addressing the learner's needs, emotions and motivations, v) individual differences and assessments consistent with feedback, vi) promoting horizontal connectedness between activities, subjects and outside environment.

Adolescence is a period marked by increased physical and mental developments characterised by several changes in individual's physical, social, cognitive and mental aspects. Schooling during this phase should focus on enhancing cognitive outcomes and non-cognitive abilities. Research studies have mentioned the safe, supportive learning environment, peer group, family support, and student-teacher relationship as significant factors influencing academic wellness and well-being of students.

The National Education Policy (2020) emphasises the importance of socio-emotional learning, the role of schools in supporting children's health and the importance of having a school counsellor for academic performance and student well-being. Socio-emotional improves cognitive and emotional resilience; promotes social engagement through innovative pedagogy to increase students' academic success and well-being. To address the psychological needs of the students, there would be a counsellor available for career guidance and address the mental health-related problems. The draft provided guidelines for ensuring quality and equity in education for underrepresented communities by providing special care, financial support, safety, nutrition, and student well-being

initiatives.

The vision of the National Education Policy (2020) includes addressing the learning needs of students and providing quality education to develop 'knowledge, skills, values and dispositions that support responsible commitment to human rights, sustainable developments and living, and global well-being'. The policy emphasized early childhood care and education for the holistic development and well-being of students. The Policy also mentioned integrating sports to enhance students' cognitive abilities through physical and psychology well-being. Sports help students to remain physically active and fit and develop skills such as teamwork, collaboration, self-discipline, responsibility, citizenship, etc. The policy also mentioned the learning environments and their role in developing capacities for good health and students' physical, psychological, and social well-being.

The policy also provides insights into managing schools as a team where the community members, parents, teachers, and school staff work in collaboration for institutional excellence. This includes having clear objectives, age-appropriate learning, autonomy, accountability, and decision-making through leadership strategies. Chapter 12 of the draft sheds light on developing minimum learning environments and student support. The objective is to *"ensure joyful, rigorous and responsive curriculum, engaging and effective pedagogy, and caring support to optimize learning and the overall development of students."* To enable effective learning, a comprehensive approach has been proposed, which includes: i) making curriculum engaging, relevant and addressing the vision for achieving desired outcomes; ii) stimulating learning experiences through effective pedagogy and pedagogical practices which influence learning outcomes; iii) development of student capabilities which can promote physical, psychological, social and emotional well-being on ethical grounding for quality education. The policy highlighted some fundamental requirements as ingredients necessary for

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quality learning:infrastructure, resources, technology, relevant, engaging curriculum and pedagogy.

The policy emphasised the regulatory framework, ensuring integrity, transparency within the system, proper resource allocation and utilization, accountability, autonomy, innovation, governance and empowerment. Teachers occupy a central position in the learning process and provide high-quality education for all. The policy highlighted the relevance of a positive learning environment and culture to ensure teacher effectiveness, teacher motivation, workplace safety, inclusive education, and quality of education for all. The new guidelines have been envisioned to bring a systemic change in the overall culture of secondary education institutions through empowerment, autonomy, innovation, build capabilities through mentoring and support from the government. While basic infrastructure, educational quality, educational level restructuring, educational equity and equality are some core components reworked in NEP, technological interventions in education has found a prominent place in the NEP discourse. It emphasizes the utilitarian and sole positioning of technology in the education sector. The policy mentioned creating knowledge hubs and facilitating a learning ecosystem through collaboration and partnership; very important at the secondary level.

1.7   Rationale

The educational systems are constantly trying to upgrade to address the learning needs of students, improve student outcomes, ensure quality and equity of education through technological interventions, enhance teacher capabilities, using innovative pedagogies. However, the current education system faces several challenges in addressing gender and social disparities, teacher shortage, poor learning outcomes. and insufficient resources

for teaching and learning. To become sustainable learning spaces, it is important to address the current challenges by exploring the various attributes of teachers and students within the educational ecosystem.

The contextual factors in any system are important determinants for an efficient organisational environment. In this regard, learning ecology as a parameter becomes crucial to assessing an organisation's comprehensive understanding. The present study utilizes distinct perspectives by using a mixed-method approach. Learning ecology involves understanding the interrelationships and dependencies between different components of an education system, which requires each region's contextual factors, and developing developmental strategies.

For the purpose of the present study, secondary education was selected as an intentional choice. It acts as a transition phase and also serves an important purpose in producing a workforce for developing the economy. The social, cultural, and economic factors across all districts differ in Rajasthan and the literacy level of Jhunjhunu is 74.72% and Jalore is 54.86%. So, it provides an opportunity to explore the group differences and causal attributions of the determinants and the demographic characteristics. The study compares between a better performing and poor performing district in Rajasthan on various factors. In a school setting, the prominent responsible variables could be considered as learning ecology and well-being from a student and teacher perspective. The research attempts to explore the dimensions of school as a learning organisation.

It is vital to understand the transformative processes to ensure educational change and innovation through capacity building, empowerment and building collective capabilities. The study realizes the importance of learning ecology and well-being of students to collectively transform school as a learning organisation. Together, learning ecology and student well-being have been explored in the context of transforming schools as learning

organisation as a measure of school effectiveness, addressing societal needs.

1.8 Research Questions

The present study aims to answer the following research questions:

- How has secondary education defined and placed the importance on the learning ecology of teachers in instilling the well-being of students?

- What are the recommendations of policies for the advancement of creating a learning ecology in schools and enhancing the well-being of students?

- How are learning ecology and student well-being related to the school learning organisation, and what factors contribute to learning ecology and well-being of students at the secondary school level in Jhunjhunu and Jalore?

- Whether there exists a difference in the learning ecology of public schools in Jhunjhunu and Jalore based on the teachers' characteristics like gender, age, marital status, the highest degree and annual income?

- Whether students' demographic characteristics like gender, age, class, repetition of class and tuition class pose any difference in the well-being of students from government schools in Jhunjhunu and Jalore districts of Rajasthan?

- How do demographic attributes of teachers such as gender, age, marital status, the highest degree and annual income predict the learning ecology of teachers from Jhunjhunu and Jalore in Rajasthan?

- How do demographic characteristics of students such as gender, age, class, repetition of class and tuition class predict well-being of students from Jhunjhunu and Jalore districts?

- How does the predictive value of teacher and student demographic characteristics differ in predicting the learning ecology of teachers and student well-being, respectively, in the Jhunjhunu and Jalore districts of Rajasthan?

1.9 Objectives

I. To examine the differences in learning ecology and its dimensions based on the demographic characteristics (gender, age, marital status, highest degree and annual income) of teachers across the Jhunjhunu and Jalore districts in Rajasthan.

II. To examine the differences in student well-being and its dimensions based on the demographic characteristics (gender, age, class, repetition of class and tuition class) across the Jhunjhunu and Jalore districts in Rajasthan.

III. To analyse the effect of gender, age, marital status, highest degree and annual income on the learning ecology of teachers across Jhunjhunu and Jalore districts of Rajasthan.

IV. To analyse the effect of gender, age, class, repetition of class and tuition class on the well-being of students from Jhunjhunu and Jalore districts in Rajasthan.

V. To identify and measure different factors that contribute to the construct of the learning ecology of teachers and the well-being of students at the secondary level.

VI. To propose an integrated framework of school as a learning organisation inclusive of learning ecology and well-being of students.

1.10   Hypotheses

- H1: There exist no significant differences in the learning ecology of teachers from the Jhunjhunu and Jalore districts based on demographic characteristics such as gender, age, marital status, highest degree and annual income.

- H2: There exist no significant differences in the well-being of students from the Jhunjhunu and Jalore districts based on demographic characteristics such as gender, age, class, repetition of class and tuition class

- H3: There is no effect of demographic characteristics (gender, age, marital status, highest degree and annual income) on the learning ecology of teachers from Jhunjhunu and Jalore districts in Rajasthan.

- H4: There is no effect of demographic characteristics (gender, age, class, repetition of class and tuition class) on the well-being of students from Jhunjhunu and Jalore districts in Rajasthan.

- H5: There exists no significant relationship between the dimensions of learning ecology.

- H6: There exists no significant relationship between the dimensions of student well-being.

1.11   Thesis Structure

The thesis consists of five chapters. The first chapter is an introduction that offers an overview of the education system, focusing on secondary level education in Rajasthan.

The chapter also provides a detailed overview of transforming schools into a learning organisation based on an integrated framework of learning ecology and student well-being to improve students' non-cognitive outcomes and ensure school effectiveness. The second chapter begins with a survey of existing literature, exploring different attributes of teacher capabilities, student well-being, school as a learning organisation, and various theories related to school development and effectiveness. The third chapter describes the method and research design used to carry out the investigation. This includes a description of the sample, instruments used and statistical techniques and data analysis of pilot data. Chapter four includes quantitative data analysis of learning ecology and student well-being and thematic analysis of the interviews. Chapter five includes a discussion based on the findings and relevant literature support to substantiate the findings.

Chapter 2

REVIEW OF LITERATURE

The present chapter discusses the existing literature on the learning ecology, student well-being and school as a learning organisation. The chapter includes a review of the following concepts: learning ecology, school vision, professional development, collaboration feedback, school climate, leadership, teacher capability, technology integration, well-being, academic self-efficacy, school engagement and learning organisation. The chapter provides a comprehensive understanding of the concepts, different theoretical frameworks and various components associated with learning ecology, learning organisation and student well-being in transforming schools as a learning organisation.

2.1 Learning Ecology

Ecology refers to the environment and how individuals interact with each other at various levels. It is important to consider diverse perspectives that link individual learning with the external environment to provide a comprehensive understanding of ecology, facilitating the transformation of individuals and the learning process. According to Simmons et al. (2004), both environment and ecological education involve cognitive learning as an integral part of learning that focuses on the student's way of learning. 'Learning Ecology', is thus a derivate of 'ecology', which refers to the physical, social and cultural contexts in which an individual's learning takes place. In simple terms, learning ecology explains that social interactions and interaction with the physical infrastructure

and society affect an individual's learning process.

Bronfebrenner's Bioecological model also emphasizes that social interaction, physical infrastructure and environment play a significant role in learning ecology (Bronfenbrenner, 1981). Likewise, the Socio- Ecological System (SES) refers to the ecological and social environment that leads to enhancing the learning of individuals (Elsawah et al., 2020). The Activity Theory also focuses on the six elements that emerge from the environment or the activity: the subjects (participants), the objects (ecosystem), community, tools, rules and division of labour (Yamagata-Lynch, 2003). Similar to the ecological system, activity systems involve learning opportunities (Burns, 2015). Various studies suggest that the metaphor of ecology in the learning context refers to the relationship between an individual and their respective learning environment (Barron, 2006). It reflects that learning is not just an internal process; rather, it is a combination of socio-cultural, situational, and environmental conditions that leads to the learning of individuals (Petrides & Guiney, 2002).

Theories highlight that the physical environment presents around individual influences their learning (Bateson, 1972; Garrison, 2001). Correspondingly, other theories like Person-Environment Fit Theory also suggest a close-linked relationship between an individual and their environment (Caplan & Van Harrison, 1993; Midgley, Feldlaufer, & Eccles, 1989). It claims that not only do humans influence the environment, but the environment also influences individual learning and behaviour.

There also exist various learning ecology frameworks emphaises the stages that involve self-sustaining learning structures for individuals. According to Myra (2015), the learning ecology model consists of elements: instructor control, individually, relation and social. This model highlights the self-sustaining environment for learning, which includes the notion of preference and self-decision. The learning ecology framework

by Stuart, Wilson, and Watson (2004) asserts that learning might start by understanding the complex relationship between the learner's qualities, supportive environment, and effective teacher-student relationship, which overall affects the learning of the individual. These frameworks highlight that learning ecology is a complex model that deals with the individual's intrinsic motivation and the proximal environment, the infrastructure present, and the social relationship that the individual presumes their learning.

Ecological Systems theory

Bronfenbrenner (1981) proposed the Ecological Systems theory, which provides a framework for understanding human development through a complex system of interrelationships and interdependencies within a nested environment. The various levels include the immediate or proximal settings such as the school and home; distant factors such as the community, policies, cultural values and customs. The theory divided the individual's environment into various categories- microsystem, mesosystem, exosystem, macrosystem, and chronosystem. Another category was introduced by Bronfenbrenner (2005), known as bio ecology, which refers to the person's biological system. The system talks about the relationships across various levels and the bidirectional influences. The various levels are:

- Microsystem: It is the immediate environment such as home, school, community

- Mesosystem: It refers to the connections between immediate proximal environmental elements such as parent-teacher interactions

- Exosystem: Environmental settings that influence the development of a person. These as the family socio-economic conditions, parent workplace conditions

- Macrosystem: It includes the social norms, ideologies, cultural values and beliefs. For example gender rules and norms

- Chronosystem : It reflects on the time interval, life transitions and developmental milestones

The ecological framework provides a bidirectional, reciprocal relationship between the learner and the environment, forming an interactive learning environment. The learner is referred to as the bioecology within a nested system which includes elements of the microsystem or the learning environments (such as the school, home, and human body) interacting with the developmental processes such as the socio-emotional, cognitive, and physical aspects (Johnson, 2014). The learning environments help in developing human capabilities.

Teacher Capabilities

The capability approach, a normative framework often used in a philosophical context, also holds empirical implications for conceptualising and evaluating concepts such as inequalities, well-being, social change, etc. Sen (1999) emphasized that the focus of our evaluations and policies on what individuals can accomplish and be, on the quality of life of people, reducing any barriers hindering progress and potential to live a life with greater flexibility, freedom and lead a meaningful life. According to the capability approach, functioning is 'the various things that a person holds value in doing or being' and capabilities are a combination of functioning that a person can achieve, with the freedom to lead a life having value and meaning. According to Sen et al. (1999) the conversion factors are those factors that can facilitate using resources to become new functions. Robeyns (2005) categorized conversion factors into three sources that enable or act as a barrier in attaining a person's capability. The various types of conversion factors are i) personal conversion factors, ii) social conversion factors, and iii) environmental conversion factors. Personal conversion factors refer to

a person's physical condition, mental state, and internal attributes such as metabolism, and intelligence. Social conversion factors are such as social norms, policies, gender roles, power relations, and hierarchical structures are related to society. Environmental conversion factors related to the environment, geographical location, climate, topology, etc.

Nussbaum (2006) divided capabilities as i) basic capabilities, also known as innate abilities ii) internal capabilities – internal factors allowing a person to exercise a capability; iii) combined capabilities involve a combination of internal capabilities and external conditions that allow a persons' freedom to exercise a capability. She further provided a list of capabilities, forming a capability set. The categories are: i) life, ii) physical health, iii) physical integrity, iv) senses, imagination, and thought, v) emotions, vi) practical reason, vii) affiliation, viii) other species, ix) play, and x) environmental control.

The capability approach embraces ethical individualism but not ontological individualism, which is a primitive understanding that social or historical groupings, processes, and events are nothing more than complexes of individuals and individual actions conceptualised 'in the head' of the individual. (Robeyns, 2005). The capability accounts for the social aspects, structures, and environmental factors enabling or acting as barriers to converting resources or commodity into functioning and the choices an individual takes to lead a quality of life (Tshiningayamwe, 2016). Using a case study method, the researchers identified different conversion factors contributing to the teacher's capabilities. Tshiningayamwe and Lotz-Sisitka (2021) mentioned teacher experience, qualification, subject specialization as personal conversion factors and teaching & learning resources, support material, understanding curriculum, policies as social conversion factors. The environmental factors include collaborative learning spaces

facilitating knowledge sharing and the physical environment. Professional learning communities (PLC) can contribute toward teacher capabilities and achievement of their valued functioning (Thomas & Songqwaru, 2021).

2.2 School Vision

Developing a vision centered on the development and well-being of students is essential as it provides a sense of direction and purpose for the teachers, parents, and students. According to (Deal & Peterson, 2016), the school's important features include its mission and vision. A statement of vision focuses on the destination ("where a school aims to go"), which provides policy guidance, planning, school practice, decisions, and activities, whereas a statement of mission focus on the journey of the school ("how the school plans to achieve the goals") in achieving the vision (Rozycki, 2004).

The vision and mission statements of the school arise from a set of fundamental questions addressing the purpose of education and how the educational programs should be carried out. They are essential in the planning, administration, and future directions for efficient school functioning (Abelman, 2014). Research studies suggest that the school's vision should focus on quality, equity, equality, and inclusiveness for school efficiency and effectiveness. Principal leadership and communication of the vision of the school contribute to the concept of school effectiveness (Barnett & McCormick, 2003). Vision has been attributed as the core leadership task, characteristic of a charismatic and transformational leader (Shamir & Howell, 2018). Vision has been identified to contribute to having a sense of direction and building motivation and commitment. (Barnett & McCormick, 2003) conducted a study to understand the relationship between vision and teacher motivation, using a case study analysis of four schools. They reported vision to

be commonly agreed future goals as a stimulus for change, providing a sense of direction to the principal, teachers, and the community. The Vision of the schools emphasized providing a good learning environment, addressing students' individual needs, providing quality education, and building relationships.

(Allen, Kern, Vella-Brodrick, & Waters, 2018) analysed the vision and mission statements of schools and identified important themes:academic achievement, health, social and emotional learning, school belongingness, environment, culture, and well-being. The school vision is an essential factor for creating effective schools and ensuring the learning outcomes of students. Morphew and Hartley (2006) criticized that school vision statements are found vague and unrealistic. There is a need to develop achievable goals (Manley & Hawkins, 2009) and ensure shared understanding and collective ownership of the vision.

2.3   Professional Development

Teachers play an important role in shaping the future of the students. They are instrumental in ensuring a progressive, just, educated, and prosperous society. School as a learning organisation recognizes teachers as 'knowledge workers' and emphasises their professional learning to create a sustainable learning culture (Stoll & Kools, 2017). Professional development of teachers is essential to ensure effective teaching to equip the students with the necessary skills and competencies such as critical thinking, creativity, innovativeness, collaboration, and community engagement. Effective professional development has been defined as *"changes in teacher knowledge and practices are results of structured professional learning that further contribute towards improvements in student learning outcome"* (Darling-Hammond, Hyler, & Gardner, 2017).

Professional development includes various opportunities and training provided to the staff to improve their teaching strategies. This includes learning from experienced teachers, attending workshops, training programs, and conferences, and seeking feedback from others (Archibald, Coggshall, Croft, & Goe, 2011). *"Professional development is defined as inclusion of activities that helps in developing an individual's knowledge, skills, expertise and other characteristics as a teacher"* (OECD, 2009). The conceptual framework of teacher development integrates social, emotional, cognitive, and behavioural aspects of becoming a whole teacher (Chen & McCray, 2012). This includes i) attitudes about content, institutional practice; ii) knowledge regarding the content, institutional methods and student's needs and iii) classroom practices.

Teacher professional development influences classroom practices, teacher satisfaction and student outcomes (Ingvarson, Meiers, & Beavis, 2005). According to Darling-Hammond et al. (2017), *"the characteristics of effective professional development include active learning that supports collaboration, job embeddedness, coaching, providing expert support, feedback, and reflection for the teachers for a sustained duration of time"*. Effective professional development models incorporate strategies to develop professional learning communities for teachers that can ensure active, collaborative, and reflective job-embedded learning (Archibald et al., 2011; Chen & McCray, 2012; Darling-Hammond et al., 2017; Ingvarson et al., 2005).

2.4 Collaboration and Feedback

Feedback through teacher evaluation is essential for effective classroom management (Tucker, Stronge, Gareis, & Beers, 2003). Using a reflective dialogue was found to be very effective in sharing feedback and teacher evaluation (Tang & Chow, 2007;

Tucker et al., 2003). Feedback can have multiple uses: source of motivation for teachers (Firestone, 2014); instrumental in professional learning activities; influencing the beliefs of teachers and symbolic reaffirming the beliefs and vision (Visscher & Coe, 2003); act as an incentive and ensure commitment (Hamid & Mahmood, 2010). With rapid technological advancement, ICT integration in teaching and learning is still a challenge. Nevertheless, several studies have mentioned the role of technology and online modules that can enhance teacher development and provide learning opportunities, mentoring, and collaboration (Drossel, Eickelmann, & Gerick, 2017). Hargreaves and O'Connor (2018) proposed the concept of collaborative professionalism, which includes exercising collective autonomy, efficacy, inquiry, responsibility, and initiative where teachers engage in mutual dialogue, maintaining good relationships with students to strive towards the common goal. They emphasized building a collaborative network and social capital between the stakeholders to improve student learning.

Collaborative professionalism is important to ensure trust and respect between the teachers, developing professional learning communities, learning attitudes and learning culture within the school striving toward student development. Active learning through collaborative community endeavour during teacher professional development has been identified to be integral to effective professional development (Darling-Hammond et al., 2017; Tuytens & Devos, 2017). Several studies have supported that teacher collaboration can enhance student learning, job satisfaction and teacher development (Banerjee, Stearns, Moller, & Mickelson, 2017; S. Gray & Ward, 2019; Reeves, Pun, & Chung, 2017).

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2.5 School Climate

One of the imperative contributing components in learning ecology is the school climate. Nearly all the data-induced learning facilitation strategies support school climate, effectively reducing dropouts and improving student retention (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). In this regard, the understanding of school climate has ranged from 'cumulative quality of environment in the premises of the school' to 'collective internal features which differentiate between schools and simultaneously influence the behaviour of the learning generation' (Tagiuri, 1968). School climate should facilitate positive learner experiences by integrating ambitions, values, social interactions and teaching-learning strategies (Preble & Gordon, 2011).

School climate is the pattern of students' experience of parents and school administration reflecting rules, norms and values encompassing collegial relationships towards teacher learning practices. A sustainable school climate facilitates student development and learning skills, including social, emotional, and physical needs. Recent systematic literature reviews based on 78 studies published from 2000 onwards demonstrate that a positive school climate is strongly linked to improved learning outcomes in students with insignificant socio-economic status (De Pedro, Gilreath, & Berkowitz, 2016). Additionally, other studies have explored the relationship of school climate with adolescence and found that a positive school climate increases the likelihood of physical, behavioural, and learning outcomes in the adolescents (Wang & Degol, 2016). Various researchers have identified dimensions of school climate which can be grouped into five factors: safety, teaching, institutional environment, interpersonal relationship and social media. Studies have reported school climate influences the achievement levels of students, student dropout rate (Coleman, 2015), academic success, and learning

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outcomes such as social skills, self-esteem, and psychological state (Ozen, 2018). School climate is represented as a broad, multidimensional framework consisting of four broad categories: i) academic, ii) community, iii) safety, and iv) institutional environment (Wang & Degol, 2016).

Musheer, Govil, and Gupta (2016) used a school climate inventory with the dimensions: physical, socio-emotional safety, quality of instruction, respect for diversity, community & collaboration, morale, and environment; to understand the perceptions of secondary level students about their school. The study found that the students expressed satisfaction with their school, and the medium of the school played a significant role.

Numerous studies have mentioned that learning in children is facilitated by a safe and supportive school climate within the accountable, constantly improving educational structures (Melnick, Cook-Harvey, & Darling-Hammond, 2017). Conversely, other studies have demonstrated that learning impairment occurs in unsafe, fearful, violent learning spaces (Hong & Eamon, 2012; Vogel & Schwabe, 2016). Thus, the inclusion of school safety and support within the definitions highlights the importance of a learning climate within the school context that is highly facilitative of cognitive development and adaptive behaviours to handle stress and adversities and have positive school experiences.

2.6   Leadership

Leaders enact a vital role in building effective organisations through proper guidance, hence influencing them to improve their efficiency, capacity and commitment by motivating and empowering them by ensuring teacher efficacy and safe a learning environment (Day & Sammons, 2013). Hargreaves and O'Connor (2018) highlight that efficient leaders focus on developing a shared school vision, collaboration and team

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learning, and strengthening the morale of individuals. The main task of societal leaders is to ensure open communication between all the stakeholders involved and thus work towards a positive learning environment. Leaders ensure open communication with all the members, and try to create a learning environment to ensure commitment and satisfaction by bringing changes to the organisational processes, structures and operations (Billingsley, DeMatthews, Connally, & McLeskey, 2018).

Leadership involves focused decisions and strategic means to ensure goal attainment and effective organisational performance (Norzailan, Othman, & Ishizaki, 2016). Strategic leaders are: i) future oriented, ii) data and outcomes driven, iii) demand performance based accountability, iv) build a culture that values achievement, v) strategies and trainings focused on professional learning, vi) encourage innovation, technology integration in the teaching and learning process (Grundy, 2017). Deeboonmee and Ariratana (2014) used the strategic leadership framework consisting of dimensions: i) setting directions, ii) strategic plans, iii) control and evaluation, v) organisational culture to measure school effectiveness. The study was conducted on 533 school staff and found significant positive relationship between strategic leadership and school effectiveness. Strategic leadership was identified to be an important attribute in developing the vision, formulating future plans, effective implementation, teamwork and student development.

The school Principal plays a key role in identifying the challenges and areas of improvement within the school structures and processes (Mombourquette, 2017). Principals who engage with the school community were successful in ensuring collective action, empowering individuals towards achieving the institutional goals and meeting the student learning needs.

2.7 Teacher Collegiality

Teacher collegiality refers to the interactions and relations with various stakeholders in the education system. Collegiality refers to the cooperation and collaboration between the colleagues who work towards the same goal and share responsibility. It refers to the relationship of people who are working together, which might affect the environment of the organisation. Literature suggests that teacher collegiality helps in promoting warmth, trust and collaborative functioning within the school spaces. Rahman (2022) points out in his study that collegiality and collaborations are the terms that are used interchangeably with time in reference to educational practices in school institutions. Schools are the best places for various interactions which share collective values to shape the professional identity (Orchard et al., 2021). Collegiality accentuates interpersonal care and interdependencies within the learning networks and communities. The schools are perceived as the community spaces which promote partnerships through team building and various facets of a flourishing organisation (Gülsen & Çelik, 2021; McCarthy & Daniels, 2022).

Collegiality has been explained as more than collaboration among stakeholder, which involves teacher's involvement at any level to discuss and have a participatory argument be it related to academic, intellectual, social, emotional or political (Jarzabkowski, 2002). Teacher collegiality plays an inevitable role in establishing strong relationships in school structures (Tschannen-Moran, 2009). Researches persist on the underlying factor that strong collegial relationship is directly linked to the improvement in schools and their success (Barth, 2006; Shah, 2012).

To deal with the difficulties they encounter in the beginning of their teaching careers, freshly trained instructors require formal support. The relationship between

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understanding other colleagues' areas of competence and valuing their expertise in the collegial network is mediated by through the Principal and support from colleagues (Vanmol, Vos, Beausaert, & Wilde, 2022). Collegiality among teachers and staff is important as it leads towards a more vibrant environment in school institutions and serving students the best in academics (Webber & Nickel, 2022). Teacher Collegiality does not simply involve teachers conferring to each other or with the staff, rather it involves the relationship among the teacher which leads to a stable and warm environment in school institutions. Hence, we can say that teacher collegiality plays a significant role while talking about school institutions, student learning and its outcome.

2.8   Technology Integration

Technology has always played a significant role in the teaching and learning process. Since the onset of the pandemic, the integration of technology has been drastically escalated, especially in the education sector. Technology has been adopted in every sector, including the educational sector. A number of studies focused harnessing technology to build student and teacher competencies (Aubusson, Schuck, & Burden, 2009). Hence, adoption of the technology is inevitable in order to enhance the existing structure in learning organizations. There exist various 'success stories' of technology interventions at school levels; however, mode knowledge about hardware, software, connectivity, technological practices and their socio-cultural aspects also plays an important role in bringing out the positive teaching and learning outcome. But these outcomes have not remained steady and sustainable across classrooms to promise the transformation in school structures (Fisher, 2010). Hence, it becomes important to not only integrate technology in schools, but also to sustain that practice of technology in schools in order

to bring out the technological transformation in schools.

The rapidly evolving models of *"technology enhanced learning environments"* (TEAL), first introduced at MIT in the year 2003, emphasise the importance of acoustics, furniture, lighting (both natural and artificial), mobility, flexibility, air temperature, and security in supporting the educational technologies. It is critical that these new innovations align with the physical space and educational technologies so that both can support the pedagogies in the conventional manner (Fisher, 2010).

Existing research indicates that an individual's adoption of innovation does not only depend on the attitude of the individual, but rather involves organization policies, action, and external environment around the individual (Peansupap & Walker, 2005). The organisational environment needs to provide the facilitating condition in order for the individual to adopt and innovate. Consequently, for students to adopt any new technology or ICT skills, the availability of those gadgets in the school premises also plays an important role, hence giving rise to facilitating conditions. Various other research points out the fact that another important factor leading toward the adoption of ICT. Kim, Chun, and Song (2009) assert that 'trust' is another critical external factor that leads to adopting any new innovative technology. Technology intervention at school plays an important role in creating a learning culture for students, which is different from adopting various teaching and learning aids, hence includes the internal motivation and infrastructure of schools as well to be important aspects when arguing about school learning culture.

2.9   Well-being

In the education ecosystem, positive education has gained considerable importance in designing teaching practices, training modules for professional development, teacher

effectiveness and ensuring learning outcomes and well-being among students. Well-being from an ecological perspective involves physical, cognitive, social, emotional, psychological and existential components. White and Kern (2018) emphasized on integrated positive education as the base of pedagogy, teaching & learning processes and practices aligned towards achieving well-being. Soutter et al. (2011) emphasised the need for expanding the quantifiable metrics to measure well-being including physical, mental health, resilience, positive school experiences, relationships and academic engagement.

Optimizing academic success among secondary level students remains a challenging task with the existing inequalities, increasing dropouts and poor achievement levels among students. An assessment of the positive psychological constructs of student well-being indicated that psychosocial, cognitive and physical well-being of students regulates their learning, learning outcomes, feelings of empowerment and satisfaction (Soutter et al., 2011).

Student well-being and engagement are socially embedded, context-dependent and intertwined with student's positive experiences, empowerment, and sense of agency. Effective school engagement involves the acquisition of knowledge, skills, participation in learning activities, relationships with peers, teachers, school community, efficacy, sense of agency over one's actions. Schools being multi-layered and dynamic require students to adopt different strategies to adapt to the school environment.

Well-being is seen as an outcome of education, enabling students to build their capabilities to lead a productive, meaningful life as adults in society (Nussbaum, 2006; Sen, 2009). Sen et al. (1999) defined flourishing as well-being, it is the capability of a student to choose a life that has meaning, value comprising functioning, which are the things that a person gives value to do or be. The availability of resources provides freedom, which is multifaceted, instrumental in developing the capabilities and adds to

the capability set of an individual to achieve the fullest agentic potential (Walker, 2005). Classroom spaces contribute toward shaping the academic experiences of students (Warf & Arias, 2009). Leander and Sheehy (2004) viewed the classroom as an example of material culture that enables different experiences, resource availability, student, teachers, and technology integration in teaching and learning. Student well-being is measured as a process and outcome variable as flourishing, which helps in linking the capabilities of students with their inspirations, freedoms to lead a life of Value (Sen, 2009). Nussbaum (2006) emphasized on the role of education in cultivating capabilities for citizenship and civic participation, Which includes self-awareness and relation of self with society. Spratt (2017) reported that the goal of education is to enhance the freedom of students, allowing them to achieve their goals, and thrive in the present and future.

Student Well-being

Student Well-being is identified as an outcome of school effectiveness and quality education. Overall harmonious development of a student involves congruence between the cognitive, affective, social aspects. Affective outcomes involve student emotions, feelings, and attitudes toward learning and school. According to Howard, Bureau, Guay, Chong, and Ryan (2021), student well-being involves positive emotional states, achieving harmony between personal needs, and expectations of students towards school deliverables. Students are considered as social actors driven by learning based on observations and experiences.

The Structural Model

The Structural Model of Student Well-being, presents itself as a dynamic process where a child is an active social agent and an actor interacting with people, institutions and cultural environment. It involves physical, social, material and psychological elements and the interplay between them within an individual and societal sphere of well-being

(Minkkinen, 2013). The individual aspect involves the social, material, mental and physical components, whereas the societal aspect involves the circle of care, structures of society, culture, as shown in the figure. 2.1. The first outer circle or layer of the model – subjective action involves fulfilment by engaging in internal (perceptions, thinking, memory) and external activities (overt behaviours) based on the eudaemonic perspective. External activities such as exercise, playing games, participating in school activities, creative projects, and team assignments involving arts, and crafts promote students' cooperative learning spirit and civic involvement. It is based on the capabilities that act as a bridge between the individual and society well-being.

The next circle or layer – structures of society and culture reflecting on the social norms, learning environment, cultural practices and the interactions with these structures. This includes having a safe learning environment, playground, students' rights that facilitate agency and empowerment through decision-making. Culture involves the shared beliefs, norms, and attitudes of people in a geographical location which form the basis of expression, culture-related behaviours, representations, and attitudes. The model emphasizes on the self as the focal point having internal prerequisites and its connections with subjective action and societal well-being. Well-being is an outcome of interpersonal, intrapersonal, societal and cultural processes.

A sociological theory of 'welfare', defined well-being as a state of satisfying the basic – material and non-material human needs (Allardt, 1993). He categorized the needs as either objective or factual indicators and subjective or perceptions of well-being indicators.

The factual or objective indicators are based on school statistics, enrollment, student-teacher ratio, resource allocation, budget, group size etc. The subjective indicators are individual's perceptions of satisfaction, self-fulfilment, social relationships and

Figure 2.1: The Structural Model of Student Well-being by Minkkinenu (2013)

environment. The human needs are further classified as: i) having , ii) loving, and iii) being. Having involves material conditions and interpersonal needs, loving refers to the social identities and relationships, being as personal growth and leading a meaningful life. He further added health as another element of well-being.

According to Konu et al. (2002), School well-being model involves integrating student learning, achievement,and well-being with learning and learning processes. The model used the ecological relationships of a student interdependent and interactions with surrounding community, pupils, home environment; teaching and education practices;

Figure 2.2: The School Well-being Model by Konu, Lintonen and Autio (2002)

and learning processes. According to the school well-being model as shown in figure 2.2, school conditions are part of 'having' - a school environment, learning space, physical conditions such as ventilation, infrastructure, school safety, services provided at school and curriculum. Social relationships are considered the 'loving' aspect, involving relationships between teachers-students-parents, relationships with friends, school climate and school organisation.

Home environment, parental involvement, surrounding environment, community support, etc., are part of this category. The model also included bullying and maladaptive behaviours as a negative aspect of social relationships. Means for self-fulfilment in school is considered as 'being' aspect of well-being which refers to engaging in meaningful activities, active leisure, and how the school as an organisation facilitates self-fulfilment

in students. The culture, processes and learning experiences in the school should facilitate student engagement, agency, and empowerment. Health status means the absence of disease, illness, and without any physical, mental symptoms or any chronic conditions (Konu et al., 2002).

Despite differences in the explanation and indices of student well-being, there is some degree of commonality and consensus that it is a multidimensional phenomenon, a dynamic process involving physical, social, material, psychological, cognitive elements interacting within the socio-economic and environmental conditions contributing towards educational attainment and quality of school life.

2.10 Academic Self-efficacy

Academic self-efficacy refers to the non-cognitive ability of the students to engage in effective practices for academic achievements, which also includes effective time management, goal-directed behaviours forming self-efficacy beliefs (Gafoor & Ashraf, 2007). It is a psychological construct that explains the energy to be utilised for theattainment of behavioural performances and also alters the level of functioning. Bandura (1991) explains it as an individual's belief to produce particular goal attainment, which also controls one's own motivation, action, conduct and social milieu. Students who possessed strong self-efficacy, had more internal locus of control with higher aspiration (Gutman & Akerman, 2008).

Students' aspirations of academia or career have direct contribution towards self concept on factors like education and occupation. Students have more orientation towards achievement level if career aspiration is also being considered (Schlee, Mullis, & Shriner, 2009). As per Hill and Taylor (2004) student expectation had a major role in

accomplishing higher attainment. Direct correlation between aspiration of career and attitudinal factors (Gray & O'Brien, 2007). Self-efficacy is a person's confidence in one's ability to execute the action to accomplishment of any goal. Self-efficacy has a significant role in career aspiration towards education. Mau and Bikos (2000) found that academic plans had proved to be the most important contributor in accomplishing the goal regarding student's desire to achieve.

2.11   School Engagement

School engagement as a multifaceted construct that involves students' experiences at school, their commitment, interest, motivation, and engagement in school related activities. Using an integrated perspective, the research literature has emphasized different dimensions of school engagement. (Janosz, Archambault, Morizot, & Pagani, 2008) conceptualized school engagement as a complex transaction between personal, family, and the school aspects of a student. They characterized school engagement as both academic and social integration of a student within the school environment. Academic characteristics include achievement, interest in learning activities, and social integration, which includes rejection/social isolation, student–teacher connections, and engagement in extracurricular activities (Reyes, Brackett, Rivers, White, & Salovey, 2012).

Engagement has been defined as *"associated with positive academic outcomes, including achievement and persistence in school; and it is higher in classrooms with supportive teachers and peers, challenging and authentic tasks, opportunities for choice, and sufficient structure"*(Fredricks, Blumenfeld, & Paris, 2004). It includes participation in academic, social and extracurricular activities, positive school experiences, and

comprehending complex tasks and skills. (Veiga et al., 2012) conceptualized school engagement using the four dimensions: cognitive, affective, behavioural and personal agency. Where cognitive dimension includes students' investment, learning approaches, self-directed learning, perceptions and beliefs about self, academic aspirations and self-efficacy. Sense of identification with school, emotional reactions associated with school, sense of school belongingness etc., involves the emotional or psychological dimension.

The behavioural dimension includes the practices and actions directed towards learning. Agency has been defined as the student's contribution toward instruction and learning. The multidimensional nature of school engagement has been proposed by several, and the extent to which students are motivated to learn.

Studies have identified that school engagement can enhance student achievement, positive or constructive school behaviours, adjustment, have a degree of high self-concept and reduce school dropout. Focus on school engagement has resulted in positive consequences of psychological development and well-being among students (Fredricks et al., 2004; Veiga et al., 2012). (Janosz et al., 2008) explored the developmental patterns of school engagement and their relationships to school dropouts. The study was conducted on a sample size of 13,330 students from 7-11th classes in Quebec. They found that engagement and disengagement patterns were similar for both boys and girls and attributed situational factors like early marriage, low socioeconomic status, early entry into workforce or personal problems that could force girls to dropout schools despite showing stable and good level of school engagement.

Several contextual variables related to school engagement are: i) school context variables: school climate, school's organisation, decision-making, leadership, autonomy, learning environment. ii) Family context: family models, capital, resources, income, education, parental relationships, socioeconomic status iii) Personal variables: gender,

self-concept, life satisfaction, subjective well-being and iv) Academic outcomes: school behaviour, achievement, learning (Veiga et al., 2012). Fredricks et al. (2004) mentioned individual needs such as need for autonomy, relatedness, competence as antecedents of engagement. The three dimensions of school engagement are as follows: i) the behavioural dimension, which includes compliance, participation in school activities, and participation in extracurricular activities; ii) the affective dimension, which includes socioemotional interest in school; and iii) the cognitive dimension, which includes learning motivation and the use of self-regulation strategies.

Academic self-efficacy, interest and engagement, functional student-teacher relationships were found to enhance well-being and student achievement. They were found to reinforce student participation and skills (Pietarinen et al., 2014). The study found positive correlations between physical well-being, cognitive well-being, social well-being and school engagement. (Kern, Waters, Adler, & White, 2015) used the PERMA model on 516 Australian students and examined the cross-sectional associations for measuring well-being. The study explored the nomological net of well-being, where positive emotion was associated with school engagement, physical vitality, life satisfaction, hope and gratitude. Physical well-being influences social functioning and health status beliefs (Capio et al., 2014), adherence to physical activity with health-related quality of life (Klavestrand & Vingård, 2009). Academic anxiety involves an uncomfortable feeling of nervousness, worry, tension related to school, learning, and tests. Examinations and continuous evaluations being part of the education system can contribute to academic stress among students. Students who have language problems, low levels of achievement, problems in learning can experience high levels of academic anxiety. Rehman (2016) mentioned that academic anxiety could be caused due to: i) poor study habits, ii) personal factors, iii) school environment, teachers, examination and iv) familial factors.

No significant differences based on gender and location of schools (rural or urban) were found to influence academic anxiety in secondary level students. Kohli, Malik, et al. (2013) emphasized evaluating the environmental influences leading to academic anxiety.

In academic settings, the school context involves many factors influencing student interest, motivation, emotions, well-being, and engagement in academic activities. To ensure proper development and learning, there is a need to focus on educational interventions that can target positive emotions, and facilitate physical, cognitive, social and psychological well-being. Some of the interventions that can facilitate well-being and school engagement are: academic management skills, goal setting, counselling, and guidance for academic adjustments, resilience, proper study habits, developing the reading and writing skills of students, facilitating positive experiences, life skills training, stress management and exposure therapy.

2.12   Learning Organisation

A learning organisation can be understood as a structure that has the capacity for adaptability and generativity to ensure productivity and effectiveness (Senge, 1990). The figure 2.3 shows the components proposed by Senge (1990), which provides insights for transforming organisations into a learning organisation by aligning people, organisation structures, process and culture and ensuring learning opportunities for all. The five components are Systems thinking, personal mastery, mental models and shared vision. Personal mastery involves continuous learning opportunities for people, learning as a lifelong process. Mental models are the deeply held images or patterns through which we think and act, the cognitive schemas. A shared vision is something that every member of the organisation resonates with or feels a sense of identity and

mission to accomplish. Team learning involves working as a group, team dynamics and building team capabilities. Systems thinking revolves around the understanding that an organisation is open, which enables managers to look at an organisation in its totality, people, processes, and practices (Worrell, 1995). The level of commitment and individuals' capacity to learn are the two factors that contribute to an organisation's success and efficiency. Individual ideas, values, and norms must be aligned with efficient techniques, processes, and practises with an attitude of 'learning to learn' to facilitate a learning culture within the organisation (Senge, 1990).

Figure 2.3: Elements of Learning Organisation by Senge (1990)

System thinking as a framework has been used widely to address the influencing factors of an organisation. Based on the perspective of systems thinking, an organisation has the capacity to achieve the institutional goals by improving the processes for improved outcomes and productivity (Kools & Stoll, 2016). Systems thinking is a framework that addresses all the interrelated components and how they influence each other. The

concept of learning organisation emerged from the *'general systems theory'* proposed by Bertalanffy (1934), which emphasized creating open systems, and understanding the relationships and interdependencies within the organisational structures and processes. A learning organisation as an open system would be able to identify and bring changes to the environment to foster learning and productivity. According to Senge (1990) systems thinking enables leaders to create a culture of team learning, and collaboration to enhance team efficiency, have meaningful interactions, and learn new skills and professional creativity (Dochy, Laurijssen, & Kyndt, 2011). Worrell (1995) mentioned that systems thinking would help managers *"see holistically the organisation, its environment and the relationship between the events affecting the organisation"*. Bui and Baruch (2010) identified organisational success as an outcome of shared vision and systems thinking with an orientation towards improving the quality and productivity.

The integrative perspective merges two constituents; people and structure. They are considered as interactive elements of organisational change. Few studies have used an integrated perspective by aligning people, process and structures of an organisation to understand the concept of learning organisation. According to integrative perspective, learning organisation is defined as alignment to a shared vision and interpretation of changing environment, generation of new knowledge to create innovative products and services, meeting customers' requirements. The seven action imperatives include continuous learning, inquiry and dialogue, team learning, embedded system, empowerment, system connection and strategic leadership (Watkins & Marsick, 1993; Yang, Watkins, & Marsick, 2004). According to Örtenblad (2002), an organisation has four aspects to be known as a learning organisation; learning at work, organisational learning, learning climate, learning of structure, to obtain desired results and establishing learning structures

2.13   School as a Learning Organisation

To satisfy students' learning requirements and tackle the difficulties of the twenty-first century, schools must transform into learning organisations, to build sustainable learning capabilities within the organisation (Berman & Graham, 2018; Cherkowski & Walker, 2016). Schools as learning organisation model contemplates providing a measure in the Indian educational system. In order to empower the schools to become a learning organisation, structure, people, strategies, and processes must all be integrated to create a learning environment as shown in figure 2.4.

Figure 2.4: Integrated model of learning organisation by Marsick and Watkins (1999).

Stoll and Kools (2017) proposed a model of school as a learning organisation which consisted of seven dimensions and transformational processes. To enable schools as learning spaces, it is important to provide learning opportunities for teachers and students and enhance the learning capabilities. Kools and Stoll (2016) define a school learning organisation as having *"capacity to change and adapt routinely to new environments and circumstances as its members, individually and together, learn their way to realising*

their vision". There exists learning with rapidly changing features across different levels, and it demands integration of various factors. The domains of the integrated model of Marsick and Watkins (1999) are: *"a) vision centred on the learning of all students, b) learning opportunities for all staff c) team learning and collaboration d) culture of inquiry innovation and exploration e) embedding systems f) network with external environment g) leadership".*

2.14   Research Gap

Ensuring quality and equity in the education system demands collaborative efforts between different stakeholders and constant up-gradation of competencies of teachers and school leaders. Education for the 21st century demands integration of sustainability, well-being and learning spaces in formal education to transform individuals, create adaptive environments in schools, equip students and teachers with capabilities and schools that flourish. In the Indian context, there exist lack of studies on school learning organisation that can be practically conceptualized at the micro, meso and macro levels. There is a need for developing a conceptual framework which integrates learning ecology and student well-being to build learning capabilities and competencies as an outcome of quality education and improve school effectiveness. Integrating people, processes, and practises to build learning culture, learning opportunities, and collaboration through innovation is required to transform a school into a learning organisation. It is essential to build the competencies of teachers, students, and school leaders to achieve educational goals and increase learning outcomes.

However, the available literature, though emphasizes on the importance of non-cognitive outcomes of students, lacks empirical validation in relation with the school

related factors and teacher attributes. There exists a dearth of Indian studies on positive school experiences, student's quality of life in the context of learning organisation. The study also identified the need for developing a questionnaire to assess the learning ecology, well-being of students. Absence of studies exploring the ecology of schools and self-efficacy, student well-being.

Additionally, the study identified lack of studies focused on various sociodemographic characteristics contributing towards learning ecology and well-being of students. Research studies emphasize on the role of ICT as a powerful driver of educational change and innovation, but their implementation was found to be poor or inadequate.

The educational paradigms and efforts should be focused on transforming existing practices and increasing the competencies of teachers and school leaders to achieve educational goals and increase learning outcomes. Further, by integrating and empowering people and structures can help in building the professional competencies of teachers, positive school experiences, future preparedness with employability skills, ensure academic success and quality of life among students

Chapter 3

METHODOLOGY

The study explores learning ecology and student well-being in the context of transforming schools into a learning organisation at the secondary education level. To address the objectives of the study, an in-depth investigation using a mixed-method approach was used. In a mixed method approach, both qualitative and quantitative data are incorporated to obtain a comprehensive picture. According to Creswell, Plano Clark, Gutmann, and Hanson (2003), *"A mixed-method study involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority and involve the integration of the data at one or more stages in the process of research."*

The chapter explains the methodology adopted for investigating the research objectives. This includes an explanation of the methodology - research design, sampling technique, and tool construction - establishing reliability and validity through factor analysis.

3.1   Method used

Research design provides a blueprint for researchers on how to address the objectives of a study (Creswell et al., 2003). The study used a sequential explanatory mixed-method approach involving two phases to explore the objectives of the study. The design involves combining the qualitative and quantitative aspects to comprehensively understand the variables - the Learning Ecology of teachers and the Well-being of students. The findings

from the quantitative analysis help in understanding the perception of teachers towards learning ecology in schools and perceptions of students on their well-being. Qualitative data in the form of semi-structured interviews was used to explain and understand the important factors responsible for enhancing the learning ecology within the schools and improving student outcomes and well-being. Various determinants of learning ecology and student well-being were identified to propose an integrated framework for school as a learning organisation.

3.1.1 Variables Involved

The variables involved in the study are operationally defined as:

- **Learning Ecology**: It refers to school ambience, school vision, teacher professional development, leadership, and technology integration as determinants of learning ecology.

- **School Ambience**: It has been defined as the amalgamation of the physical infrastructure, school culture, and environment, facilitating teacher and student development.

- **School Vision**: It involves the plan and direction, which is centered on the development, effective learning, and well-being of students.

- **Teacher Professional Development**: It is defined as training and activities for developing the teacher's knowledge, skills and expertise in the teaching practice.

- **Leadership**: It is the activity of articulating vision, encompassing values, shaping the learning environment for achieving the organisation's goals.

- **Technology Integration**: It refers to the availability, accessibility and inclusion of technology in the teaching and learning process.

- **Learning Culture and Collegiality**: It refers to creating learning opportunities, forming network groups, team learning, collaboration for knowledge sharing, and mentoring.

- **Student Well-being**: It refers to the positive mental state of students involving psychological, physical, social, material, and cognitive domains of student development.

- **Cognitive Well-being:** It refers to the student's perception of their learning and achievement. It involves academic self-efficacy, academic interest, engagement, and self-concept.

- **Social Well-being:** It refers to the quality of social life and the interpersonal and intrapersonal relationships with people and the school environment. It includes students' sense of belongingness with school, student-teacher relationship, parental involvement, and cooperative learning spirit.

- **Physical Well-being:** It refers to being physically active and participating in school activities.

- **Material Well-being:** It involves access to material resources, infrastructure and digital devices required for proper physical-cognitive development, which would ensure student learning.

- **Psychological Well-being:** It involves students' evaluations of their life, school engagement, satisfaction, achievement motivation, aspirations and goals.

- **School as a Learning Organisation**: It refers to integrating the people, processes, and structures of an education system, creating a learning ecology towards effective school functioning.

3.1.2   Population and Sample

The primary data for the study was collected from government senior secondary schools in Rajasthan. The 2011 census suggests that the overall literacy rate of Rajasthan is 66.11%, which is lower than the national average of 74.04%. There has been remarkable progress in the last decade with the improvements in the enrolment rate, increased access to schools, and the number of teachers in schools. The Unified District Information System for Education (U-DISE) is an education management information system (EMIS) that contains information about the schools. It is one of the databases which records the enrolment rate of students, dropout rates, information about toilet facilities, physical infrastructure, teacher availability and shortage etc. According to U-DISE data, the number of schools in Rajasthan has increased significantly. There are about 11,315 senior secondary schools in Rajasthan. The report published by the NITI Aayog, Government of India, indicated that the Net Enrolment Rate (NET) of secondary level students of Rajasthan in the year 2015-16 was 41.14, which was lower than compared to the other states - Uttar Pradesh (41.98), Jharkhand (49.61).

Rajasthan has several educational challenges, such as - students having poor access to schools, low learning levels, enrolment rate, quality, and literacy levels. The state is marked by several socio-cultural factors and practices influencing the quality of education.

Several interventions and programs were introduced to improve the enrolment rate of students, and reduce the number of dropouts and learning outcomes.

Figure 3.1: Rajasthan - District-wise Literacy rate according to census 2011

The population of the study is defined as all government senior secondary schools in Rajasthan. According to the U-DISE 2019-2020 report card, there are about 11,315 senior secondary schools in Rajasthan, out of which 794 are in urban areas, and 10,521 are in rural areas. Rajasthan has 33 districts, and the literacy rate of each district, according to the census 2011 is presented in figure 3.1. The top three districts in terms of literacy rate in Rajasthan are Kota (76.56%), Jaipur (75.51%) and Jhunjhunu (74.72%). The districts with the least literacy rate in the state are Pratapgarh (55.97%), Sirohi (55.25%) and Jalor

(54.86). To draw a comparative analysis using the random sampling method (lottery method), one better performing and one low-performing district were selected for the study. The study selected one district between the top three and bottom three districts in terms of literacy rate.

According to the ASER (2018) report, Jhunjhunu has the most negligible percentage of children out of school and better learning outcomes than other districts. Jalore district has several challenges in catering to the needs of students and teachers. The sample of the study includes teachers and students from government senior secondary schools in Jhunjhunu and Jalore districts in Rajasthan.

Sampling

The sampling frame was created based on U-DISE 2019-2020 report. According to the report, there are about 349 senior secondary schools in Jhunjhunu and 300 senior secondary schools in Jalore. Jhunjhunu district consists of eight blocks: Chirawa, Udaipurwati, Jhunjhunu, Khetri, Nawalgarh, Buhana, Surajgarh, and Alsisar. The Jalore district also consists of eight block: Ahore, Jalore, Bhinmal, Raniwara, Sanchore, Jaswantpura, Chitalwaha, and Sayla. It was decided to select approximately 10% of senior secondary schools from each district. Schools were selected through a systematic sampling technique, with representation from each block within the district. A total of 60 schools were selected for the study. Out of which 33 schools were from Jhunjhunu district and 27 schools from Jalore district.

To select the sample size of teachers and students, the study used the Yamane formula (1967), where the sample size was calculated at 7% precision (e) levels. The formula is

$$n = \frac{N}{1 + Ne^2}$$

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where n = sample size, e = margin error, N = target population. The sample size was calculated at the sampling error of 0.07. By using this formula, the present study included a total of 394 teachers, out of which 177 from the Jhunjhunu district and 217 from the Jalore district. Similarly, a total of 690 students from 9th and 10th classes from both the districts were included in the study, out of which 388 students are from the Jhunjhunu district and 302 are from the Jalore district were selected. The teachers and students from each block within the district were selected to ensure representation from all the blocks.

3.2   Tools for Data collection

For the purpose of collection of data, two scales were prepared, namely the Learning Ecology Scale (LES) and the Student Well-being Scale (SWB). The psychometric properties of the tools, in terms of reliability and validity, were calculated for generalisability. The description of the standardisation process was explained in the subsequent sections. Qualitative data were collected using semi-structured interview schedules, and the findings of the qualitative interviews are presented in the last section of the chapter.

3.2.1   Development of Learning Ecology Scale (LES)

The Learning Ecology Scale was prepared based on the literature review. Items were formulated for each attribute of a learning ecology. Experts from the domain of Educational Psychology validated the items of the scale. The scale included seventy items that were accessed for language correction, vagueness, repetition, and redundancy. Finally, fifty-one items were retained to establish content validity, to check whether the

scale incorporated all pertinent domains. Content validity was verified to determine whether the scale covered all aspects of building a learning ecosystem in the classroom.

The scale was given to seven experts to check content validity, and experts were provided with a checklist for identifying the item as relevant or non-relevant. After validation, some items marked as not relevant were removed. The scale consisting of 45 items were administered to teachers for pilot testing.

LES consists of different dimensions, namely - school vision, teacher professional development, learning community, teacher collegiality, school culture & environment, and leadership and technology integration. The scale aims to assess the learning ecology of teachers based on different dimensions, on a Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Sometimes, 4 = Agree, and 5 = Strongly Agree.

3.2.2 Development of Student Well-being Scale

Student Well-being is a positive psychological state encompassing physical, psychological, social, emotional, cognitive and material components, enabling satisfaction with self and having positive school experiences. The student well-being scale was developed based on the literature review of various models and frameworks on student well-being. The dimensions of the Student Well-being Scale are: cognitive, psychological, physical, social, and material dimension. The cognitive dimension includes items related to academic self-efficacy, academic interest and engagement; the psychological dimension includes items related to achievement motivation and satisfaction; the physical dimension includes items related to physical activities, active participation in sports and eating habits. The social dimension includes items related to school belongingness, parent-teacher-student relationship, parental involvement, and cooperative learning spirit among

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students. The material dimension includes items related to resource availability and infrastructure. The questionnaire had thirty-five items, which experts evaluated. After corrections, the questionnaire consists of thirty items. Student well-being consists of five dimensions: Cognitive, Psychological, Physical, Social, and material dimension. The items are rated on a Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Sometimes, 4 = Agree, 5 = Strongly Agree). Table 3.1 presents the dimensions of student well-being, sub-dimensions and number of items in each dimension.

Table 3.1: *Student Well-being Scale - Dimensions and No. of items*

Dimension	sub-dimensions	No. of Items
Cognitive Dimension	Academic Self-efficacy	9
	Academic Interest & Engagement	
Psychological Dimension	Achievement Motivation	5
	Satisfaction	
Physical Dimension	Nutrition - having breakfast and midday meal	5
	Physical activities	
	Participating in school activities	
Social Dimension	School Belongingness	8
	Cooperative Learning Spirit	
	Student-Teacher relationship	
	Parental involvement & relationship	
Material Dimension	Availability of resources	3
	Resource utilization	

3.3 Data Analysis - Pilot Study

3.3.1 Learning Ecology

For the pilot study, five secondary schools from Jhunjhunu and five senior secondary schools from Jalore were selected using a random sampling technique. The questionnaire was administered on 119 teachers, out of which 62 (52.1%) were selected from the Jhunjhunu district and 57 (47.9%) were selected from the Jalore district. The sample characteristics of teachers for the pilot study are presented in Table 3.2

Table 3.2: *Sample Characteristics -Pilot study*

District		
	Frequency	Percent
Jhunjhunu	62	52.1
Jalore	57	47.9
Gender		
	Frequency	Percent
Male	68	57.1
Female	52	42.9
Age Group		
	Frequency	Percent
24-36	28	23.5
37-48	57	47.9
49-60	34	28.6
Marital status		
	Frequency	Percent
Unmaried	6	5.0
Married	113	95.0
Years of Experience		

	Frequency	Percent
1-12	57	47.9
13-24	40	33.6
25-36	22	18.5
Annual Income		
	Frequency	Percent
1-5 lakh	49	41.2
Above 5 lakhs	70	58.8
Highest Degree		
	Frequency	Percent
Bachelors	18	15.1
Masters	101	84.9

Statistical Analysis

The skewness and kurtosis values were used to determine if the data were distributed normally. Cronbach's alpha was used to assess the scale's internal consistency. To establish the validity of LES, exploratory factor analysis (EFA) was executed on the data set to figure out the factor structure explaining teacher learning ecology. Figure 3.2 shows the normal distribution curve for learning ecology scores. Table 3.3 shows the mean, standard deviation, minimum, maximum, skewness and kurtosis, and reliability coefficient.

Table 3.3: *Learning Ecology Scale*

	LE Scale
Number of Items	45 items
Sample Size	119
Mean	160.65

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SD	26.282
Minimum	104
Maximum	220
Skewness	-.417
Kurtosis	-.336
Cronbach's alpha	.962

Figure 3.2: Normal Probability Distribution of LES scores

Exploratory Factor Analysis

The learning ecology scale having 45 items were subjected to exploratory factor analysis (EFA) using the principal component analysis (PCA) method and varimax (orthogonal) rotation method. The communalities of each item is presented in table 3.4. The assumptions of EFA were examined. KMO value should be between 0 and 1, where value closer to 1 is considered to be good. Bartlett's test of sphericity tests the null hypothesis that the correlation matrix is an identity matrix. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .793 (Field, 2009) and Bartlett's test of sphericity, $x^2 990 = 5274.92, p < .001$. It was found significant, suggesting that item correlations were sufficient for principal component analysis. The values also validated the matrix's factorability (Tabachnick, 2012). The KMO and Bartlett's Test of Sphericity values is shown in table 3.5.

Table 3.4: *Communalities*

	Initial	Extraction
SV1	1.00	.759
SV2	1.00	.661
SV3	1.00	.800
SV4	1.00	.628
SV5	1.00	.676
SV6	1.00	.788
SV7	1.00	.754
SV8	1.00	.534
PD1	1.00	.646
L2	1.00	.777
L3	1.00	.677
L4	1.00	.587
PD2	1.00	.542
PD3	1.00	.733

PD4	1.00	.642
PD5	1.00	.756
LCC1	1.00	.689
LCC2	1.00	.445
LCC3	1.00	.684
LCC4	1.00	.640
PD6	1.00	.570
LE5	1.00	.572
LCC6	1.00	.659
LCC7	1.00	.662
LCC8	1.00	.788
LCC9	1.00	.691
LCC10	1.00	.620
LCC11	1.00	.552
SA1	1.00	.749
SA2	1.00	.818
SA3	1.00	.635
TI1	1.00	.645
SA4	1.00	.748
SA5	1.00	.646
SA6	1.00	.712
SA7	1.00	.714
TI2	1.00	.395
TI3	1.00	.607
SA8	1.00	.758
SA9	1.00	.842
SA10	1.00	.757
PD7	1.00	.617
SA11	1.00	.624
L1	1.00	.697
LCC12	1.00	.563

Table 3.5: *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.793
Bartlett's Test of Sphericity	Approx. Chi-Square	5274.922
	df	990
	Sig.	0.000

Figure 3.3: Scree plot

Eigenvalue determines factor extraction criteria and scree plot, so six factors were identified as appropriate for extraction. A scree plot is a representation of the eigenvalues on the y-axis and the number of factors on the x-axis, with the point where the slope of the curve levels out, indicating the number of factors created by the analysis. The factors

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above Eigen value>=1, were retained, as shown in figure 3.3.

Table 3.6: *Factor loadings - Learning Ecology*

Rotated Component Matrix						
Component						
Item	1	2	3	4	5	6
Factor 1						
SA1	.577					
SA2	.617					
SA3	.521					
SA4	.481					
SA5	.562					
SA6	.727					
SA7	.755					
SA8	.794					
SA9	.857					
SA10	.780					
SA11	.624					
Factor 2						
LCC1		.780				
LCC2		.533				
LCC3		.692				
LCC4		.717				
LCC5		.576				
LCC6		.679				
LCC7		.655				
LCC8		.719				
LCC9		.614				
LCC10		.497				
LCC11		.475				

LCC12	.526			

Factor 3		
SV1	.592	
SV2	.764	
SV3	.689	
SV4	.728	
SV5	.646	
SV6	.712	
SV7	.816	
SV8	.570	
Factor 4		
PD1	.535	
PD2	.545	
PD3	.825	
PD4	.701	
PD5	.674	
PD6	.586	
PD7	.533	
Factor 5		
L1		.509
L2		.833
L3		.398
L4		.401
Factor 6		
TI1		.485
TI2		.331
TI3		.519

The factor-wise loadings of each item are presented in the rotated component matrix table. Correlation values below .40 were removed. The factor loading of each item is

shown in table 3.6. Table 3.7 represents the eigenvalue, number of items in each factor and the percentage of variance explained by each factor.

Table 3.7: *Reliability estimates of the factors*

Reliability estimates	Factor					
	1	2	3	4	5	6
Eigenvalue	17.83	3.4	3.19	2.4	1.77	1.433
Percentage of Variance explained	39.62%	7.55%	7.09%	5.4%	3.93%	3.18%
Number of items	11	12	8	7	4	3

The six factors that were retrieved together explained 66.79% of the variation. Factor 1 named as "School Ambience," accounted for 39.62% of variance. The items correspond to the school environment. Factor 2 named as "Learning culture and collegiality," accounted for 7.55% of the variance. The factor consists of items related to learning opportunities in schools, relationships with other teachers, forming network groups, team learning, mentoring and knowledge sharing. The third factor contributed 7.09% of the variance, "School Vision." Items related to the vision of the school and institutional goals were included in this factor. Factor 4 accounted 5.4% of the variance and was named "Teacher Professional Development". The items of this factor correspond to teacher training, professional learning, knowledge expertise, and using models of effective teaching. Factor 5 contributed 3.93% of the variance and was named "Leadership". Factor 6 accounted for 3.18% of the variance and was named "Technology Integration." The items of this factor were related to access and usage of technology, ICT-based skills, and application in the teaching and learning process. The reliability coefficient, Cronbach alpha value of 45 items of the learning ecology questionnaire is .962. The reliability coefficient values of six factors are within the acceptable range and are considered good.

3.3.2 Student Well-being

The data were collected from students in the 9th and 10th class of government secondary schools in the Jhunjhunu and Jalore districts of Rajasthan. Of the 300 students, 152 (50.7%) were boys, and 148 (49.3%) were girls. Students belonging to 9th class were 74 (24.7%) and 10th class were 226 (75.3%). Skewness and kurtosis were used to examine the data for normality. The mean value of the total score is 120.76, a standard deviation of 19.06. Skewness (-.178) and Kurtosis (-.014) were in the acceptable range. The acceptable range of skewness and kurtosis is ±2, and the values of the present study fall under the acceptable range confirming normalcy.

Figure 3.4: SWB- Normal Probability Distribution

The reliability coefficient, Cronbach alpha value, is .909, considered acceptable. To establish the validity of the student well-being scale, the data set was subjected to

exploratory factor analysis (EFA). It was used to identify the underlying factor structure of students' well-being. Figure 3.4 shows the normal distribution curve for the well-being scores of students. Table 3.8 shows the mean, standard deviation, minimum, maximum, skewness, kurtosis, and reliability values for student well-being scale.

Table 3.8: *Descriptive statistics - Student Well-being*

	SWB Scale
Number of Items	30 items (Initially) & 26 After PCA
Sample Size	300
Mean	95.7
SD	10.87
Minimum	67
Maximum	126
Skewness	-.178
Kurtosis	-.014
Cronbach's alpha	.829

Exploratory Factor Analysis

Exploratory factor analysis (EFA) was performed on a 30-item student well-being scale using the principal component analysis (PCA) approach, followed by a varimax (orthogonal) rotation. Items with communality values below .30 were removed and PCA was analysed again. Four items were removed. The communality value of each item is presented in table 3.9

Table 3.9: *Communalities*

	Initial	Extraction
C1	1.00	.551
C2	1.00	.556
C3	1.00	.53
C4	1.00	.47

C5	1.00	.446
C6	1.00	.517
C7	1.00	.385
Ph1	1.00	.612
Ph2	1.00	.645
Ph3	1.00	.661
Ph4	1.00	.566
S8	1.00	.398
M1	1.00	.59
M2	1.00	.613
M3	1.00	.528
Psy1	1.00	.385
PSy2	1.00	.403
Psy3	1.00	.494
Psy4	1.00	.44
S1	1.00	.439
S2	1.00	.574
S3	1.00	.569
S4	1.00	.343
S5	1.00	.576
S6	1.00	.569
S7	1.00	.516

Table 3.10: *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.822
Bartlett's Test of Sphericity	Approx. Chi-Square	2388.141
	df	325
	Sig.	0.01

The KMO value used to measure sampling adequacy, KMO = .822 and Bartlett's test of sphericity, $x^2 325 = 2388.141, p < .001$, were found to be acceptable. The value of Bartlett's test of sphericity was found to be significant. The test examines the null hypothesis that the correlation matrix is an identity matrix. The values of KMO and Bartlett's test of sphericity are presented in table 3.10. This substantiated the factorability of the matrix (Tabachnick, 2012). Five factors were identified according to factor extraction criteria based on Eigen values. A scree plot is a representation of the eigenvalues on the y-axis and the number of factors on the x-axis, with the point where the slope of the curve levels out, indicating the number of factors created by the analysis. Figure 3.5 represents the scree plot. The rotating component matrix table 3.11 shows the factor-wise loadings of each item.

Figure 3.5: Student Well-being - Screeplot

Table 3.11: *Factor loadings - Student Well-being*

Rotated Component Matrix					
Component					
Item	1	2	3	4	5
Factor 1					
C1	.71				
C2	.727				
C3	.676				
C4	.64				
C5	.635				
C6	.663				
C7	.508				
Factor 2					
S1		.605			
S2		.58			
S3		.726			
S4		.515			
S5		.547			
S6		.606			
S7		.589			
S8		.462			
Factor 3					
Ph1			.742		
Ph2			.748		
Ph3			.775		
Ph4			.734		
Factor 4					
M1				.764	
M2				.766	

M3	.691

Factor 5	
Psy1	.55
Psy2	.478
Psy3	.695
Psy4	.645

Table 3.12: *Reliability estimates of the factors*

Reliability estimates	Factor				
	1	2	3	4	5
Eigenvalue	5.81	2.59	1.87	1.67	1.41
Percentage of Variance explained	22.36%	9.98%	7.22%	6.43%	5.44%
Number of items	7	8	4	3	4

Table 3.12 indicates the eigenvalue, the number of items, the reliability coefficient, and the proportion of variance explained by each factor. The five factors explained 51.45% of the variance. Factor 1 contributed 22.36% of variance, and named as "Cognitive Well-being." The items of this academic self-efficacy, academic interest & engagement. Factor 2 contributed 9.98% of the variance, and was called "Social Well-being." The items of this factor were related to school belongingness, student-teacher relationship, parental involvement and parent-teacher communication and cooperative learning spirit. Factor 3 contributed 7.22% of the variance and was named "physical well-being." The items of this factor were the nutrition, hygiene and physical activities of students. Factor 4 contributed 6.4% of the variance and was named "Material Well-being." The items were related to the availability of resources, teaching material, physical learning environment and utilisation of resources for teaching and learning. The fifth factor that contributed 5.44%

of the variance was called "Psychological Well-being" and The items corresponding to it were related to motivation, academic achievement, and satisfaction.

Chapter 4

RESULTS

This chapter presents a detailed examination of the data collected from the field. The quantitative data were obtained using the learning ecology and student well-being questionnaires. The results were computed using the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics (mean, standard deviation, frequency) and inferential statistics (t-test, Analysis of variance - ANOVA, Pearson's Product Moment Correlation). Analysis of Moment Structures (AMOS) version 22 was used to analyse confirmatory Factor Analysis (CFA) to confirm the underlying dimensions of the scales.

The chapter is divided into three sections, section 1 includes results of the quantitative analysis of learning ecology and the second section includes result of the quantitative analysis of student well-being. The last section deals with the findings from the qualitative data. Interviews of teachers, students and principals were transcribed and analysed using thematic analysis. The important themes identified are mentioned in the last section of the chapter from the analysis are mentioned.

4.1   Quantitative Data Analysis - Learning Ecology

Preliminary analyses were conducted to ensure the absence of outliers and no violation of normality. Outliers are values with extreme scores on one variable also known as univariate outlier or multivariate outliers. Outliers were removed from the data before doing the analysis. The normal distribution of data was checked using the Normal

probability curve (NPC) for the scores on the learning ecology scale and student well-being. Normality is assessed based on the symmetry of distribution also known as skewness and peakedness of distribution known as kurtosis. Fig. 4.1

Figure 4.1: Normal distribution, distributions with skewness and kurtosis

In case of a positive skewness, the data is concentrated at the left and the right end tail is long and when the data is negatively skewed, the cases are concentrated at the right with a long tail towards the left. If the peakedness of the distribution is short with thick tails, then the value is above zero and when the value is below zero, the peak is flat with too many cases near the tails. A non-normal kurtosis value indicates an underestimate of the variance of a variable (Tabachnick, Fidell, & Ullman, 2007). The normal distribution,

skewness and kurtosis distribution graphs are represented in the figure 4.1.

4.1.1   Sample Characteristics

Demographic characteristics - Learning Ecology Scale

The Learning Ecology Scale (LES) was administered on a total of 394 teachers (61.2% male and 38.8% female) working in government secondary schools in Rajasthan. Out of which, 177 (44.9%) teachers were from Jhunjhunu district (55.9% male and 44.1% female) and 217 (55.1%) teachers were from Jalore district (65.4% male and 34.6% female). To ensure equal representation, schools have been randomly selected from each subdivision within the district. Table 4.1 highlights the number of teachers from each subdivision or block within the Jhunjhunu and Jalore districts of Rajasthan.

Table 4.1: *Teachers from each block of Jhunjhunu and Jalore district*

Jhunjunu			Jalore		
	Frequency	Percent		Frequency	Percent
Alsisar	18	10.2	Ahore	21	9.7
Buhana	18	10.2	Bhinmal	25	11.5
Chidawa	23	13.0	Chitalwaha	22	10.1
Jhunjhunu	24	13.6	Jalore	50	23.0
Khetri	24	13.6	Jaswantpura	25	11.5
Nawalgarh	24	13.6	Raniwara	24	11.1
Surajgarh	24	13.6	Sanchore	27	12.4
Udaipurwati	22	12.4	Sayla	23	10.6
Total	177	100.0	Total	217	100.0

Table 4.2 reflects the demographic profile of teachers from Jhunjhunu, Jalore districts

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and combined data set. Out of the 394 teachers, 20.1% were in the 20-36 years age group, 47.7% in 37-48 years age group and 32.2% from 49-60 years age group. 8.1% were not married and 91.9% were married. Out of the 394 teachers, 71 teachers (18%) had Bachelor's degree and 323 teachers (82%) had Master's degree.

Table 4.2: *Demographic profile of teachers*

		Jhunjunu		Jalore		Total Data	
		N	%	N	%	N	%
Gender	Male	99	55.9%	142	65.4%	241	61.2%
	Female	78	44.1%	75	34.6%	153	38.8%
Age group	20-36	56	31.6%	23	10.6%	79	20.1%
	37-48	65	36.7%	123	56.7%	188	47.7%
	49-60	56	31.6%	71	32.7%	127	32.2%
Marital Status	Unmarried	14	7.90%	18	8.30%	32	8.10%
	Married	163	92.1%	199	91.7%	362	91.9%
Years of Experience	1-12 years	95	53.7%	97	44.7%	192	48.7%
	13-24 years	55	31.1%	69	31.8%	124	31.5%
	25-36 years	27	15.3%	51	23.5%	78	19.8%
Annual Income	1-5 Lakhs	97	54.8%	76	35%	173	43.9%
	Above 5 Lakhs	80	45.2%	141	65%	221	56.1%
Highest Degree	Bachelors	49	27.7%	22	10.1%	71	18%
	Masters	128	72.3%	195	89.9%	323	82%

4.1.2   Normal Distribution of Data

The graph in figure 4.2 represents the representation of normal distribution of data collected from teachers from Jhunjhunu, Jalore and combined data set of Jhunjhunu and Jalore.

Table 4.3: *Descriptive statistics of Learning Ecology Scale*

	Jhunjunu	Jalore	Jhunjunu + Jalore
N	177	217	394
Mean	153.73	132.7	142.19
Standard Deviation	28.929	17.59	25.57
Variance	836.892	309.6	653.922
Skewness	-0.281	-0.519	0.232
Std. Error	0.183	0.165	0.123
Kurtosis	0.254	-0.514	0.428
Std. Error	0.363	0.329	0.245
Minimum	54	89	54
Maximum	223	167	223

Table 4.3 shows the mean, standard deviation, minimum, maximum, skewness and kurtosis values of learning ecology score for Jhunjhunu, Jalore and Jhunjhunu & Jalore combined data set. The mean and standard deviation scores of teachers from Jhunjhunu (M = 153.73, SD = 28.92), Jalore district (mean = 132.7, SD = 17.59) and total data set (M = 142.19, SD = 25.57). The skewness and kurtosis values were in the acceptable range in all the three data sets, establishing a normal distribution of data. The skewness and kurtosis values should be within the range of +2 to - 2 (Field, 2017)

Figure 4.2: Normal Probability curve - Learning Ecology - Jhunjhunu, Jalore & Total data

4.1.3   Analysis of Differences in Learning Ecology scores

District wise differences

An independent samples t-test is a robust statistics which is used to compare the mean values of two independent groups. The independent samples t-test was used to examine the district wise differences on the total score of learning ecology and its dimensions across Jhunjhunu and Jalore districts of Rajasthan. Table 4.4 describes the mean, standard deviation and t-values for all the dimensions of LES. The results of t-test revealed significant differences on all the dimensions and the total score of learning ecology. The two groups differed significantly on dimension 1 - school ambience, t = 5.73, $p<.01$. Teachers from Jalore district expressed low levels of school ambience (M = 33.14, SD = 4.21) as compared to teachers from Jhunjhunu district (M = 36.2, SD = 6.32). The results also showed significant differences in dimension 2, learning culture & collegiality, t =8.54, $p<.01$; dimension 3 - school vision, t = 9.03, $p<.01$; dimension 4 - teacher professional development, t = 6.16, $p<.01$, dimension 5 - leadership, t = 7.58, $p<.01$ and dimension 6 - technology integration, t = 6.36, $p<.01$.

The study reported that there are significant differences between teachers from Jhunjhunu and Jalore districts. Teachers from Jhunjhunu scored high on all the dimensions of learning ecology as compared to teachers from Jalore district.

Table 4.4: *District wise Mean, S.D and t-value of learning ecology scores*

	District	N	Mean	SD	t
SA	Jhunjunu	177	36.2	6.32	5.73**
	Jalore	217	33.14	4.21	

LCC	Jhunjunu	177	40.86	7.87	8.54**
	Jalore	217	34.56	6.7	
SV	Jhunjunu	177	28.41	7.09	9.03**
	Jalore	217	23.1	4.5	
TPD	Jhunjunu	177	23.79	5.46	6.16**
	Jalore	217	20.71	4.4	
L	Jhunjunu	177	14.01	2.57	7.58**
	Jalore	217	12.16	2.27	
TI	Jhunjunu	177	10.46	2.36	6.36**
	Jalore	217	9.11	1.85	
Total Score	Jhunjunu	177	153.73	28.92	8.853**
	Jalore	217	132.7	17.59	

Note: SA - School Ambience, LCC - Learning Culture & Collegiality, SV - School Vision, L - Leadership,

TPD - Teacher Professional Development, TI - Technology Integration, * Significance at the .05 level;

** Significance at the .01 level

4.1.4 Group difference based on the demographic characteristics of teachers - gender, marital status, highest degree and annual income

To assess group differences based on teacher demographic characteristics (gender, marital status, highest degree and annual income), an independent sample t-test was utilised. The results from table 4.5 revealed that there are no significant differences between teachers from Jhunjhunu and Jalore district based on gender, marital status and annual income.

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Teachers with post graduate degree scored higher on learning ecology as compared to teachers with Bachelor's degree, t = 2.3, $p<.05$. There was no significant group difference based on annual income between teachers from Jhunjhunu and Jalore.

Table 4.5: *Demographic category wise Mean, S.D., t-value of Learning ecology scores - Jhunjhunu*

		N	Mean	SD	t
Gender	Male	99	154.87	32.032	0.589
	Female	78	152.28	24.56	
Marital Status	Unmarried	14	165.57	36.64	1.603
	Married	163	152.71	28.07	
Highest Degree	Bachelors	49	145.71	29.78	2.308
	Masters	128	156.8	28.11	*
Annual Income	1-5 Lakh	97	150.1	31.59	1.84
	Above 6 Lakh	80	158.13	24.81	

Note: * Significance level at the .05 level; ** Significance at the .01 level

The results from table 4.6 revealed significant gender differences on learning ecology scores of teachers from Jalore district, t = 5.84, $p<.01$. Male teachers from Jalore district scored high on learning ecology (M = 137.49, SD = 14.48) as compared to female teachers (M = 123.83, SD = 19.49). Similarly, significant group differences were observed based on marital status, t = 2.204, $p<.05$ and annual income, t = 3.02, $p<.05$ among teachers from Jalore district. Teachers who were not married scored high on learning ecology as compared to teachers who were married. Teachers with annual income between 1 - 5 lakhs scored high on learning ecology as compared to teachers with

annual income above 5 lakhs. No significant group differences were observed between teachers with graduate and post graduate degree.

Table 4.6: *Demographic category wise Mean, S.D., t-value of Learning ecology scores - Jalore*

		N	Mean	SD	t
Gender	Male	142	137.49	14.48	5.84
	Female	75	123.83	19.49	**
Marital Status	Unmarried	18	141.44	8.6	2.204
	Married	199	131.9	17.99	*
Highest Degree	Bachelors	22	138.18	20.8	1.52
	Masters	195	132.16	17.14	
Annual Income	1-5 Lakh	76	137.61	12.39	3.028
	Above 5 Lakh	141	130.16	19.38	*

Note: * Significance level at the .05 level; ** Significance at the .01 level

4.1.5 Dimension wise group differences on LES based on demographic characteristics

Gender differences

Group differences between male and female teachers were assessed on all the dimensions of learning ecology. Results from table 4.7 revealed no significant group differences based on gender differences on all dimensions of learning ecology among teachers from Jhunjhunu district. Significant group differences based on gender were observed on all dimensions of learning ecology among teachers from Jalore district. Male

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teachers from Jalore district scored higher on all the dimensions of learning ecology - school ambience, learning culture and collegiality, school vision, teacher professional development, leadership and technology integration. The results of teachers from Jalore district are presented in table 4.8.

Table 4.7: *Gender differences, Mean, S.D and t-value of learning ecology - Jhunjhunu*

	Gender	N	Mean	SD	t
SA	Male	99	36.38	7.087	.46
	Female	78	35.96	5.24	
LCC	Male	99	41.01	8.41	.27
	Female	78	40.68	7.17	
SV	Male	99	28.79	7.522	.43
	Female	78	27.94	6.521	
TPD	Male	99	23.93	6.09	.69
	Female	78	23.60	4.58	
Leadership	Male	99	14.24	2.462	.18
	Female	78	13.72	2.701	
TI	Male	99	10.52	2.682	.71
	Female	78	10.38	1.902	

Note: * Significance level at the .05 level; ** Significance at the .01 level

Table 4.8: *Gender differences, Mean, S.D and t-value of learning ecology - Jalore*

	Gender	N	Mean	SD	t
SA	Male	142	33.58	3.778	2.004*
	Female	75	32.29	4.85	

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LCC	Male	142	36.06	5.896	4.37**
	Female	75	31.72	7.43	
SV	Male	142	23.54	4.366	2.01*
	Female	75	22.25	4.67	
TPD	Male	142	22.2	3.56	7.05**
	Female	75	17.89	4.602	
Leadership	Male	142	12.56	1.97	3.37**
	Female	75	11.40	2.62	
TI	Male	142	9.55	1.712	5.13**
	Female	75	8.27	1.826	

Note: * Significance level at the .05 level; ** Significance at the .01 level

Differences based on marital status

The independent sample t-test results based on marital status revealed significant group differences in dimension 2 - learning culture & collegiality, t = 1.99, *p*<.05 and dimension 3 - school vision, t = 2.19, *p*<.05. Teachers who were unmarried scored high on learning culture and collegiality and school vision as compared to teachers who were married. The results of group differences based on marital status of Jhunjhunu district teachers are presented in table 4.9.

In Jalore district significant group differences based on marital status were found in the dimensions - learning culture & collegiality, t = 5.05, *p*<.01 and teacher professional development, t = 2.19, *p*<.05. In both the dimensions, teachers who were not married scored high on learning culture, collegiality and teacher professional development as compared to teachers who were married. The results of group differences based on marital status of Jalore district teachers are presented in table 4.10

Table 4.9: *Differences based on marital status, Mean, S.D and t-values of learning ecology - Jhunjhunu*

	Marital Status	N	Mean	SD	t
SA	Unmarried	14	38.64	8.617	1.12
	Married	163	35.99	6.08	
LCC	Unmarried	14	44.86	9.38	1.99*
	Married	163	40.52	7.66	
SV	Unmarried	14	32.36	6.57	2.19*
	Married	163	28.07	7.05	
TPD	Unmarried	14	25.36	7.32	.85
	Married	163	23.65	5.28	
L	Unmarried	14	13.71	3.361	.35
	Married	163	14.04	2.509	
TI	Unmarried	14	10.64	3.003	.31
	Married	163	10.44	2.312	

Note: * Significance level at the .05 level

Table 4.10: *Differences based on marital status, Mean, S.D and t-values of learning ecology - Jhunjhunu*

	Marital Status	N	Mean	SD	t
SA	Unmarried	18	34.06	2.388	1.56
	Married	199	33.06	4.34	
LCC	Unmarried	18	38.83	3.33	5.05**
	Married	199	34.17	6.87	

		N	Mean	SD	t
SV	Unmarried	18	22.83	5.272	.26
	Married	199	23.12	4.44	
TPD	Unmarried	18	22.89	3.479	2.19*
	Married	199	20.51	4.478	
L	Unmarried	18	13	1.91	1.63
	Married	199	12.09	2.298	
TI	Unmarried	18	9.83	1.2	1.74
	Married	199	9.04	1.88	

Note: * Significance level at the .05 level; ** Significance at the .01 level

Differences based on Highest degree

The group differences based on educational qualification of teachers from Jhunjhunu district are presented in table 4.11. The results revealed significant group differences between teachers with Master's degree and Bachelor's degree in the dimensions - learning culture and collegiality, t = 2.03, $p<.05$; school vision, t = 2.78, $p<.05$ and leadership, t = 2.34, $p<.05$. Teachers with postgraduate degree scored high on learning culture & collegiality, school vision and leadership as compared to teachers with Bachelor's degree.

In Jalore district significant differences between teachers with Master's degree and Bachelor's degree were found in the dimension technology integration, t = 2.79, $p<.01$. Teachers with Bachelor's degree scored high on technology integration as compared to teachers with Master's degree. The results of group differences based on education qualification are presented in table 4.12.

Table 4.11: *Differences based on highest degree, Mean, S.D. and t-value of learning ecology scores - Jhunjhunu*

Highest Degree	N	Mean	SD	t

	Highest Degree	N	Mean	SD	t
SA	Bachelors	49	34.71	6.419	1.94
	Masters	128	36.77	6.22	
LCC	Bachelors	49	38.8	8.67	2.03*
	Masters	128	41.66	7.42	
SV	Bachelors	49	26.06	7.08	2.78*
	Masters	128	29.31	6.91	
TPD	Bachelors	49	22.82	5.08	1.46
	Masters	128	24.16	5.57	
Leadership	Bachelors	49	13.29	2.517	2.34*
	Masters	128	14.29	2.55	
TI	Bachelors	49	10.04	2.3	1.45
	Masters	128	10.62	2.37	

Note: * Significance level at the .05 level; ** Significance at the .01 level

Table 4.12: *Differences based on highest degree, Mean, S.D. and t-value of learning ecology scores - Jhunjhunu*

	Highest Degree	N	Mean	SD	t
SA	Bachelors	22	32.86	4.121	.32
	Masters	195	33.17	4.23	
LCC	Bachelors	22	36.14	8.49	1.15
	Masters	195	34.38	6.5	
SV	Bachelors	22	24.45	4.57	1.49
	Masters	195	22.94	4.48	
TPD	Bachelors	22	21.73	4.88	1.13
	Masters	195	20.59	4.39	

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Leadership	Bachelors	22	12.86	1.61	1.53
	Masters	195	12.08	2.32	
TI	Bachelors	22	10.14	1.42	2.79**
	Masters	195	8.9	1.86	

Note: * Significance level at the .05 level; ** Significance at the .01 level

Differences based on Annual Income

The group differences based on annual income of teachers from Jhunjhunu district are presented in table 4.13. The results revealed significant differences between teachers with annual income 1-5 lakhs and above 5 lakhs in the following dimensions of learning ecology - school ambience, t = 2.67, *p*<.01, leadership, t = 2.07, *p*<.05 and technology integration, t = 2.56, *p*<.01. Teachers with annual income between 1-5 lakhs scored high on school ambience, leadership and technology integration as compared to teachers with annual income above 5 lakhs in Jhunjhunu district.

Table 4.13: *Differences based on annual income, Mean, S.D. and t-value of learning ecology scores - Jhunjunu*

	Annual Income	N	Mean	SD	t
SA	1-5 Lakh	97	35.1	7.1	2.67**
	Above 5 Lakh	80	37.53	4.94	
LCC	1-5 Lakh	97	39.97	8.56	1.67
	Above 5 Lakh	80	41.95	6.84	
SV	1-5 Lakh	97	27.93	7.71	1.02
	Above 5 Lakh	80	29	6.25	

TPD	1-5 Lakh	97	23.4	5.75	1.03
	Above 5 Lakh	80	24.25	5.08	
L	1-5 Lakh	97	13.65	2.69	2.07*
	Above 5 Lakh	80	14.45	2.37	
TI	1-5 Lakh	97	10.05	2.57	2.56**
	Above 5 Lakh	80	10.95	1.98	

Note: * Significance level at the 0.05 level; ** Significance at the 0.01 level

Table 4.14: *Differences based on annual income, Mean, S.D. and t-value of learning ecology scores - Jalore*

	Annual Income	N	Mean	SD	t
SA	1-5 Lakh	76	33.72	4.02	1.51
	Above 5 Lakh	141	32.82	4.29	
LCC	1-5 Lakh	76	36.7	4.56	4.02**
	Above 5 Lakh	141	33.4	7.4	
SV	1-5 Lakh	76	23.79	4.37	1.67
	Above 5 Lakh	141	22.72	4.54	
TPD	1-5 Lakh	76	21.58	3.45	2.35*
	Above 5 Lakh	141	20.24	4.84	
L	1-5 Lakh	76	12.21	2.08	.23
	Above 5 Lakh	141	12.13	2.382	

TI	1-5 Lakh	76	9.61	1.65	2.97**
	Above 5 Lakh	141	8.84	1.9	

Whereas in the Jalore district significant differences based on annual income were observed in the dimensions - learning culture & collegiality, t = 4.02, *p*<.01; teacher professional development, t = 2.35, *p*<.05 and technology integration, t = 2.97, *p*<.01. Teachers in Jalore district with annual income above 5 lakhs scored high on learning culture & collegiality, leadership and technology integration as compared to teachers with annual income between 1-5 lakhs. The results of group differences based on annual income of teachers from Jalore district are presented in table 4.14.

4.1.6   Analysis of Differences based on age

Age differences - Jhunjhunu district

The age group differences on learning ecology of Jhunjhunu and Jalore district teachers were analysed using Analysis of variance (ANOVA). Teachers were divided into three age groups (20-36 years, 37-48 years, 49- 60 years). The results from table 4.15 indicate that there exists no significant group differences between different age groups of teachers in Jhunjhunu district, F(2,174) = 0.76, *p*>.05. This indicates that teachers across different age groups did not differ much on learning ecology scores but, teachers within the age group of 37-48 years scored high on learning ecology (Mean = 155.45, S.D. = 24.9) as compared to teachers from other age groups.

Table 4.15: *Age differences, Mean, S.D, and F value of Learning ecology score -*
Jhunjhunu

	Category	N	Mean	Std. Deviation	F Value
Age	20-36	56	153.93	29.82	
	37-48	65	155.45	24.9	
	49-60	56	151.54	32.51	0.76

Note: * $p<.05$; ** $p<.01$ level

Age differences - Jalore district

The results from Table 4.16 revealed significant group differences among different age groups of teachers from Jalore district on learning ecology, $F(2,214) = 4.581$, $p<.01$. To understand the nature of differences between the three groups, Tukey's post-hoc test or *'Honestly Significant Difference' (HSD)* was administered. The post hoc comparison using Tukey HSD test revealed that teachers within the age group 20-36 years (M = 142.6, SD = 9.72) score high on learning ecology as compared to the teachers in the age group 37 -48 years (M = 132.4, SD = 17.4) and teachers of age group 49 - 60 years (M = 130.15, SD = 18.8).

Table 4.16: *Age differences, Mean, S.D, and F value of Learning ecology score - Jalore*

	Category	N	Mean	Std. Deviation	F Value
Age	20-36	23	142.6	9.72	
	37-48	123	132.4	17.4	
	49-60	71	130.15	18.8	4.581**

Note: * $p<.05$; ** $p<.01$ level

4.1.7 Multiple Regression - Learning Ecology

Learning Ecology - Jalore

The result of multiple regression analysis was used to understand the effect of demographic characteristics - teacher's age, gender, marital status, annual income and highest degree on learning ecology of teachers from Jalore district. The results from table 4.17 show a positive correlation between the variables. The assumptions of multiple regression analysis were tested before analysing the results. The data were found to be normally distributed, and no outliers were found.

Table 4.17: *Correlation between teacher demographic characteristics and learning ecology score - Jalore*

	Gender	Age	Marital Status	Annual Income	Highest Degree	LE_Jalore
Gender	1					
Age	0.131*	1				
Marital status	0.113*	0.296**	1			
Annual Income	0.107	0.527**	0.235**	1		
Highest Degree	0.013	0.003	0.065	0.297**	1	
LE_Jalore	0.37**	0.175**	0.149*	0.202**	0.104	1

Multicollinearity was checked for each independent variable using Tolerance index and Variance Inflation Factor (VIF). When correlations between the dependent variables are high and if any variable is near-linear to another variable, then it causes

multicollinearity. When the correlation between the independent variables is more than 0.9 then it causes collinearity problem. This indicates that the two independent variables are highly correlated. Tolerance index helps in identifying whether the independent variables are highly correlated, leading to enlarged error terms and affecting the significance and model prediction. The variance inflation factor is a measure of multicollinearity (VIF). The VIF value should be below 4. The tolerance is the reciprocal of variance inflation factor (Miles, 2014).

Autocorrelation of errors is checked by Durbin-Watson statistic. According to Tabachnick et al. (2007), Positive autocorrelation causes estimates of error variance to be too small, inflating the Type I error rate. Negative autocorrelation causes estimates to be too large, resulting in a loss of power. The test statistic value should be within the range of 0-4 (Field, 2017). A negative correlation between nearby residuals is indicated by a number more than 2, whereas a positive correlation is indicated by a value less than 2. The number of predictors in the model and the number of observations determine the size of the Durbin–Watson statistic. The Durbin-Watson value for the model generated is 1.97, which is within the acceptable range.

Homoscedasticity is related to normality, when the multivariate normality characteristics is matched, the association between variable are homoscedastic, it is the variance of one variable. Homoscadesticity can be checked using p-p plot and scatter plot (Tabachnick et al., 2007).

Regression analysis, as shown in table 4.18, indicated that the demographic characteristics - age, gender, marital status, annual income and highest degree contributed 17.5% proportion of variance toward learning ecology score of teachers from Jalore district ($R^2 = 0.175$, adjusted $R^2 = .156$). The model was found to be significant, F $(5,211) = 8.97$, $p<.01$. Gender was found to be a significant predictor in the model ($\beta =$

12.67, $p<.05$).

Table 4.18: *Multiple Regression results for effect of teacher demographic characteristics on learning ecology score - Jalore*

Predictors	B	SEB	β	t	p	Tolerance	VIF
Gender	-12.76	2.338	.346	5.45	.01	.974	1.026
Age	-1.699	2.179	.06	.78	.436	.66	1.54
Marital status	-4.09	4.2	.064	.974	.331	.897	1.114
Annual Income	-3.53	2.9	.096	1.21	.224	.628	1.593
Highest Degree	-4.384	3.89	.075	1.122	.26	.874	1.144
R^2	0.175						
C	154.48						
F	8.97**						

Learning Ecology - Jhunjhunu

The results from table 4.19 show positive relationship between the variables. Annual income of teachers and educational qualification were found to have positive relationship with learning ecology of teachers from Jhunjhunu district. The assumptions of multiple regression were assessed, the data was found to be normally distributed and absence of any outliers.

Table 4.19: *Correlation between teacher demographic characteristics and learning ecology score - Jhunjhunu*

	Gender	Age	Marital Status	Annual Income	Highest Degree	LE_Jhunjhunu

Gender					
Age	0.043				
Marital status	0.007	0.368**			
Annual Income	0.029	0.457**	0.182**		
Highest Degree	0.214**	0.095	0.088	0.181**	
LE_Jhunjhunu	0.045	0.033	0.12	0.138*	0.172*

The Durbin-Watson statistic measuring autocorrelation value was found to be 1.612, which is in the acceptable range. The Tolerance and variance inflation values were also in the acceptable range. The results of regression analysis from table 4.20, indicated that the demographic characteristics age, gender, annual income, highest degree contributed 4% proportion of variance towards learning ecology of teachers from Jhunjhunu district ($R^2 = 0.06$, adjusted $R^2 = .03$). The model was not found to be significant. $F(2,171) = 2.195$, $p>.05$.

Table 4.20: *Multiple Regression results for effect of teacher demographic characteristics on learning ecology score - Jhunjhunu*

Predictors	B	SEB	β	t	p	Tolerance	VIF
Gender	-.852	4.424	-.015	1.93	.84	.948	1.05
Age Group	1.848	3.25	.05	.568	.571	.682	1.467
Marital Status	12.79	8.54	.12	1.49	.136	.86	1.16

Annual Income	9.3	5.0	.161	1.86	.065	.738	1.35
Highest Degree	8.01	5.1	.12	1.57	.118	.87	1.14
R^2	0.06						
C	150.28						
F	2.19						

4.2 Quantitative Data Analysis - Student Well-being

4.2.1 Sample Characteristics

Demographic characteristics - Student Well-being scale

Student well-being scale was administered on a total of 690 students studying classes 9 and 10 from government senior secondary schools in Jhunjhunu and Jalore districts of Rajasthan. Out of 690 students, 45.5% were boys and 54.5% were girls. Students studying in class 9 were 32.2% and 67.8% of students were from class 10 in both the districts. The sample size consists of 388 students from Jhunjhunu (38.9% boys and 61.1% girls) and 302 students from Jalore district (54% boys and 46% girls) of Rajasthan. To ensure equal representation, school were randomly selected from each sub-division within the district. Table 4.21 shows the number of students from each sub-division within the Jhunjhunu and Jalore districts of Rajasthan.

Table 4.21: *Sample distribution*

Jhunjunu	Jalore

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	Frequency	Percent		Frequency	Percent
Alsisar	36	9.3	Ahore	45	14.9
Buhana	34	8.8	Bhinmal	24	7.9
Chidawa	41	10.6	Chitalwaha	61	20.2
Jhunjhunu	79	20.4	Jalore	43	14.2
Khetri	62	16.0	Jaswantpura	13	4.3
Nawalgarh	47	12.1	Raniwara	29	9.6
Surajgarh	35	9.0	Sanchore	48	15.9
Udaipurwati	54	13.9	Sayla	39	12.9
Total	388	100.0	Total	302	100.0

The demographic profile of students from Jhunjhunu and Jalore districts and the total combined data set are presented in table 4.22. Out of 690 students from Jhunjhunu and Jalore, 32% students repeated an academic year and 68% students did not repeat any class. 64.6% of students in both the districts went for tuition classes and 35.4% did not go for tuition classes.

Table 4.22: *Demographic profile*

		Jhunjunu		Jalore		Total Data	
		N	%	N	%	N	%
Gender	Male	151	38.9%	163	54%	314	45.5%
	Female	237	61.1%	139	46%	376	54.5%
Age group	14 years	82	21.1%	54	17.9%	136	19.7%
	15 years	183	47.2%	86	28.5%	269	39%
	16 years	75	19.3%	91	30.1%	166	24.1%
	17 years	48	12.4	71	23.5	119	17.2

Class	9th	132	34%	90	29.8%	222	32.2%
	10th	256	66%	212	70.2%	468	67.8%
Repetition of	Yes	131	33.8%	90	29.5%	221	32%
Class	No	257	66.2%	212	70.2%	469	68%
Tuition	Yes	123	31.7%	121	40.1%	446	64.6%
Class	No	265	68.3%	181	59.9%	244	35.4%

4.2.2 Normal Distribution of Data

The normal distribution of data are shown in figure 4.3 for Jhunjhunu, Jalore and combined data set. The mean and standard deviation values of well-being scores of students from Jhunjhunu (M = 89.8, SD = 8.18), Jalore district (Mean = 85.36, SD = 7.5) and total data set (M = 87.8, SD = 8.2) are presented in table 4.23. The skewness and kurtosis values were in the acceptable range (-2 to +2) in all the three data sets, establishing a normal distribution of data.

Table 4.23: *Descriptive statistics - Student Well-being*

	Jhunjunu	Jalore	Jhunjunu + Jalore
N	388	302	690
Mean	89.8	85.36	87.8
Standard Deviation	8.18	7.5	8.2
Variance	66.97	56.89	67.3
Skewness	.087	-.026	.095
Std. Error	.124	.14	.093
Kurtosis	.101	1.03	.424
Std. Error	.247	.28	.18

Minimum	63	61	61
Maximum	118	111	118

Figure 4.3: (Normal Probability curve - Student Well-being - Jhunjhunu, Jalore and Total data

4.2.3 Analysis of Differences in Student Well-being scores

District wise differences

The t-test revealed significant group differences on well-being scores of students from Jhunjhunu and Jalore in the following dimensions- cognitive well-being, t = 14.82, $p<.01$; social well-being, t = 2.75, $p<.01$; physical well-being, t = 11.32, $p<.01$, material well-being, t = 7.0, $p<.01$ and total score of student well-being, t = 7.315, $p<.01$. Students from Jhunjhunu district scored high on cognitive well-being, physical well-being and total well-being score as compared to students from Jalore district. Whereas, students from Jalore district scored high on material well-being as compared to students from Jhunjhunu district. The district wise group differences on student well-being scores are presented in table 4.24

Table 4.24: *District wise, Mean, S.D, F value and t-value of student well-being scores*

	District	N	Mean	SD	t
Cog_wb	Jhunjhunu	388	28.6	3.72	14.82**
	Jalore	302	24.1	4.2	
Soc_wb	Jhunjunu	388	26.7	3.95	2.75**
	Jalore	302	27.5	4.34	
Phy_wb	Jhunjunu	388	15.01	2.6	11.32**
	Jalore	302	12.7	2.5	
Mat_wb	Jhunjunu	388	7.8	3.13	7.0**
	Jalore	302	9.4	2.69	
Psy_wb	Jhunjunu	388	11.57	2.4	.659
	Jalore	302	11.45	2.3	
Total Score	Jhunjunu	388	89.8	8.18	7.315**
	Jalore	302	85.36	7.54	

Note: * Significance level at the .05 level; ** Significance at the .01 level

4.2.4 Group difference based on the demographic variables such as gender, class, repetition of class and tuition class

Independent sample t-test was used to examine the group differences based on the demographic variables such as gender, class, repetition of class and tuition class. The results from table 4.25 revealed significant gender differences among students from Jhunjhunu district, t = 2.12, $p<.05$. Boys from Jhunjhunu district scored high on well-being as compared to girls. Significant differences were found between 9th and 10th class students from Jhunjhunu district, t = 2.13, $p<.05$. Students from 10th class in scored high on well-being as compared to 9th class students. No significant differences were found based on tuition class and repetition of class among students from Jhunjhunu.

The group differences based on demographic characteristics of students from Jalore district are presented in table 4.26. The results show that there are no significant differences based on gender, class, repetition of class and tuition classes among students from Jalore district.

Table 4.25: *Demographic category wise Mean, S.D, t-value of student well-being scores - Jhunjunu*

		N	Mean	SD	t
Gender	Male	151	90.9	7.7	2.12*
	Female	237	89.1	8.4	
Class	9th	132	88.7	6.24	2.13*
	10th	256	90.37	8.9	
Repetition of class	Yes	131	89.7	8.24	.057
	No	257	89.82	8.168	

Tuition	Yes	123	89.76	8.7	.079
	No	265	89.83	7.9	

Table 4.26: *Demographic category wise Mean, S.D, t-value of student well-being scores - Jalore*

		N	Mean	SD	t
Gender	Male	163	85.23	7.73	.327
	Female	139	85.52	7.33	
Class	9th	90	84.32	8.13	1.56
	10th	212	85.81	7.25	
Repetition	Yes	90	84.86	7.59	.763
of class	No	212	85.58	7.52	
Tuition	Yes	121	84.95	8.9	.732
	No	181	85.64	6.47	

4.2.5   Dimension wise group differences for each demographic variable

Gender differences

The results from table 4.27 revealed significant gender differences on material well-being of students from Jhunjhunu district, t = 2.19, $p<.05$. Boys from Jhunjhunu district scored high on material well-being as compared to girls. No significant differences based on gender were found in other dimensions of well-bing. Similarly, no significant

differences based on gender were observed among students from Jalore district. The results are presented in table 4.28.

Table 4.27: *Gender differences, Mean, S.D., t-value of student well-being - Jhunjunu*

	Gender	N	Mean	SD	t
Cog_wb	Boys	151	28.72	3.4	.33
	Girls	237	28.59	3.86	
Soc_wb	Boys	151	27.16	3.95	1.76
	Girls	237	26.43	3.93	
Phy_wb	Boys	151	15.13	2.28	.69
	Girls	237	14.95	2.83	
Mat_wb	Boys	151	8.28	3.06	2.19*
	Girls	237	7.58	3.15	
Psy_wb	Boys	151	11.62	2.5	.265
	Girls	1237	11.55	2.3	

Note: * Significance level at the .05 level; ** Significance at the .01 level

Table 4.28: *Gender differences, Mean, S.D., t-value of student well-being - Jalore*

	Gender	N	Mean	SD	t
Cog_wb	Boys	163	23.99	4.49	.519
	Girls	139	24.25	4.06	
Soc_wb	Boys	163	27.56	4.39	.108
	Girls	139	27.62	4.31	
Phy_wb	Boys	163	12.56	2.59	1.59
	Girls	139	13.02	2.4	

		N			
Mat_wb	Boys	163	9.47	2.7	.203
	Girls	139	9.40	2.68	
Psy_wb	Boys	163	11.65	2.61	1.58
	Girls	139	11.22	1.95	

Note: * Significance level at the .05 level; ** Significance at the .01 level

Differences based on class

The t-test results from table 4.29 revealed significant differences among students from Jhunjhunu district in social well-being, t = 2.12, $p<.05$ and material well-being, t(386) = 3.06, $p<.01$. Students in 10th class scored high on social and material well-being as compared to students from 9th class. The results from table 4.30, indicate that no significant differences based on class were found among students from Jalore district.

Table 4.29: *Class wise differences, Mean, S.D, t-value of student well-being - Jhunjunu*

	Class	N	Mean	SD	t
cog_wb	9th	132	28.8	3.69	.574
	10th	256	28.57	3.72	
Soc_wb	9th	132	26.17	3.35	2.12*
	10th	256	27	4.2	
Phy_wb	9th	132	15.11	2.17	.529
	10th	256	14.97	2.83	
Mat_wb	9th	132	7.18	3.39	3.06**
	10th	256	8.2	2.93	
Psy_wb	9th	132	11.45	2.55	.697
	10th	256	11.64	2.37	

Table 4.30: *Class wise differences, Mean, S.D, t-value of student well-being - Jalore*

	Class	N	Mean	SD	t
cog_wb	9th	90	23.89	4.63	.589
	10th	212	24.21	4.15	
Soc_wb	9th	90	27.14	4.81	1.15
	10th	212	27.78	4.13	
Phy_wb	9th	90	12.9	2.56	.577
	10th	212	12.72	2.5	
Mat_wb	9th	90	9.11	2.98	1.37
	10th	212	9.58	2.55	
Psy_wb	9th	90	11.28	2.55	0.85
	10th	212	11.53	2.24	

Differences based on repetition of class

The results from Table 4.31 revealed significant group differences among students from Jhunjhunu district, who repeated a class and those who did not repeat a class in the dimension 5 - psychological well-being, t = 2.36, $p<.05$. Students who did not repeat an academic year expressed higher levels of psychological well-being as compared to students who repeated an academic year in Jhunjhunu district.

Results from table 4.32, show significant differences among students from Jalore district. Students who repeated an academic year scored high on material well-being, t = 2.17, $p<.05$. In contrast to findings from Jhunjhunu district, student who repeated an academic year in Jalore district expressed higher levels of psychological well-being, t =

2.008, *p*<.05 as compared to students who did not repeat an academic year.

Table 4.31: *Differences based on Repetition of class, Mean, S.D., t-value on student well-being - Jhunjunu*

		N	Mean	SD	t
Cog_wb	Yes	131	28.53	3.5	.415
	No	257	28.7	3.83	
Soc_wb	Yes	131	26.65	3.83	.241
	No	257	26.7	4.01	
Phy_wb	Yes	131	15.31	2.45	1.59
	No	257	14.86	2.7	
Mat_wb	Yes	131	8.1	3.03	1.14
	No	257	7.7	3.18	
Psy_wb	Yes	131	11.17	2.43	2.36*
	No	257	11.78	2.41	

Note: * Significance level at the 0.05 level

Table 4.32: *Differences based on Repetition of class, Mean, S.D., t-value on student well-being - Jalore*

		N	Mean	SD	t
Cog_wb	Yes	90	23.61	4.57	1.32
	No	212	24.33	4.16	
Soc_wb	Yes	90	27.5	3.8	.232
	No	212	27.63	4.56	
Phy_wb	Yes	90	12.96	2.64	.827
	No	212	12.69	2.46	

Mat_wb	Yes	90	8.92	2.61	2.17*
	No	212	9.66	2.7	
Psy_wb	Yes	90	11.87	2.21	2.008*
	No	212	11.28	2.37	

Note: * Significance level at the 0.05 level

Differences based on Tuition class

The results from the independent sample t-test as shown in table 4.33, show significant differences based on tuition classes among students of Jhunjhunu district. Students who did not take tuition classes expressed higher levels of cognitive well-being, t = 2.36, $p<.05$, and physical well-being, t = 2.08, $p<.05$. whereas, students who went for tuition classes expressed higher levels of social well-being, t = 2.3, $p<.05$

Results from table 4.34 show that no significant differences based on tuition class were found among students from Jalore district.

Table 4.33: *Differences based on Tuition class, Mean, S.d., t-value on student well-being - Jhunjunu*

		N	Mean	SD	t
Cog_wb	Yes	123	27.99	3.25	2.36*
	No	265	28.95	3.88	
Soc_wb	Yes	123	27.39	3.9	2.3*
	No	265	26.4	3.89	
Phy_wb	Yes	123	14.61	2.669	2.08*
	No	265	15.2	2.59	
Mat_wb	Yes	123	8.1	3.2	1.04
	No	265	7.74	3.09	

Psy_wb	Yes	123	11.67	2.09	.505
	No	265	11.53	2.58	

Table 4.34: *Differences based on Tuition class, Mean, S.d., t-value on student well-being - Jalore*

		N	Mean	SD	t
Cog_wb	Yes	21	23.77	4.43	1.13
	No	181	24.34	4.2	
Soc_wb	Yes	121	27.68	4.7	.288
	No	181	27.53	4.05	
Phy_wb	Yes	121	12.74	2.43	.156
	No	181	12.79	2.58	
Mat_wb	Yes	121	9.17	2.55	1.43
	No	181	9.62	2.77	
Psy_wb	Yes	121	11.6	2.37	.858
	No	181	11.3	2.31	

4.2.6 Analysis of Differences based on age

Analysis of variance was used to assess the significant differences in student well-being score among students from Jhunjhunu and Jalore district of Rajasthan. Results from the Table 4.31 and Table 4.32 indicate no significant effect of age on student well-being among students from Jhunjhunu, $F(3, 394) = .325, p > .05$ and Jalore, $F(3, 298) = .779, p > .05$ districts of Rajasthan. Tab. 4.35 and Tab. 4.36

Table 4.35: *Age differences, Mean, S.D., F-Value on student well-being - Jhunjhunu district*

		N	Mean	Std. Deviation	F Value
Age	14	82	88.73	6.61	
	15	183	89.6	8.69	
	16	75	90.75	8.62	.325
	17	48	90.96	7.81	

Note: * Significance level at the .05 level; ** Significance at the .01 level;

Table 4.36: *Age differences, Mean, S.D., F-Value on student well-being - Jalore district*

	Category	N	Mean	Std. Deviation	F Value
Age	14	54	86	8.42	
	15	86	85.16	7.66	
	16	91	84.85	6.37	.779
	17	71	85.79	8.14	

Note: * Significance level at the .05 level; ** Significance at the .01 level;

4.2.7 Multiple Regression - Student Well-being

Student Well-being - Jhunjhunu

The results from table 4.37 show significant relationship between demographic characteristics of students such as gender, age, class, repetition of class, tuition class and well-being scores of students from Jhunjhunu district. The results revealed significant relationship between gender and student well-being score (r= .108, $p<.05$); age and well-being score (r= .092, $p<.05$) and class and student well-being score (r= .097, $p<.05$).

The data was found to be normally distributed with absence of any outliers. The Durbin-Watson statistic measuring autocorrelation value was found to be 0,93, which

is in the acceptable range. The Tolerance and variance inflation values were also in the acceptable range.

Table 4.37: *Correlation between student demographic characteristics and student well-being score - Jhunjhunu*

	Gender	Age	Class	Repetition of class	Tuition class	SWB_Jhunjhunu
Gender						
Age	.13**					
Class	.08	0.46**				
Repetition of class	0.001	0.36**	0.053			
Tuition class	0.104*	0.03	0.01	0.04		
SWB_Jhunjhunu	0.107*	0.092*	0.09*	0.003	0.004	

The results of multiple linear regression analysis, as indicated in table 4.38, show that the demographic characteristics gender, age, class, repetition of class and tuition class do not contribute significant percentage of variance towards well-being of students from Jhunjhunu district ($R^2 = 0.021$, adjusted $R^2 = .014$). The model was found to be not significant. F (5,382) = 1.72, *p*>.05.

Table 4.38: *Multiple Regression results for effect of student demographic characteristics on student well-being score - Jhunjhunu*

Predictors	B	SEB	β	t	p	Tolerance	VIF
Gender	-1.602	.863	-0.96	-1.857	.06	.967	1.034
Age	.54	.551	.061	.98	.328	.66	1.5
Class	1.07	.991	.062	1.08	.279	.77	1.28

Repetition of Class	.479	.949	.028	.504	.614	.84	1.17
Tuition	.183	.896	.01	.204	.838	.98	1.01
R^2	0.022						
C	72.4						
F	1.72						

Student Well-being - Jalore

The relationship between demographic characteristics of students such as gender, age, class, repetition of class, tuition class and well-being scores of students from Jalore district are shown in the table 4.39. The results indicate no significant relationship between age and gender of students (r = .176, $p<.001$), class and gender of students (r = .125, $p< .05$), age and class of students (r = .359, $p<.001$), age and tuition class (r = .142, $p<.001$). No significant relationships were found between the demographic characteristics of students and their well-being score.

Table 4.39: *Correlation between student demographic characteristics and student well-being score - Jalore*

	Gender	Age	Class	Repetition of class	Tuition class	SWB_Jalore
Gender						
Age	.176**					
Class	.125*	.359**				
Repetition of class	.108*	.047	0.076			

| | 0.009 | .142** | 0.08 | 0.043 | | |

Tuition class	0.009	.142**	0.08	0.043		
SWB_Jalore	0.019	.009	0.09	0.044	.045	

The results of multiple linear regression analysis indicated that the demographic characteristics did not contribute significant percentage of variance towards well-being of students from Jalore district. Table 4.40 shows that the model was found to be not significant, $F_{(5, 296)} = .874$, $p > .05$).

Table 4.40: *Multiple Regression results for effect of student demographic characteristics on student well-being score - Jalore*

Predictors	B	SEB	β	t	p	Tolerance	VIF
Gender	.281	.892	.019	.315	.753	.955	1.04
Age	-.356	.458	-.049	-.776	.439	.84	1.19
Class	1.81	1.023	.11	1.77	.078	.86	1.16
Repetition of Class	-.76	.959	-.046	-.797	.426	.98	1.018
Tuition	-.615	.89	-.04	-.685	.494	.97	1.02
R^2	0.015						
C	73.67						
F	.874						

4.3 Confirmatory Factor Analysis (CFA) - Learning Ecology

Confirmatory factor analysis (CFA) was calculated using AMOS 22.0 to assess construct validity of learning ecology questionnaire using maximum likelihood method. It is a multivariate statistical technique used to test the measurement model for reliability and validity before testing for significant interrelationships in the structural model (Hair, 2009). It investigates the causal attribution between latent and observed variables in a priori specified, theory-derived models. It is data model fit assessment along with potential model modification. The CFA was assessed on the factor structure of learning ecology and the model fit parameters were examined. Absolute and relative indices such as the chi-sqaure (χ^2) goodness-of-fit statistic, normed chi-square ($\frac{\chi^2}{df} \leq 3$), root mean square error of approximation (RMSEA ≤ 0.08), goodness of fit index (GFI $\geq .90$), comparative fit index (CFI $\geq .90$), Tucker–Lewis index (TLI) and normedfit index (NFI) were assessed. Figure 4.4 shows the final measurement model of learning ecology. Few items were removed from the initial exploratory factor analysis results, due to poor construct loadings. The final questionnaire consists of 35 items. The items were deleted due to high standardized residual covariance and a large modification index, as an estimate of the amount by which the chi-square would be reduced if a single parameter restriction were to be removed from the model. The respective values of fit indices ($\frac{\chi^2}{df} = 2.02$, TLI = 0.923, CFI = 0.93, NFI = 0.870 and RMSEA = 0.051) were found to be in the acceptable range. These values meet the requisite fit indices. The psychometric proprieties of the measurement model showing reliability, convergent validity and discriminant validity are presented in table 4.42.
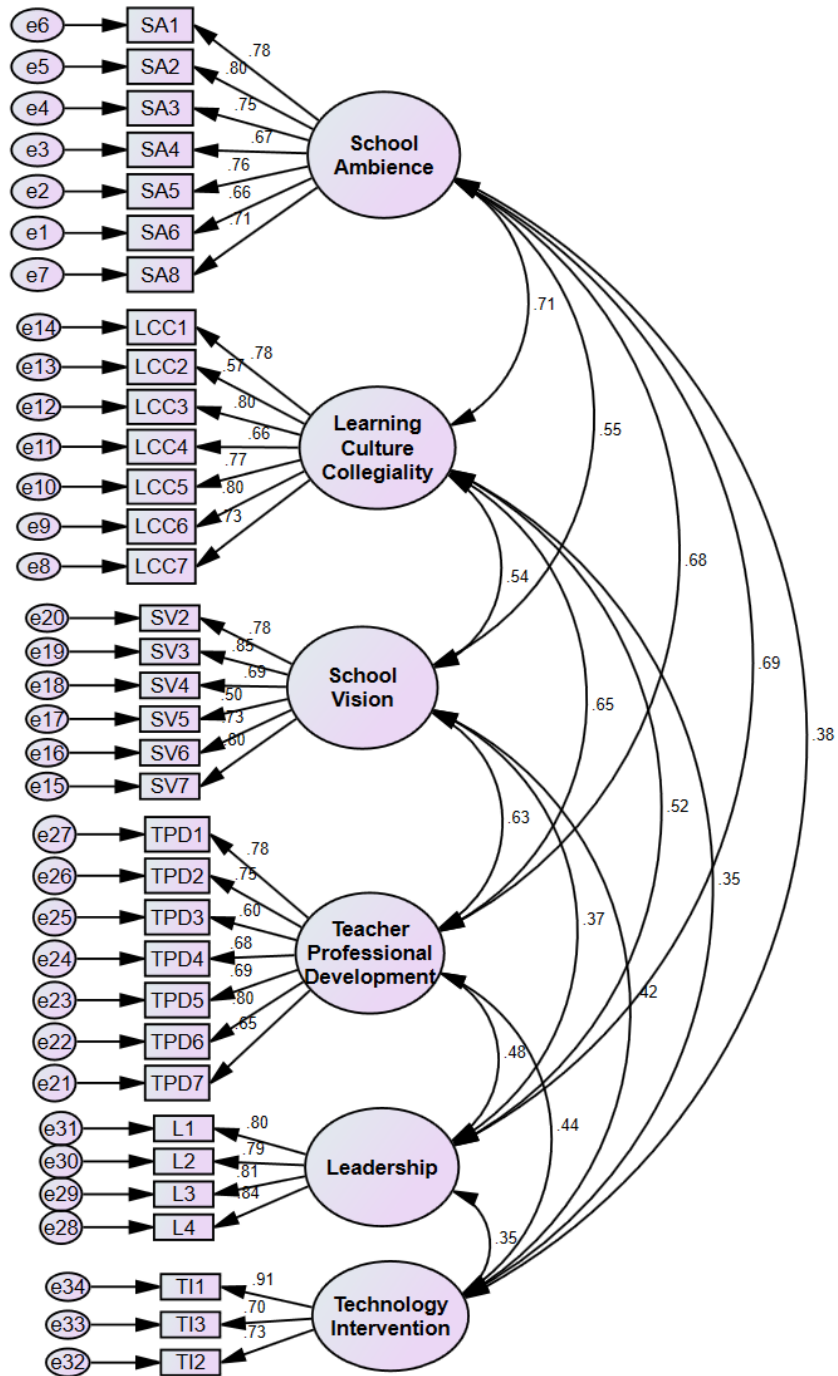
Figure 4.4: Confirmatory Factor analysis - Learning Ecology

Cronbach's alpha was used to determine item internal consistency and instrument dependability. Internal consistency with a Cronbach's alpha value of greater than 0.7 is considered acceptable; larger than 0.8 is considered good, and greater than 0.9 is considered very good. The Cronbach's alpha value of all 35 items is 0.945. Different constructs of the model obtained a good level of reliability - "School Ambience" - 0.887, "Learning Culture & Collegiality"- 0.905, "Teacher Professional development"- 0.883, "School Vision" - 0.879, "Leadership"-0.824 and "technology integration "-0.826.

4.3.1 Convergent and Discriminant Validity

According to Hair, Anderson, Babin, and Black (2010), the convergent validity of a construct indicates the extent of item convergence or whether there is a high degree of disagreement overall. A construct's convergent validity indicates the degree to which items of a specific construct 'converge' to share a significant proportion of variance. Convergent validity is determined based on the construct loadings or standardized beta coefficients of items, composite reliability and average variance extracted (AVE). The observed variable loadings were found to be in the range of 0.613 to 0.944, which are greater than 0.50 according to Hair et al. (2010). The findings show that the observed items are satisfactory and accurately reflect their constructs. Therefore, we can ensure the presence of convergent rationality of constructs. According to Nunnally (1994), composite reliability (CR) as a measure of the overall reliability, should be more than 0.7. Table 4.42 indicates that the composite reliability of "School Ambience" is 0.89, "Learning Culture & Collegiality" is 0.89, "School Vision" is 0.87, "Teacher Professional Development" is 0.876, "Leadership" is 0.886 and "Technology Integration" is 0.828. Therefore, the total reliability of each construct in the proposed model is greater than

0.70, indicating that all constructs representing "Learning Ecology" in the model have a high level of reliability.

Table 4.41: *Average variance extracted and squared correlations between different constructs*

	SA	LCC	SV	TPD	L	TI
School Ambience	**0.733**					
Learning Culture Collegiality	.706	**0.737**				
School Vision	0.549	0.537	**0.732**			
Teacher Professional Development	0.682	0.654	0.628	**0.71**		
Leadership	0.378	0.519	0.369	0.477	**0.812**	
Technology integration	0.68	0.345	0.42	0.439	0.351	**0.787**

Note: Diagonal bold-faced values indicate the Average variance
extracted; matrix values are squared correlation

The average variance extracted (AVE) is used to measure how accurately the items or statements of each construct explain it. The AVE value for each construct should be more than 0.5 Fornell and Larcker (1981). Table 4.41 shows that the AVE values of "School Ambience" is 0.537, "Learning Culture & Collegiality" is 0.543, "School Vision" is 0.536, "Teacher Professional Development" is 0.504, "Leadership" is 0.66, and "technology integration" is 0.62. All the values are in the acceptable range, therefore the items or statements of each construct fit well.

Discriminant validity is the degree to which a variable is truly distinct from other constructs, empirically. It is measured using the maximum shared variance (MSV) values of each construct. A latent construct is expected to explain its indicators or items better rather than the variance of other constructs. The square root of AVE of constructs of learning ecology should be greater than their correlations (Hulland, 1999). The maximum shared variance (MSV) should be less than AVE. The values from table 4.41 indicate that the diagonal AVE values are greater to the squared correlations. This supports discriminant validity of learning ecology questionnaire.

Table 4.42: *Reliability and Item Loadings*

Construct	Item Code	Standard Factor Loading	Cronbach alpha	Composite reliability	Average Variance Extracted (AVE)	Maximum Shared Variance (MSV)
	SA6	0.66				
	SA5	0.759				
	SA4	0.668				
School	SA3	0.748				
Ambience	SA2	0.796				
	SA1	0.776				
	SA8	0.71	0.89	0.89	0.537	0.498
	LCC6	0.796				
	LCC5	0.773				
	LCC4	0.664				
Learning	LCC3	0.804				
Culture	LCC2	0.574				
Collegiality	LCC1	0.785				
	LCC7	0.734	0.905	0.89	0.543	0.498
	SV6	0.726				

	SV5	0.6.5			
School	SV4	0.685			
Vision	SV3	0.846			
	SV2	0.78			
	SV7	0.801	0.879	0.871	0.536	0.394
	TPD6	0.796			
	TPD5	0.691			
Teacher	TPD4	0.683			
Professional	TPD3	0.60			
Development	TPD2	0.752			
	TPD1	0.778			
	TPD7	0.652	0.883	0.876	0.504	0.465
	L4	0.845			
Leadership	L3	0.81			
	L2	0.792			
	L1	0.801	0.87	0.886	0.66	0.47
Technology	TI1	0.914			
Intervention	TI2	0.727			
	TI3	0.704	0.826	0.82	0.6	0.19

4.3.2   Relationship between dimensions

Pearson correlation coefficient (r) is used to examine the relationship between the dimensions of learning ecology scale. Table 4.43 shows positive correlations between school ambience, learning culture and collegiality, school vision, teacher professional development, leadership and technology integration. The results indicate a positive relationship between school ambience and learning culture & collegiality $r = .644$, $p<.01$; school Vision, $r = .485$, $p<.01$; teacher professional development, $r = .598$, $p<.01$;

leadership, $r = .616$, $p<.01$ and technology integration, $r = .323$, $p<.01$. Indicating that a positive school ambience promotes learning culture, teacher collegiality, professional development of teachers, good leadership practices and using technology for effective teaching and learning process.

School Vision was found to be positively correlated with teacher professional development, $r = .552$, $p<.01$; leadership, $r = .323$, $p<.01$ and technology integration, $r = .315$, $p<.01$. Similarly, positive correlations were found between learning culture & collegiality and school vision, $r = .47$, $p<.01$; teacher professional development, $r = .579$, $p<.01$; leadership, $r = .463$, $p<.01$ and technology integration, $r = .275$, $p<.01$. School vision helps people with a sense of purpose and direction towards good leadership practices, and innovative teaching methods to ensure learning outcomes of students. The learning processes and culture within the schools should facilitate teacher effectiveness & development, promoting teachers to use of technological resources for teaching and learning. Teacher professional development was found to be positively related to leadership, $r = .414$, $p<.01$ and technology integration, $r = .372$, $p<.01$. Similarly, Leadership and technology integration were significantly correlated, $r = .28$, $p<.01$.

Table 4.43: *Correlation coefficients between dimensions of Learning Ecology*

	Mean	SD	SA	LCC	SV	TPD	L	TI
School Ambience	23.14	5.08	1					
Learning Culture Collegiality	22.43	5.26	.644**	1				
School Vision	20.07	4.35	.485**	.470**	1			

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Teacher Professional Development	22.91	5.17	.598**	.579**	.552**	**1**		
Leadership	13.8	3.25	.616**	.463**	.323**	.414**	**1**	
Technology integration	9.32	2.21	.323**	.275**	.315**	.372**	.28**	**1**

**. Correlation is significant at the 0.01 level (2-tailed).

4.4   Confirmatory Factor Analysis (CFA) - Student Well-being

CFA using AMOS 22.0 was used to assess the construct validity of the student well-being questionnaire using the method of maximum likelihood. The model was tested on a sample size of 690 students. Figure 4.5 shows the final measurement model of SWB scale. The respective values of fit indices ($\frac{\chi^2}{df}$ =4.37, TLI = .88, CFI = .901, NFI = .876 and RMSEA = .05) were found to be in the acceptable range. The tables below show the measurement model's psychometric properties in terms of reliability, convergent validity, and discriminant validity. The internal consistency of items and reliability of an instrument can be tested using Cronbach's alpha. The Cronbach's alpha value of all the items is 0.962. Different constructs of the model obtained a good level of reliability - "Cognitive well-being" - 0.892, "Social well-being"- 0.895, "Psychological well-being"- 0.848, "Physical Well-being" - 0.84, "Material Well-being"- 0.821.

4.4.1 Convergent and Discriminant Validity

Composite reliability (CR) is used to measure the overall reliability and calculate the regularity of the construct (Hair et al., 2010). Table 4.44 indicates that the composite reliability of "Cognitive well-being" is 0.894, "Social well-being" is 0.882, "Psychological well-being" is 0.847, "Physical Well-being" is 0.841, and "Material Well-being" is 0.821.
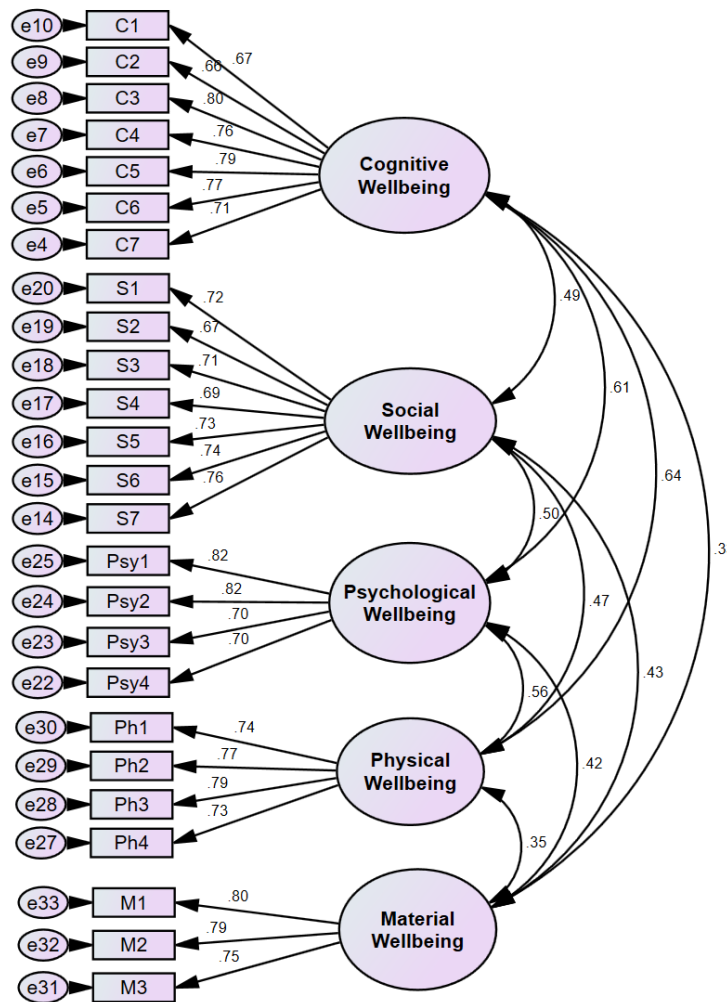

Figure 4.5: Confirmatory Factor analysis - Student Well-being

Therefore, the combined reliability of each construct in the proposed model is greater than 0.70, indicating that all constructs representing "Student well-being" are reliable. The observed variable loadings in Table 4.44 were found to be in the range of 0.66 to 0.825. The findings show that the observed items are satisfactory and accurately represent their constructs. As a result, we can assure that constructs are rationally convergent.

Table 4.44: *Reliability and Item Loadings*

Construct	Item Code	Standard Factor Loading	Cronbach alpha	Composite reliability	Average Variance Extracted (AVE)	Maximum Shared Variance (MSV)
	C1	0.671				
	C2	0.66				
	C3	0.802				
Cognitive	C4	0.765				
Well-being	C5	0.788				
	C6	0.768				
	C7	0.71	0.892	0.894	0.547	0.415
	S1	0.715				
	S2	0.674				
	S3	0.707				
Social	S4	0.689				
Well-being	S5	0.734				
	S6	0.745				
	S7	0.759	0.895	0.882	0.516	0.249
	Psy1	0.823				
Psychological	Psy2	0.825				
Well-being	Psy3	0.695				
	Psy4	0.699	0.848	0.847	0.582	0.372
	Ph1	0.738				

Physical	Ph2	0.766				
Well-being	Ph3	0.786				
	Ph4	0.726	0.84	0.841	0.569	0.415
Material	M1	0.797				
Well-being	M2	0.789				
	M3	0.747	0.821	0.821	0.605	0.184

Table 4.45 shows that the AVE values of "Cognitive Well-being" is 0.547, "Social Well-being" is 0.516, "Psychological Well-being" is 0.582, "Physical Well-being" is 0.569, and "Material Well-being" is 0.605. All the values are in the acceptable range, therefore the items or statements of each construct fit well in the model. Discriminant validity is measured using the AVE values of each factor and compared with the squared correlations between the constructs or dimensions of student well-being. The values from the table 4.45 indicate that the diagonal AVE values are greater than the squared correlations. This supports discriminant validity of Student Well-being questionnaire.

Table 4.45: *Average variance extracted and squared correlations between different constructs*

	Psy_wb	Cog_wb	Ph_wb	Mat_wb	Soc_wb
Psychological Well-being	**0.763**				
Cognitive Well-being	.61	**0.74**			
Physical Well-being	0.556	0.644	**0.754**		
Material Well-being	0.421	0.335	0.352	**0.778**	

Social Well-being	0.449	0.49	0.467	0.429	**0.718**	

Note: Diagonal bold-faced values indicate the Average variance
extracted; matrix values are squared correlation

4.4.2   Relationship between Dimensions of Varibales

Investigating the relationship between cognitive, social, physical, material and psychological well-being

Pearson correlation coefficient (r) is used to examine the relationship between the dimensions of student well-being scale. Table 4.46 shows significant positive correlations between cognitive well-being and social well-being, $r = .438$, $p<.01$; physical well-being, $r = .565$, $p<.01$; material well-being, $r = .299$, $p<.01$ and psychological well-being, $r = .53$, $p<.01$. This indicates that increase in the cognitive well-being of students facilitates social well-being, physical well-being, material well-being and psychological well-being and vice versa. Social well-being was found to be positively correlated with physical well-being, $r = .409$, $p<.01$; material well-being, $r = .37$, $p<.01$ and psychological well-being, $r = .446$, $p<.01$. Significant positive correlations were also found between physical and material well-being, $r = .292$, $p<.01$; psychological and physical well-being, $r = .472$, $p<.01$ and psychological and material well-being, $r = .353$, $p<.01$. Increased accessibility, and availability of resources, infrastructure and participation in social activities and physical well-being can increase the psychological well-being of students.

Table 4.46: *Correlation coefficients between dimensions of Student Well-being*

	Mean	SD	Cog_wb	Soc_wb	Ph_wb	mat_wb	Psy_wb
Cognitive Well-being	25.97	5.42					

Social Well-being	27.19	6.69	.438**		
Physical Well-being	14.04	3.39	.565**	.409**	
Material Well-being	9.21	2.91	.299**	.37**	.292**
Psychological Well-being	12.02	3.34	.53**	.446**	.472**	.353**

**. Correlation is significant at the 0.01 level

4.5 Qualitative Analysis

As a part of the qualitative phase of the study, data collection involved semi-structured and structured questions in the interview. A total of 15 teachers, 5 Principals and 4 school administrators, and 25 students were interviewed. Data were obtained from each participant based on a detailed discussion lasting between 20-40 minutes. Some interviews were digitally recorded, and informed consent was obtained to record the conversation. All the interviews were recorded in Hindi Language, and later translated and transcribed for data analysis.

The transcribed information was analysis using the method of content analysis using a thematic approach. The steps followed in the thematic approach are i) Familiarization of data, ii) Initial coding, iii) Generating Themes. Finally, the themes were named and defined. Themes were identified based on the excerpts. The below figure represents the process of data analysis.

The last section of the chapter is divided into two parts - part 1 presents the data

collected from the in-depth interviews of teachers and school principals, and school administration staff. Part 2 of the section presents the data collected from students and teachers related to the well-being of students. Further, dimensions like educational leadership, school vision, professional development, use of technology, collaboration & team learning, community engagement, effective teaching, learning culture and system level changes were identified as the important themes related to learning ecology and school as a learning organisation. Similarly, to understand the insights for student well-being and to obtain a comprehensive picture, the perception of students and teachers were included based on the in-depth interviews; the important themes related to student well-being are: school safety, community & collective well-being, infrastructure & technology usage, pedagogy & school engagement and role of school in student development.

The subsequent chapter elaborates on reasons with detailed interpretation to substantiate the findings of the study as discussed in the present chapter.

4.5.1   Part 1 - Learning Ecology

Important themes have emerged from the interviews conducted with the teachers, principals and school administration staff for LE and SLO. The themes are:

- Educational Leadership

- School Vision

- Professional Development

- Use of Technology, Collaboration & Team Learning

- Community Engagement

- Effective Teaching-learning

- Learning Culture & System-Level Changes

The identified themes provide a broad overview of developing a learning ecology in schools and transforming them as a learning organisation. The identified themes help provide a comprehensive understanding of the concept and develop an integrated model of school as a learning organisation.

Educational Leadership

Leadership helps set targets, vision, goals, and professional development of teachers. It also involves ensuring the vision and setting direction for achieving the goals of an organisation. The teachers from the Jhunjhunu and Jalore schools were asked about the leadership practices in their school. One of the teachers from the Jhunjhunu district mentioned that -

> "... The principal in our school conducts regular meetings to discuss the long-term & short-term goals and how we plan to achieve it. There is constant support and motivation to pursue new things and make modify teaching practices.."

Many schools in the Jhunjhunu district focus on creating leadership in school structures. Leadership in teaching enhances the effective teaching and learning process. It helps in creating a collective vision for the institution. One of the teachers from the Jhunjhunu district school mentions that

> *"Enhanced leadership in teachers helps in building and following the collective vision for schools. The teachers in our school work together towards the collective vision. One teacher would act as a mentor and help other teachers in achieving the goals".*

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School Vision

The school vision is a statement that explains schools' willingness to create a sense of purpose for the school institution to achieve in a set period. It helps bind the important stakeholders of a school institution together for a desirable outcome and the common goal, which will motivate the environment of continuous learning. The teachers and school Principals were asked about the vision of their schools and how they plan to achieve it? The principal from the government school in Ahore, Jalore, mentioned that

" In the recent meeting, I told the teachers that we have set a target to reach 100% in 10th. To achieve that, we need to keep monitoring the students regularly. In Jalore district, around 37 schools have less than 50% results."

The development of the school vision should be centered around the development of students. The vision is important in setting the target for school organisation and means to achieve together. Teachers have mentioned that they set the target every year to ensure that all the students in 10th grade score well in their board exams and have a 100% passing target. One of the school teachers from the Jhunjhunu district mentions that

"I have set up a committee focusing on getting 100% results. Most of the schools in our neighbourhood do not get more than 50% results. So most of the teachers in our schools are also working towards getting a good result."

Apart from the result, one of the other vital factors which emerged as an essential factor talking about school vision is *'Maximum registration'* and *'Maths and science subject knowledge'*. The schools in the Jalore district do not necessarily have maths and science subjects in senior secondary level. One of the teachers mentioned the lack of subject teachers at secondary and senior secondary levels -

"This is a village and students are already very scared of difficult subjects like maths, science, and English. Also, we have a lack of proper teachers for these

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subjects. However, we consider science and maths as important subjects to teach because they will help students build their careers. So we try to teach these subjects to the students in a better way."

Ensuring good education, maintaining discipline, emerged as another important part of school vision. A teacher from the Jalore district asserts that discipline is a core vision for every school. She says,

"My school just like every other school in the district pushes on maintaining discipline, as this directly impacts the image of the school in the community. We try to have class monitors who try to maintain science in classes and forming lines instead of roaming in groups and making noises. This helps in forming a good image about the children and school; in term helping us improve enrollment and admissions."

When the teachers were asked, about the vision of their school they mentioned that the schools focused on the overall development of students, ensuring quality of education with proper physical and mental development. The teachers in Jhunjhunu district emphasized on innovation, creativity and team learning, whereas teachers in Jalore district mentioned increasing student motivation and engagement. Principal of one of the schools from Jhunjhunu district highlights that

"in our school, we encourage children to take part in sports activities too, as the physical development of students is also important apart from the mental development."

Another school from Jhunjhunu district was observed to be more focused on Creativity and Cognitive learning of students and involving students in activities enhancing their cognitive learning and subject knowledge.

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Table 4.47: *School Vision*

Jhunjhunu	Jalore
Academic wellness	Maximum registration
School development	Mental and physical development
Civic engagement, good citizens	Good education and discipline
Overall student development	Excellent board exam result - All the students clearing the exam
Skill development and employability skills	Quality teaching and education
Value education	Maths and science subject knowledge
More than 50% result of all the students in board exams	Academic Interest, motivation & engagement
Positive learning spaces & learning networks	Life Skills and Vocational training
Learning ecosystem	Overall development
Professional development of teachers	
Satisfaction and commitment	

Professional Development

Professional Development is the maintenance of professionalism while leading toward the development of individuals. It generally refers to the different types of educational experience that contribute to an individual's work. Professional development includes acquiring information and developing capabilities for a secure professional career. Professional development has been a crucial part of the training process for teachers. The principal from a school in the Jhunjhunu district during the interview expressed -

> *"teachers in our school are always encouraged to participate in professional development training and programmes to learn new innovative pedagogies and develop subject knowledge expertise".*

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One of the teachers from the Jhunjhunu district mentioned

"we are always given the privilege to attend workshops for professional development, and it really helped me to gain confidence and perform better in my teaching career".

These two excerpts from Jhunjhunu district indicate that professional development through training and workshops as key factors in the development of school structures and ensure professional learning. However, teachers in the Jalore district were not very regular in attending the professional development training programmes and workshops. Though the schools realise the importance of these programmes, the teachers are mostly burdened with other activities or managing their family and personal commitments. A female teacher from the Jalore district expressed,

"I understand the importance of professional development, but cannot indulge in those workshops because of my household activities and taking care of my children. I cannot leave my children to attend these workshops.".

Teachers from both the districts were interested in the professional development training programmes, but teachers from the Jalore district were unable to manage their family responsibilities and have a better work-life balance.

Use of Technology, collaboration & team learning

Technology has become a necessary component of modern life and is a necessary aspect of our existence. In order to cope with the external environment and ensure proper education, schools have started adopting technology in the teaching and learning process. A collegial and collaborative school environment encourages teachers to maintain professionalism and better understand their work environment and personal accomplishment. A principal from one of the schools in the Jhunjhunu district explains the importance of team learning when it comes to usage of technology in schools. He

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expressed that

> *"the new teachers who joined recently are aware about using technology, but the experienced teachers are unaware about using computers. So we generally encourage the staff to learn through collaboration and team learning. They all get together and learn from each in the process, which makes collaborative learning effective".*

Teacher from Jhunjhunu district schools explains that

> *"we were earlier not using the technology as we did not have proper knowledge as well as lack of necessary infrastructure. We recently installed a computer and using it to show a few videos and help students with better subject knowledge and awareness."*

However, the situation was not the same with the Jalore district schools. In Jalore, the availability and accessibility of digital artefacts was a major hurdle in using technology in the teaching process. One of the teachers from the Jalore district expressed that,

> *"we live in a remote place, where students find it difficult to come to school. We are having shortage of learning resources. We have a computer in our school, but none of the teachers know how to handle it.".*

However, considering the current situation, where the Government of India is also focussing on promoting digitisation by introducing initiatives like DIGITAL INDIA and Diksha for schools. These initiatives are focused on promoting technology in teaching and learning, achieving SDG goals.

Community Engagement

To ensure quality of education, the community members are help accountable and empowered to collectively act and provide solutions focused on school development and increasing learning outcomes of students. In the school complexes, management

committees involve multiple stakeholders from school as well as the community or village to ensure effective school functioning. One of the teacher from Jhunjhunu district explained about the school management committee and its functions -

"SMC is the school management committee and SDMC is the School Development Management Committee. Classes from 1st-8th is managed by SMC and 9th-12th is managed by the SDMC. Regular meetings are organised with the members of SMC & SMDC. The committee members are usually school principal, teachers, parents or guardians of students studying in the school, village panchayat members etc. School development activities and varies initiatives are discussed in the meetings.".

The SMC and SMDC are accountable for working at different level in schools. School planning, educational activities, management, monitoring, SEMIS, quality of education, equity, teacher training, student achievement, curricular activities etc.

One of the respondent teachers mentioned about *Baal Sabha* programs organised by the schools -

"For the development of students and community initiative activity, we organize programs, weekly or monthly "Shivir Panchang". Baal Sabha is usually organised on every Saturday during the last two hours. It is organised in the school, sometimes in a community hall where parents come and see their children speak, perform and engage in different activities. Most of the time, parents go for daily wage work and do not come for Baal Sabha programs. But these programs are organised outside school and even if they do not attend, they get to hear about it from others.".

Another teacher mentioned that -

"...There are different types of Baal Sabha as well, one is which happens in

the village or community hall - Samudaik Baal Sabha, and the other which happens in the school on Saturdays. We invite parents, community members to attend the program to learn about the children's development, their talents and also promote community development initiates. For example, about girl child education, hygiene practices, sanitation, women and children's health, issues like child marriage etc ..."

One of the teachers mentioned the initiatives by the government to ensure 100 percent enrolment of students and reduce the dropout rates

-"One of the ongoing schemes of the State Government, Ujiyari Panchayat, which started two years ago. Not even a single child should drop out from the schools. The Panchayat is responsible and when this is achieved the Panchayat is declared as Ujiyari Panchayat. So, Our Panchayat is an Ujiyari Panchayat. It is very difficult to maintain this status as students are from diverse backgrounds. Some of them are migratory workers, working in the brick-kiln, agriculture land, etc. When the families move in search of work, the children automatically get displaced and this affects their education.".

Another important initiative is *Bhamasha Yojna*

- "we take funds from any Bhamasha. So, in this circle we can talk with any Bhamashas and convince them or if there is a big Bhamasha then through small donations also, we can do development work in school".

Also, the teachers shared that -

"The villagers meet and discuss at a public place about the development of the school and about its discipline. As part of Bhamasha yojna, the committees meet regularly, discuss and propose plan of action. In our last meeting, we decided to improve the facilities in the school by constructing a wall around

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the playground for students. We built toilets, water purifying tanks...".

Government schools in both districts are focused on enhancing the learning outcomes of students and increasing their well-being. The interviews of teachers suggest that the activities planned as part of Baal Sabha and community development initiatives help in generating awareness and promoting adaptive behaviours. These initiatives and programmes help in the development of schools, through community participation and increasing collective capabilities.

Effective Teaching-Learning

The teachers from Jhunjhunu and Jalore district were asked about the factors that help in ensuring effective progress in teaching and learning process. The responses of teachers have been categorised into facilitating and limiting factors. Teachers from both the districts mentioned the involvement of teachers and parents towards the learning. Parental involvement is crucial to ensure student engagement in academic activities, have a supportive environment at home with the necessary learning resources to improve student performance and overall development.

The responses of teachers are presented in the table 4.48 as facilitating factors responsible for effective teaching and learning.

Table 4.48: *Facilitating factors*

Jhunjhunu	Jalore
Academic wellness	Parents involvement
life skills	Interesting learning content
Employability skills and career support	Health and physical well-being
Importance of sports	Improve learning of students
Creativity	Computer knowledge & digital literacy

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Professional development and using different methods for teaching	Explaining concepts using examples
Using technology, online videos	Learning resources and reading material

Similarly, academic wellness has also come up as an important facilitating factor that contributes to effective classroom management. The satisfaction of performance in the classroom and the student-teacher relationship also has a vital role in teachers' performance.

Teachers were asked about the challenges they face in providing quality of education for students, their responses are presented in the table. 4.49

Table 4.49: *Teaching Challenges*

Jhunjhunu	Jalore
Interesting learning content	Lack of resources
Learning difficulties of students	Addressing the learning needs of students
Strategies to enhance student motivation	learning difficulties of students
Exposure through internships for students	Foundational skills of students
Technology support and skills	Low attendance rates
Reading & writing difficulties of students	Students from low socio-economic background
	Student motivation and self-efficacy
	Lack of subject teachers
	Home environment

Teachers from the Jalore district expressed that they find it challenging to manage the administrative, and non-academic duties and also complete the syllabus on time. Teachers are responsible for managing the midday meal programme, doing surveys and getting data from households etc. These activities sometimes require them to take

extended leaves, because of which they are unable to finish the syllabus. One of the teachers from Jalore district mentioned that -

"Teachers are assigned with non-academic tasks and there is a stagnancy in their professional development. The focus should be on promoting academic leadership where they are given autonomy, opportunities to explore, focus on research based teaching and learning methodologies. Experiential learning through inquiry, developing a multidimensional outlook and problem-solving through brainstorming is required.".

Another teacher mentioned that they are occupied with -

"...Midday meal program duties, and election duties take up a significant amount of our time and energy. Because of this, we are not able to finish the syllabus on time for exams. Some of these duties are so manual in collecting information from every household. Having some tablets or electronic devices would ease the work. They could develop some apps that can we can use on our mobile phones too..".

Teachers are aware of the technological advancements and the benefits of integrating technology. Teachers are concerned about the wastage of time in collecting the data and feeding the data into the database and feel that the time can be optimised with the use of some apps, but they lack the necessary support and do not have the necessary training to use the technology efficiently.

The extra burden on teachers despises them of working more towards academics and building a relationship with student. These external factors are responsible for not establishing a professional attitude in teacher and motivation for them to work more towards students and their achievements. A teacher from Ahore block in Jalore district added that -

"...Teachers also have to manage the work of office staff. Many teachers, therefore, aren't able to take classes regularly. Teachers have to send some kind of information occasionally. We also would generally have a bunch of emails to which we need to reply. This takes quite a lot of time. Many a time we are caught up in this from morning to afternoon, and students have to suffer. Today, we were asked to prepare a report on the water harvesting program in the school. The certificate has to be submitted by 12 in the afternoon. The certificate has to be prepared and submitted to the office. Yesterday I had to monitor the repair works in the schools, such as fixing the lights and fans in the classrooms..."

The schools must constantly strive to balance learning needs through better classroom management strategies and innovative pedagogies and also try to create positive learning spaces with the necessary infrastructure and learning resources. Government schools in the Jalore district had a shortage of proper classrooms tables and chairs, and the students were made to sit on the floor. One of the teachers mentioned that they try to combine students from the lower classes.

The visuals observed from the visit in Jalore schools highlight that the schools lack basic facilities and infrastructure for students and teachers. Due to shortage of classrooms, teachers usually combine the lower level classes and teach them together. This can increase the teacher-pupil ratio, making it challenging for teachers and address the learning needs of students. Teachers also expressed that lack of resources could influence their motivation and effectiveness. Another important theme that emerged out from the qualitative data collected was to cater for the needs of each and every student. One of the teachers interviewed mentioned that it becomes difficult to manage the needs of every student and provide them equal attention as some students come from low social

background and thus have different needs.

These themes also highlight unequal resource distribution. Since the students come from distinct family income backgrounds, therefore the resources that they have are unequal. One of the principles interviewed from Jalore schools mentions that various students at secondary level education have various other engagements to make money for their family, which leads them to either opt or do not attend school regularly, thus having them suffer due to unequal resource allocation. Teachers need to deal with complex problems, as each student is unique and require different approach for learning. Some students have difficulty in learning. One of the teachers from Jalore district mentioned that students who are in 5th standard are unable to form proper sentences in English and do basic arithmetic problems. Hence, it gets difficult for them to learn new concepts.

The facilitating conditions that help in creating effective teaching and learning is 'Motivation to learn', the students who are motivated to learn can learn in an effective environment as compared to a student who is not ready. The internal motivation in students is directly related to the effective learning process in students. Students, those who have internal motivation to learn, can learn in any environment. Teacher from Jhunjhunu district explains that-

> *"students who have internal motivation can support the concept of effective teaching and learning process, as students with intrinsic motivation can learn in any environment, if the teacher is teaching properly".*

One of the teachers talked about the shortage of subject teachers in schools-

> *"...we lack subject teachers here, the posts for subject teachers are vacant. This is a village, children are already scared of Science, English and Mathematics, when there aren't even teachers for these subjects, it makes it worse. It increases the burden of other staff.".*

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Based on the observations of the schools from Jalore, the facilities are a little less. Due to the shortage of teachers, students from classes 1 - 5 are made to sit in one classroom. So, we combine students and teach them all together. This impacts the quality of elementary education and students tend to lack the foundational skills. Therefore, they are made to repeat a class. One of the teacher expressed her concerns about the poor foundational skills in students, how they lack basic language, Science, Mathematics skills because of which they face a lot of problems when they come to 9th classes. Due to the no-detention policy, students are promoted till 9th class, but most of them fail to pass the 9th class. Teacher from Jalore district mentioned that -

"...I know some kids who are in Class 4th and don't know anything, are in class 5th but know nothing. Still, I taught them Ka, Kha, Ga (Hindi alphabets) and taught them how to read in class 5. I taught them how to read books in Class 5. So, how much hard work we had to do on these kids. The one who hasn't learnt even alphabets till class 4 what will he know and the students whom we have taught everything in class 5 along with others, so they have learnt from us..."

Principal from one of the Jalore district schools mentioned the increasing number of dropouts after secondary level and need for life skill training and employability skills among students -

"students are busy in household work and some of them are not regular to school, so what happens in students from 9th to 12th is that they often fail, then leave this place to earn some money. Children from the age group of 15-20, they mostly go to other states to do labour work. The boys from here who left school or never did school, they leave the village before 20 to do these odd jobs. We do talk about these in prayer and class, especially to students from

11th and 12th classes, you'll feel like earning money of your own, to wear what

you feel like, or whatsoever your desires are, but it's not reliable, it won't last

for long, we tell them that for future, education is most important...".

Basic life skills, apart from education, are very important to learn, as it helps the student to perform efficiently in life as well as the academics. Similarly, personality development of the students is also important when it comes to the overall development of student. The personality development of students helps them to become confident in real life and conduct tasks with much more confidence, which is an essential component of a successful student. When questioned, one of the teachers, highlighted the importance of personality development of students.

Learning Culture and System level changes

The learning culture in any organisation plays a very important role in laying a foundation of that organisation. The school environment helps in increasing the motivation of the stakeholders by facilitating learning opportunities and a supportive environment for growth and development. The teachers from Jhunjhunu district mentioned that-

"there is a need for teachers to adopt student centric teaching aids, which

keeps the student at the receiving end in the entire process."

Learning environment helps in increasing the learning outcomes and engagement of students in the classroom and school related activities. The teachers from Jhunjhunu district said they try to maintain a healthy learning environment in their classroom in order for the students to build a better future for themselves. The participation of students in classroom is vital to create a system level in the schools. The participation involves every student enrolled in the classroom, irrespective of gender, caste or any other social factor. The teacher must involve every student in classroom discussion and must provide

'quality education for all'. A principal from Jhunjhunu district revealed that -

> *"In his schools, every teacher is instructed to maintain equality in their classrooms and make each student participate in classroom discussion, which will make the student confident in talking and also enhance their learning".*

The technology adoption in the classroom affects the learning culture of schools positively. Use of online resources have helped the teachers from the Jhunjhunu district in effective delivery of the learning context. Further, one of the teachers from Jhunjhunu district highlighted that *"use of online resources have made the work of teachers easy and efficient".*

Students also benefit from using various online resources and learn new skills.

4.5.2 Part 2 - Student Well-being

This section is focused on the interviews of students, understanding their perception towards well-being, school effectiveness and teacher's opinion about different determinants facilitating well-being of students. The themes identified from the interview transcripts are:

- School Safety

- Determinants of student well-being

- Community & Collective Well-being

- Infrastructure & Technology

- Pedagogy & School Engagement

- Role of school in student development

School Safety

When it comes to understanding the perspective of students and teachers regarding their essential elements that are to be considered when discussing student well-being. One of the important factors ensuring safe school environments for students. The students were asked to express their feelings and expectations they have on their school responsible for their well-being. The students responded that school as a safe learning environment plays an important role, ensuring their well-being. Positive safe learning environment where the students are friendly towards each other, do not fight or bully others. Safety also means ensuring hygiene, having functional washrooms with water facilities and clean physical environment. Schools need to ensure that discipline is maintained and taking strict action against maladaptive behaviours and bullying. School climate includes physical infrastructure and facilitating learning opportunities. It is extremely important to have infrastructure which is conducive to a proper learning environment. Basic infrastructure like toilets, separate classrooms, playgrounds for physical activities ensure students' cognitive and physical growth.

According to the RTE Act, the Government of India also suggests that there needs to be a school every 3 km to every neighbourhood, which will eventually help in decreasing school dropout rate by students (RTE Act Document, 2011). Availability of schools are placed at higher importance, as it directly influences enrollment rate of students. If the schools are not available nearby, then the students might have to travel a long distance in order to attend the school. Highlighting the issue of Accessibility, one of the student from Jalore district school highlights

"Travelling long distances to reach school is a difficult task, which is a concern
for my parents".

So if the schools are constructed in every locality considering the RTE act recommen-

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dation of 'Building school every 3 km', then it might suffice the purpose and act as a solution to the problem. Another important issue is the nearby location or place of school. If the school is placed in a deserted area, then the parents might feel scared to send their child to school. Even female students feel scared to attend school regularly. Similarly, availability of necessities can also come under school safety, like separate washrooms for girls. These criteria can also affect their regular attendance in schools. Female students and their parents consider washroom facility as one of the important factor, as unavailability or inaccessibility of the same might push them to not attend school regularly and hence affect the student well-being.

Determinants of Student Well-being

When the teachers were asked what they think are important determinants of ensuring student well-being, one teacher added that -

> *"Well-being of students requires a positive school environment, family members involvement in the learning, household resources, community and neighbourhood support, peer groups, educational policies, technology and innovation."*

Decentralized administration aids in the quality education. Each member of the SMC or SMDC feel empowered to take initiative and express their opinion.

Using technology to carry out lessons is the need of the hour, since technology can help in understanding a concept from multiple perspectives. It also helps in better practical learning as opposed to only textbooks. The responses of students and teachers on determinants of well-being of students are presented in table. 4.50

Table 4.50: *Facilitating factors - Student well-being*

Jhunjhunu	Jalore
Academic Orientation towards employability	Parental Involvement

Academic wellness	Parent-Teacher communication
Value education	Teacher availability
Life skills	Student-teacher ratio
Sports and physical activities	Physical health and Nutrition
Digital literacy and skills	Reading and writing skills
Achievement motivation	Awareness - importance of education
Optimism and self-efficacy	Learning material and resources
Future orientedness	Functional labs
Mentors and career guidance	Student motivation
Experiential learning, experimentation and application of knowledge	

Community and collective well-being

A teacher from Jalore district expressed that- *"...The students who come to government schools are from the lower tier of the society. There are quite talented students in government schools. But it's their financial conditions that many a time hinder their journey to success. Quality of education, parents support, motivation and focus on studies will help them in getting good scores and later pursue higher education...". "our school can provide a good education. But it is important for the villagers and parents to have that awareness. Awareness does not come immediately. It comes slowly. If the result of our school is good or its progress is good, then the villagers will automatically understand. We cannot just go and say that our school is good. Students will come regularly to the school only when their parents understand the importance of education and about their future."*

One of the teachers from Jalore district emphasized on the importance of quality of education, - *"Teachers lack exposure and training. Due to the no detention policy,*

students are promoted to the next class in the elementary level, due to which students of elementary level are grouped together. The students have level low levels of basic mathematics, science and language skills. Learning at this level should be given more importance." Skill development leads to better quality jobs and a meaningful life. It also helps students from lower economic groups to lead a better life. Another teacher added on the importance of life skills training - *"...Life skill is very important as it gives insight about the practical life and teaches children how to survive anywhere in the outside world. It is not only important but mandatory according to me. For example, when I take this subject in the 11th standard, children listen to it and put up questions. This makes me quite happy. In many schools, neither children nor teachers take it seriously, as it doesn't account for marks. Even the exam of this subject is not given much importance. I feel that this subject is much more important than the other subject when it comes to the students of 11th and 12th standard...".* Another teacher added that - *"Life skills help in developing survival skills in students. They enable them with the adaptive coping strategies, be able to face challenges, adapt and adjust to the external situations and become resilient. Life skills help students to plan, manage and facilitate preparedness for uncertainties.".* Principal from Jhunjhunu district expressed that - *"Life skills and skill development initiatives help in reducing the dropout rates of students. The content can focus on personal hygiene, reproductive and mental health of adolescent girls, menstrual hygiene, prevent from any abuse and coping."*

Function of School in Student Development

One of the teacher responded that schools has a major role play student development process. Therefore, transforming schools as a learning organisation is essential to provide a learning environment with resources, efficient teachers and innovative pedagogies. One of the teachers added that- *"For students who belong to marginalized communities, it is*

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imperative that schools become a learning organisation since their neighbourhoods and communities do not serve the purpose. For them, schools are the only learning centers and the only way to gain foundational literacy and numeracy along with other important skills. ".

There is a need for reforms at the structural, cultural and pedagogy level to create a learning school. Here, re-structuring refers to the changes at the organisational level involving regrouping staff, physical space, schedules and time, staff roles. Pedagogy needs to be innovative approaches focused on student outcomes. The requirements focusing on collective and collaborative methods to enhance individual capacities and quality of student-teacher interactions and experiences. The functions of school in student development are presented in the table. 4.51.

Table 4.51: *Functions of school in student development*

Theme	Responses
Role of School in Student Development	Academic development
	Socio-emotional competencies
	Safe learning environment
	learning ecosystem
	Physical, mental, social development
	Resources & infrastructure
	Employability Skills
	Life skills and personality development

Pedagogy & School Engagement

The responses of teachers on theme, "pedagogy and school engagement" are presented in table 4.52

Table 4.52: *Pedagogy and School Engagement*

Jhunjhunu	Jalore

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Motivational lectures	Rewards & recognition
Role models - Successful stories	Story telling & discussions
Promoting inquiry based learning	Morning assembly participation
Field trips	Biographies of famous personalities
Using online videos	Using charts and models to explain concepts
Employment opportunities & career counselling and support	Using movies and videos to explain
Time management and exam preparation	Inspirational speeches
Conceptual understanding	Extra support to address learning needs
Experiential learning	Exam preparation - Rote learning

Infrastructure & Technology

Proper Infrastructure has always been considered as an important part of school teaching and learning process, as lack of basic infrastructure might demotivate the student to enhance their learning ability. According to the Right to Education Act (RTE), every school must have the basic resources that a student might need. But the visit to Jalore schools highlighted that those schools have poor infrastructure and lack basic resources, whereas schools in Jhunjhunu district had proper infrastructure for technology usage as well. They had computer labs with availability of enough number of computer and teachers who had knowledge about usage of digital technology.

The schools in Jalore district showed a lack of even necessities like proper toilets for boys and girls and availability of water in those toilets. These factors act as a hindrance towards the enrollment rate in schools as students, if not provided with the basic necessity, might not feel safe and thus do not attend school regularly. These material resources contribute towards material well-being of students.

Apart from the material well-being, availability and accessibility of technological infrastructure is also important. This does not only include the availability of digital

gadgets and other artefacts, but also includes the teacher who have digital knowledge, which they can use to enhance their teaching-learning process. Teachers from Kumawas block of Jhunjhunu district were found to be using different apps on the mobile to show 3D models and were very regular in sharing online resources, and YouTube videos with the students for better understanding of the concepts in science.

Chapter 5

DISCUSSION

The study explored the different determinants of learning ecology and the well-being of students at the secondary level. The attributes of learning ecology and student well-being were identified based on literature review to develop the measurement model and further establish the psychometric properties of the scales. The study examined the differences and interaction of various demographic characteristics on the learning ecology of teachers and the well-being of students from Jhunjhunu and Jalore districts of Rajasthan. The present study is based on a comparative analysis between a high-performing and low-performing district in terms of literacy rate in Rajasthan. The study incorporated a mixed method approach, using both qualitative and quantitative data. The current presents the findings of each objective with possible explanations, reasons, and theoretical underpinnings.

5.1 Objective I

To examine the differences in learning ecology and its dimensions based on demographic characteristics (gender, age, marital status, highest degree, and annual income) of teachers across Jhunjhunu and Jalore districts in Rajasthan.

Learning ecology refers to the set of contextual factors in which learning occurs. The contextual factors include the physical environment, learning culture and processes that facilitate learning opportunities for all (Barron, 2006). To develop an effective learning environment and build a learning ecology in schools, the study considered a

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set of factors that constitute the psycho-social ecosystem of learning with a focus on enhancing the professional development of teachers, improving the quality of teaching, and enhancing student outcomes. The current study defined learning ecology as school ambience, learning culture & collegiality, teacher professional development, school vision, leadership and technological integration.

District wise differences

The study found significant differences in all the dimensions and total score of learning ecology (school ambience, learning culture and collegiality, school vision, teacher professional development, leadership, and technology interventions) between Jhunjhunu and Jalore districts teachers in Rajasthan. The teachers from Jhunjhunu district expressed higher levels of learning ecology as compared to the teachers from Jalore district. The findings highlight the importance of social context in learning environments, which involve interactions between people, surroundings, policies, and community (Rose, 2012). The importance of social interactions can be understood based on *Social Constructivism*, where a person's belief, attitude and perception of the world are shaped by their experiences and socio-cultural context (Bruner & Haste, 2010; Vygotsky & Cole, 1978). Social contexts, and interactions, enhance learning by helping the learner develop language and exposure to the learning community (teachers, peers, family) (Bruner & Haste, 2010; Keaton & Bodie, 2011). Teachers act as facilitators who help in transferring knowledge and providing opportunities for learning and developing skills. The context-based approach involves active learning to facilitate learner agency and ensure authentic learning experiences in the learning environment (Gebre & Polman, 2020). The social context of both the districts was found to be different, contributing to the differences in learning ecology of teachers. One of the teachers from Jhunjhunu district expressed that -

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"The teaching should focus on personalised learning for students, developing student-centric lesson plans to address the learning needs of different students through extra support and guidance. There should be comprehensive documentation, creating student profiles by capturing the contextual factors of the student such as background, parental involvement, nutrition, coping strategies, learning ability, etc. This would help understand every student's needs and design strategies specific to the needs of the student. This would ensure inclusive education, where no student is left behind, and every student is an active participant in the teaching & learning process."

Teachers from the Jhunjhunu district used different teaching methods focused on problem-based learning and experiential learning, with a focus on providing students with learning opportunities, solving complex problems, working in groups, and learning together. This includes teachers developing student-centric lesson plans, scaffolding, and maximizing students' responsibility for learning (Margolis, 2020). Whereas teachers from the Jalore district were more focused on teaching the content of textbooks through traditional methods of teaching on the blackboard and learning the concepts. Through collaborative learning, students try to restructure their understanding of concepts and bridge the gaps in their understanding. It helps increase problem-solving skills, discussing and developing conceptual clarity, and its application to real-life situations (Slavich & Zimbardo, 2012; Van Leeuwen & Janssen, 2019).

To ensure effective teaching and learning, it is essential to enhance the learning culture and improve the learning environment of schools. According to the invitational theory by Purkey and Novak (1999), there are 5 P's such as - People, Places, Policies, Programmes, and Processes that govern the institutional qualities responsible for inculcating a learning culture within an organisation. The four principles which govern the theory are: i)

respect among people, ii) trust expressed through cooperation and a sense of community, iii)learner optimism and iv) intentionally, which means creating learning invitations (Haigh, 2011). Recent research has indicated that schools reporting higher invitational qualities expressed higher levels of trust, respect, collaboration and cultural change through leadership (Burns & Martin, 2010). The theory provides insights for teacher development, with a focus on empathy and genuineness for the positive development of students and ensures active learner participation (Schat, 2016). Through shared vision and collective participation, educational habitat can be created through transformational leadership and mutual trust to facilitate individual flourishing.

The learning environment in Jhunjhunu district schools was more effective, with parental support and involvement in the teaching and learning process. The schools were found to be focused more on improving student outcomes through collaboration and team learning and ensuring the availability of resources through community support. The schools in the Jhunjhunu district had good support from the donors of *Bhamashah Sahayog Yojna*, a Government of Rajasthan scheme where the donors provide financial support or mentoring to ensure the quality of education. Several schools in the Jhunjhunu district had proper school infrastructure, computer facilities, regular teachers, and professional development activities. In contrast, teachers from the Jalore district expressed several limiting factors influencing the learning process and quality of education, such as less involvement of parents, lack of foundational skills among students, shortage of teachers and poor accessibility and usage of technology.

A Few teachers from the Jalore district expressed that parents usually do not attend parent-teacher meetings as they come from low socio-economic conditions and cannot afford the loss of pay for attending the meetings. One of the teachers further added that -

"Students come from low socio-economic backgrounds. Their parents are

mostly daily wage labourers. When we call parents to come for meetings, they do not come. If they attend the meeting, they will not be able to earn their daily income. So, we try to catch hold of their parents after school hours. Try to contact them over a phone call and inform them. In my career, I have not seen a single parent inquiring about their children..."

Photo 5.1: Contact details of students to regularly check their progress

School administrators and principals from the Jhunjhunu district evinced multiple

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reasons for student achievement. They adopted multiple strategies to monitor the progress of the students constantly. A Principal from the Udaipurwati division of the Jhunjhunu district maintained a student diary with the names of all the students and contact details of their parents and monitored the students' progress with the support of teachers and parents. The Principal would request the teachers and parents to share feedback and the progress of students regularly.

Effective school leadership facilitates collegiality and collaboration and provides autonomy to teachers in the classroom instructional delivery and supports learning activities to address the needs of the students (Robinson & Gray, 2019). School leaders inspire and facilitate the teachers towards achieving the goals and vision by setting expectations. In schools that give importance to the targets, vision, and goals, students had better results as compared to schools with no clear goals and vision (Robinson, Lloyd, & Rowe, 2008). A Principal from the Jhunjhunu district would maintain records of every students' timetable and note the number of hours they are dedicating for learning and preparing for their exams. Constant monitoring by the Principal would also help create a sense of responsibility, ownership, motivation and time management among students. The *goal-setting theory* by Locke and Latham (1994) explains that human action is purposeful and is directed by conscious goals, and helps us understand how setting clear goals can enhance student performance and outcomes. The goals must be clear, specific and achievable, formed through collaboration and action planning for effective implementation (Lashley & Stickl, 2016). Robinson and Gray (2019) mentioned that high-performing schools focus on establishing clear goals, ensuring necessary learning resources, and learning opportunities focused on professional development to achieve the goals through quality-driven school culture and student-centric leadership.

Principals also play a crucial role in maintaining relationships with teachers, parents

and students to ensure the well-being of students. Leaders also inform the progress of the school to the community to increase the motivation of students, parental support and community interest for improving the quality of education.
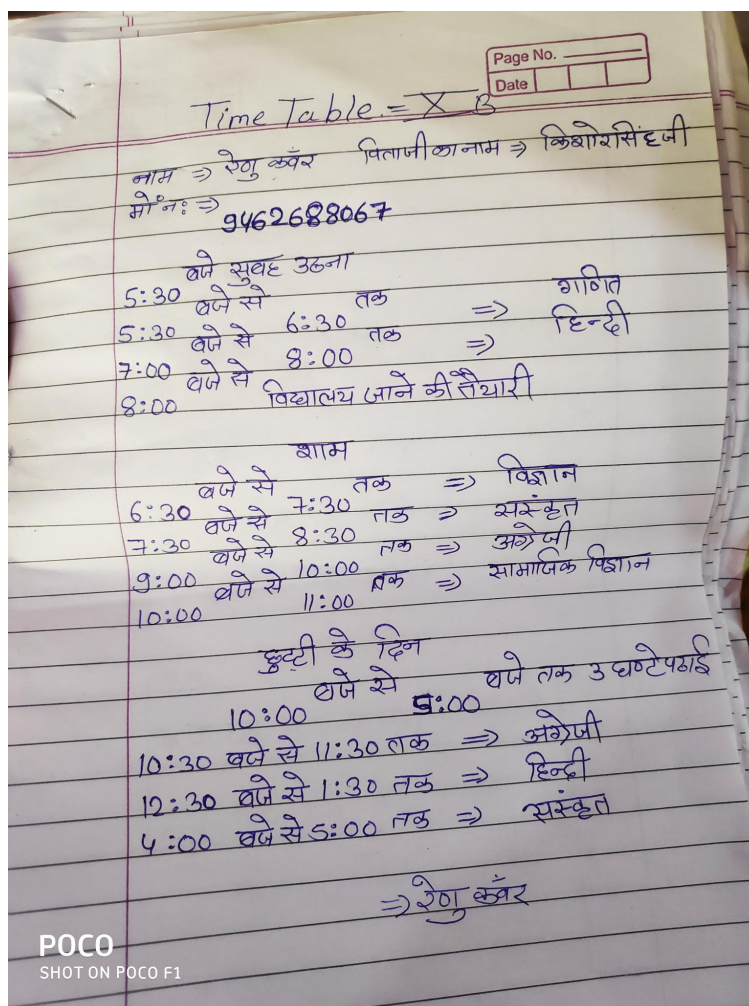

Photo 5.2: Learning schedule submitted to the Principal

There was relatively less involvement of parents in the teaching and learning process in the Jalore district. The students had less support for doing their homework at home, a lack of adequate resources, and minimal community support in terms of

providing financial support for effective school functioning. The principals of the Jalore district made fewer efforts to contact the parents. They focused more on managing the classrooms, midday meal programs, and administrative activities. Additionally, efforts were aligned towards assessing the teaching practices, classroom management strategies, and lesson plans of teachers influencing student learning.

Gender differences

The findings of the current study indicated significant gender differences between male and female teachers of Jalore district on the total score of learning ecology and its dimensions, whereas this difference was not significant among teachers from Jhunjhunu district.

Studies have reported that the school environment influences teacher efficacy, satisfaction, professional development, motivation, commitment, well-being and teaching practice & effectiveness (Edinger & Edinger, 2018; Ford, Olsen, Khojasteh, Ware, & Urick, 2019; Viac & Fraser, 2020). The study identified significant gender differences in perception of teachers in school learning culture, collegiality, professional development, school ambience, leadership, and technology integration. The gender-based disparities among teachers from the Jalore district can be attributed to factors such as gender stereotypes, school environment, family commitments, intrinsic and extrinsic factors. Female teachers in the Jalore district expressed not being able to attend training programmes despite having opportunities for professional development and training programs, due to family commitments and long-distance travel, whereas male teachers were encouraged to attend the training programs. Male teachers from Jalore district participated in the training programmes and found it quite helpful in enhancing their subject knowledge, learning new methods and collaborating with other teachers by exchanging knowledge.

The study explained the gender differences based on the prevalent typical behaviours within the classrooms' socio-contextual domain, which shape the learning process. The significant gender differences can be understood based on the philosophical notions of *gender trouble* proposed by the A quarter of a century ago, philosopher Judith Butler in the year 1990, which reinforces that gender is not a biologically determined quality but a social construction where people act as women and men. This approach was found to have several implications in social psychology to understand gender differences and the notion of performative. Here, performative refers to *'speech acts or behaviours which create the very thing they describe'*, where gender is created by its performance (Austin, 1962). Casad et al. (2021) mentioned the under-representation of women in STEM fields due to gender stereotypes, lack of social capital, social networks and gender biases within the academic climate.

Gender norms, stereotypes, and schemas define the performance of gender in an organisation. The *Gender Schema theory* was contextualised to understand its impact on society by Starr and Zurbriggen (2017), which explains people's attitudes and behaviours in the workplace related to gender roles and expectations. It talks about the gendering process from the early stage and its impact on the cognitive processing of people during their lifetime. Starr and Zurbriggen (2017) suggest that the GST has reached the maximum audience internationally and is prevalent in identifying gender-based behaviours and expectations. Gender schemas are the cognitive structures or mental models which are prevalent in society, defining the gender roles, gender based behaviours and expectations. People who conform to the gender schemas engage in higher levels of discriminating, gender-stereotyping behaviours against women (Lindsey, 2020). Gender schemas embedded within the social structures and socialisation process could develop a self-identity governed by gender norms and cultural beliefs. The gender norms and beliefs

could contribute to dissonance, discrimination, gender disparities, polarization causing culture and gender divide (Lemons & Danehower, 1996) and androcentric processes, practices, and standards (Ekaterina & Mariia, 2018). Few gender stereotypes in the Jalore district limited female teachers from actively taking up leadership roles and learning ICT skills for integrating technology in the teaching and learning process. Managing the computer labs and data entry work were mostly assigned to the experienced male teachers or male teachers with ICT skills. Female teachers were encouraged to take care of the midday meal programmes and teach lower classes.

Several strategies esist to develop inclusive, equitable learning spaces through distinct attributes (Laursen & Austin, 2020). There are a few factors that can help with professional development and improving efficiencies, such as responsible structures, non-discriminatory recruiting procedures, leadership techniques that focus on minimising gender-based harassment within the organisation, and learning networks (Gilbert, O'Shea, & Duffy, 2021). Teachers in the Jalore district have less access to social networks and collaborations with other teachers, which would help provide material support, mentoring, knowledge sharing etc. The gender disparities between the two districts can be understood based on the social capital and access to professional learning communities and networks. Minckler (2011) proposed a conceptual model of teacher social capital, which involved developing the school environment conducive to forming learning communities, and collaboration to achieve school effectiveness and student outcomes.

It was observed that the social environment of Jhunjhunu district is rapidly accepting gender-neutral roles, with several initiatives promoting girl child education and increasing employment opportunities for women. The institution plays a vital role in blurring gender roles and ensuring equality and quality of education. All the teachers were encouraged to participate in teacher training programmes, and activities related to

community development, and ICT skills in teaching and learning.

In the last few years, the Jhunjhunu district has seen an increase in the number of women joining different sectors for employment. One of the teachers mentioned that the -

"Number of female teachers have increased across the schools here in Jhunjhunu. Women have started taking up jobs like men in Army, police force, forest department etc."

Photo 5.3: Principal from Nalwalgarh block having a staff meeting for next term

Though there has been an increase in the enrolment rate of women at higher education levels, access to educational institutions is still a challenge and several cultural factors limit women from aspiring for career opportunities. The present study identified that there were no significant differences in technology integration among the male and female teachers in the Jhunjhunu district. Most teachers expressed interest and motivation to use technology and online resources for teaching and learning process. Government

initiatives, increasing awareness, accessibility to technological resources and teacher development activities were found to be reasons for better participation and inclusion. One of the teachers from Jhunjhunu district mentioned that -

> *"Principal in our school encourages all the teachers to use computers and use online material and PowerPoint for explaining few concepts to the students. We are further encouraged to learn the basic skills useful for maintaining class data and students' learning progress. Last month, a workshop was organised for all the teachers, where the resource person taught us several things about a computer. We are also encouraged to take help from other teachers who know more about computers."*

However, the gender gap persists in rural settings due to a lack of accessibility, availability, and affordability of technological resources and lack of ICT skills. Irregular, interrupted electricity and poor internet facilities are also additional challenges in remote places. It was observed that few schools in the Jalore district had computers and labs, but the teachers did not have the necessary ICT skills to use computers in the teaching and learning process. Some schools had computers that were not in a functional state. Few schools in the Jalore district had a single computer, used mostly for data entry and administrative works. Teachers do not have the necessary training and skills to use a computer for teaching and learning.

Further, language can act as a barrier to technology integration. Teachers in the Jalore district were not comfortable with the English language; they use Hindi as the language of instruction in the classrooms for most of the subjects. Teachers with low proficiency in English language, expressed less interest and motivation towards learning ICT skills. The findings of the study were further supported by Islahi and Nasrin (2019). Tondeur, Valcke, and Van Braak (2008) explained that teachers' experiences, dispositions,

beliefs, skills, and perceptions within the learning environment and context influence technology usage and adoption behaviours in accomplishing a professional task. Some potential factors responsible for technology usage are technical support, availability, skills, perceived usefulness and confidence in using technology (Dogan, Dogan, & Celik, 2021; Leem & Sung, 2019).

Highest Degree

Schools act as potential sources for enhancing teaching quality and student outcomes, and so it is crucial to understand the role of educational qualifications in enhancing the learning ecology of schools. The study reported that teachers with postgraduate educational qualifications from the Jhunjhunu district expressed higher levels of learning ecology as compared to teachers with an undergraduate degree. Teachers with Master's degree expressed higher levels of learning culture and collegiality, school vision and leadership as compared to teachers with Bachelor's degrees. Research suggests that teachers having high educational qualifications perceive higher levels of autonomy and engage in administrative activities and leadership roles (Li, 2015; Muijs & Harris, 2003). To enhance the quality of teaching of newly recruited teachers, induction programs should include mentoring and learning from experienced and qualified teachers (Callahan, 2016).

Studies stated several factors that contribute toward teachers leaving the job at the beginning of careers, such as increased workload, lack of proper induction support (Ewing & Manuel, 2005), professional support (DeAngelis, Wall, & Che, 2013), stress, and low levels of self-efficacy (Skaalvik & Skaalvik, 2017). To reduce the attrition rates of teachers, it is important to develop a school culture with a collaborative learning environment and effective induction programs. Karalis Noel and Finocchio (2022) metioned that teachers' decision to leave their professions were influenced by deficiencies in preservice education. Insufficient classroom management training, a

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lack of integration between theory and practice, and unrealistic aspirations can make it difficult for practitioners to effectively handle situations and school processes. (Patrick, Elliot, Hulme, & McPhee, 2010) highlighted the importance of a conducive school environment between teachers across different career stages and qualifications. Schools as learning spaces with elements of collegiality help in developing professional capacities, teacher identity, and pedagogic skills. Ololube et al. (2006) identified that professional qualification helped in better material utilisation, and ICT integration in the teaching and learning process. School leaders need to provide a better learning environment with a focus on professional training and development of ICT competencies among teachers and students to ensure effective school functioning (Mingaine, 2013).

Several studies have reported that academic qualification improves teachers' quality and student achievement (Darling-Hammond, 2000; Jepsen & Rivkin, 2002; Woodrow, 2006). Higher educational qualification helps increase teachers' confidence levels, subject knowledge, and different pedagogical methods to address the learning needs of students. In addition, teachers with higher educational qualifications also expressed better leadership skills, professionalism (Keng, Hoong, & Aun, 1994) and policy understanding (Darling-Hammond & Lieberman, 2013; Hanushek & Rivkin, 2007; Mayes, 2000; Phillips, 2008; Williams, 2011). Williams (2011) mentioned that teachers with postgraduate educational qualification had better professional learning and understanding of school-wide practices, which contribute to school community development.

There was no significant difference among teachers from the Jalore district based on the academic qualification on the total score of learning ecology. The findings of the study are consistent with other studies which reported that teacher development, professionalism, and leadership are not dependent on academic qualifications (Toh,

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Diong, Boo, & Chia, 1996) (Shukla, Nirban, & Dosaya, 2018). In contrast to the findings from Jhunjhunu district, teachers from Jalore district with Bachelor's degree expressed higher levels of technology integration than teachers with Bachelor's degree. The educational qualification of teachers could be identified as one of the moderating factors influencing technology adoption in the teaching and learning process (Duncan & Stock, 2010)

Marital Status

The present study identified that unmarried teachers in Jalore expressed higher levels of learning ecology as compared to married teachers. Unmarried teachers in both the districts expressed higher levels of learning culture & collegiality compared to married teachers. Unmarried teachers from the Jalore district expressed higher levels of professional development as compared to married teachers. The findings of the study can be explained based on the work-family conflict and increase in family responsibilities after marriage. Atteh, Martin, Oduro, Mensah, and Gyamfi (2020) mentioned several factors contributing to work-family conflict among female teachers, such as the school environment, organisation, and excessive workload. The study mentioned that married women have the responsibility to handle work-related activities, household activities, childcare etc. (Nnubia, Ibeanu, & Okechukwu, 2022) conducted a cross-sectional, correlational design study on primary level teachers to examine the relationship between socio-demograpic charactersitics on work-family conflict. Care for elderly in the family, dependent children and not having house help to do the household activities was associated with increase in work-family conflict among the teachers.

Lack of social support and help the household duties can become an added stress combined with the work-related deadlines. Islahi and Nasreen (2013) conducted a study to assess the effectiveness of male and female secondary school teachers from

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Uttar Pradesh, India and the study included various demographic factors such as gender, marital status, training and medium of instruction. The study found that married male teachers and unmarried female teachers expressed higher levels of effectiveness. A supportive school environment needs to address the issues faced by the married teachers and facilitate a healthy working culture through fair distribution of workload, proper mentoring, encouraging collaboration and team learning to reduce teacher absenteeism and increase job satisfaction and commitment of teachers. In contrast to the findings of the study, Kemunto, Raburu, and Bosire (2018) found a positive relationship between marital status and job satisfaction. Teachers who were married expressed higher levels of job satisfaction as compared to single and widowed teachers. The study further suggested recommendations to improve the self-efficacy and issues faced by different teachers based on marital status to enhance satisfaction, creativity, and commitment levels.

Annual Income

Teacher qualification and experience are the major determinants of teacher pay. The study identified significant differences based on annual income among teachers from Jalore district. Significant differences based on annual income were observed among teachers from Jhunjhunu district. Teachers with annual income above 5 lakhs expressed higher levels of technology integration, leadership and school ambience. The findings of the present study support that better pay or teacher salary acts as an incentive and motivating factor for better performance.

In contrast to the findings of Jhunjhunu district, teachers of Jalore district with an annual income between 1-5 lakhs expressed higher levels of learning culture, collegiality, teacher professional development, and technology integration. The results of the study closely align with the *Human Capital Theory* proposed by Schultz (1961) and Becker (1993). The theory emphasizes the role of pay on productivity and engagement of

individuals in an institution. The considerable gains of higher pay in the teaching sector consequently influence the satisfaction and motivation in a job. Studies suggest that salary can be linked with performance (Grissom & Strunk, 2012).

Further, a study reported that teachers from government schools in India, who express high levels of job satisfaction, are more likely to be absent in Indian government schools. Teachers who put a lot of effort in improving teaching quality were dissatisfied because there was no difference in professional outcomes between them and those who did not put a lot of effort (Kremer, Chaudhury, Rogers, Muralidharan, & Hammer, 2005). External incentives based on objective assessments of performance that are implemented honestly and fairly may boost intrinsic motivation and teacher satisfaction, leading to instructors adopting such a system (Muralidharan & Sundararaman, 2011).

A strong social network would enable teachers to explore different social, learing activities, knowledge sharing and build collective capabilities. When teachers seek and provide information, assistance, and feedback, and learn from each other social informal learning occurs. Similarly, feedback is essential for ensuring continuous learning, growth, especially in early stages of a teachers'career (Shah, 2012; Webber & Nickel, 2022).

Individuals are assumed to invest in training during the first period and receive a return on investment in subsequent periods. The Human capital theory states that an individual's decision to invest in training is based on an analysis of the net present value of the costs and benefits. So, the training is perceived as an opportunity to increase their potential for higher salaries. This indicates that teachers engage in learning activities, and professional training programmes if they perceive the potential to improve their professional development and increase in salary or attain a permanent position in case of contract workers. It fails to account for individuals' intrinsic motivation and satisfaction, and it perceives individuals solely from an economic and productivity perspective, not

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from a humanistic understanding. Becker (1993) aligned the human capital theory with rational choice theory and stated that internal rationality controlling an individual's choice and behaviour in examining activity involves the relational mechanism between things and processes inside a social structure. Based on this, it can be understood that the teachers in the Jhunjhunu district engage in professional development activities and training programmes, where training programmes would help them in increasing their competencies, skills, and technology adoption to enhance their professional capabilities, which can help them to have economic gains and incentives at the workplace.

These competencies would further help them take the initiative in leadership roles, administrative activities and community development initiatives which would help in developing their competencies and help them to have a higher position or promotion with better incentives.

Age differences

Quality teaching and learning requires teachers to be active, continuous learners focused on improving their subject knowledge and skills through collaboration and innovative teaching strategies. Studies have emphasized the need for regular teacher development activities which facilitate teacher learning through active participation and inquiry-based team learning among teachers from different age groups. Significant age differences were observed among teachers from the Jalore district. Teachers belonging to the age group 20 -36 years scored high on learning ecology. The findings are consistent with the results from the TALIS 2013 study, where the importance was given to professional development activities by teachers decreased with the increase in the number of years of experience and age. Teachers with less number of years of experience were asked to attend the training programs for professional development. Badri, Alnuaimi, Mohaidat, Yang, and Rashedi (2016) examined the views of teachers on professional development. The study reported

a positive relationship between age of teachers and professional development activities such as subject expertise, integrating ICT skills, learning new technologies for effective teaching and learning process, developing pedagogical competencies, cross-occupational competencies and classroom management strategies. With an increase in the number of years of experience, teachers perceived less need for professional development.

Studies have suggested that teacher age influences their attitudes, where younger teachers were found to be more enthusiastic and cheerful compared to older, experienced teachers (Avramidis & Norwich, 2002). There is an attitudinal shift that is being noted among the experienced teachers Center and Ward (1987). The newly recruited teachers were found to be more energetic, enthusiastic, and positive towards learning, attributing it as an 'entry' attitude. More experiences teachers participated less in the professional development activities, which could be explained based on the *socioemotional selectivity theory*, which explains that as people become older, their priorities, goals and behaviours change (Carstensen, 1991). According to this perspective, young people are more future goal-oriented. They are focused on knowledge acquisition, developing social relationships, career planning, and decisions focused on establishing a financially stable life, Whereas older people were found to be less interested in learning new things. They are more focused on quality of life with meaning and psychological well-being (Cleveland, Huebner, Anderson, & Agbeke, 2019). Stan, Stancovici, and Paloş (2013) identified that younger teachers are more affinity towards learning new technologies, whereas experienced teachers are engaging in more 'routine' seeking behaviours. Experienced teachers were found to exhibit higher levels of subject expertise and confidence but cognitive rigidity and resistance to change and to new technologies in the teaching and learning activities.

Contrary to these findings, no significant differences based on age and experience

were observed in a few studies (Male, 2011; Shukla et al., 2018). Experienced teachers were found to be better at managing classrooms (Klassen & Chiu, 2010). Further, Shukla et al. (2018) emphasized that the professionalism of teachers is not dependent on age and years of experience. A positive learning space has been identified with better interpersonal relationships, increased productivity through team learning, reciprocal communication and higher satisfaction levels (Sathi, 2021). Schools that focus on developing a learning culture were found to have better networking and collaboration, continuous learning, identifying problems, and working as a team to solve and implement solutions. Efficient team learning involves sharing of goals and knowledge sharing among all stakeholders. A culture of learning and collegiality within an educational setting requires flexible, open, and decentralized leadership and decision-making processes (Wijngaarden, Hitters, & Bhansing, 2020).

The findings of the present study provide a relationship between school environment, learning culture, collegiality, teacher attitude and their age and level of career development. As evinced by several teachers, the professional development activities facilitate active participation across different age groups through collaboration, team activities, inquiry-based learning, and mentoring by forming learning networks and professional learning communities.

5.2   Objective II

To examine the differences in student well-being and its dimensions based on the demographic characteristics (gender, age, class, repetition of class and tuition class) across the Jhunjhunu and Jalore districts in Rajasthan.

Well-being is a multidimensional construct that has been studied extensively across various disciplines and socio-cultural contexts. The multidimensionality of the construct includes physical, social, cognitive and psychological domains at the individual level (Pollard & Lee, 2003). Well-being has been defined as the pursuit of a positive psychological state, as well as the expression of human virtues and the realisation of individual and human potential (Diener, 2009). It is a result of the constant dynamic interaction between individual characteristics with the social, cultural, and environmental factors for individuals, groups and societies to thrive. Education and Well-being have been identified as the human rights of individuals (Inglehart & Welzel, 2010).

According to OECD (2019), well-being comprises objective and material components along with the subjective, psychological and social facets. It assesses the quality of people's lives and their standard of living. Students' well-being is related to students' educational achievement, and it involves harmony, the experience of positive emotional life because of the satisfaction of needs and expectations of the student (Engels et al., 2004). Well-being from an ecological perspective involves physical, cognitive, social, emotional, psychological, and existential components of well-being (Bornstein, Davidson, Keyes, & Moore, 2003). Soutter et al. (2011) emphasized the need for expanding the quantifiable metrics to measure well-being that including physical, mental health, resilience, positive school experiences, relationships and academic engagement. It is not just merely the absence of stress, feelings of loneliness or depression, it involves a set of positive and negative indicators involving subjective and objective measures. Student well-being entails maximising one's functionality and potential while maintaining a happy mood and attitude, resilience, and contentment with one's self, relationships, and experiences at school. It is the degree to which a student can demonstrate effective

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academic, social and emotional functioning, appropriate behaviour (Noble, Wyatt, McGrath, Roffey, & Rowling, 2008), school belongingness and engagement with positive learning experiences (Fraine, Landeghem, Damme, & Onghena, 2005)

District wise differences

The study found significant differences between Jhunjhunu and Jalore districts across various dimensions of student well-being. Students from the Jalore district expressed higher levels of social and material well-being as compared to the students from the Jhunjhunu district. It was observed that the cultural and social context of students from Jalore district are influenced by their interactions with people, community and classroom and the students reported lesser inclination towards academic achievement. As reported by one of the Principal from a school in Jalore district -

> *"Students come from the impoverished socio-economic backgrounds. Parents do not understand the value of education, pursuing higher education. After 10th and 12th the students drop out and the girls are married and lead a household life, Whereas boys start working in family businesses and move to different states in search of unskilled jobs. Parents expect the adolescent boys to start earning and take responsibility."*

The social structures within the society, influencing gender behaviours, norms, interactions, lack of awareness, and poor accessibility to educational institutions contribute to poor transition rates from secondary to higher education. The students drop out to cater to early family responsibilities and migrate to different states in search of jobs for financial security. Over the past few decades, researchers have adopted ecological perspectives to understand the extent and means of student learning experiences across different contexts - school, home and peers. Adapting to a multi-systemic perspective helps in understanding the academic, social, material and cultural domains of students

and how they influence learning, and student engagement. The degree of interaction of these different domains is very individual specific, depending on one's interests, choices, aspirations and networks which determine the learning and learning pathways (Bronkhorst & Akkerman, 2016). Understanding these interdependencies across domains with the student as the central agent is essential to creating personalized learning experiences for students by including adaptive practices through collaboration and creating a learning ecology.

To understand the learning within the school and out-of-school, Bronkhorst and Akkerman (2016) mentioned the conflicting school and home norms, the home environment can lead to discontinuity in learning, leading to learning difficulties, lack of interest, disengagement, and school dropout. Studies have also mentioned that this can cause poor academic identity (Smyth, Mcinerney, & Hattam, 2003) and alienating experiences in schools.Smyth et al. (2003) emphasized aligning the school structures, culture, process and pedagogy relevant to the students' changing times and needs, which resonate with their lives and aspirations. To understand the challenges of the current education system and provide quality education, it is important to examine the continuity and discontinuity factors of students with diverse socio-economic, student-teacher-parent interactions and learning contexts. When the school context is not attuned with the cultural diversities of students, student participation and learning experiences get affected. Based on the theories of responsive pedagogy, sociocultural theories, it was identified that to reduce the contradictory experiences, students face within and outside school, more emphasis should be given to English language skills, and the medium of instruction should use both English and native language. Many students lack proficiency in English language. Students reported that they find it challenging to comprehend whole paragraphs and vocabulary in English. Students could not comprehend and understand the concepts

as the textbook content is presented in English. Teachers in the Jalore district follow textbooks in the Hindi medium, whereas most schools in the Jhunjhunu district follow English medium textbooks but use a few terms in Hindi to explain the concepts.

The concept of authentic learning was explained by Herrington, Reeves, and Oliver (2014) based on the meta-analysis using four different kinds of learning— meaningful learning, real-world application, learning that enables one to think in a particular direction or discipline and assessment facilitates meaningful reflection on the learning processes. Authentic learning involves aligning pedagogy with the learning in the context and the ability to transfer knowledge into the real-world situations. According to Herrington et al. (2014) the foundation of authentic learning has its roots in the theory of situated cognition, which infers that students can develop capabilities to transfer knowledge into real-life situations or problems. Importance is given to the social contexts, interactions, and the process of knowledge creation.

Gender differences

The study found significant differences between boys and girls on the total score of well-being, where boys from the Jhunjhunu district expressed higher levels of well-being than girls. In contrast, no significant differences were identified among students from the Jalore district. Boys from the Jhunjhunu district expressed higher levels of material well-being as compared to girls from the Jhunjhunu district. However, this trend was not observed among students in the Jalore district. The findings of the study can be explained using the hegemonic gender norms and the gender gap in achievement levels as explained by (Hsin, 2018). Stereotypes around gender form the idea of masculinity and feminization polarities of perceptions towards academic success. Hegemonic masculinity refers to the set of beliefs, that define masculinity, dominance, physical strength, athleticism, and extraversion in males, which were found to be

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responsible for the stereotypes around gender, gender norms, and gender expectations across different cultures. Several studies reported that parents of Asian, Asian American origin express higher academic expectations from boys than girls (Martino, 1995). A longitudinal study by Hsin and Xie (2014) reported an achievement gap between Asian and Asian American students. The achievement levels of the students were assessed based on the ratings from teachers in terms of proficiency in maths, science or general knowledge. Students' cognitive abilities were assessed based on the standardised tests of maths and reading. Based on the within-school ethnic differences on achievement levels, cognitive abilities and academic effort, students from Asian ethnic groups outperform others in terms of academic achievement and effort but not in cognitive ability. The Asian families were found to attribute students' cognitive ability and academic achievement with academic effort driven by intrinsic factors and not as innate abilities. Therefore, they were expressed higher levels of educational expectations among students.

Cultural orientations and socio-demographic factors contributed significantly in explaining the differences in the academic effort of students. Meta-analysis by Jeynes (2005) examined the relationship between parental involvement, defined as the participation of parents in educational processes & school activities, understanding the student learning experiences and parental expectations on student achievement. Parental involvement can reduce the achievement gap and increase educational outcomes. The study provided several insights for developing positive learning environments at school and home, a model for school leaders to increase parental involvement, and engagement (Jeynes, 2018). Cummins (2009) emphasized on culture free teaching and learning through intercultural dialogue. When the student-teacher interactions are dominant with the patterns of cultural hegemony, the students can feel alienated and express less affinity towards school and feelings of school belongingness (Zaidi et al., 2016).

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The interviews show that the state policy changes helped transform school environments into more accessible resources for learning for female students. However, evidence from developing countries has suggested that this transformation is unequally distributed. Since gender disparities in these countries are prominent in the context of accessibility and quality, various research studies count the most probable reason for the dramatic under-representation of females in scientific subjects as persistent ignorance of the acceptability of educated girls itself (Maharaj & Shangase, 2020; Vitman-Schorr & Ayalon, 2020).

Class wise differences

The students from class 10 expressed significantly higher levels of well-being compared to students from class 9. The social well-being and material well-being of class 10 students were higher compared to students from class 9. Students from class 10 expressed higher levels of social connections, relationships with teachers-parents, and belongingness with the school. Also, they expressed better accessibility to material resources and learning resources as compared to class 9 students.

Hsin and Xie (2014) reported the academic expectations of parents increased when the students move from class 9 to class 10. Cultural orientation, adaptive learning strategies, peer pressure, teacher-parent expectations shape the perceptions of students on academic effort, self-efficacy and outlook towards educational attainment. Studies have also reported the downside to high academic expectations which can cause psychological and social adjustment issues, stress (Tan & Yates, 2011) low self-efficacy and feelings of alienation and strained parental and peer relationships (Qin, Way, & Mukherjee, 2008) (Mahir Ali et al., 2019).

According to *Self-Determination Theory*, motivation for learning and psychological needs are *"inherently motivational assets that function better in providing outcomes when*

supported" (Jang, Kim, & Reeve, 2016). The present study observed the significance of this theory through the provision of 'support', which is provided by the teachers. Researchers argued that in a classroom setting, teachers as support providers act like "social-contextual facilitators of students need satisfaction and optimal performance" in class while teachers as central owners of a class act as "controllers of autonomy", thereby facilitating disengagement of classroom learning (Ryan & Deci, 2000).

The students in Class 10 have their board exams, because of which they are given extra care and remedial classes to ensure that they are adequately prepared to appear for the exams. The schools in the Jhunjhunu district were observed to have extra classes to help students with better conceptual understanding and clear and prepare for the exams. The students were asked to maintain a schedule and the parents were asked to update about their progress to the teachers.

Repeating an academic year

Students from the Jalore district expressed higher levels of psychological well-being when they repeated a class, whereas this was not observed among students from the Jhunjhunu district. Using the concept of continuity and discontinuity, sociocultural theories, we can say that lack of quality of education at the elementary level causes discontinuity among students. As reported by one of the teachers -

> *"When the students come to class 9, they do not know how to read, or to write full sentences, their basic mathematics and science knowledge is poor. Due to the no-detention policy, students get promoted to class 9 even without the prerequisite skills. one year of effort from a teacher cannot make them ready to be promoted to class 10. So we take a test of students when they come to class 9, at the starting of the academic year, and divide the students into different sections. The section B and section C students are taught from the very basics,*

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and most of the students repeat a year to be ready for class 10.".

In the Jalore district, repeating an academic year helped students increase their language and mathematic skills and their higher levels of academic achievement, cognitive abilities, and psychological well-being.

The social stereotypes and the social stigma around repeating a class was found to reduce psychological well-being in the present study. The students from the better literacy rate district - Jhunjhunu felt ashamed when they repeated a class. A student from the Jhunjhunu district expressed that -

> *" When a student fails or repeats a class, he/she is treated differently. Teachers take extra remedial classes for them and give much homework".*

Another teacher added that -

> *"Students feel anxious before exams and take tuition classes to be more prepared for the exams."*

Ikeda and García (2014) analysed the association between grade retention and the performance of students. The study identified that students who repeated an academic year at the secondary level improved their English language and mathematics skills.

Tuition Classes

The study identified significant differences between students who take tuition classes and those who do not go for any tuition classes. This result was found among the students from Jhunjhunu district in terms of social well-being. Whereas, the significant differences do not exist among students from the Jalore district. This can be substantiated based on the response from one of the teachers from Jalore -

> *"Students come from impoverished economic backgrounds; they do not understand the importance of education. We take remedial classes in schools, and parents are not very inclined to send their children to additional classes.*

As the students have to go back home, take care of their younger siblings or

help in the household activities."

Cummins (2009) mentioned that the devaluations of the languages indigenous to the culture and places in the wider society could cause ambivalence between parents, teachers and students. Most of the students from the Jalore district come from families without educational background. The students are the first-generation learners with minimal or no support from parents contributing towards their literacy. The choice of pedagogy by the teachers balances the individual and collective choices, identifies needs to ensure academic and cognitive engagement. Teachers should facilitate collaboration, self-expression and empower the students.

With the recent pandemic, schools have been closed, causing a significant learning loss among students. According to ASER (2020) report, it was identified that students from low socioeconomic background were at the highest disadvantage. The report mentioned that children with less educated parents were less likely to have smartphones. Similarly, students with low parental education were less likely to take private tuition classes and received less support in completing their homework than students with educated parents. To ensure equity of learning during the pandemic, schools used multiple strategies to provide learning material and engage students in learning activities. Teachers were reported to use WhatsApp, messenger, personal home visits or phone calls to personally check on each student and engage them in learning.

5.3   Objective III

To analyse the effect of gender, age, marital status, highest degree and annual income on the learning ecology of teachers across Jhunjhunu and Jalore districts

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of Rajasthan

Predictors of Learning Ecology

Together the demographic characteristics age, gender, annual income, marital status and highest degree contributed significantly towards learning ecology. The study revealed that gender significantly contributed to the learning ecology of teachers from the Jalore district, and male teachers expressed higher levels of learning ecology as compared to female teachers.

The current focus of developing countries is to overcome the dual challenges they face, which include education expansion and universal provision of education while maintaining quality and ensuring equity. Considering the gender parity in education and the fact that there exists at countries that have achieved the goal of Universal Primary Education (UPE), the analysis of previous situations and stats highlights that influx of women into the teaching profession has been considered to be the most prominent factor that contributed to the success (Cortina & Román, 2006). The main focus of every education programme in India, or any other country, is the 'Girl Child Education'. In a country where girl child education remains a challenge, the incorporation of more female teachers in school institution have played an essential role in decreasing the gender parity at the school level and thus increasing equality in education (Herz, Herz, & Sperling, 2004; Kirk, 2006), most specifically where girl child retention in school is concerned.

There has been an increasing trend of women taking up professional education and pursuing career opportunities, but they continue to have career scope in certain sectors like short-term, contractual & low-paid jobs. Studies have explored several barriers experienced by teachers in advancing their career. Inandi (2009) conducted a study on elementary school teachers and reported that stereotypes in educational institutions prevent women from advancing in their career. Mousavy and Nimehchisalem

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(2014) mentioned that female teachers expressed higher levels of emotional exhaustion, depersonalization and personal accomplishment.

Stereotypes were identified as career barriers preventing women from taking leadership roles, being promoted to managerial positions and having autonomy. This can be explained based on negative consequences of the performance of gender, which reinforce the patriarchal power structures and the notion of women as means for reproduction, as mothers and wives (Butler, 1990). These power structures could act either as *prohibitive*, repressing gender performance, or *generative*, creating binary, heteronormative gender performance. Butler further argues that there is a need to re-structure the notion of gender and gender identity by creating *gender trouble*, dismantling the gender binary of oppressive structures, and aiming for gender equality and inclusive society (Casey, 2013). The learning environment, management practices, and the social context of the Jhunjhunu and Jalore districts differ, explaining the results of the study.

Further, the career barriers experienced by female teachers could be understood based on the *glass ceiling* phenomenon, Where the glass is an apparent structure restricting women from achieving top positions in an organisation. Jain and Mukherji (2010) mentioned that the barriers could be less tangible and rooted within the culture and society, which act as career barriers for women. The cultural stereotypes can influence the career decisions and self-efficacy of women (Lewellyn & Muller-Kahle, 2020; Shin, Lee, & Seo, 2019)

Teachers' age, gender, marital status and annual income were found to be correlated with learning ecology of teachers from Jalore district. The study observed imbalances in the percentage of women in the schools as compared to male teachers. Few teachers perceived that there are very few women as principals in the government schools of Jalore district as compared to Jhunjhunu district. Teachers mentioned that sometimes it is difficult for them to manage their family responsibilities, childbirth, the responsibility of

ageing parents, and geographical proximity as some reasons for not opting for leadership roles in the schools. The influence of domestic responsibilities on women's career can be understood based on the notion of unpaid domestic work by women Dejours and Deranty (2010). The teachers from the Jhunjhunu district were found to be managing both family and career by challenging these gendered home responsibilities.

Married teachers have the additional burden of taking care of the family responsibilities and caregiving. A married teacher from the Jalore district expressed -

> *"If I get married, I would have to give priority to my family and not my career as I would have to take a break from career during childbirth and might have to relocate to another place where my husband would be working. One good thing is that we get leave during childbirth and can request for transfer."*

It is essential to understand the working conditions that ensure teacher commitment, retention and quality of teaching. Teacher retention is influenced by a variety of monetary and non-monetary factors. Research studies have reported that positive association between higher salary and teacher quality (Crawfurd & Pugatch, 2020; Iwu, Ezeuduji, Iwu, Ikebuaku, & Tengeh, 2018), and contract teachers were found to be more willing to do extra administrative roles (Chudgar & Sakamoto, 2021). The teachers were asked about their annual income and how it influences in their performance? One of the teachers from the Jalore district mentioned that

> *"We feel more motivated when there are period increments and recognition for our efforts. Also, some have joined for part-time courses to get post-graduation degree to have an enhancement in the salaries".*

Teachers were inclined towards pursuing part-time degrees for enhancement in their salaries, which questions the quality of educational qualification and the role of qualification in enhancing the quality of education.

The study found no significant effect of demographic characteristics on the learning ecology of teachers from the Jhunjhunu district. The annual income of teachers and highest degree were found to be positively related with learning ecology of teachers from Jhunjhunu district. This indicates that an increase in annual income can increase the learning ecology, and having higher educational qualification can increase the learning ecology of teachers.

The motivational theory by Watt and Richardson (2008) emphasis on teacher's motivation for choosing their career, which ultimately influences their behaviour related to their profession. The intrinsic motivation in teachers is related to their satisfaction behind choosing a career which includes seeing children grow and learn, which ultimately provides the high motivation behind choosing the profession. However, extrinsic motivation includes external work materials, including pay and easy schedule (Ryan & Deci, 2008).

5.4 Objective IV

To analyse the effect of gender, age, class, repetition of class and tuition class on the well-being of students across Jhunjhunu and Jalore districts in Rajasthan.

Predictors of Student Well-being

Schools as learning spaces help students to acquire academic skills, better relationships with people, and develop personality and well-being. Students who perform well in schools not only have better grades, but also express higher levels of motivation and satisfaction. The study found no significant effect of demographic characteristics such as gender, age, class, tuition class, and repetition of class on the well-being of students from Jhunjhunu and Jalore districts in Rajasthan. The findings of the present study support

that the social and cultural contexts of the districts are making efforts toward reducing the gender gap in achievement levels and outcomes of students.

Although repetition of a class did not affect on well-being of students, studies have reported that retention can increase behavioural problems such as violent behaviours, substance abuse etc., and drop out at the secondary and higher education level (Manacorda, 2012; Rathmann, Loter, & Vockert, 2020). When the students in the 9th grade had learning, reading difficulties and couldn't get passing marks, teachers in the Jalore district made them repeat the class to improve their numeracy and reading skills. Studies have mentioned that students who repeated a year expressed self-limiting beliefs, low self-esteem (Gottfried, 2013). The researcher observed that students who repeated an academic year considered themselves to be less intelligent than their peers. Few teachers expressed that most of the students benefitted from repeating a class specially at the 9th grade as this prepared them for appearing in the board exam and have better grades.

Gender did not have a significant effect on the well-being of students from Jhunjhunu and Jalore districts in Rajasthan. Despite these findings, there are gender stereotypes that are prevalent in the social structures which determine the gender based behaviours and career choices of students. Boys expressed high levels of achievement and better access to educational resources as compared to girls. A female student from the Jalore district mentioned that -

> *"I face a lot of problems in reaching the school. I live in a nearby village and have to travel 7 kms to reach school. Sometimes I am late as there is no proper bus facility".*

Interviews revealed that students were found to be having multiple challenges in reaching school. They also mentioned that the senior secondary schools did not have science and mathematics streams to pursue STEM-related courses in 11th and 12th. The girls usually

took Arts and Humanities courses available in their schools. Shortage of subject-specific teachers, availability of STEM related courses and access to schools are some challenges influencing increased dropouts at the higher secondary level.

To reduce the gender gap in ensuring equal access towards educational opportunities, it is important to empower women and community members to take collective action towards addressing these challenges. Several factors which enable or constrain female students from school have been understood based on the *snakes and ladders* analysis by Ramachandran (2003). Several factors influencing girls' schooling were found to be: home environment, parent-teacher relationship, mother's commitment and interest in their daughter's school, long hours of work and socio-economic conditions. Empowering women and increasing their awareness on the importance of education could have a significant effect on aspirations and opportunities for their daughters. Community members also have an essential role in proposing several solutions to address the challenges faced by the students, reduce dropout rates and increase the quality of education.

To reduce the gender gap and improve female literacy, access and quality of education, residential schools have been set up as part of the Kasturba Gandhi Balika Vidyalaya (KGBV) scheme, which provides education for the backward minority communities. Few students in Jalore district mentioned that they must stay in hostels because they do not have schools in their villages. Few schools in the Jalore district tried to provide cycles to students as they were finding it challenging to travel long-distances to attend school.

5.5 Objective V

To identify and measure different factors that contribute to the construct of the learning ecology of teachers and the well-being of students at the secondary level.

5.5.1 Learning Ecology

Ecology is a domain or context in which networks operate. The network serves as the foundation for the structure of i)how learning content is organised, ii) how connections are formed to facilitate content discussion and the creation of new content, and iii) how conversations and content flow in an environment of abundant information. According to Hug (2007) an ideal learning ecology includes the following elements i) learner having access to information; ii) innovative processes; iii) Open system with transparency, trust and allowing for co-creation and re-creation.

A learning ecology is a space where learning occures which has the ability for formulation of learning content being embedded in new patterns within a network. Ecologies are dynamic, evolving and adaptive to the needs of the learners. The figure 5.1 explains about the network formation between different nodes of communication embedded within the learning context. The ecology of learning in a classroom involves students, teachers, interactions, learning content, pedagogy, resources, teacher attributes, classroom processes which determine the quality of interactions, teaching and learning styles. The teacher would adapt teaching methods to enable better learning experience for students and ensuring learning outcomes. The social, emotional, personal characteristics also influence the learning process. Team learning, collaboration, knowledge sharing within the learning communities for teachers helps in forming a pedagogical niche to

exchange knowledge, learn and build professional competencies.

Figure 5.1: Learning Ecology

The study defined learning ecology as school ambience, learning culture and collegilality, school vision, leadership, professional development of teachers and technology integration for effective teaching and learning. School ambience is a multifaceted construct that involves physical environment, infrastructure, facilities, and subjective perceptions of students about their school (Berkowitz, Moore, Astor, & Benbenishty, 2017). It encompasses all aspects of the school experience, including high-quality teaching and learning, school community interactions, school organisation, structure, and processes (Wang & Degol, 2016). School climate has been conceptualized by many researchers as "the shared beliefs, values and set of acceptable behaviours and norms for the school" (Bennett, 2017; Wang & Degol, 2016). Effective professional development facilitates teachers with learning spaces that promote collaboration, team learning, a culture of inquiry, reflection and implementation. A few essential attributes

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could be developing the skills of teachers, enhancing competencies, and learning attitudes taking into account their experiences and knowledge.

Professional development programs need to be designed in line with teachers' personal and professional goals, with a value attribution of perceived usefulness and its benefits (Pellegrino, 1998). Hargreaves and O'Connor (2018) proposed *collaborative professionalism*, which includes exercising collective autonomy, efficacy, inquiry, responsibility and initiative where teachers engage in mutual dialogue, maintaining good relationships with students to strive towards the common goal. They emphasized building a collaborative network and social capital between the stakeholders to improve student learning. Collaborative professionalism is important to ensure trust and respect between the teachers, developing professional learning communities, learning attitudes and learning culture within the school striving towards student development. Active learning through collaborative community endeavour during teacher professional development has been identified to be integral to effective professional development (Darling-Hammond et al., 2017; Tuytens & Devos, 2017).

A teacher from the Jhunjhunu district expressed that -

"School networks can help in building an environment where successful strategies can be shared. School learning culture includes teacher autonomy, experiential and inquiry-based learning, and equal learning opportunities. Appropriate learning culture ensures teachers use their creativity for holistic learning among students. They would employ different methods to ensure every student understands the concepts".

The teachers from Jhunjhunu district used different teaching strategies like group activities, and assignments to provide experiential learning and authentic learning experiences for students. Teachers were facilitated to explore and apply the concepts to

the real-world situations. Whereas teachers from Jalore district understand the needs and limitations of students in terms of learning outcomes as evinced by many. Additionally, teachers in Jalore district feel that -

"It is necessary as teachers need to be aware of the recent developments in pedagogical research and implementation. We are more focused on learning the textbook content to the students and usually ask them to memorize the answers. The students lack the necessary foundational skills and analytical skills to explore."

Few studies have explored the impact of work conditions on teachers' development and found that positive work surroundings facilitate the willingness of responsible behaviour towards the organization (Kelchtermans, 2017; Mabeya, Gikuhi, & Anyona, 2019). Teachers were asked about the work conditions in the school and how it influences their motivation and commitment. One of the teachers from the Alsisar division agreed to

"positive work conditions be instrumental in generating the sense of employee recognition in the organization. Our school management committee has contributed a lot by repairing the school fence, providing chairs and tables in classroom and providing a playground for students. These things motivate not only students but also teachers to teach well."

Interviews reveal that proper working conditions and support from the school can increase the motivation levels, job satisfaction and sense of responsibility in teachers. According to the *Unfolding Theory of Turnover* by Lee and Mitchell (1991), employees take the decision to leave an organisation based on the cognitive pathways which are determined by the work environment, identity, and alternative job opportunities (Tellez, 2014). Teachers' working conditions and dissatisfaction influence their attitudes toward their

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jobs and careers, which determines their intentions to leave (Ingersoll, 2001). Few significant determinants of teacher satisfaction and well-being are: positive environment, relationships with colleagues and administrators, influencing teacher commitment and retention (Zinsser, Christensen, & Torres, 2016). Additionally, teachers' commitment and turnover have also been linked to indicators of school climate and environment (Wells, 2015).

Similarly, another teacher from Jalore district mentioned that

"poor work conditions play a key role in creating the feeling of low self-esteem and self-doubt. The staff room has limited chairs and tables. It is mostly unclear. Sometimes we personally clean, and there are no proper inspections that happen in the school. There are so many confusions we have about midday meal programs and sorting things and managing classes."

Interviews of teachers reflect on poor management, and leadership skills in assigning the roles and responsibilities of teachers and addressing their concerns. Poor working conditions in the schools could influence the learning culture, learning behaviours, motivation, and commitment of teachers.

According to Murphy and Louis (2018), "Effective leaders play an important role in ensuring open communication between the stakeholders, ensuring a positive learning environment, building moral communities", and managing the structures, processes and operations (Billingsley et al., 2018). The principals from the Jhunjhunu district gave importance to community partnerships, mentoring teachers in achieving the school goals, to inspire students to perform well. The principals from Jhunjhunu district were observed to exhibit transformational leadership, which involves increasing the motivation levels of the people to perform better and achieve the targets (Anderson, 2017). The principals of the schools need to create conditions to boost the morale of the school members, and

Figure 5.2: Elements of Transformational Leadership

motivate students and teachers towards achieving the common goal and vision of the school through collaboration, mutual trust and team learning. Different elements of transformational leadership are presented in figure 5.2 based on the literature review and field observations involving collective vision, commitment, learning culture, promoting learning opportunities for staff and students, ensuring professional development and quality education through innovative teaching practices (Anderson, 2017; Hallinger, 2007)

Leadership helps in setting targets, vision, directions, restructuring and realigning the organisation, professional development of staff, and involvement with external community. One of the teachers mentioned that -

"...Principal in our school conducts regular meetings to discuss the long-term
& short-term plans and how to achieve them. There is constant support and
motivation to pursue new things and modify our teaching practice...".

Another teacher added that -

"Regular meetings are scheduled, and we discuss our targets and set objectives
for every term. We receive a lot of support from our Principal madam. She
encourages us to think of innovative methods to help students learn.".

A teacher from the Jalore district added that -

"Leadership plays a critical role in quality education, as they can motivate
teachers to adapt to leading theories and successful frameworks. Their
tendency to adapt to technology and ensure holistic development of students
trickles down to every fabric of the school."

The characteristics of a successful leadership includes: i) defining the vision and direction, ii) increasing learning opportunities for better teaching and learning, iii) ensuring teacher autonomy; iv) building relationship with the school community and society, v) promoting team learning and collaboration (Day & Sammons, 2016; Gurr, 2015; Leithwood, Harris, & Hopkins, 2020).

Recent research highlighted the crucial role played by leaders in being responsive to the situation and thus highlights the effectiveness of school leadership. Several types of school contexts have been highlighted, which includes, institutional, economic, community, political social-cultural and school development (Hallinger & Liu, 2016). The school principal of Nawalgarh division of Jhunjhunu district reached out for community support for improving the school infrastructure and providing learning resources for studies. Similarly, another principal from the Jhunjhunu district encouraged teachers to work together, learn from each other to improve their pedagogical practices

and autonomy to design the evaluative components. To reduce the dropout rates of students at secondary level, the principal from Jalore district used several strategies such as public events or programmes to increase awareness among the community members about safety, hygiene and girl child education.

With the rapid technological advancement, ICT integration in teaching and learning is still is a challenge. Nevertheless, several studies have mentioned the role of technology and online modules that can enhance teacher development, and provide opportunities for learning, mentoring and collaboration (Drossel et al., 2017).

Photo 5.4: Teachers in Jhunjhunu district using ICT for teaching science

Teachers from Jhunjhunu expressed that -

"It is very important to have knowledge of computers today. Some of the teachers who joined recently, have computer knowledge, but the experienced teachers do not. They require some training in using computers. We usually ask the teachers to work as a team, learn and help each other.".

Another teacher further added that -

"Technology helps in improving and facilitating holistic learning of students. It changes the way teachers and students gather, access and analyse information. It helps in democratization of information, making education equitable and inclusive. Technology adds a big value by improving evaluation strategies and follow-up interventions."

Professional development and professional training play a crucial role in enhancing the technology adoption behaviours.

5.5.2 Student Well-being

The school learning contexts today have increasingly popularized the notion of well-being and health of school children. The study found a positive relationship between students' cognitive, physical, social, material and psychological well-being. Students who express higher levels of psychological well-being tend to have a positive outlook on life, positive interpersonal relationships and quality of life. The students from Jalore district expressed that completing education and getting good grades will make them feel happy and have a better life. Studies have shown that psychological well-being increases the academic success and achievement of students (Borman, Rozek, Pyne, & Hanselman, 2019).

Enhancing well-being is a focus in schools worldwide in hopes of positively influencing school productivity and academic success (Nordin, Jourdan, & Simovska, 2019). Studies also augmented the relationship between student achievement and motivation by including well-being as another measurable construct of student performance within the learning systems (Kaya & Erdem, 2021).

Better classroom performance, grades, and achievement were positively associated

with student well-being (Lyons & Huebner, 2016). Academic achievement is dependent on the learning context and psychological well-being of students. Students from Jalore district mentioned that they feel anxious before the exam and sometimes do not remember the concepts in the exam, and students also expressed that they find it challenging to comprehend and understand English. According to the Self Determination Theory, societal and contextual factors such as the school environment, parental support, student-teacher interactions, learning opportunities, and support can play an essential role in students' motivation and achievement. Conditions that support an individual's experience of autonomy, connectedness with others, and competence are designed to foster will, motivation, and engagement in activities, including academic achievement (Ryan & Deci, 2000).

Photo 5.5: Students working in groups to complete an assignment in Jhunjhunu district

Staying physically active by playing sports, participating in school activities, and eating a balanced diet is important to stay physically and mentally active. Having a safe and stable home and school environment is important in a student's physical development.

Photo 5.6: Classroom sitting on the floor in a classroom in Jalore district

Several studies have mentioned the positive relationship between the physical well-being of students and social relationships, sense of school belongingness, and academic engagement. Staying physically active can also promote adaptive school behaviours and inculcate a sense of sportsmanship, discipline, health habits, and resilience among students (Brett, Mainsbridge, & Cruickshank, 2022). The study also observed that the schools in Jhunjhunu district promoted students to be more physically active and engage in sports and participate in competitions. They were also encouraged to participate in National Cadet Corps (NCC), which would eventually help them to train and qualify for the defence and armed forces.

The social dimension of a students' well-being refers to the quality of social interactions, sense of belongingness with the school, quality of student-teacher relationship, and school engagement of students (Rath, Harter, & Harter, 2010) which includes the relationship with family, peers and teachers (positive or negative). This also includes their perception of their social life in school (Pollard & Lee, 2003). The students in the Jhunjhunu district

expressed that they prefer learning in groups and helping each other in the subjects. Learning from peers helps achieve shared goals, and maximize each other's learning. Studies have mentioned that indulging the students in activities with shared and group tasks in small groups can foster the development of attitude towards school and thus further contributes towards the achievement (Ghaith, 2002; Topping, 2005). The effectiveness of group learning is influenced by the teacher, who should constantly monitor, and guide the students and promote diversity within the groups.
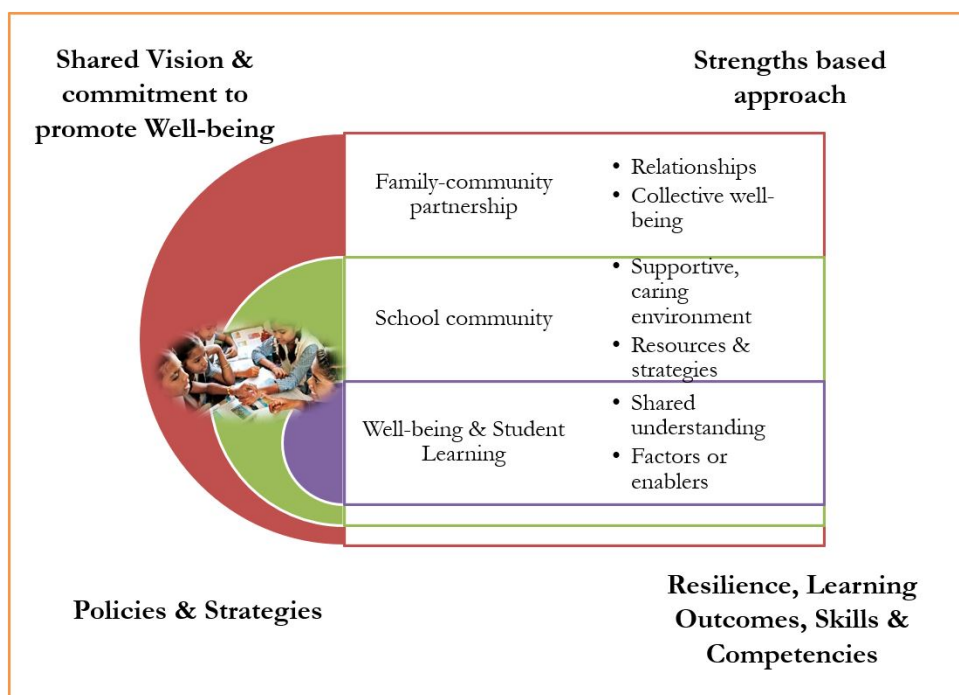

Figure 5.3: Student Well-being

From an ecological standpoint, well-being and learning of students is the consequence of several forces interacting at many levels. Personal factors influence how a learner takes advantage of learning opportunities (e.g. prior knowledge; interest, motivation, and engagement; cultural, physical, and emotional safety; physical skills); immediate

relational factors influence the opportunities themselves (e.g. teachers; teaching; peers; families and their cultural practises; equipment; a congenial environment); and community level factors, policy frameworks, government initiatives, curriculum; and assessments). From figures 5.3 and 5.4 it can be understood that several factors at multiple levels are responsible for students' well-being.

Parents and schools need to ensure that the students have the necessary resources catering to their needs for proper physical and mental development. Material resources play an important role in providing a better support system for the students' needs and ensure healthy development. Students from low socio-economic background lack access to educational resources. Educational and cultural resources play a crucial role in enabling students to thrive in the school environment and realise their potential. The present study observed that students from the Jalore district do not have the necessary learning resources, they are made to sit on the floor in the classroom, and they do not have a good library to read books and textbooks for studying. Students either shared textbooks in a group, or the teacher would read the textbook's content and explain in the classroom.

The well-being of students is a result of their interactions with their external environment, material resources, people, educational system, and society (Baeva & Bordovskaia, 2015). The personal characteristics of an individual, along with their character strengths, interactions with family, friends, and peers influence their perceptions, satisfaction and learning experiences. Well-being from an ecological perspective involves interactions and interdependencies between the individual self, student network, resources, policies and socio-cultural factors. The interactions between different components determine the perceived well-being of the student and the quality of life at school (Mercer, 2021).

Figure 5.4: Ecological Perspective - Well-being

5.6 Objective VI

To propose an integrated framework of school learning organisation integration learning ecology and well-being of students.

To transform schools into a flourishing learning environment, it is important that there is change within the school culture with an ambience fostering learning attitude and opportunities for learning to innovate the teaching practices constantly, and teacher professionalism to improve students' learning outcomes. Several research studies have conceptualised and provided several measures for facilitating schools as learning organisation (Marsick & Watkins, 1999; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Silins, Mulford, & Zarins, 2002).

Schools as learning organisations focus on building the capacities of teachers, students, and community stakeholders. The present study proposed an integrated model

of SLO to enhance the teacher and student capabilities through the measurement of learning ecology as a measure of teacher and school effectiveness and student well-being as a measure of student outcome. Bowen, Rose, and Ware (2006) proposed that learning organisation involves understanding the knowledge about the people in an organisation through a set of conditions and processes which will help in developing the learning culture, plan and implement interventions to enhance productivity and achieve the goals.

Learning organisation is a process that schools can aspire to achieve educational outcomes and become a powerful, thriving learning organisation (OECD, 2016). Adapting the model of learning organisation from the management and human resource development, in the context of education and education systems helps in providing action imperatives to enable schools as agents of organisational change through innovation. The School Success Profile (SSP) is a comprehensive tool developed by (G. Bowen & Powers, 2003) to assess the student's beliefs about their social environment (neighbourhood, friends, families) and their psychological, physical, health, and school performance. Pedler and Hsu (2018) emphasized on the need for paradigm shift in the concepts of learning organisation and organisational learning, implying that individuals need to understand the power relations, learning organisation praxis in organisations and their integral role towards a better environment and its consequences for collaboration for regenerative purposes. Focus on regenerative purposes can mobilize people to work towards a greater social and ecological purpose.

A learner-centric learning organisation paradigm was studied by Akella (2020). The project seeks to make a contribution by incorporating the "learner agent" throughout the entire learning process. The results emphasise both the crucial function of learner agents and the positive effects of learning that is a self-directed process with little structural impact. The empirical results highlight the critical importance of learner agents and the

beneficial effects of learning that results from an autonomous decision and process, with little structural influence. In order to develop lifelong learners, learning societies, and democratic learning organisations, it is important to emphasise the relevance of reflection, personal identity, social context, dialogic third spaces, and transformation opportunity structures.

Figure 5.5: School as a Learning Organisation Model

Based on the ecological perspective, school involves teachers and students as the important stakeholders within the context of a community governed by the social norms, cultural beliefs, and shared resources. Further, the school functioning is influenced by the society, educational structure, policies and interventions which help increase students' learning outcomes and employability skills. The interdependencies and interactions between the school, community and society level factors need to adapt

learning attitudes and promote learning opportunities to enhance the quality of life and collective capabilities and well-being. This model prepared for the study helps understand the importance of all the levels existing in the system and their contribution to maintaining the ecological system within the society.

Teachers play an essential role in facilitating students' acquisition of knowledge to ensure students' personal development and attitudes towards learning. This can be accomplished through a shared vision, learning culture through inquiry and experiential learning, and constant feedback. There exists a positive association between the school as a learning organisation and student outcomes, which has been backed by various researches (Caprara, Barbaranelli, Steca, & Malone, 2006; Klassen & Chiu, 2010; Silins & Mulford, 2004). A learning culture must be fostered, and instructors should get help to advance their academic or professional credentials. These encouragements are essential to fostering a learning environment that values collaboration and ongoing improvement. While these institutions work to become learning organisations, continual learning opportunities are provided to meet these demands. The expansion of electronic-based learning capacity will also guarantee that every employee, regardless of location, always has access to learning and development opportunities. However, educators should be prepared to embrace a greater degree of influence over how their students learn throughout their lives and to put more time, effort, and money into developing knowledge that keeps pace with disruptive technology.

Schools are embedded within the social context of community, educational system, and society. According to Maier, Daniel, Oakes, and Lam (2017), In the twenty-first century, schools must constantly upgrade themselves by empowering individuals via effective school leadership and providing learning opportunities for all as the driving force for transforming and re-inventing themselves into a learning ecosystem. Being embedded

in a social context entails maximising potential and outcomes by efficiently utilising resources, generating learning opportunities and adapting new practices (Noorderhaven, Koen, Beugelsdijk, et al., 2002). Education policy according to (Coburn, Mata, & Choi, 2013) can influence teacher social networks by defining the scope, formation, context, flow, and maintenance of network transactions. Frequent interactions and collaborations between teachers are encouraged as they increase the trust, development, sharing of innovative classroom management and teaching strategies, support and sociability.

Effective professional development models incorporate strategies to develop professional learning communities for teachers that can ensure active, collaborative, and reflective job-embedded learning (Darling-Hammond et al., 2017). Professional development initiatives and learning communities enhance social capital, and facilitate team learning and empowerment (Coburn et al., 2013; Hord et al., 2004). School as a learning organisation requires having set processes and structures to capture individual learning and receieve regular feedback to empower and achieve the shared vision. The empowerment of the workforce as a whole and their goals toward the vision is essential for ensuring school effectiveness. In learning organisations, everyone has a clear understanding of the organization's direction, clear leadership, structure, enough funding to plan activities, and the necessary foundation to work cooperatively (Marsick & Watkins, 1996; Rusok, Samy, & Bhaumik, 2021).

The integrated model of school as a learning organisation includes developing the learning ecology of teachers, while enhancing student well-being and outcomes. The present study includes developing a learning ecology through the professional development of teachers shared vision defining the goals and direction, and forming professional learning networks with learning culture and collegiality to enhance teachers' social capital and professional capabilities. Leadership plays an important role in setting

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the vision, facilitating learning opportunities for all, forming community partnerships and engaging in community development initiatives to enhance the collective capabilities and well-being. The well-being of students is enhanced through quality of teaching, providing adequate resources, technology integration, and ensuring school engagement through psychological and social well-being. The integrated framework focuses on transforming schools into a thriving space to ensure positive learning experiences for students, build teacher capabilities and provide quality education at the secondary level.

CONCLUSIONS

Quality education is a prerequisite for moving up the social hierarchy in terms of economic well-being and improving the overall quality of life. Several studies and policy documents have emphasized the need for expansion, equity and excellence in education. There is a need to transform schools to ensure proper management through effective leadership, vision, and collaboration addressing the socioemotional needs of students. his is essential to develop civilized, sustainable, equitable, resilient and inclusive societies. In the context of the Indian Education System, the transition from elementary and higher secondary is facilitated by secondary education. Secondary education acts as a bridge during the learner's adolescence and emotionally active phase of life. Education at this phase should address the needs of the students in fostering skills to deal with the transition, holistic development and skills to lead a better life. Quality education at the secondary level would focus on developing the human capital, facilitate physical, psychological, emotional and social functioning and capabilities to higher engagement and learning.

The study examined learning ecology and student well-being within the embedded framework of school as a learning organisation. A mixed-method approach was used to address the objectives of the study between two districts of Rajasthan. In this study, a comparative analysis has been carried out to examine the differences between Jhunjhunu and Jalore along with other demographic characteristics. The quantitative results demonstrate significant differences in learning ecology and student well-being between the two districts of Rajasthan. In order to understand the reasons, important themes from the in-depth interviews were extracted to substantiate the findings. The study reported the findings of exploratory and confirmatory factor analysis to establish

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the reliability, validity and psychometric properties of the questionnaires.

School as a learning organisation indicates learning in continuum along with unique characteristics at different levels integrating people, processes and practices. It involves developing a learning culture, learning opportunities, collaboration through innovation, leadership and technology interventions. It is essential to build the competencies of teachers, students, and school leaders to achieve educational goals and increase learning outcomes. Schools that effectively support their students create a learning culture and climate that is both responsive to the changing needs of individuals and provides the kind of stimulation that will drive continued positive growth. The study identified educational leadership, school vision, professional development of teachers, use of technology in the teaching and learning process, collaboration & team learning, and community engagement as important factors contributing to learning ecology. Similarly, the well-being of students can be ensured by focusing on school safety standards, community participation in school-related decision-making, technology support in teaching and learning, using innovative pedagogy and creating a positive learning spaces.

The current study provides insight by exploring learning organisation in relation to well-being and the associated factors affecting the holistic ecological framework, which would help policymakers for developing a normative framework. The study evinced multidimensional and comprehensive features against demographic factors, which have profound effects on the school as learning organisation. In order to delve thoroughly, a blended methodology was employed and plausible reasons behind contingent phenomena were explored. Pertinent results were obtained and enumerated in the subsequent section, which provides a vivid understanding of the constructs with the causal attributions of teachers and students, in particular, and school in general.

MAJOR FINDINGS OF THE STUDY

The key findings are mentioned as:

- Significant group differences among teachers from Jhunjhunu and Jalore districts on all the dimensions of a learning ecology were observed. Teachers from Jhunjhunu district scored high on school ambience, learning culture & collegiality, teacher professional development, school vision, leadership and technology integration in teaching and learning process.

- Significant gender differences were observed among teachers from Jalore district, where male teachers score high on all the dimensions of learning ecology as compared to female teachers.

- Unmarried teachers from both the districts scored high on learning culture & collegiality as compared to married teachers.

- Teachers with Master's degree scored high on learning culture & collegiality, school vision and leadership as compared to teachers with Bachelor's degree in Jhunjhunu district whereas teachers with Bachelor's degree scored high on technology integration in Jalore district.

- Teachers with an annual income between 1-5 lakhs scored high on technology integration in Jalore district, whereas teachers with annual income above 5 lakhs expressed better technology integration.

- Significant age differences were observed among teachers from Jalore district on learning ecology, where teachers in the age group 20-36 years score high as compared to other groups.

- Gender, age, marital status, annual income and highest degree as demographic characteristics contributed a significant proportion of variance towards the learning ecology of teachers from Jalore district. Gender was found to be a significant predictor.

- Positive correlations were observed between all the dimensions of learning ecology.

- The study revealed significant group differences among students from both districts. Students from the Jhunjhunu district, scored high on cognitive well-being and physical well-being, whereas students from the Jalore district, scored high on social well-being and material well-being.

- Significant gender differences were observed among students from Jhunjhunu district, where boys expressed higher levels of material well-being as compared to girls.

- Students studying in 10th class scored high on social and material well-being as compared to students studying in 9th class.

- Students from Jhunjhunu district who repeated an academic year scored low on psychological well-being, whereas students from Jalore district who repeated an academic year scored high on material and psychological well-being.

- Significant group differences based on tuition classes were observed among students from Jhunjhunu district. Students who took tuition classes scored high on social well-being, but less on cognitive and physical well-being.

- The well-being scores of students from the Jalore district did not differ significantly across demographic characteristics such as gender, age, class and tuition class.

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- The demographic characteristics of students such as gender, age, tuition class and repetition of a class did not contribute a significant proportion of variance on well-being of students from Jhunjhunu and Jalore districts in Rajasthan.

- The study observed positive relationship between the dimensions of student well-being.

- Increased accessibility, and availability of resources, infrastructure and participation in social activities and physical activities can increase the psychological well-being of students.

POLICY IMPLICATIONS

Based on the findings of the study, the following policy implications are suggested are as follows:

- The qualitative and quantitative findings identified low school ambience contributing to poor learning spaces in the Jalore district as compared to the Jhunjhunu district, thus demonstrating the need for policies that can create uniform standards for creating a positive, safe, innovative, and interactive learning environment.

- To ensure learning for quality and equality, there is a need to focus on enhancing the learning culture within the schools to be more inclusive, innovative and transforming.

- Research studies have emphasized harnessing the role of technology to address the learning loss and learning outcomes of students. There is a need to develop digitally empowered communal spaces in all the divisions of a district to promote sharing of technology resources, develop technology skills, digital literacy of students and enhance digital capabilities.

- The teacher training modules should focus on increasing the professional development of teachers through collaboration, mentoring support and learning communities. There is a need for interventions focused on developing professional development, educational leadership and technology usage for teachers during pre-service and in-service training.

- Teacher training programs should also reflect on the gender issues and focus on career development of female teachers and leadership skills.

- The study provides insights for creating forums for women, as a platform to share their concerns and get the necessary support.

- The vision of the schools should envision collective and community well-being through local partnerships, increasing the professional capital of teachers and community development initiatives.

- The study suggests interventions targeting female participation, enhance professional development and leadership skills among female teachers.

- There is a need to develop school programmes targeting the overall development and well-being of students, addressing their learning needs.

- The study suggests career counselling support and skill development initiatives for secondary and senior secondary students.

- The study emphasizes periodic classroom checks for improving the quality of labs and technology resources in rural schools.

LIMITATIONS AND FURTHER SCOPE OF THE RESEARCH

The study used a cross-sectional inquiry to explore the attributes of learning ecology and student well-being based using a comparative framework between two districts in Rajasthan. The study provides insights for policymakers and researchers to include a multi-stakeholder perspective by including parents, community members, and district education officers to understand multiple perspectives and propose school and district level strategies for improving the quality of education. The study explores the group differences based on the demographic factors of teachers and students on learning ecology and student well-being, respectively, across government schools in Rajasthan. The study could draw a comparative analysis between public and private schools. There is a possibility to explore the mediating relationship between various attributes of learning ecology and student well-being. The study provides insights for developing interventions and programs to enhance educational leadership, technology integration, professional development of teachers and self-efficacy, career support and skill development of students.

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Appendices

Appendix A - Learning Ecology Scale

<div align="center">

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCE

INFORMED CONSENT FORM

</div>

Investigator: V Mounika Prashanthi, Research Scholar, Dept. Of HSS, BITS Pilani, Rajasthan

In order to participate in this research study, it is necessary that you give your informed consent. By signing this informed consent statement, you are indicating that you understand the nature of the research study, your role in that research, and that you agree to participate in the research.

When filling out questionnaires or answering the questions asked, you may come across a question or answer choice that you find unpleasant, upsetting or otherwise objectionable. You may also feel that you have performed poorly, but there are no right or wrong answers. We seek your honest responses to the questions. Your identity and responses will be kept strictly confidential and will be used for research purposes only. You will not reap any direct benefit from participating in the study, however, your participation will contribute to research.

Please consider the following points before signing:

- ✓ I understand that I am participating in psychological research
- ✓ I understand that my identity will not be linked with my data, and that all information I provide will remain confidential
- ✓ I understand that the participation in research is voluntary. If I decide now or at any point to withdraw this consent or stop participating, I am free to do so at no penalty to myself

By voluntarily signing this form, I understand the above information and consent to participate in this study.

Person to be contacted in case of any clarification/information:

V. Mounika Prashanthi
Research Scholar
BITS Pilani   Signature of participant with date
7702908666
vmprashanthi@gmail.com

बिरला प्रौद्योगिकी और विज्ञान संस्थान
मानविकी और सामाजिक विज्ञान विभाग
सहमति प्रपत्र

अन्वेषक - मिस वी॰ मौनिका प्रशांति, शोध अध्येता, मानविकी और सामाजिक विज्ञान विभाग, बिट्स पिलानी, राजस्थान इस शोध अध्ययन में भाग लेने के लिए यह आवश्यक है कि आप अपनी सहमति दें। इस सहमति प्रपत्र पर हस्ताक्षर करके, आप संकेत दे रहे हैं कि आपने शोध अध्ययन की प्रकृति को समझा है, उस शोध में आपकी अपनी भूमिका है, और आप अनुसंधान में भाग लेने के लिए सहमत हैं।

प्रश्नावली भरते समय या पूछे गए प्रश्नों के उत्तर देते समय आप एक प्रश्न या उत्तर का विकल्प चुन सकते हैं, जो आपको अप्रिय, अनुचित या अन्यथा आपत्तिजनक लगता है। आपको यह भी महसूस हो सकता है कि आपका प्रदर्शन अच्छा नहीं है, लेकिन इस प्रश्नावली में कोई सही या गलत जवाब नहीं हैं। मैं प्रश्नों के प्रति आपकी ईमानदार प्रतिक्रिया चाहता हूँ । आपकी पहचान और प्रतिक्रियाओं को पूर्णरूप से गोपनीय रखा जाएगा और केवल अनुसंधान उद्देश्यों के लिए उपयोग किया जाएगा। आप अध्ययन में भाग लेने से कोई प्रत्यक्ष लाभ प्राप्त नहीं करेंगे, हालांकि आपकी भागीदारी अनुसंधान में योगदान प्रदान करेगी।

कृपया हस्ताक्षर करने से पहले निम्नलिखित बातों पर विचार कर लें।

- मैं समझता/समझती हूँ कि मैं मनोवैज्ञानिक अनुसंधान में भाग ले रहा/रही हूँ।
- मैं समझता/समझती हूँ कि मेरी पहचान मेरे डेटा के साथ नहीं जुड़ी होगी और मैं जो भी जानकारी प्रदान करूंगा/करूंगी, वह गोपनीय रहेगी।
- मैं समझता/समझती हूँ कि अनुसंधान में मेरी भागीदारी स्वैच्छिक है। अगर मैं अभी या किसी भी समय बिन्दु पर इस सहमति को वापस लेने या भाग लेने से रोकने का फैसला कर सकता/कर सकती हूँ । मैं स्वयं बिना किसी दंड के ऐसा करने के लिए स्वतंत्र हूँ।

मैं स्वेच्छा से इस फार्म पर हस्ताक्षर कर रहा/ रही हूँ। मैं इस अध्ययन में भाग लेने के लिए उपरोक्त जानकारी और सहमति को समझता/समझती हूँ।

किसी भी स्पष्टीकरण/ सूचना के लिए निम्न से संपर्क करें।

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1. Name / नाम :
2. Gender/ लिंग :   Male/पुरुष   Female/महिला
3. Age/उम्र :
4. Marital Status/ वैवाहिक स्थिति :   विवाहित/ अविवाहित /
5. Place of Working/ काम करने का स्थान :
6. Name of the School/ स्कूल का नाम :
7. Job designation/ नौकरी पदनाम (आपकी पोस्ट) :
8. Number of Years of Experience/ अनुभव के वर्षों की संख्या :
9. Annual Income / वार्षिक आय :
10. Highest Degree/ उच्चतम डिग्री :   Bachelors/स्नातक   Masters/परास्नातक
    - If Masters than in which Subject/ यदि आप परास्नातक है तो किस विषय में :
11. Subjects taught/ विषय जो आप पढ़ाते हैं :

Please read the statements carefully and tick (✓) against each of the sentences given below / कृपया नीचे दिए गए प्रत्येक वाक्य के लिए टिक (✓) लगाएँ।

	My School vision मेरे विद्यालय का विजन (दूरदर्शिता)	Strongly disagree सम्पूर्ण तरह से असहमत	Disagree असहमत	Undecided कुछ नहीं कह सकता/सकती	Agree सहमत	Strongly Agree सम्पूर्ण तरह से सहमत
1.	Addresses the socio-emotional needs of students. छात्रों की सामाजिक-भावनात्मक जरूरतों को संबोधित करता है।					
2.	Is aimed at enhancing student's well-being. छात्र की भलाई के उद्देश्य से है।					
3.	Emphasis's on preparing students for their future in a changing world. बदलती दुनिया में भविष्य निर्माण के लिए छात्रों को तैयार करने पर ज़ोर देता है।					
4.	Is understood and shared by all staff members working in the school. स्कूल में काम करने वाले सभी स्टाफ सदस्यों द्वारा समझा और साझा किया जाता है।					

	In my School मेरे विद्यालय में ...	Strongly disagree सम्पूर्ण तरह से असहमत	Disagree असहमत	Undecided कुछ नहीं कह सकता/सकती	Agree सहमत	Strongly Agree सम्पूर्ण तरह से सहमत
5.	Learning activities and teaching are designed with the school's vision in mind. सीखने की गतिविधियों और शिक्षण को स्कूल की परिकल्पना (विजन) और उद्देश्यों को ध्यान में रखकर बनाया गया है।					
6.	Teachers are inspired to bring the school's vision to life. शिक्षक विद्यालय की परिकल्पना/विजन को जीवंत बनाने के लिए अभिप्रेरित रहते है।					
7.	Students are invited to contribute to the school's vision. विद्यालय अपने उद्देश्य/विजन प्राप्ति के लिए छात्रों के योगदान को आमंत्रित करता है।					
8.	Parents are invited to contribute to the school's vision. स्कूल के उद्देश्य/विजन में योगदान देने के लिए माता-पिताओं के विचारों को आमंत्रित किया जाता है।					
9.	Teachers understand that engaging in training is important for their career growth. शिक्षक समझते हैं कि उनका प्रशिक्षण में संलग्न होना उनके करियर के विकास के लिए महत्वपूर्ण है।					
10.	Mentors/Coaches are available to help staff to develop their competence. कर्मचारियों को उनकी क्षमता विकसित करने में मदद करने के लिए मेंटर/कोच उपलब्ध है।					
11.	Teachers receive sufficient support to help them in their new role. शिक्षकों को उनकी नई भूमिकाओं के निर्वहन में मदद करने के लिए पर्याप्त सहायता मिलती है।					
12.	Students are encouraged to give feedback to teachers and support staff.					

	छात्रों को शिक्षकों और सहायक कर्मचारियों को फीडबैक देने के लिए प्रोत्साहित किया जाता है।					
13.	Teachers attend courses/ workshops related to subject matter up gradation or teaching methods. शिक्षक विषय या शिक्षण विधियों से संबन्धित पाठ्यक्रम/ कार्यशालाओं में भाग लेते है।					
14.	Teachers attend conferences/ seminars on education. शिक्षक शिक्षा से संबन्धित सम्मेलनों/सेमिनारों में भाग लेते हैं।					
15.	Teachers attend in-service training programs. शिक्षक सेवा के दौरान (इन सर्विस) प्रशिक्षण कार्यक्रमों में भाग लेते हैं।					
16.	Teachers participate in a formal network of teachers for professional development. शिक्षकगण, शिक्षकों के औपचारिक नेटवर्कों में भाग लेते है।					
17.	Teachers receive feedback from the Principal regarding their performance. शिक्षक अपने शिक्षण दक्षताओं के बारे में प्रधानाचार्य से प्रतिक्रिया (फीडबैक) प्राप्त करते है।					
18.	Teachers receive feedback from the school authorities. शिक्षक नियमित रूप से सर्वोच्च अधिकारियों से प्रतिक्रिया (फीडबैक) प्राप्त करते है।					
19.	Teachers regularly discuss about the progress of the students (curricular & co-curricular activities) शिक्षक नियमित रूप से छात्रों की प्रगति (पाठ्यचर्या) से संबंधित क्रियाकलापों के बारे में चर्चा करते हैं।					
20.	Cleanliness is maintained in the school campus. स्कूल परिसर में साफ-सफाई तथा रखरखाव रखा जाता है।					

21.	The school's Schedule allows adequate time for teacher collaboration. स्कूल की अनुसूची शिक्षक सहयोग के लिए पर्याप्त समय की अनुमति देती है।					
22.	The school's schedule allows adequate time to teachers if preparation and planning. स्कूल का शेड्यूल शिक्षकों की तैयारी और नियोजन के लिए पर्याप्त समय देता है।					
23.	I am satisfied with the opportunity my school provides for my professional growth. मैं सभी अवसरों से संतुष्ट हूँ जो मेरा स्कूल मेरे पेशेवर (प्रोफेशनल) विकास के लिए प्रदान करता है।					
24.	Teachers are recognized for their commitment and good work. प्रतिबद्धता और अच्छे काम के लिए शिक्षकों की सराहना की जाती है।					
25.	My principal gives responsibility to the staff to lead activities. मेरे प्रधानाचार्य गतिविधियों का नेतृत्व करने के लिए कर्मचारियों को ज़िम्मेदारी देते है।					
26.	My principal motivate teachers to work to their full potential. मेरे प्रधानाचार्य शिक्षकों को अपनी सम्पूर्ण क्षमता के साथ काम करने के लिए प्रेरित करते है।					
27.	My principal encourages active participation of all teachers in setting targets for the academic year. मेरे प्रधानाचार्य शैक्षणिक वर्ष शुरू होने से पहले सभी शिक्षकों को लक्ष्य निर्धारण करने के लिए प्रेरित करते है।					

	Teachers in my school मेरे विद्यालय में शिक्षक	Strongly disagree निश्चित तौर पर असहमत	Disagree असहमत	Undecided कुछ नहीं कह सकता/सकती	Agree सहमत	Strongly Agree निश्चित तौर पर सहमत
28.	Observe motivated teachers to other teachers and learn from them. अन्य शिक्षकों का अवलोकन कर उससे सीखने को अभिप्रेरित करते है।					
29.	Discus their problems openly (about students and learning outcomes) with other teachers. अन्य शिक्षकों के साथ अपनी समस्याओं पर (छात्रों और सीखने के परिणामों के बारे में) खुलकर चर्चा करते है।					
30.	Give advice to other teachers for their professional growth. व्यावसायिक (प्रोफेशनल) विकास के लिए अन्य शिक्षकों को सलाह देते है।					
31.	Parents are constantly informed about the progress of the student. छात्र की प्रगति के बारे में माता-पिता को सूचित किया जाता है।					
32.	Teachers coordinate with other schools to learn and share knowledge. शिक्षक सीखने और ज्ञान को साझा करने के लिए अन्य स्कूलों के साथ समन्वय करते हैं।					
33.	There is a competition among schools based on the performance and results the students. छात्रों के प्रदर्शन और परिणामों के आधार पर स्कूलों के बीच स्वस्थ प्रतियोगिता होती है।					
34.	Involved actively in community development efforts. मेरा विद्यालय सामुदायिक विकास प्रयासों में सक्रिय रूप से शामिल होता है।					
35.	Decide and design their course components such as lectures, laboratory units, grade bases etc.					

	अपने पाठ्यक्रम घटकों जैसे व्याख्यान, प्रयोगशाला इकाइयों, ग्रेड आदि को निर्मित डिजाइन और तय करते है।					
36.	Follow the grading and assessment criteria prescribed by the Institution. संस्था द्वारा निर्धारित ग्रेडिंग और मूल्यांकन मानदंडों का पालन किया जाता है।					
37.	Have the freedom to manage the content they have to teach in the classroom. उन्हें कक्षा में पढ़ाने के लिए आवश्यक पाठ्यवस्तु का प्रबंधन करने की स्वतन्त्रता है।					
38.	Engage in enquiry and asking questions. प्रश्न पूछते हैं और पूछताछ में संलग्न रहते है।					
39.	Explore different ways of effective teaching. प्रभावी शिक्षण के विभिन्न तरीकों का उपयोग करते है।					
40.	Evaluate their teaching methods. शिक्षण विधियों का मूल्यांकन करते है।					
41.	Ask questions that get students to think deeply about the topics. ऐसे प्रश्न पूछते हैं जो छात्रों को गहराई से सोचने के लिए प्रेरित करते हैं।					
42.	Have adequate training to handle students with special needs. विशिष्ठ/विशिष्ट जरूरतों वाले छात्रों को पढ़ाने के लिए पर्याप्त प्रशिक्षण प्राप्त है।					
43.	Are encouraged to use computers for teaching. शिक्षण के लिए कंप्यूटर का उपयोग करने के लिए प्रोत्साहित किया जाता है।					
44.	Provided with training in using computers and internet for effective teaching. प्रभावी शिक्षण के लिए कंप्यूटर और इन्टरनेट का उपयोग करने के लिए प्रशिक्षण प्रदान किया जाता है।					

45.	Encouraged to use computer applications for storing data and creating content for teaching. डेटा संग्रहीत करने और शिक्षण के लिए सामग्री बनाने के लिए कंप्यूटर एप्लिकेशन का उपयोग करने के लिए प्रोत्साहित किया जाता है।					

Appendix B - Student Well-being Scale

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCE

INFORMED CONSENT FORM

Investigator: Miss V Mounika Prashanthi, Research Scholar, Dept. Of HSS, BITS Pilani, Rajasthan

In order to participate in this research study, it is necessary that you give your informed consent. By signing this informed consent statement, you are indicating that you understand the nature of the research study, your role in that research, and that you agree to participate in the research.

When filling out questionnaires or answering the questions asked, you may come across a question or answer choice that you find unpleasant, upsetting or otherwise objectionable. You may also feel that you have performed poorly, but there are no right or wrong answers. We seek your honest responses to the questions. Your identity and responses will be kept strictly confidential and will be used for research purposes only. You will not reap any direct benefit from participating in the study, however, your participation will contribute to research.

Please consider the following points before signing:

- ✓ I understand that I am participating in psychological research
- ✓ I understand that my identity will not be linked with my data, and that all information I provide will remain confidential
- ✓ I understand that the participation in research is voluntary. If I decide now or at any point to withdraw this consent or stop participating, I am free to do so at no penalty to myself

By voluntarily signing this form, and that I understand the above information and consent to participate in this study.

Person to be contacted in case of any clarification/information:

V. Mounika Prashanthi   Signature of participant with date
Research Scholar
BITS Pilani
7702908666
vmprashanthi@gmail.com

बिरला प्रौद्योगिकी और विज्ञान संस्थान
मानविकी और सामाजिक विज्ञान विभाग
सहमति प्रपत्र

अन्वेषक - वी॰ मौनिका प्रशांति, शोध अध्येता, मानविकी और सामाजिक विज्ञान विभाग, बिट्स पिलानी, राजस्थान

इस शोध अध्ययन में भाग लेने के लिए यह आवश्यक है कि आप अपनी सहमति दें। इस सहमति प्रपत्र पर हस्ताक्षर करके, आप संकेत दे रहे हैं कि आप ने शोध अध्ययन की प्रकृति को समझा है, उस शोध में आपकी अपनी भूमिका है, और आप अनुसंधान में भाग लेने के लिए सहमत हैं।

प्रश्नावली भरते समय या पूछे गए प्रश्नों के उत्तर देते समय आप एक प्रश्न या उत्तर का विकल्प चुन सकते हैं, जो आपको अप्रिय, अनुचित या अन्यथा आपत्तिजनक लगता है। आपको यह भी महसूस हो सकता है कि आपका प्रदर्शन अच्छा नहीं है, लेकिन इस प्रश्नावली में कोई सही या गलत जवाब नहीं हैं। मैं प्रश्नों के प्रति आपकी ईमानदार प्रतिक्रिया चाहता हूँ । आपकी पहचान और प्रतिक्रियाओं को पूर्णरूप से गोपनीय रखा जाएगा और केवल अनुसंधान उद्देश्यों के लिए उपयोग किया जाएगा। आप अध्ययन में भाग लेने से कोई प्रत्यक्ष लाभ प्राप्त नहीं करेंगे, हालांकि आपकी भागीदारी अनुसंधान में योगदान प्रदान करेगी।

कृपया हस्ताक्षर करने से पहले निम्नलिखित बातों पर विचार कर लें।

- मैं समझता/समझती हूँ कि मैं मनोवैज्ञानिक अनुसंधान में भाग ले रहा/रही हूँ।
- मैं समझता/समझती हूँ कि मेरी पहचान मेरे डेटा के साथ नहीं जुड़ी होगी और मैं जो भी जानकारी प्रदान करूंगा/करूंगी, वह गोपनीय रहेगी।
- मैं समझता/समझती हूँ कि अनुसंधान में मेरी भागीदारी स्वैच्छिक है। अगर मैं अभी या किसी भी समय बिन्दु पर इस सहमति को वापस लेने या भाग लेने से रोकने का फैसला कर सकता/कर सकती हूँ । मैं स्वयं बिना किसी दंड के ऐसा करने के लिए स्वतंत्र हूँ।

मैं स्वेच्छा से इस फार्म पर हस्ताक्षर कर रहा/ रही हूँ। मैं इस अध्ययन में भाग लेने के लिए उपरोक्त जानकारी और सहमति को समझता/समझती हूँ।

किसी भी स्पष्टीकरण/ सूचना के लिए निम्न से संपर्क करें।

वी मौनिका प्रशांति
अनुसंधान अध्येता
बिट्स पिलानी
7702908666
Vmprashanthi@gmail.com   तारीख के साथ प्रतिभागी का हस्ताक्षर

1. Name / नाम :
2. Gender/ लिंग :   Male/पुरुष   Female/महिला
3. Age/उम्र :
4. Class/कक्षा :
5. School Name / विद्यालय का नाम :
6. Grade/Marks (ग्रेड/मार्क्स) – निम्नलिखित
   विषयों में:
   - Science/ विज्ञान :
   - Mathematics/गणित :
7. Have you ever failed in any class ?
   क्या आप कभी अनुउत्तीर्ण हुए है ? :

8. Favorite Subjects /पसंदीदा विषय :
9. Hobbies/रुचियाँ :
10. Do you go for tuition classes ? क्या
    आप ट्यूशन कक्षाओं के लिए जाते हैं ? :

Please put a tick (✓) against each of the sentences given below/ कृपया नीचे दिए गए प्रत्येक वाक्य के लिए टिक (✓) लगाएँ।

		Strongly disagree निश्चित असहमत	Disagree असहमत	Sometimes कुछ नहीं कह सकते	Agree सहमत	Strongly Agree निश्चित सहमत
1.	Irrespective of the subject, Iam competent in learning. मैं सीखने में दक्ष हूँ चाहे कोई भी विषय हो।					
2.	I can read and understand my text books well. मैं अपनी पाठ्य पुस्तकों को अच्छी तरह से पढ़ और समझ पाता हूँ।					
3.	I can manage time efficiently for learning. मैं सीखने के लिए समय का संयोजन (प्लानिंग) अच्छे से कर सकता हूँ।					
4.	During examinations, I can recollect what I have learnt. परीक्षाओं के दौरान, मैंने जो सीखा है उसे याद कर पाता हूँ।					

5.	After listening to a class, I can prepare notes on the topic. एक कक्षा को अटेंड करने के बाद, मैं विषय पर नोट्स तैयार कर पाता हूँ।				
6.	I am confident that I can achieve the goals that I set for myself. मुझे विश्वास है कि मैं अपने लिए निर्धारित लक्ष्यों को प्राप्त कर सकता हूँ।				
7.	I enjoy studying. मुझे पढ़ाई में आनंद आता है।				
8.	I enjoy acquiring new knowledge. मुझे नवीन ज्ञान प्राप्त करने में आनंद आता है।				
9.	I make efforts to understand my subjects which would help me in getting a good job. मैं विषयों को समझने की कोशिश करता हूँ जिससे मुझे भविष्य में अच्छी नौकरी पाने में मदद मिलेगी।				
10.	I have a strong desire to be successful in my school activities. मुझे अपने स्कूल की विभिन्न गतिविधियों में सफल होने की प्रबल इच्छा होती है।				
11.	I see myself as an ambitious person. मैं खुद को एक महत्वाकांक्षी विद्यार्थी/व्यक्ति के रूप में देखता हूँ।				
12.	Before doing a task, I make a list of obstacles that may hinder my completing the task. कार्य करने से पहले मैं उन बाधाओं की एक सूची बनाता हूँ जो मेरे कार्य को पूरा करने में बाधा डाल सकती है।				
13.	I play sports regularly at school. मैं स्कूल में नियमित रूप से विभिन्न खेल (गेम्स) खेलता हूँ।				
14.	I feel active during school hours. मैं स्कूल के दौरान सक्रिय (एक्टिव) महसूस करता हूँ।				
15.	I participate in most of the physical activities in school. मैं विद्यालय में अधिकांश शारीरिक विकास की गतिविधियों में भाग लेता हूँ।				
16.	I can make friends easily at school. मैं स्कूल में आसानी से दोस्त बना सकता हूँ।				

17.	My school provides me all possible opportunities to learn. मेरा विद्यालय मुझे सीखने के सभी संभावित अवसर प्रदान करता है।				
18.	I prefer working as a team than working alone. मैं अकेले काम करने की बजाय टीम में काम करना पसंद करता हूँ।				
19.	I feel that as a group one can accomplish more than working alone. मुझे लगता है कि एक समूह में काम करने से आप अधिक काम कर सकते हैं, बजाय कि अकेले करने में।				
20.	I feel that team work increases efficiency. मुझे लगता है कि टीम में काम करने से दक्षता बढ़ती है।				
21.	My teachers encourage me to perform well. मेरे अध्यापक मुझे अच्छा प्रदर्शन करने के लिए प्रोत्साहित करते हैं।				
22.	My teacher is a great example to me to lead a good life. मेरे अध्यापक एक अच्छा जीवन जीने के लिए मेरे लिए एक महान उदाहरण हैं।				
23.	My parents provide me all the facilities for my educational activities. मेरे माता-पिता मुझे मेरी शैक्षिक गतिविधियों के लिए सभी सुविधाएं प्रदान करते हैं।				
24.	My parents regularly attend parent - teacher meetings. मेरे माता-पिता नियमित रूप से अभिभावक - शिक्षक मीटिंग्स में भाग लेते हैं।				
25.	My school requires educational resources such as books, library and online material. मेरे विद्यालय में शैक्षिक संसाधनों जैसे कि पुस्तकें, पुस्तकालय, ऑनलाइन-एप्स की आवश्यकता है।				

Appendix C - Interview Schedule

Interview Schedule

<u>**Teachers**</u>

1. What is the vision of your school?

2. How do you receive support in the teaching and learning process? Yes No? Please share reasons.

3. What is the role of your principal in ensuring professional development of teachers and student's well-being?

4. How can schools transform themselves into a better organisation focused on learning for teachers and students?

5. What are the challenges that you face?

6. What changes do you think will help in ensuring effective teaching and learning?

7. What is the role of SMC/SMDC and community members in the school activities and development?

8. What is the role of leadership in the schools to ensure student learning, professional development of teachers and effective school functioning?

9. To what extent, students' well-being depends on maximizing learning by creating schools as better organisations focused on learning?

10. What measures can be taken to increase enrolment of students in the higher education level?

11. Do you think there is a need to focus on skill development initiatives at the Secondary level of education? If yes, how?

 <u>Students</u>

1. How do you feel about the teachers in your school?

2. In case you experience any problems with understanding the course textbooks and content, what do you do?

3. Do you have all the necessary infrastructure and resources for your development?

4. How do you feel about your school?

5. Do you engage in school related activities and programmes?

6. What role does school and the learning environment play in providing you with quality education?

7. How often does the school conduct parent-teacher meetings? Do you communicate your progress and class performance with your parents?

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BIOGRAPHY

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